



London Borough of Southwark Air Quality Annual Status Report for 2024

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This report provides a detailed overview of air quality in Southwark during 2024. It has been produced to meet the requirements of the London Local Air Quality Management (LLAQM) statutory process¹.

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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
AQMS	Air Quality Monitoring Station
AQO	Air Quality Objective
BEB	Buildings Emission Benchmark
BL	Breathe London
BL3	Breathe London Phase 3
CAB	Cleaner Air Borough
CO ₂ e	Carbon Dioxide Equivalent
EPT	Environmental Protection Team
EV	Electric Vehicle
FA	(Air Quality) Focus Area
GLA	Greater London Authority
LAEI	London Atmospheric Emissions Inventory
LAQM	Local Air Quality Management
LBS	London Borough of Southwark
LLAQM	London Local Air Quality Management
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
NRMM	Non-Road Mobile Machinery
O ₃	Ozone
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 / 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})	10 µg m ⁻³ ⁽³⁾	Annual mean	2040
Particles (PM _{2.5})	London Mayoral Objective ⁽⁴⁾ : 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 not 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) Environmental Target Regulations under the Environment Act 2021
- (4) London Mayoral Objective

1. Air Quality Monitoring

1.1 Locations

In 2024, Southwark had six automatic air quality monitoring stations. Further details of these stations are provided in **Table B**. Two of the automatic monitoring stations are located in air quality Focus Areas; the locations of the stations are shown in **Figure 20** in **Appendix C**. Southwark also has an extensive network of diffusion tubes monitoring NO₂. Spread throughout the borough there are 88 diffusion tubes at 84 sites across Southwark². **Table C** provides the location information of Southwark Council's diffusion tube network.

Figure 21 in Appendix C shows the locations of the NO₂ diffusion tubes. As the Southwark's Air Quality Management Area (AQMA) covers the whole borough, all the monitoring sites are within the AQMA.

This report also presents data from a network of Breathe London sensors, for those sites which achieved data capture of above 70%. Locations of the monitors are shown in **Table D and Figure 22**. These monitors provide indicative results only, and cannot be used to evaluate compliance with air quality objectives.

² Two AQMS sites have three co-located NO₂ tubes: Elephant & Castle, and Old Kent Road. The remaining diffusion tube is used as a 'travel blank' necessary for accurate analysis.

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 Southwark AQMA?	Monitoring technique	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Inlet height (m)
SK5	Old Kent Road	Roadside	534844	177515	NO _x , NO ₂ , PM ₁₀	Yes	Chemiluminescence and BAM	1	5	2.0
SK6	Elephant & Castle	Urban Background	531884	178835	NO _x , NO ₂ , O ₃ , PM ₁₀ & PM _{2.5}	Yes	Chemiluminescence, UV Absorption & FIDAS	10	35	3.5
SK8	Tower Bridge Road	Roadside	533488	179804	NO _x , NO ₂ , PM ₁₀ & PM _{2.5}	Yes	Chemiluminescence & FIDAS	7	4	1.7
SK9	Old Kent Road	Roadside	534844	177515	PM ₁₀ , & PM _{2.5}	Yes	FIDAS	1	5	2.0
SKA	Lower Road	Roadside	535272	179331	NO _x , NO ₂ , PM ₁₀ & PM _{2.5}	Yes	Chemiluminescence & FIDAS	7	4	1.7
SKB	Vicarage Grove	Roadside	532904	176694	NO _x , NO ₂ , PM ₁₀ & PM _{2.5}	Yes	Chemiluminescence & FIDAS	0	3	4
SKC	South Circular Road	Roadside	533698	173268	NO _x , NO ₂ , PM ₁₀ & PM _{2.5}	Yes	Chemiluminescence & FIDAS	17	3	4

Notes:

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

(2) N/A if not applicable

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)	Distance to Kerb of Nearest Road (m)	Tube Co-located with a Continuous Analyser	Height (m)
SDT 1, SDT 2, SDT 3	Co - location Tube at Roadside Air Quality Monitoring Site Old Kent Road - Tube 3	Roadside	534849	177512	NO ₂	Southwark AQMA	1.0	5.0	Yes	2.5
SDT 4	Lamppost (141-02) Rotherhithe Old Road SE16	Kerbside	535675	178796	NO ₂	Southwark AQMA	2.0	0.5	No	2.5
SDT 5	Lamppost (180 - 31) Drummond Road SE16	Kerbside	534640	179336	NO ₂	Southwark AQMA	6.0	0.5	No	2.5
SDT 6	Lamppost (2330 - 37) adjacent to 168 Queens Road	Kerbside	535253	176679	NO ₂	Southwark AQMA	14.0	0.5	No	2.5
SDT 7	Lamppost (Unmarked) adjacent to 167A Rye Lane SE5	Kerbside	534333	176155	NO ₂	Southwark AQMA	2.0	0.5	No	2.5
SDT 8	Lamppost (2051 - 11) Dunstans Road adjacent to 215 Underhill Road	Kerbside	534553	174263	NO ₂	Southwark AQMA	8.0	0.5	No	2.5
SDT 9	Lamppost 05-35 Dulwich Common adjacent to 23 Hamledon Place	Kerbside	533470	173204	NO ₂	Southwark AQMA	3.0	0.5	No	2.5
SDT 10	Lamppost (2076 - L02) adjacent to 2 Village Way	Kerbside	532940	174392	NO ₂	Southwark AQMA	13.0	0.5	No	2.5
SDT 11	Post adjacent to 11 Camberwell Church Street	Kerbside	532663	176740	NO ₂	Southwark AQMA	2.0	0.5	No	2.5
SDT 12, SDT 13, SDT 14	Co - location Tube at Background Air Quality Monitoring Site Elephant & Castle - Tube 3	Urban Centre	531884	178836	NO ₂	Southwark AQMA	10.0	35.0	Yes	2.5
SDT 15	Lamppost (1390 - 58) Blackfriars Road	Kerbside	531641	180290	NO ₂	Southwark AQMA	3.0	0.5	No	2.5

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)	Distance to Kerb of Nearest Road (m)	Tube Co-located with a Continuous Analyser	Height (m)
SDT 18	Tower Bridge Lamppost No1 East side	Roadside	533599	180062	NO ₂	Southwark AQMA	3.0	0.5	No	2.5
SDT 20	Tower Bridge school fence Tower Bridge Road East side	Kerbside	533520	179849	NO ₂	Southwark AQMA	0.5	2.5	No	2.5
SDT 24	Opposite Papa Johns west side - Lamppost 40	Kerbside	533444	179620	NO ₂	Southwark AQMA	3.0	0.5	No	2.5
SDT 29	Opposite Haddon Hall, west side	Kerbside	533105	179117	NO ₂	Southwark AQMA	2.0	0.5	No	2.5
SDT 31	Bricklayers Arms Roundabout - by St Olave's School, west side	Kerbside	532937	179043	NO ₂	Southwark AQMA	10.0	0.5	No	2.5
SDT 37	Wansey Street Lamppost	Kerbside	532340	178711	NO ₂	Southwark AQMA	10.0	0.5	No	2.5
SDT 38	Walworth Road opposite junction to Elephant Road - west side	Kerbside	532074	178825	NO ₂	Southwark AQMA	2.0	0.5	No	2.5
SDT 39	New Kent Road Lamppost 3 North Side (Metro Centre)	Kerbside	532053	179070	NO ₂	Southwark AQMA	10.0	0.5	No	2.5
SDT 41	New Kent Road Lamppost 29 Northside (Rodney Place)	Kerbside	532390	178974	NO ₂	Southwark AQMA	20.0	0.5	No	2.5
SDT 42	Peters Hills with St Mary's and St Paul's C of E Primary School - Salter Road	Kerbside	536037	180341	NO ₂	Southwark AQMA	10.0	0.5	No	2.5
SDT 48	Adjacent to Beechwood Court, 3 Crystal Palace Parade	Kerbside	533912	171366	NO ₂	Southwark AQMA	20.0	0.5	No	2.5
SDT 49	Lamppost 129-08 Lynton Road (west)	Kerbside	533873	178592	NO ₂	Southwark AQMA	10.0	0.5	No	2.5

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)	Distance to Kerb of Nearest Road (m)	Tube Co-located with a Continuous Analyser	Height (m)
SDT 52	Kingsdale Foundation School Alleyn Park SE22	Kerbside	533150	172123	NO ₂	Southwark AQMA	10.0	0.5	No	2.5
SDT 53	Lamppost (2074 - 25) adjacent to Edward Alleyn Club, Burbage Road	Kerbside	532668	173998	NO ₂	Southwark AQMA	10.0	0.5	No	2.5
SDT 54	Lamppost 11 Camberwell Grove	Kerbside	532951	176417	NO ₂	Southwark AQMA	10.0	0.5	No	2.5
SDT 55	Lamppost 11A St Georges Way (South Side)	Kerbside	533350	177603	NO ₂	Southwark AQMA	3.0	0.5	No	2.5
SDT 57	Notre Dame RC School	Kerbside	531531	179256	NO ₂	Southwark AQMA	5.0	0.5	No	2.5
SDT 61	Junction of Brunel Road and Rupack Street	Kerbside	535176	179665	NO ₂	Southwark AQMA	3.0	0.5	No	2.5
SDT 66	Adjacent to Prince of Orange Lower Road	Kerbside	535384	179161	NO ₂	Southwark AQMA	3.0	0.5	No	2.5
SDT 77	Adjacent to steps to Park Street on Southwark Bridge Road	Kerbside	532294	180406	NO ₂	Southwark AQMA	10.0	0.5	No	2.5
SDT 81	Lamppost No 02 Borough High Street	Kerbside	532690	180212	NO ₂	Southwark AQMA	3.0	0.5	No	2.5
SDT 82	Lamppost no 01 Adjacent to 125 Borough High Street	Kerbside	532572	180029	NO ₂	Southwark AQMA	3.0	0.5	No	2.5
SDT 84	Little Dorritt Park Entrance Lamppost No 8	Kerbside	532487	179850	NO ₂	Southwark AQMA	5.0	0.5	No	2.5
SDT 87	Lamppost 0139-43 188A Lower Road	Kerbside	535795	178828	NO ₂	Southwark AQMA	3.0	0.5	No	2.5
SDT 88	Lamppost (52) Jamaica Road	Kerbside	534457	179454	NO ₂	Southwark AQMA	5.0	0.5	No	2.5

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)	Distance to Kerb of Nearest Road (m)	Tube Co-located with a Continuous Analyser	Height (m)
SDT 89	School Fence St James' CoE Primary School Jamaica Road	Roadside	534241	179435	NO ₂	Southwark AQMA	0.5	2.0	No	2.5
SDT 90	Lamppost adjacent to 375 Old Kent Road	Kerbside	533800	178220	NO ₂	Southwark AQMA	5.0	0.5	No	2.5
SDT 91	Lamppost adjacent to 221 Old Kent Road	Kerbside	533379	178556	NO ₂	Southwark AQMA	3.0	0.5	No	2.5
SDT 92	School Fence Ilderton Road SE16	Roadside	535222	178032	NO ₂	Southwark AQMA	0.5	2.0	No	2.5
SDT 93	Lamppost No 9 adjacent to 14 Hanover Park	Roadside	534243	176558	NO ₂	Southwark AQMA	2.0	0.5	No	2.5
SDT 95	Junction of Eynella Road & Court Lane Lamppost 2591 - 09	Kerbside	533700	173892	NO ₂	Southwark AQMA	2.0	0.5	No	2.5
SDT 97	Barry Road	Kerbside	533940	173998	NO ₂	Southwark AQMA	5.0	0.5	No	2.5
SDT 98	South Circular Road Junction with Underhill Road	Kerbside	534503	173251	NO ₂	Southwark AQMA	9.0	0.5	No	2.5
SDT 100	Post adjacent to 1d Calton Avenue	Kerbside	533159	174191	NO ₂	Southwark AQMA	2.0	0.5	No	2.5
SDT 101	Lamppost 307 - 19 adjacent to 91 Herne Hill	Kerbside	532303	174756	NO ₂	Southwark AQMA	5.0	0.5	No	2.5
SDT 102	Lamppost (No1) De Crespigny Park	Kerbside	532599	176277	NO ₂	Southwark AQMA	5.0	0.5	No	2.5
SDT 103	Lamppost (369 - L07) Coldharbour Lane	Kerbside	532471	176388	NO ₂	Southwark AQMA	15.0	0.5	No	2.5
SDT 104	Lamppost (8) Newington Butts	Kerbside	531835	178686	NO ₂	Southwark AQMA	15.0	0.5	No	2.5

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)	Distance to Kerb of Nearest Road (m)	Tube Co-located with a Continuous Analyser	Height (m)
SDT 105	Lamppost (2229 - L41) adjacent to Oliver Goldsmith School Southampton Way	Kerbside	533592	176851	NO ₂	Southwark AQMA	0.5	0.5	No	2.5
SDT 106	Post adjacent to 80 Camberwell Road	Kerbside	532409	177597	NO ₂	Southwark AQMA	18.0	0.5	No	2.5
SDT 107	Lamppost (1065 - L45) adjacent to 351 Walworth Road	Kerbside	532426	178051	NO ₂	Southwark AQMA	10.0	0.5	No	2.5
SDT 111	Lamppost 31A - 239 Walworth Road	Kerbside	532294	178354	NO ₂	Southwark AQMA	5.0	0.5	No	2.5
SDT 112	Adjacent to 3 West Square on Parking Sign	Kerbside	531621	179112	NO ₂	Southwark AQMA	3.0	0.5	No	2.5
SDT 113	Lamppost adjacent to 43 Westminster Bridge Road	Kerbside	531481	179421	NO ₂	Southwark AQMA	7.0	0.5	No	2.5
SDT 114	Lamppost No 1 Goose Green / East Dulwich Road	Kerbside	533799	175324	NO ₂	Southwark AQMA	10.0	0.5	No	2.5
SDT 132	Lamppost 2732 - 01 adjacent to 117 - 125 Rye Lane	Kerbside	534237	176363	NO ₂	Southwark AQMA	5.0	0.5	No	2.5
SDT 136	Lamppost (2160 - L12) adjacent to Dog Kennel Hill School	Kerbside	533232	175775	NO ₂	Southwark AQMA	10.0	0.5	No	2.5
SDT 137	Lamppost (2136 - L18) at the t-junction adjacent to Champion Hill	Kerbside	532988	175570	NO ₂	Southwark AQMA	10.0	0.5	No	2.5
SDT 138	Lamppost (2127 - L11) Pytchley Road	Kerbside	533364	175561	NO ₂	Southwark AQMA	8.0	0.5	No	2.5
SDT 139	Lamppost (2139 - L29) Grove Lane	Kerbside	533030	176022	NO ₂	Southwark AQMA	4.5	0.5	No	2.5

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)	Distance to Kerb of Nearest Road (m)	Tube Co-located with a Continuous Analyser	Height (m)
SDT 140	Post near the Dog Kennel Hill school entrance on Dog Kennel Hill	Kerbside	533221	175715	NO ₂	Southwark AQMA	3.0	0.5	No	2.5
SDT 142	Lamppost 2640L05 Cheltenham Road	Kerbside	535321	175023	NO ₂	Southwark AQMA	11.0	0.5	No	2.5
SDT 143	Lamppost 005 adjacent to 34A Sydenham Hill	Kerbside	534540	172387	NO ₂	Southwark AQMA	26.0	0.5	No	2.5
SDT 144	Lamppost 2087L04 Dulwich Wood Park	Kerbside	533328	171601	NO ₂	Southwark AQMA	27.0	0.5	No	2.5
SDT 145	Lamppost 2544L08 Croxted Road	Kerbside	532768	172732	NO ₂	Southwark AQMA	16.0	0.5	No	2.5
SDT 146	Lamppost 423-23 Croxted Road	Kerbside	532486	173535	NO ₂	Southwark AQMA	5.5	0.5	No	2.5
SDT 147	Lamppost (1515 - L13) John Ruskin Street	Kerbside	532230	177756	NO ₂	Southwark AQMA	7.0	0.5	No	2.5
SDT 148	Lamppost (1515 - L38) John Ruskin Street	Kerbside	532002	177578	NO ₂	Southwark AQMA	21.0	0.5	No	2.5
SDT 149	Lamppost 1436L03 Kennington Park Place	Kerbside	531479	177990	NO ₂	Southwark AQMA	21.5	0.5	No	2.5
SDT 150	Lamppost 2302L14 Albany Road	Kerbside	533522	178187	NO ₂	Southwark AQMA	36.0	0.5	No	2.5
SDT 151	Junction of Townley Road & Lordship Lane Lamppost (2300 - 01)	Kerbside	533660	174480	NO ₂	Southwark AQMA	5.0	0.5	No	2.5
SDT 152	Lamppost (2300 - L19) Townley Road	Kerbside	533245	174655	NO ₂	Southwark AQMA	14.0	0.5	No	2.5
SDT 153	Lamppost (2292 - 27) Dulwich Village	Kerbside	533123	173780	NO ₂	Southwark AQMA	2.8	0.5	No	2.5

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)	Distance to Kerb of Nearest Road (m)	Tube Co-located with a Continuous Analyser	Height (m)
SDT 154	Lamppost (1125 - L37) Portland Street	Kerbside	532836	177844	NO ₂	Southwark AQMA	5.0	0.5	No	2.5
SDT 155	Junction of East Street / Portland Street	Kerbside	532597	178433	NO ₂	Southwark AQMA	7.5	0.5	No	2.5
SDT 156	Junction of Stead Street / Flint Street	Kerbside	532643	178677	NO ₂	Southwark AQMA	5.0	0.5	No	2.5
SDT 157	Lamppost (1027 - L03) adjacent to Braganza Street	Kerbside	531648	178257	NO ₂	Southwark AQMA	3.0	0.5	No	2.5
SDT 158	Lamp Conduit Adjacent to Arch 12 Angel Lane	Kerbside	532195	178276	NO ₂	Southwark AQMA	3.0	0.1	No	2.5
SDT 159	Lamp Conduit Adjacent to Arch 4 Angel Lane	Kerbside	532167	178336	NO ₂	Southwark AQMA	3.0	0.1	No	2.5
SDT 160	Lamppost 423-44 Croxted Road	Kerbside	532202	173907	NO ₂	Southwark AQMA	4.0	0.5	No	2.5
SDT 161	Lamppost 2120-02 adjacent to 8 East Dulwich Grove	Kerbside	533771	175173	NO ₂	Southwark AQMA	3.0	0.5	No	2.5
SDT 163	Camberwell New Road	Kerbside	532025	177057	NO ₂	Southwark AQMA	6.0	0.5	No	2.5
SDT 164	Wyndham Road	Kerbside	532087	177193	NO ₂	Southwark AQMA	6.5	0.5	No	2.5

Notes:

- (1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).
- (2) N/A if not applicable.

Table D - Details of Selected Breathe London Sensor Monitoring Sites for 2024

Site ID	Site Name	Site Type	X (m)	Y (m)	Pollutants monitored	In Southwark AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Inlet height (m)	Site Description	Comments
CLDP0037	Charlotte Sharman Primary School	Urban Background	531602	179165	NO ₂ & PM _{2.5}	Yes	0	29	2.7	Elephant and Castle area.	Closed 14/12/2024 To be replaced under Breathe London 3 project (BL3)
CLDP0022	Elephant & Castle (reference co-location)	Urban Background	531884	178835	NO ₂ & PM _{2.5}	Yes	N/A	43	2.5	Co-located with AQMS analysers.	
CLDP0323	Elm Lodge Surgery	Roadside	532384	174290	NO ₂ & PM _{2.5}	Yes	N/A	5	4.2	The node is near the entrance of the surgery to assess the exposure of patients and staff visiting the surgery.	Closed 01/11/2024
CLDP0080	Guy's Hospital	Roadside	532820	179990	NO ₂ & PM _{2.5}	Yes	0	2	3.5	A hospital site.	Closed 14/12/2024 To be replaced under BL3
CLDP0448	Harris Primary Academy, East Dulwich	Roadside	533740	174682	NO ₂ & PM _{2.5}	Yes	0	5	3.0	A school site.	

Site ID	Site Name	Site Type	X (m)	Y (m)	Pollutants monitored	In Southwark AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Inlet height (m)	Site Description	Comments
CLDP0384	Imperial War Museum	Urban Background	531357	179067	NO ₂ & PM _{2.5}	Yes	0	60	Tbc	This sensor unit is installed on the southern perimeter of the Imperial War Museum. It is part of the Breathe London Cultural Network sponsored by Bloomberg Philanthropies.	
CLDP0175	London Wildlife Trust Centre For Wildlife Gardening	Urban Background	533799	175517	NO ₂ & PM _{2.5}	Yes	N/A	40	3.2	This is one of nine Nodes deployed at locations which are expected to have low pollution levels, but which are representative of large areas around them.	Closed 14/12/2024 To be replaced under BL3
CLDP0357	Maudsley Hospital	Roadside	532618	176191	NO ₂ & PM _{2.5}	Yes	8	2	3	Maudsley monitor is 2m away from main road and near outpatients' main entrance	Closed 20/05/2024

Site ID	Site Name	Site Type	X (m)	Y (m)	Pollutants monitored	In Southwark AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Inlet height (m)	Site Description	Comments
CLDP0078	Oliver Goldsmith Primary School	Urban Background	533572	176787	NO ₂ & PM _{2.5}	Yes	0	11	2.4	Located between Peckham and Camberwell	Closed 14/12/2024 To be replaced under BL3
CLDP0108	SWK-BL1: Croxted Road / Guernsey Grove	Roadside	532183	173962	NO ₂ & PM _{2.5}	Yes	10	0.5	2.5	These Nodes are in a residential area to monitor the air quality on a boundary road of LB. Southwark and LB. Lambeth Low Traffic Neighbourhood	Closed 14/12/2024 To be replaced under BL3
CLDP0107	SWK-BL2: Croxted Road/Dalkeith Road	Roadside	532473	173581	NO ₂ & PM _{2.5}	Yes	6	0.5	2.5		Closed 14/12/2024 To be replaced under BL3
CLDP0042	Tower Bridge Primary School	Roadside	533531	179864	NO ₂ & PM _{2.5}	Yes	0	3.4	2.3	It is located next to Tower Bridge Primary School.	Closed 14/12/2024 To be replaced under BL3

1.2 Comparison of Monitoring Results with AQOs

1.2.1 Nitrogen Dioxide (NO₂)

Table E - Annual Mean NO₂ Monitoring Results: Automatic Monitoring (μg m⁻³)

Site ID & Name	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
SK5 Old Kent Road	534844	177515	Roadside	99.6	99.6	40.6	38.0	25	28.5	26.2	24.2	20.2
SK6 Elephant & Castle	531884	178835	Urban Background	96.4	96.4	32.0	30.4	21.2	22.8	21.9	20.0	15.7
SK8 Tower Bridge Road	533488	179804	Roadside	99.5	99.5	-	-	29.9	31	29.9	29.1	25.9
SKA Lower Road	535272	179331	Roadside	95.6	95.6	-	-	-	27.9	26	26.6	21.9
SKB Vicarage Grove	532904	176694	Roadside	95.1	95.1				40.4	32.4	30.8	26.1
SKC South Circular Road	533698	173268	Roadside	96.4	96.4				28	25.8	25.9	22.8

Notes:

The annual mean concentrations are presented as $\mu\text{g m}^{-3}$.

Exceedances of the NO_2 annual mean AQS of $40 \mu\text{g m}^{-3}$ are shown in **bold**.

NO_2 annual means in excess of $60 \mu\text{g m}^{-3}$, 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.

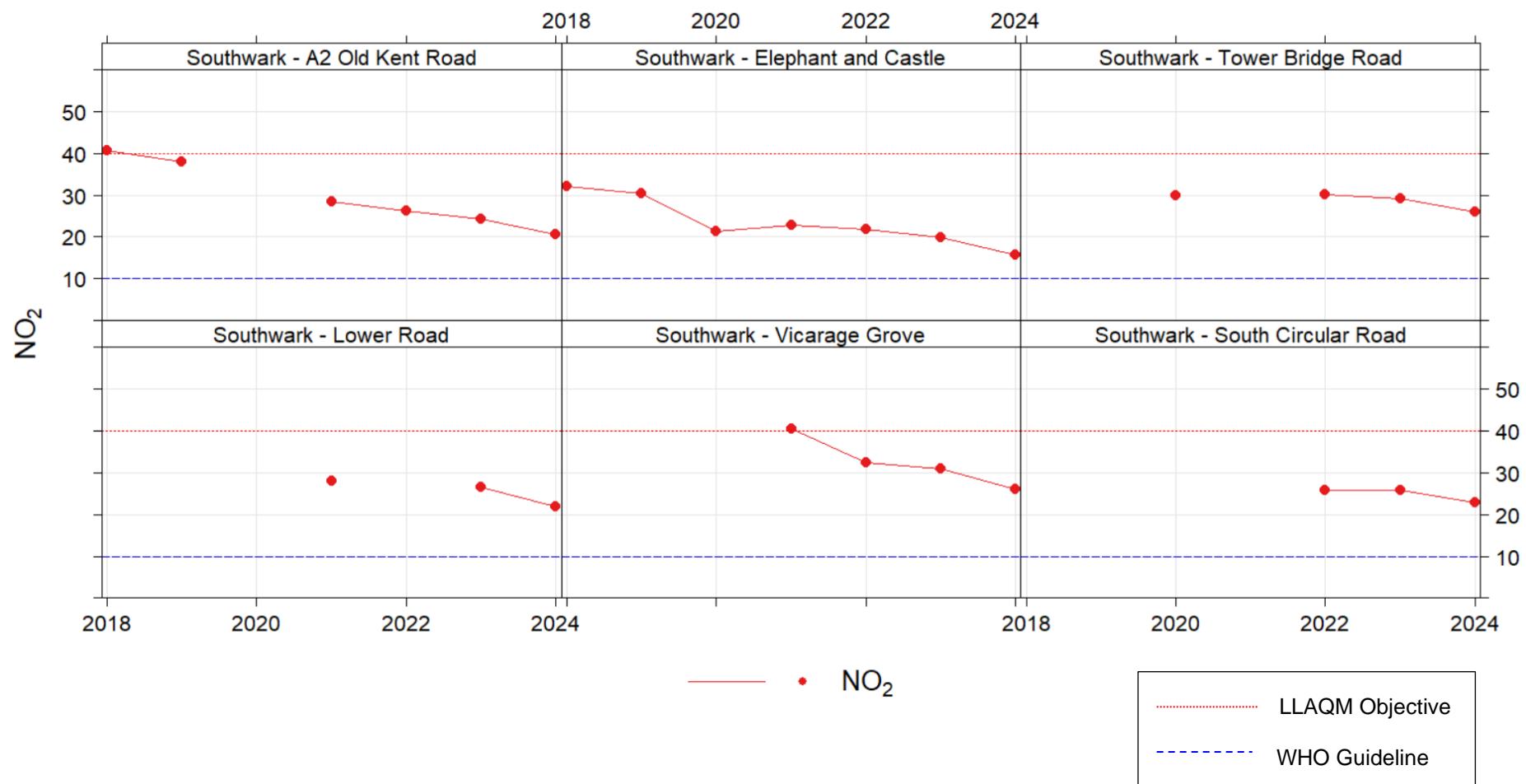
All means have been “annualised” in accordance with LLAQM Technical Guidance if valid data capture for the calendar year is less than 75% and greater than 25%.

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.

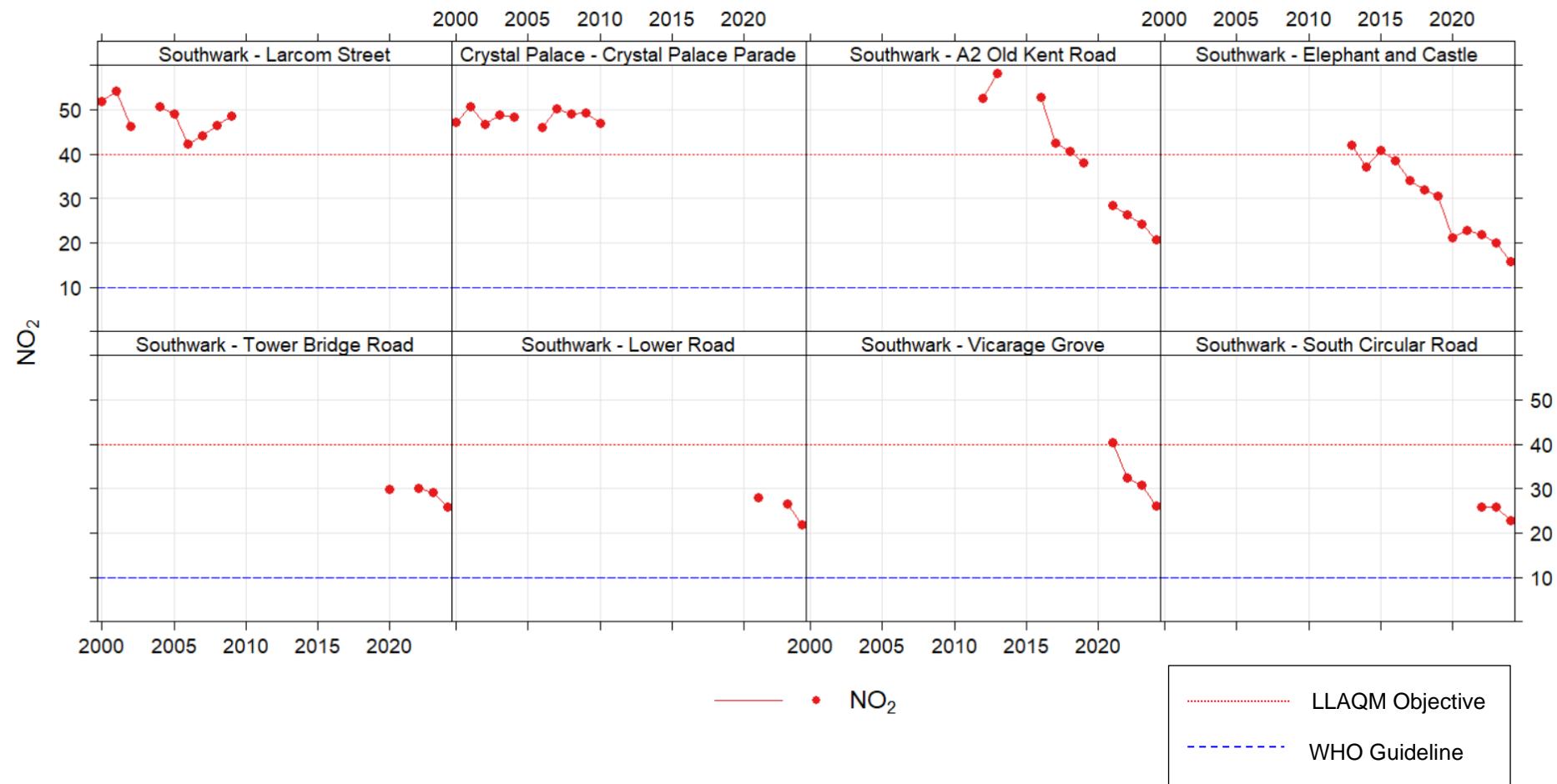
(b) Data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%).

Figure 1 - Trend in Annual Mean NO₂ Concentrations at Southwark's Existing Air Quality Monitoring Stations, 2018 – 2024



NB: Means below 75% data capture for the calendar year have been excluded from graph.

Figure 2 - Trend in annual mean NO₂ concentrations at Southwark's existing and past continuous air quality monitoring stations, 2000 - 2024



NB: Means below 75% data capture for the calendar year have been excluded from graph.

Table F - Annual Mean NO₂ Monitoring Results from Breathe London Sensor Sites

Site ID	Site Name	Site type	Monitoring Method	Valid data capture 2024 % ^(a)	2021	2022	2023	2024
CLDP0037	Charlotte Sharman Primary School	Urban Background	Sensor	95.0	26.4 (60%)	25.2	23.0	21.4
CLDP0022	Elephant & Castle (reference co-location)	Urban Background	Sensor	99.5	22.8	21.2	19.2	17.5
CLDP0323	Elm Lodge Surgery	Roadside	Sensor	82.8	-	25.1 (53%)	24.0	22.0
CLDP0080	Guy's Hospital	Roadside	Sensor	95.1	25.7 (52%)	26.2	23.6	22.8
CLDP0448	Harris Primary Academy, East Dulwich	Roadside	Sensor	94.5	-	-	23.4 (74%)	25.2
CLDP0384	Imperial War Museum	Urban Background	Sensor	99.7	-	26.9 (4%)	32.2	28.1
CLDP0175	London Wildlife Trust Centre For Wildlife Gardening	Urban Background	Sensor	92.6	24.1 (14.8%)	22.3	19.9	22.1
CLDP0357	Maudsley Hospital	Roadside	Sensor	34.6	-	32.0 (22%)	30.5	30.1 (35%)
CLDP0078	Oliver Goldsmith Primary School	Urban Background	Sensor	95.1	27.8 (55%)	26.4	23.6	21.8
CLDP0108	SWK-BL1: Croxted Road / Guernsey Grove	Roadside	Sensor	95.0	24.9 (42%)	26.3	24.4	22.7
CLDP0107	SWK-BL2: Croxted Road/Dalkeith Road	Roadside	Sensor	94.9	25.7 (42%)	27.3	28.4	28.1
CLDP0042	Tower Bridge Primary School	Roadside	Sensor	97.4	33.0	33.6	30.1	27.9

Notes:

These results are indicative only.

The annual mean concentrations are presented as $\mu\text{g m}^{-3}$. Means are yearly averages and have not been “annualised”.

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

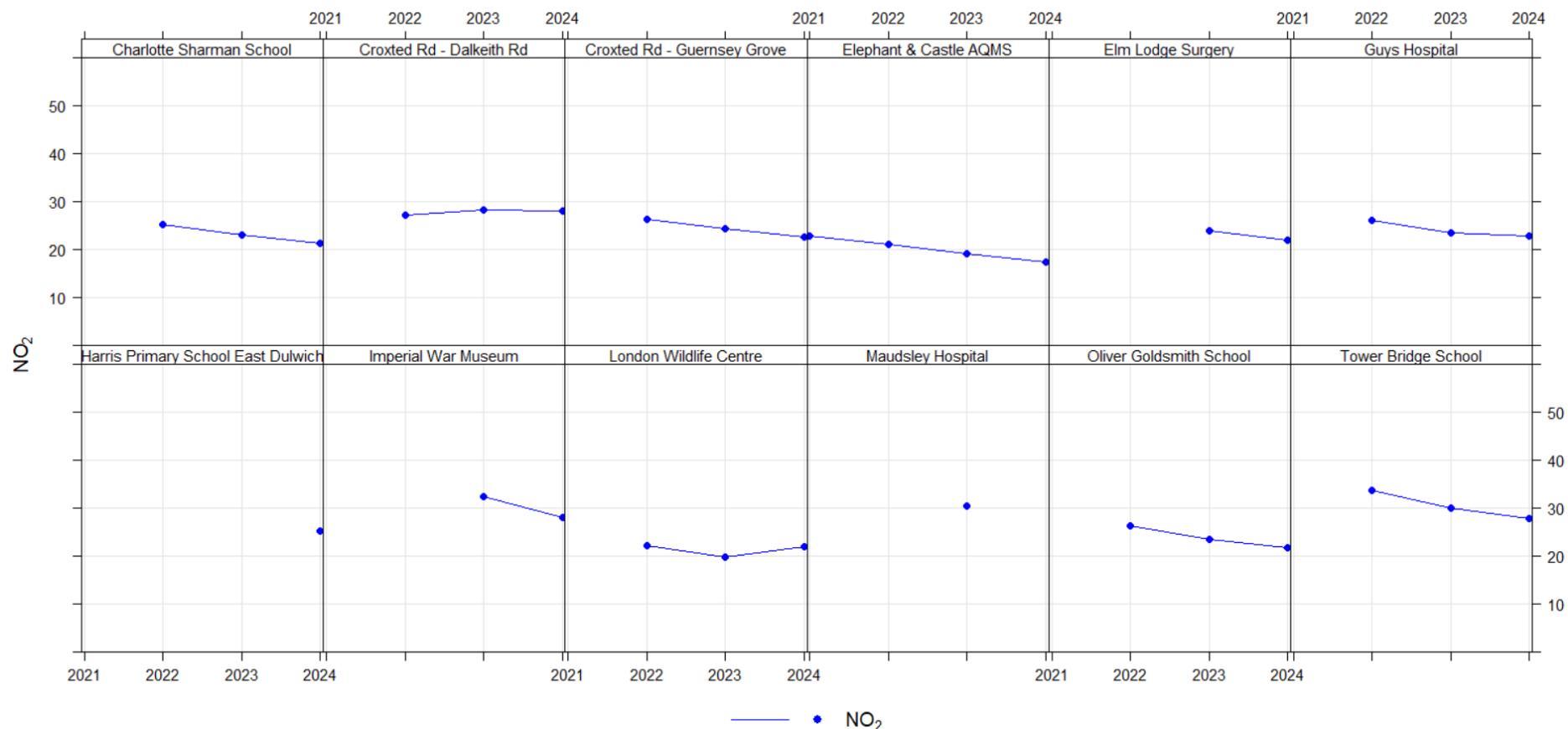
Exceedances of the NO₂ annual mean AQO of 40 $\mu\text{g m}^{-3}$ are shown in **bold**.

NO₂ annual means in excess of 60 $\mu\text{g m}^{-3}$, indicating a potential exceedance of the NO₂ hourly mean AQS objective are shown in **bold and underlined**.

If the data capture for the year is less than 75%, the data capture is shown in the brackets adjacent to the annual mean.

(a) 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 3 - Trend in Annual Mean NO₂ Concentrations at Southwark's Breathe London Sensor Sites, 2021 – 2024



NB: Sensor results are indicative only.

Means below 75% data capture for the calendar year have been excluded from graph.

Discussion of trends in annual mean NO₂ at continuous monitors

The Council monitored NO₂ continuously at six locations during 2024. **Table E** compares the ratified and adjusted monitored NO₂ annual mean concentrations for the years 2018-2024 with the air quality objective of 40 $\mu\text{g.m}^{-3}$. Data capture was good (above 75%) during 2024 at all six sites and, as such, no annualisation has been required.

All six continuous monitoring sites met the national objective for annual mean NO₂ in 2024. **Figures 1** and **2** demonstrate a general downward trend in NO₂ concentrations over the monitoring period at the six sites; the reduction from 2021 is particularly noticeable at the Vicarage Grove site. Decreasing concentrations at roadside monitoring locations are in agreement with the national trend for roadside and urban background NO₂.

Sensors are an indicative method of monitoring. **Table F** and **Figure 3** shows that the sensor units at the Imperial War Museum, Croxton Road and Tower Bridge School sites measured highest annual mean NO₂ levels in 2024 when compared to other BL sensor sites.

Table G - Annual Mean NO₂ Ratified and Bias-adjusted Monitoring Results from Diffusion Tube Sites

Site 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
SDT 1- 3	534849	177512	Roadside	100.0	100.0	42.4	35.9	24.5	29.2	27.5	25.2	22.2
SDT 4	535675	178796	Kerbside	100.0	100.0	42.9	39.8	30.7	34.9	33.6	29.9	26.4
SDT 5	534640	179336	Kerbside	100.0	100.0	30.4	31.1	-	23.0	21.9	19.2	17.8
SDT 6	535253	176679	Kerbside	100.0	100.0	38.0	36.1	35.0	28.4	35.1	28.6	27.0
SDT 7	534333	176155	Kerbside	100.0	100.0	34.9	31.6	20.7	21.0	26.8	23.0	21.3
SDT 8	534553	174263	Kerbside	100.0	100.0	27.4	28.1	18.8	21.4	19.8	17.5	15.5
SDT 9	533470	173204	Kerbside	100.0	100.0	36.8	34.5	29.5	35.1	31.8	27.0	23.6
SDT 10	532940	174392	Kerbside	100.0	100.0	29.6	28.9	19.6	23.4	20.8	18.7	16.7
SDT 11	532663	176740	Kerbside	100.0	100.0	50.2	45.4	34.2	39.7	38.0	34.3	30.7
SDT 12- 14	531884	178836	Urban Centre	100.0	100.0	35.3	32.8	19.9	22.7	23.7	21.8	19.3
SDT 15	531641	180290	Kerbside	100.0	100.0	46.2	42.1	31.6	31.4	32.5	29.7	26.7
SDT 18	533599	180062	Roadside	92.5	92.5	54.2	54.6	35.6	37.5	37.0	41.6	37.1
SDT 20	533520	179849	Kerbside	100.0	100.0	52.3	48.6	32.9	36.1	35.1	31.2	25.1
SDT 24	533444	179620	Kerbside	100.0	100.0	53.6	51.1	38.8	40.3	39.1	38.8	37.4
SDT 29	533105	179117	Kerbside	100.0	100.0	57.0	50.5	37.5	39.0	38.7	37.2	33.0
SDT 31	532937	179043	Kerbside	100.0	100.0	41.4	38.6	27.5	31.9	31.7	28.0	25.8
SDT 37	532340	178711	Kerbside	100.0	100.0	31.1	27.4	19.2	22.6	21.9	21.2	17.2
SDT 38	532074	178825	Kerbside	100.0	100.0	44.9	40.1	30.4	34.5	34.8	32.5	30.5
SDT 39	532053	179070	Kerbside	100.0	100.0	40.0	35.6	25.1	30.1	32.2	26.6	27.2
SDT 41	532390	178974	Kerbside	100.0	100.0	39.8	37.6	35.1	30.7	35.3	31.3	28.7
SDT 42	536037	180341	Kerbside	100.0	100.0	34.9	35.6	24.0	28.1	27.7	26.8	21.8
SDT 48	533912	171366	Kerbside	100.0	100.0	29.3	28.0	29.5	32.8	31.3	27.8	24.7
SDT 49	533873	178592	Kerbside	100.0	100.0	29.0	27.5	19.2	22.1	20.8	19.2	16.7
SDT 52	533150	172123	Kerbside	100.0	100.0	26.1	26.0	18.1	19.7	18.2	15.4	13.8
SDT 53	532668	173998	Kerbside	100.0	100.0	25.3	23.8	16.6	18.0	16.6	14.7	13.7
SDT 54	532951	176417	Kerbside	100.0	100.0	29.4	28.3	19.1	23.4	21.5	19.1	17.8
SDT 55	533350	177603	Kerbside	100.0	100.0	34.1	31.4	19.8	22.7	19.5	15.5	14.3
SDT 57	531531	179256	Kerbside	100.0	100.0	39.8	34.8	24.8	27.4	26.3	23.8	21.8
SDT 61	535176	179665	Kerbside	100.0	100.0	34.3	32.9	23.0	25.8	25.8	23.4	20.3
SDT 66	535384	179161	Kerbside	90.6	90.6	33.8	30.4	21.9	25.6	23.7	21.5	17.9

Site 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
SDT 77	532294	180406	Kerbside	100.0	100.0	45.2	41.0	26.8	27.2	31.3	27.8	26.3
SDT 81	532690	180212	Kerbside	100.0	100.0	59.0	52.7	39.6	39.4	34.7	39.1	32.3
SDT 82	532572	180029	Kerbside	83.0	83.0	50.4	45.2	30.9	32.2	34.0	31.8	26.5
SDT 84	532487	179850	Kerbside	90.6	90.6	40.9	39.1	29.3	29.7	29.4	27.5	22.3
SDT 87	535795	178828	Kerbside	100.0	100.0	46.5	46.2	34.7	35.0	36.0	37.4	34.0
SDT 88	534457	179454	Kerbside	100.0	100.0	45.5	42.7	34.4	32.4	35.6	32.5	28.9
SDT 89	534241	179435	Roadside	92.5	92.5	40.8	35.8	25.2	29.4	28.6	25.3	23.2
SDT 90	533800	178220	Kerbside	92.5	92.5	52.0	43.7	34.3	34.6	34.8	33.4	31.8
SDT 91	533379	178556	Kerbside	83.0	83.0	51.1	46.2	34.8	35.3	34.4	32.0	29.3
SDT 92	535222	178032	Roadside	100.0	100.0	48.7	45.2	27.0	32.1	28.6	26.8	24.1
SDT 93	534243	176558	Roadside	90.6	90.6	53.3	37.8	30.7	33.1	32.6	33.2	31.1
SDT 95	533700	173892	Kerbside	100.0	100.0	26.9	26.1	16.8	18.1	15.9	14.0	12.7
SDT 97	533940	173998	Kerbside	100.0	100.0	37.3	32.5	24.3	26.8	24.4	23.0	19.4
SDT 98	534503	173251	Kerbside	100.0	100.0	36.8	36.5	34.4	28.1	34.3	29.8	26.8
SDT 100	533159	174191	Kerbside	100.0	100.0	34.7	34.1	17.4	18.8	16.4	14.3	13.5
SDT 101	532303	174756	Kerbside	100.0	100.0	31.9	34.6	23.6	26.2	24.5	21.4	19.9
SDT 102	532599	176277	Kerbside	90.6	90.6	34.4	32.7	23.3	27.5	25.3	22.1	20.0
SDT 103	532471	176388	Kerbside	100.0	100.0	35.0	31.4	27.0	30.2	28.2	24.9	22.7
SDT 104	531835	178686	Kerbside	100.0	100.0	46.8	38.9	32.1	33.8	32.9	36.4	31.1
SDT 105	533592	176851	Kerbside	90.6	90.6	39.8	35.6	24.7	29.9	27.3	24.4	21.2
SDT 106	532409	177597	Kerbside	100.0	100.0	40.9	34.8	34.1	30.4	35.5	33.5	32.2
SDT 107	532426	178051	Kerbside	100.0	100.0	35.5	35.7	23.4	25.7	26.7	23.7	22.0
SDT 111	532294	178354	Kerbside	100.0	100.0	42.3	36.4	27.5	30.1	29.7	28.1	26.1
SDT 112	531621	179112	Kerbside	100.0	100.0	27.6	25.0	18.1	20.6	19.6	17.4	15.6
SDT 113	531481	179421	Kerbside	100.0	100.0	58.5	46.0	37.5	37.5	34.2	36.4	33.4
SDT 114	533799	175324	Kerbside	100.0	100.0	31.6	33.0	22.6	25.2	25.0	21.8	19.0
SDT 132	534237	176363	Kerbside	92.5	92.5	-	33.0	21.5	23.9	28.6	25.8	24.1
SDT 136	533232	175775	Kerbside	100.0	100.0	-	33.8	20.2	23.9	22.3	20.1	16.9
SDT 137	532988	175570	Kerbside	100.0	100.0	-	25.2	16.4	19.5	17.7	15.6	13.5
SDT 138	533364	175561	Kerbside	100.0	100.0	-	31.1	24.7	27.4	25.9	23.4	22.4
SDT 139	533030	176022	Kerbside	100.0	100.0	-	33.2	24.1	27.5	-	18.6	17.2
SDT 140	533221	175715	Kerbside	100.0	100.0	-	31.3	22.9	24.7	23.8	20.6	18.2
SDT 142	535321	175023	Kerbside	83.0	83.0	-	29.0	20.5	20.6	18.3	16.0	14.3

Site 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
SDT 143	534540	172387	Kerbside	100.0	100.0	-	25.7	18.5	20.2	18.6	16.7	15.7
SDT 144	533328	171601	Kerbside	100.0	100.0	-	33.5	23.4	24.8	22.0	19.5	17.2
SDT 145	532768	172732	Kerbside	92.5	92.5	-	25.0	19.5	21.4	19.7	17.4	14.7
SDT 146	532486	173535	Kerbside	100.0	100.0	-	29.5	20.6	23.2	21.6	18.6	17.3
SDT 147	532230	177756	Kerbside	100.0	100.0	-	35.4	22.6	26.6	24.0	20.9	19.5
SDT 148	532002	177578	Kerbside	100.0	100.0	-	31.6	22.4	27.0	24.2	21.2	19.5
SDT 149	531479	177990	Kerbside	100.0	100.0	-	33.5	22.1	23.4	22.3	19.8	17.8
SDT 150	533522	178187	Kerbside	92.5	92.5	-	31.7	28.3	31.1	28.9	25.7	23.0
SDT 151	533660	174480	Kerbside	100.0	100.0	-	28.6	18.6	22.0	20.1	17.0	15.7
SDT 152	533245	174655	Kerbside	100.0	100.0	-	31.5	19.4	22.8	21.1	18.5	16.2
SDT 153	533123	173780	Kerbside	100.0	100.0	-	27.2	17.1	20.2	18.8	16.5	14.8
SDT 154	532836	177844	Kerbside	100.0	100.0	-	34.7	23.3	25.6	24.0	20.5	19.9
SDT 155	532597	178433	Kerbside	100.0	100.0	-	31.3	20.1	22.0	20.8	18.5	17.0
SDT 156	532643	178677	Kerbside	100.0	100.0	-	36.0	25.4	26.3	24.6	22.8	20.3
SDT 157	531648	178257	Kerbside	100.0	100.0	-	33.1	19.4	24.1	20.9	18.9	16.7
SDT 158	532195	178276	Kerbside	100.0	100.0	-	-	18.2	20.4	20.9	17.4	15.9
SDT 159	532167	178336	Kerbside	100.0	100.0	-	-	16.0	19.4	20.9	16.9	14.9
SDT160	532202	173907	Kerbside	100.0	100.0	-	-	-	23.1	22.5	20.5	17.6
SDT161	533771	175173	Kerbside	100.0	100.0	-	-	-	-	29.2	25.3	23.0
SDT 163	532025	177057	Kerbside	100.0	100.0	-	-	-	-	26.2	25.2	24.4
SDT164	532087	177193	Kerbside	100.0	100.0	-	-	-	-	23.4	19.9	18.9

^a 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 $\mu\text{g.m}^{-3}$.

Exceedances of the NO_2 annual mean objective of $40 \mu\text{g.m}^{-3}$ are shown in **bold**.

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

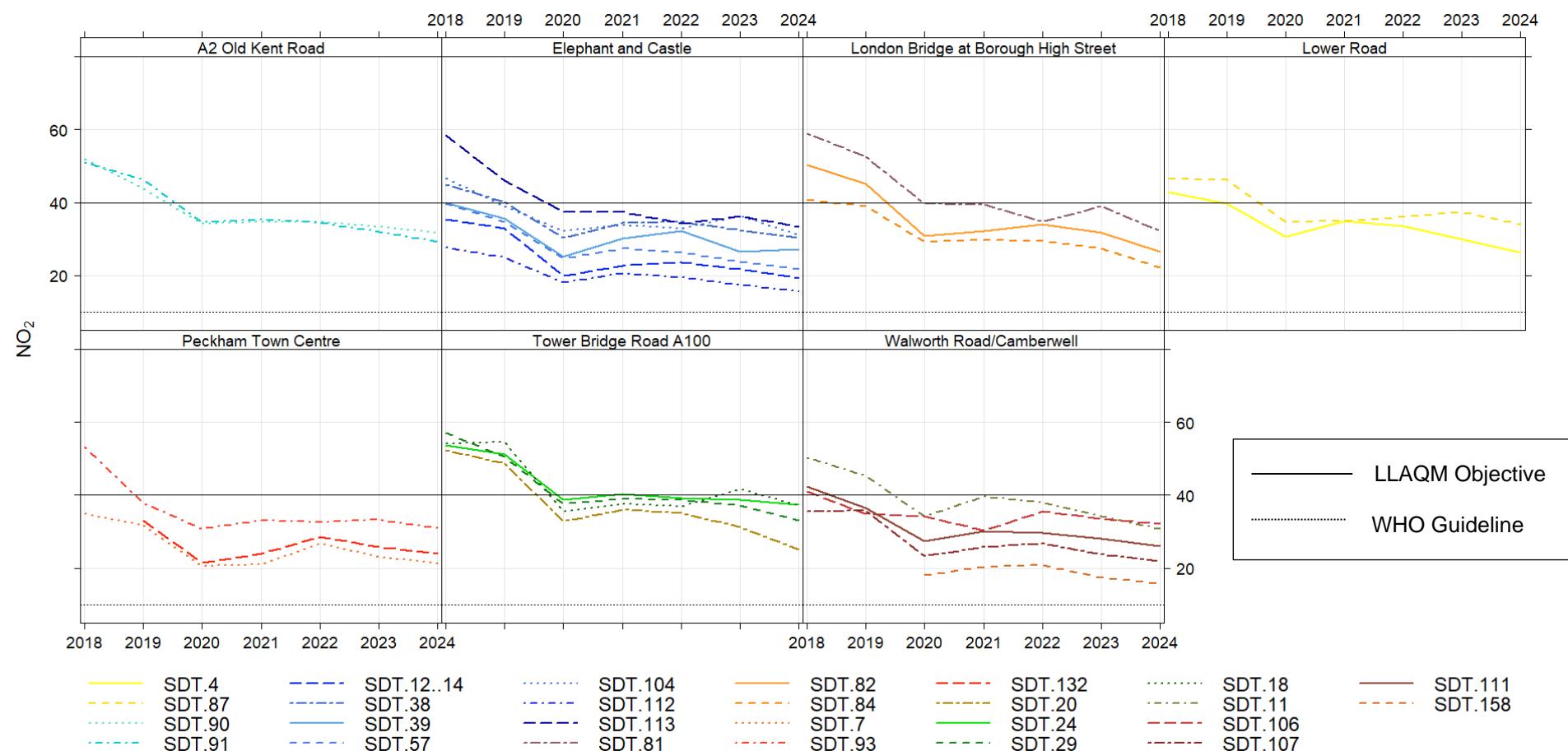
Means for diffusion tubes have been corrected for bias. All means have been "annualised" in accordance with LLAQM Technical Guidance if valid data capture for the calendar year is less than 75% and greater than 25%.

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%).

Figure 4 - Trend in annual mean NO₂ concentrations at Southwark's diffusion tube sites within Air Quality Focus Areas, 2018 - 2024



NB: The graph includes sites SDT 18 (adjacent to the Tower Bridge FA), and SDT 113 (adjacent to the Elephant and Castle FA).

Discussion of trends in annual mean NO₂ at diffusion tube sites

All diffusion tube sites showed compliance with the annual objective of 40 $\mu\text{g.m}^{-3}$ in 2024 (**Table G**). The sites SDT18 and SDT24 on Tower Bridge Road exceeded 36 $\mu\text{g.m}^{-3}$ (were within the 10% of the annual mean objective). However, both sites were below 36 $\mu\text{g.m}^{-3}$ when the results were corrected to the nearest residential exposure (see **Table T**).

Overall, there has been a reduction of NO₂ levels in Southwark recorded by diffusion tubes in 2024. **Figure 4** confirms a decreasing trend for the sites located within the Air Quality Focus Areas (FAs).

Table H - NO₂ Automatic Monitoring Results: Comparison with 1-hour Mean Objective, Number of 1-Hour Means > 200µg/m³

Site ID & Name	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
SK5 Old Kent Road	534844	177515	Roadside	99.6	99.6	0	0	0	0	0	0	0
SK6 Elephant & Castle	531884	178835	Urban Background	96.4	96.4	0	0	0	0	0	0 (91.6)	0
SK8 Tower Bridge Road	533488	179804	Roadside	99.5	99.5	-	-	0	0	0	0	0
SKA Lower Road	535272	179331	Roadside	95.6	95.6	-	-	-	0	0	0	0
SKB Vicarage Grove	532904	176694	Roadside	95.1	95.1	-	-	-	0	0	0	0
SKC South Circular Road	533698	173268	Roadside	96.4	96.4	-	-	-	0	0	0	0

Notes

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

Exceedance of the NO₂ short term AQO of 200µg 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 5 - Hourly NO₂ Concentrations at Southwark's Continuous Air Quality Monitoring Stations: Comparison with 1-Hour Mean Objective

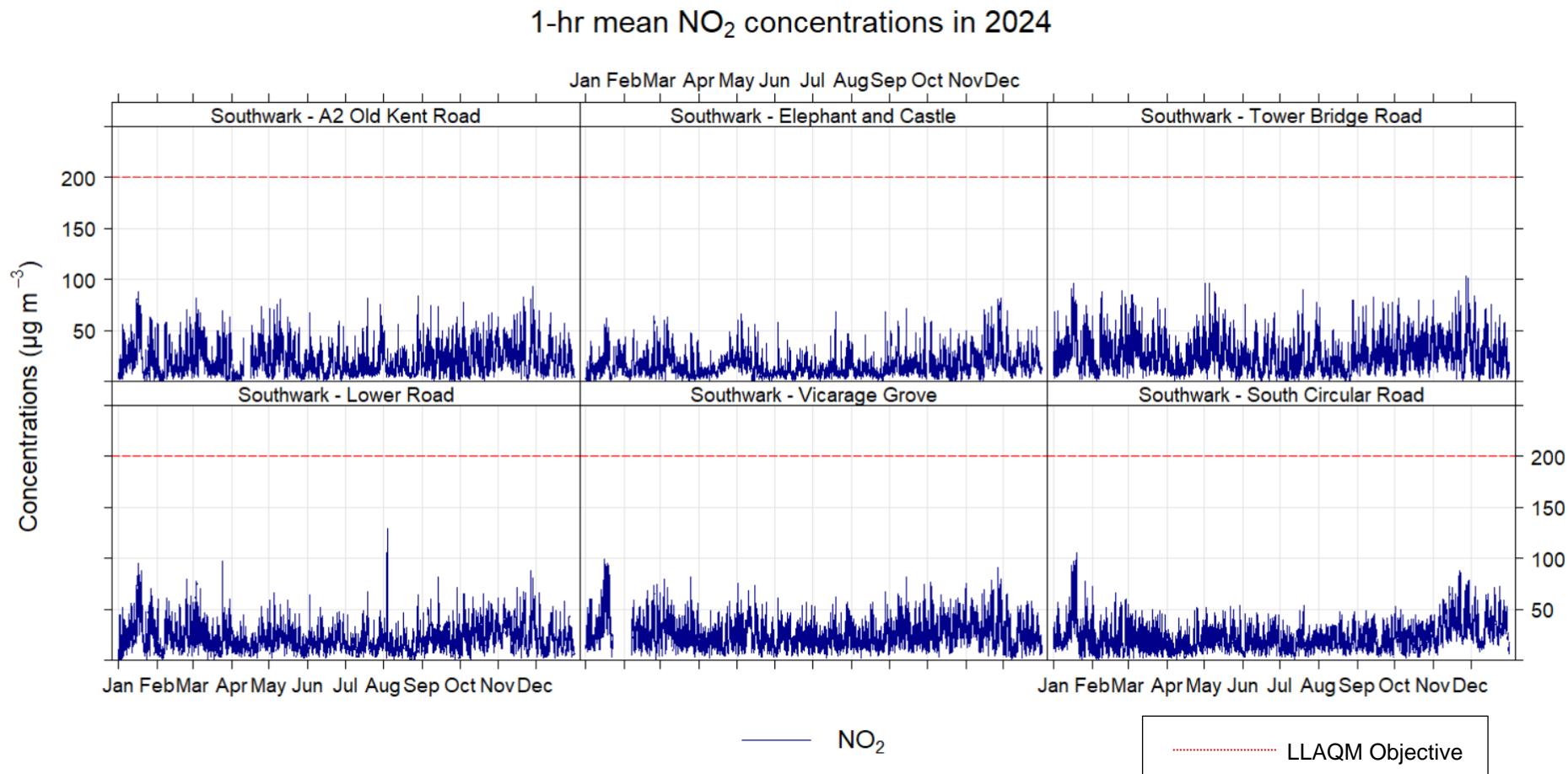


Figure 6 - Time-varied NO₂ Concentrations at Southwark's Continuous Air Quality Monitoring Stations in 2024

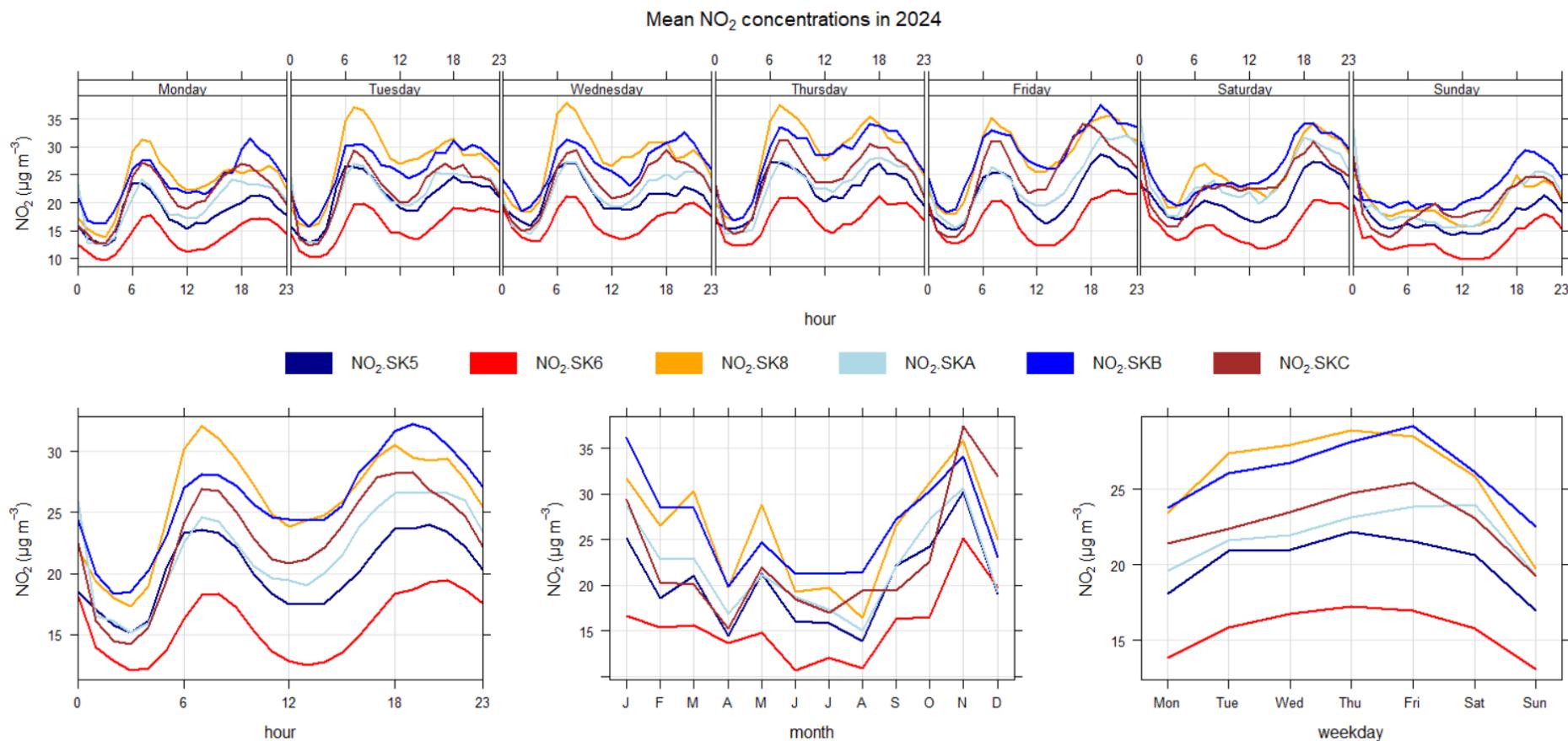
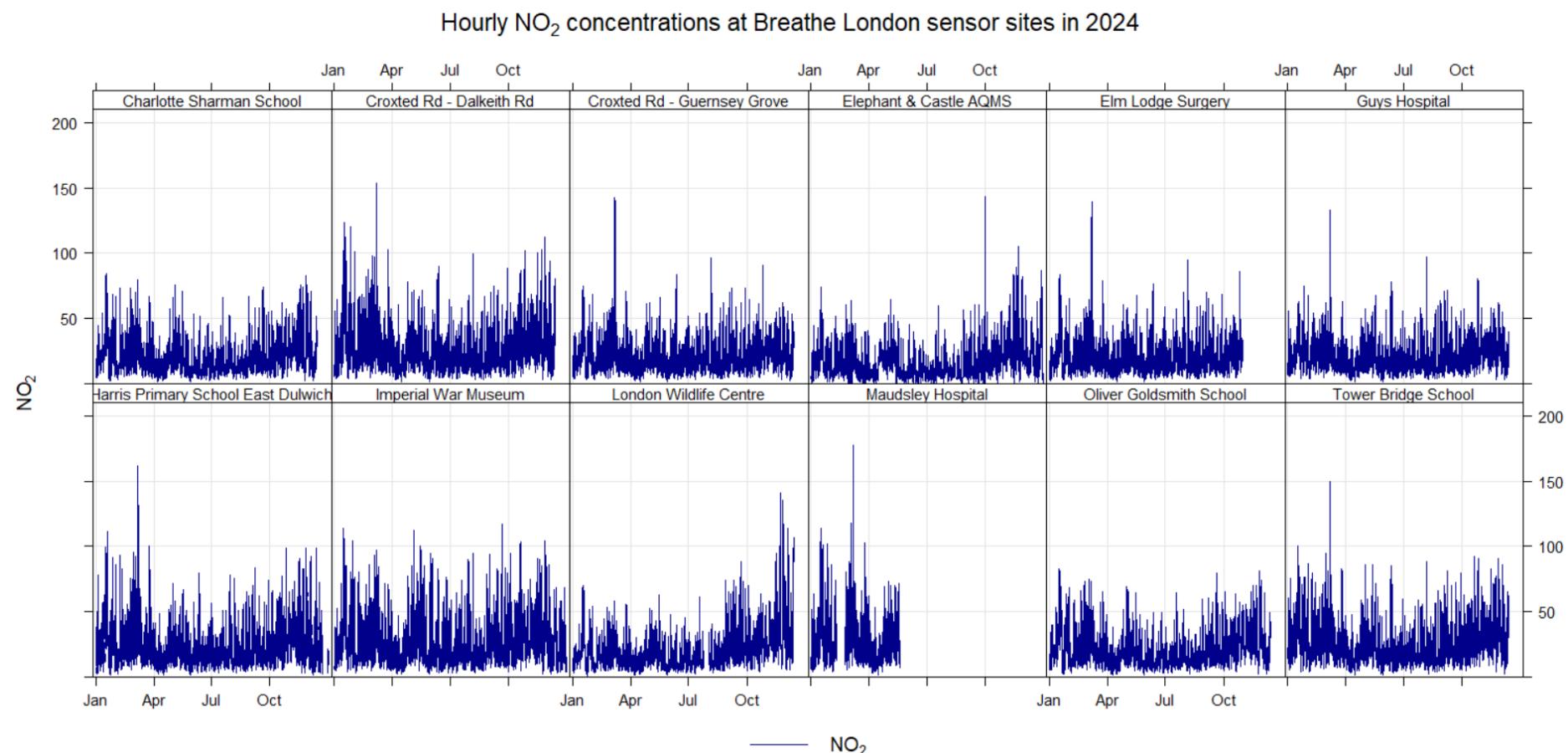


Figure 7 – 1-hour NO₂ Concentrations at Breathe London Sensor Sites in 2024



NB: Sensor results are indicative only.

Discussion of trends in hourly mean NO₂

The 7-year trend in short term NO₂ concentrations shows that all existing sites were compliant with the 200 µg.m⁻³.1-hour objective in 2024 and previous years (see **Table H** and **Figure 5**).

The variation in NO₂ levels for time of the day and month of the year is shown in **Figure 6**. The highest month-averaged concentrations in the year were generally recorded over the autumn and winter months, and the lowest over the June-August period. The analysis of hourly mean concentrations by day of the week indicates that the highest concentrations were recorded during afternoon traffic peaks from Monday through to Saturday. Weekend levels showed an evening peak after 6pm. The lowest levels for time of the day NO₂ were observed at the background site SK6 at Elephant ad Castle, whilst the sites SK8 Tower Bridge Road and SKB Vicarage Grove generally showed the highest levels in time-varied NO₂.

Indicative results from sensor units shown in **Figure 7** suggest that all the locations were below the 1-hour NO₂ objective in 2024.

1.2.2 Particulate Matter (PM₁₀)

Table I - Annual Mean PM₁₀ Automatic Monitoring Results (µg.m⁻³)

Site ID & Name	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
SK5 Old Kent Road (BAM)	534844	177515	Roadside	96.5	96.5	22.4	23.6	22.2	20.5	21.1	22.3 ^a	17.5
SK6 Elephant & Castle	531884	178835	Urban Background	96.9	96.9	19.8	16.7	15.9	14.4	16.1	12.8	12.6
SK8 Tower Bridge Road	533488	179804	Roadside	99.7	99.7	-	-	-	17.6	16.4	15.2	14.4
SK9 Old Kent Road (FIDAS)	534844	177515	Roadside	100.0	99.9	-	-	-	16.6	17.8	16.8	15.7
SKA Lower Road	535272	179331	Roadside	99.9	99.9	-	-	-	15.3	17.2	15.0	14.7
SKB Vicarage Grove	532904	176694	Roadside	99.9	99.9	-	-	-	16.1	17.3	16.9	15.1
SKC South Circular Road	533698	173268	Roadside	94.6	94.5	-	-	-	13 ^a	14.6	12.3	11.7

Notes

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

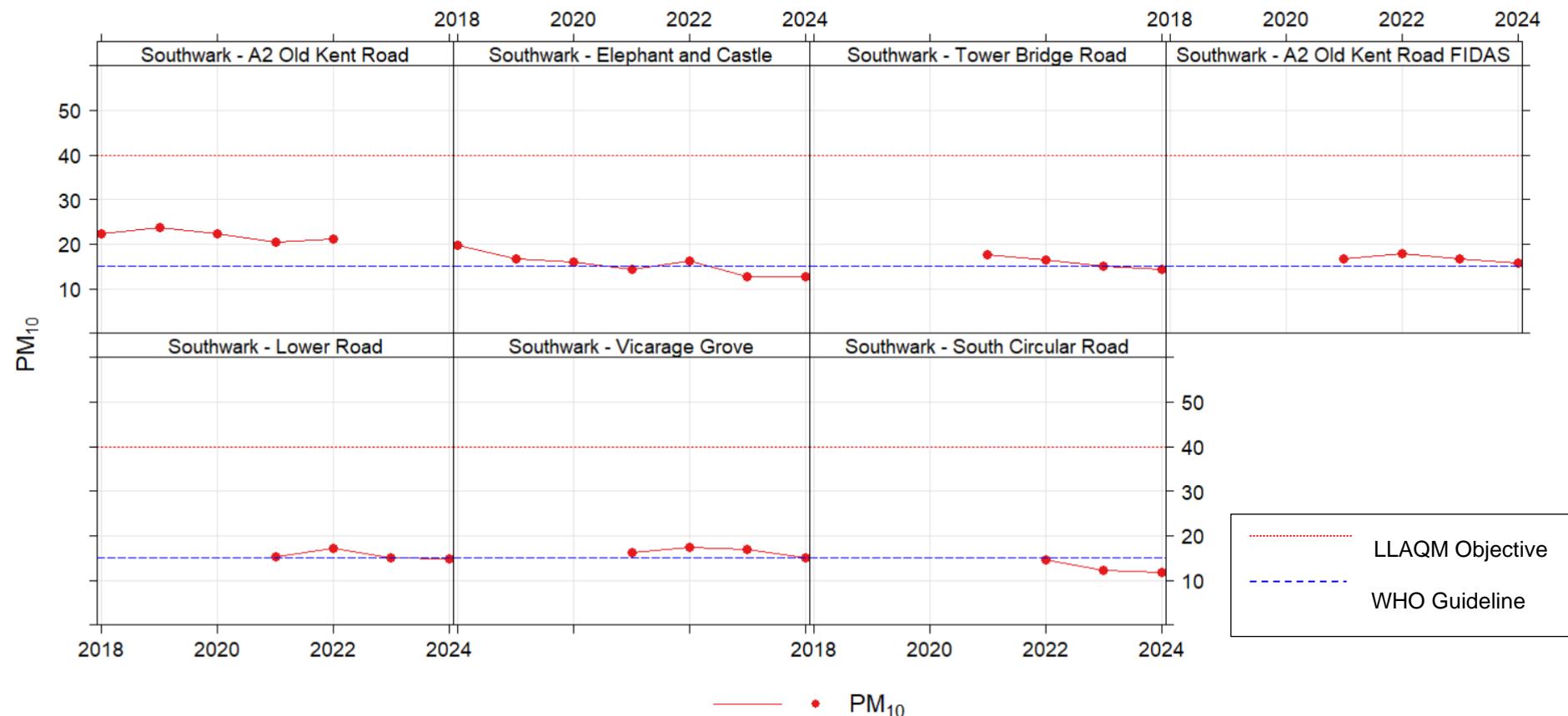
Exceedances of the PM₁₀ annual mean AQO of 40 µg.m⁻³ are shown in **bold**.

^a All mean averages have been “annualised” in accordance with LLAQM Technical Guidance, if valid data capture is less than 75% and more than 25%. Averages were calculated from 24-hour data.

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

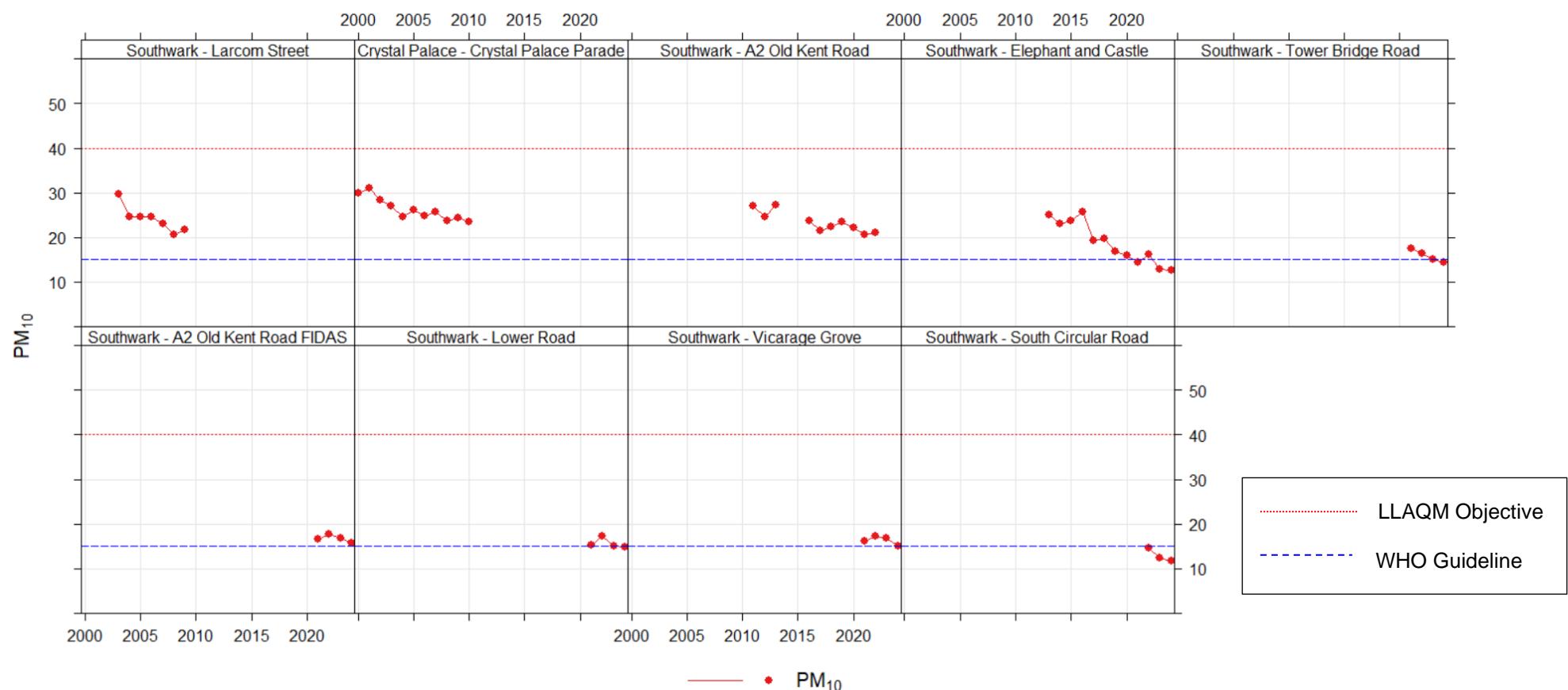
(b) Data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%). Data capture was calculated from 24-hour averages.

Figure 8 - Trend in Annual Mean PM₁₀ Concentrations at Southwark's Existing Air Quality Monitoring Stations, 2018 – 2024



Note: Means below 75% data capture for the calendar year have been excluded from graph.

Figure 9 - Trend in Annual Mean PM₁₀ Concentrations at Southwark's Existing and Past Air Quality Monitoring Stations, 2000 – 2024



Note: Means below 75% data capture for the calendar year have been excluded from graph.

Discussion of Trends in annual mean PM₁₀

The Council monitored PM₁₀ continuously at six locations during 2024; it is worth noting that the site SK5 at Old Kent Road monitors PM₁₀ with two different monitoring methods – a BAM and a Fidas analyser. **Table I** compares the ratified and adjusted monitored PM₁₀ annual mean concentrations for the years 2018-2024 with the air quality objective of 40 $\mu\text{g.m}^{-3}$. Data capture was good (above 75%) during 2024 at all sites. Therefore, annualisation has not been required.

Automatic monitoring of PM₁₀ at the monitoring sites indicate that the annual mean was complied with in 2024 and all previous years (**Table I**). Two sites – SK5/SK9 Old Kent Road and SKB Vicarage Grove have remained above the WHO guidelines. **Figures 8 and 9** show a decreasing trend for PM₁₀, in agreement with the national trend.

Table J - PM₁₀ Automatic Monitoring Results: Comparison with 24-Hour Mean Objective, Number of PM₁₀ 24-Hour Means > 50 µg.m⁻³

Site ID & Name	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
SK5 Old Kent Road (BAM)	534844	177515	Roadside	96.5	96.5	8	2	11	8	7	2 (32.9)	2
SK6 Elephant & Castle	531884	178835	Urban Background	96.9	96.9	2	14	3	2	4	0	0
SK8 Tower Bridge Road	533488	179804	Roadside	99.7	99.7	-	-	2	6	6	1	0
SK9 Old Kent Road (FIDAS)	534844	177515	Roadside	100.0	99.9	-	-	5	7	6	3	3
SKA Lower Road	535272	179331	Roadside	99.9	99.9	-	-	-	2	5	1	1
SKB Vicarage Grove	532904	176694	Roadside	99.9	99.9	-	-	-	2	6	5	0
SKC South Circular Road	533698	173268	Roadside	94.6	94.5	-	-	-	0	2	0	0

Notes

Exceedances of the PM₁₀ 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%). Data capture was calculated from 24-hour averages.

Figure 10 – 24-hour PM₁₀ Concentrations at Southwark's Continuous Air Quality Monitoring Stations: Comparison with 24-hour Mean Objective

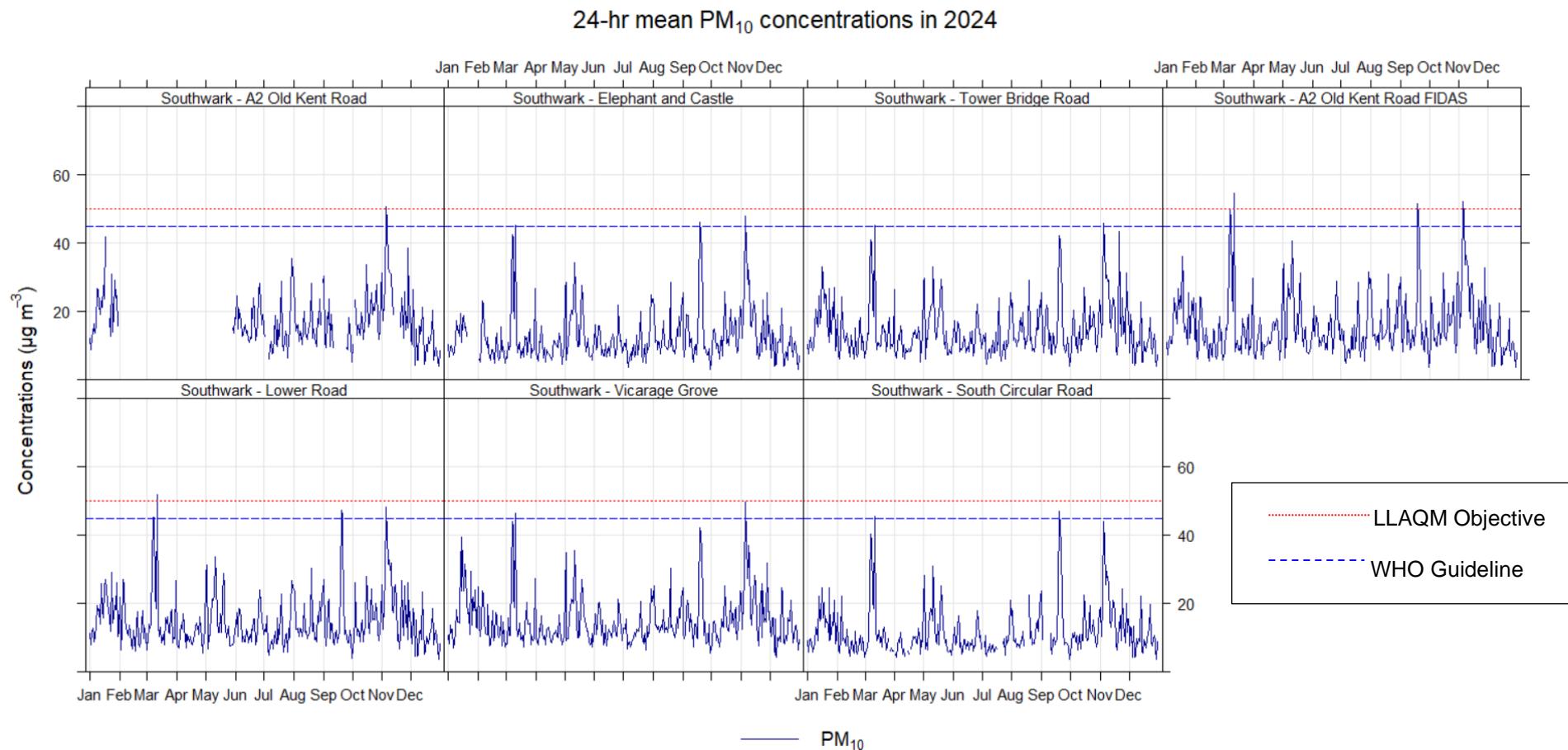
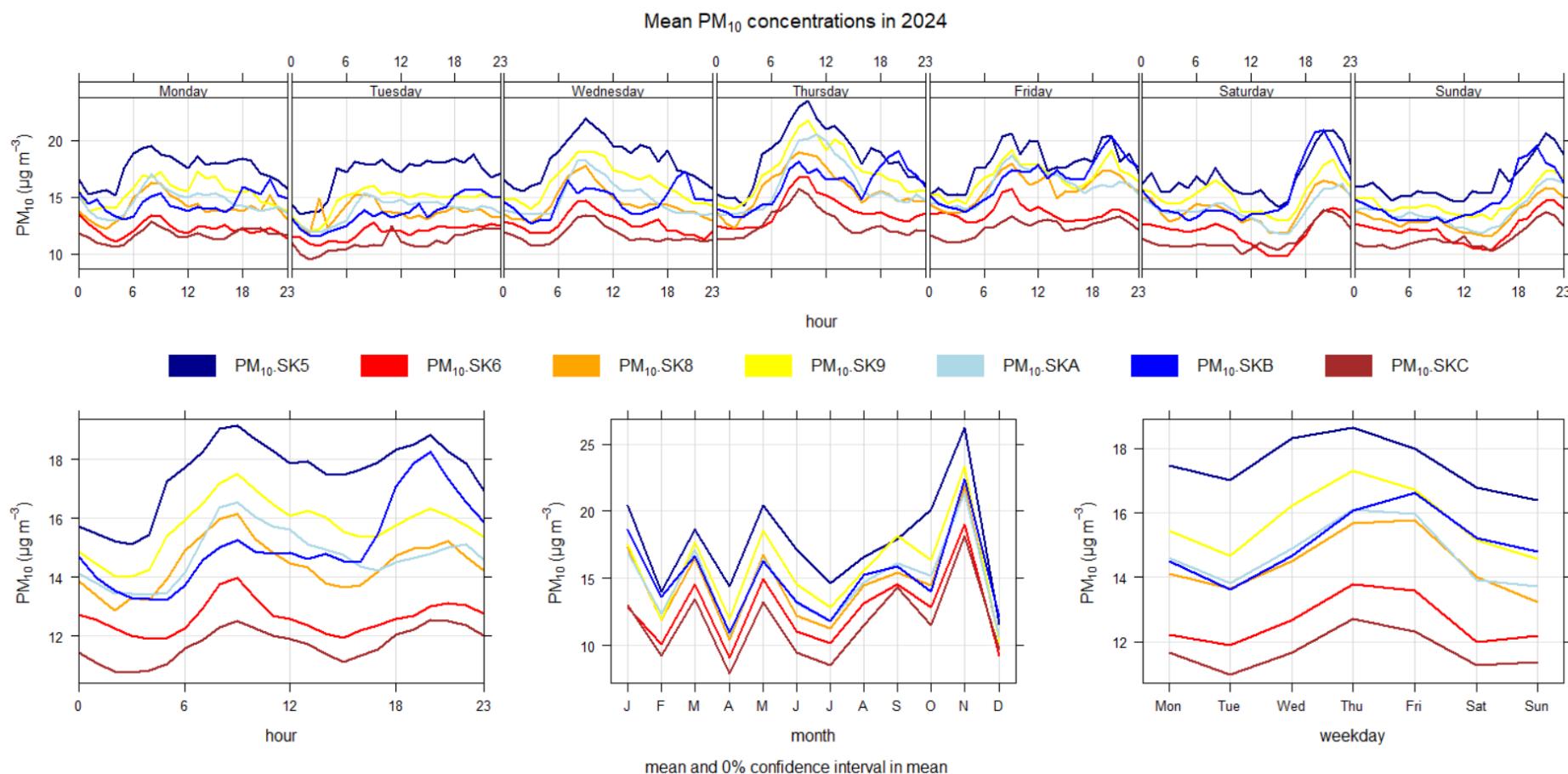


Figure 11 - Time-varied PM₁₀ Concentrations at Southwark's Continuous Air Quality Monitoring Stations in 2024



Discussion of trends for hourly and 24-hour mean PM₁₀

The 7-year trend in short term PM₁₀ concentrations shows that all existing sites were compliant with the 50 $\mu\text{g.m}^{-3}$ 24-hour objective in 2024 and previous years (see **Table J**).

Peaks in concentrations of PM₁₀ were observed in March and November, particularly at the SK5/SK9 Old Kent Road and SKB Vicarage Road sites (**Figure 10**).

From the analysis of diurnal variation in hourly mean concentrations it is found that generally the morning and afternoon peaks from Monday to Friday were present although they were less pronounced than those for NO₂. At weekends, the levels peaked in the afternoon, similar to NO₂ (**Figure 11**).

1.2.3 Particulate Matter (PM_{2.5})

Table K - Annual Mean PM_{2.5} Automatic Monitoring Results (μg.m⁻³)

Site ID & Name	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
SK6 Elephant & Castle	531884	178835	Urban Background	96.9	96.9	-	-	9 ^a	9.1	9.4	7.7	7.8
SK8 Tower Bridge Road	533488	179804	Roadside	99.7	99.7	-	-	8 ^a	10.4	9.3	8.4	8.1
SK9 Old Kent Road (FIDAS)	534844	177515	Roadside	98.2	98.2	-	-	9 ^a	9.5	9.9	9.0	8.6
SKA Lower Road	535272	179331	Roadside	99.9	99.9	-	-	-	9.3	9.7	8.3	8.3
SKB Vicarage Grove	532904	176694	Roadside	99.1	99.0	-	-	-	9.9	10.1	9.9	9.4
SKC South Circular Road	533698	173268	Roadside	94.5	94.5	-	-	-	7 ^a	8.5	7.1	7.1

Notes

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

Exceedances of the PM_{2.5} annual mean concentration target of 10 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%).

Figure 12 - Trend in Annual Mean PM_{2.5} concentrations at Southwark's Existing Air Quality Monitoring Stations, 2018 – 2024

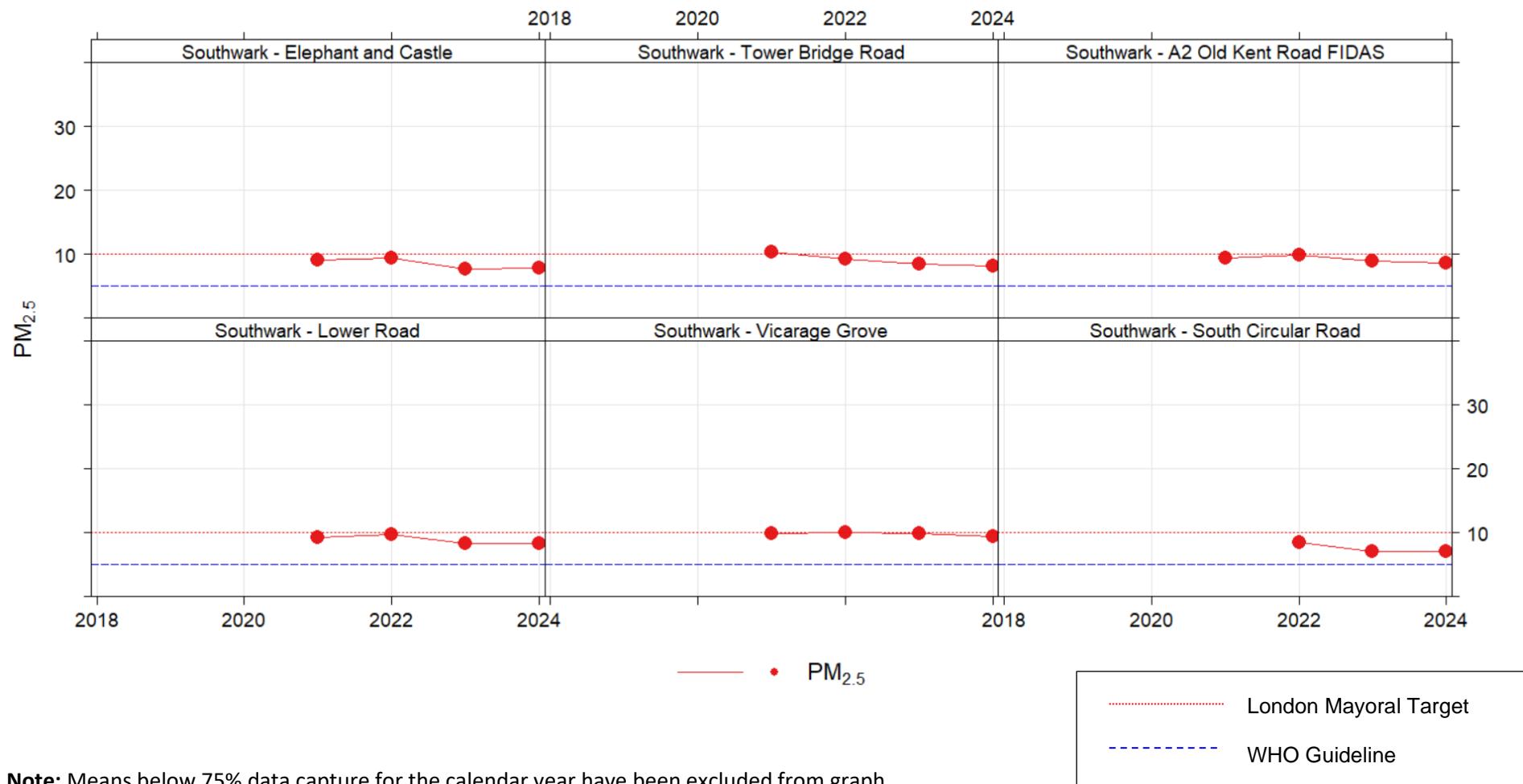


Figure 13 – 1-Hour PM_{2.5} Concentrations at Southwark's Continuous Air Quality Monitoring Stations

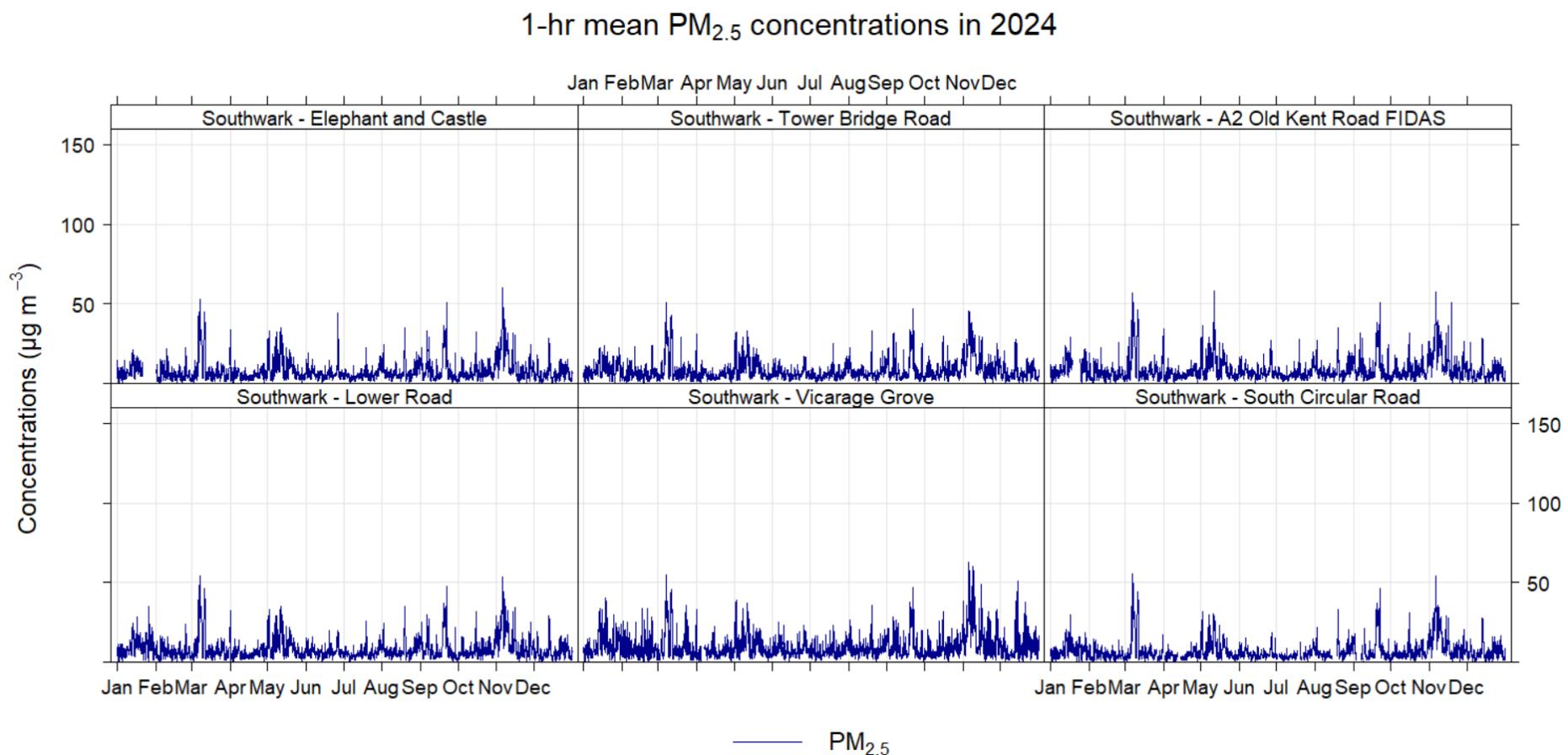


Figure 14 - Time-varied PM_{2.5} Concentrations at Southwark's Continuous Air Quality Monitoring Stations

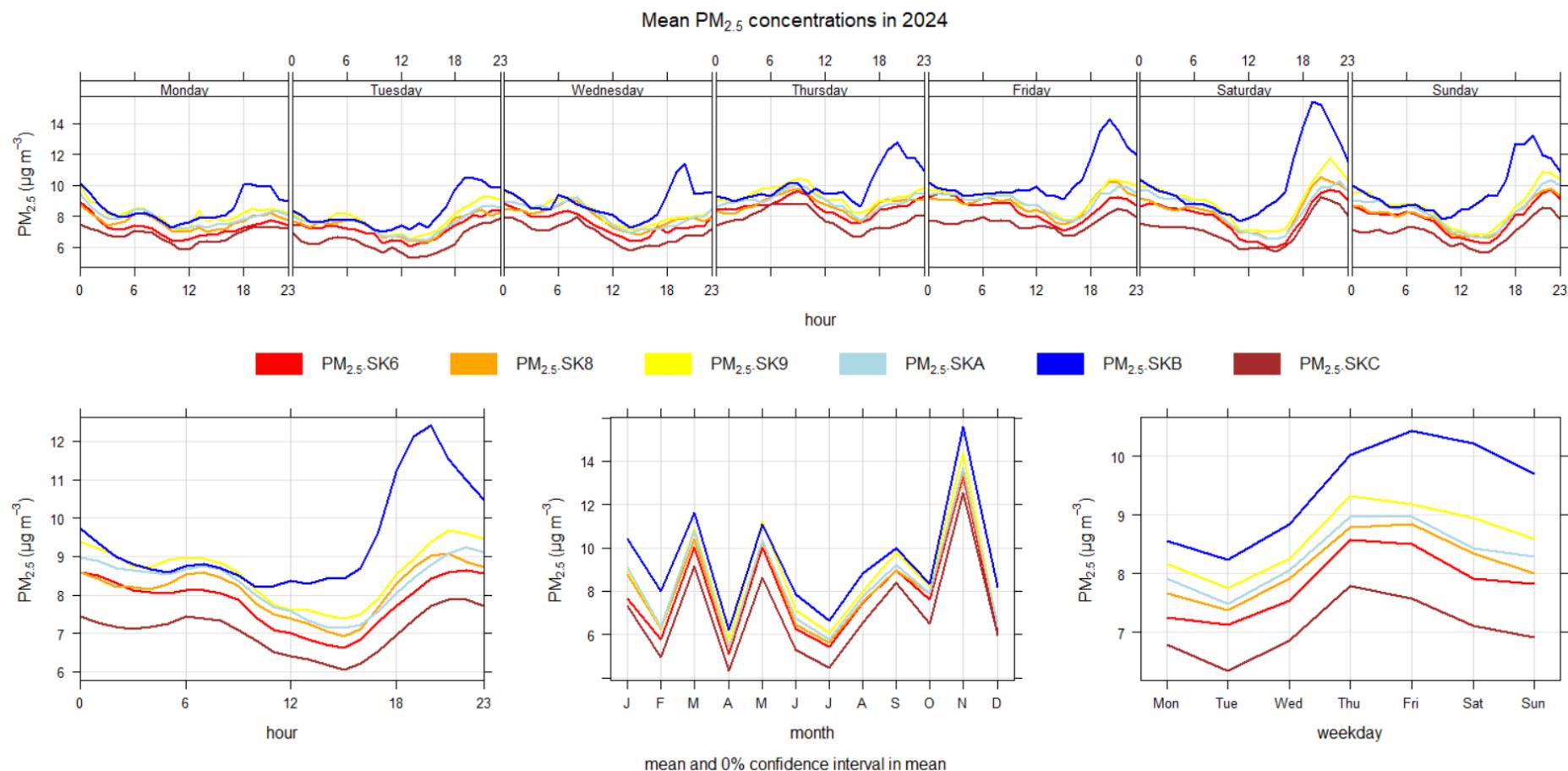


Table L - Annual Mean PM_{2.5} Monitoring Results from Breathe London Sensor Sites

Site ID	Site Name	Site type	Monitoring Method	Valid data capture 2024 % ^(a)	2021	2022	2023	2024
CLDP0037	Charlotte Sharman Primary School	Urban Background	Sensor	95.1	8.2 (60%)	8.7	8.1	8.1
CLDP0022	Elephant & Castle (reference co-location)	Urban Background	Sensor	95.1	9.1	9.2	7.9	7.8
CLDP0323	Elm Lodge Surgery	Roadside	Sensor	82.0	-	7.4 (53%)	7.2	6.1
CLDP0080	Guy's Hospital	Roadside	Sensor	95.1	10.2 (52%)	10.3	8.4	7.8
CLDP0448	Harris Primary Academy, East Dulwich	Roadside	Sensor	94.5	-	-	8.2 (74%)	8.0
CLDP0384	Imperial War Museum	Urban Background	Sensor	99.7	-	8.3 (4%)	7.5	7.3
CLDP0175	London Wildlife Trust Centre For Wildlife Gardening	Urban Background	Sensor	87.9	8.9 (15%)	8.4	7.6	7.4
CLDP0357	Maudsley Hospital	Roadside	Sensor	33.7		8.8 (22%)	7.9	7.0 (34%)
CLDP0078	Oliver Goldsmith Primary School	Urban Background	Sensor	95.1	8.2 (55%)	8.9	8.2	7.8
CLDP0108	SWK-BL1 : Croxted Road / Guernsey Grove	Roadside	Sensor	95.1	10.3 (42%)	10.0	7.9	7.1
CLDP0107	SWK-BL2 : Croxted Road/Dalkeith Road	Roadside	Sensor	94.9	9.6(42%)	9.7	8.7	7.9
CLDP0042	Tower Bridge Primary School	Roadside	Sensor	95.1	10.9 (60%)	10.6	8.5	7.8

Notes:

These results are indicative only.

The annual mean concentrations are presented as $\mu\text{g m}^{-3}$. Means are yearly averages and have not been “annualised”.

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

If the data capture for the year is less than 75% in 2021 or 2022, the data capture is shown in the brackets adjacent to the annual mean.

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

- (a) 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 15 - Trend in Annual Mean PM_{2.5} Concentrations at Southwark's Breathe London Sensor Sites, 2021 – 2024

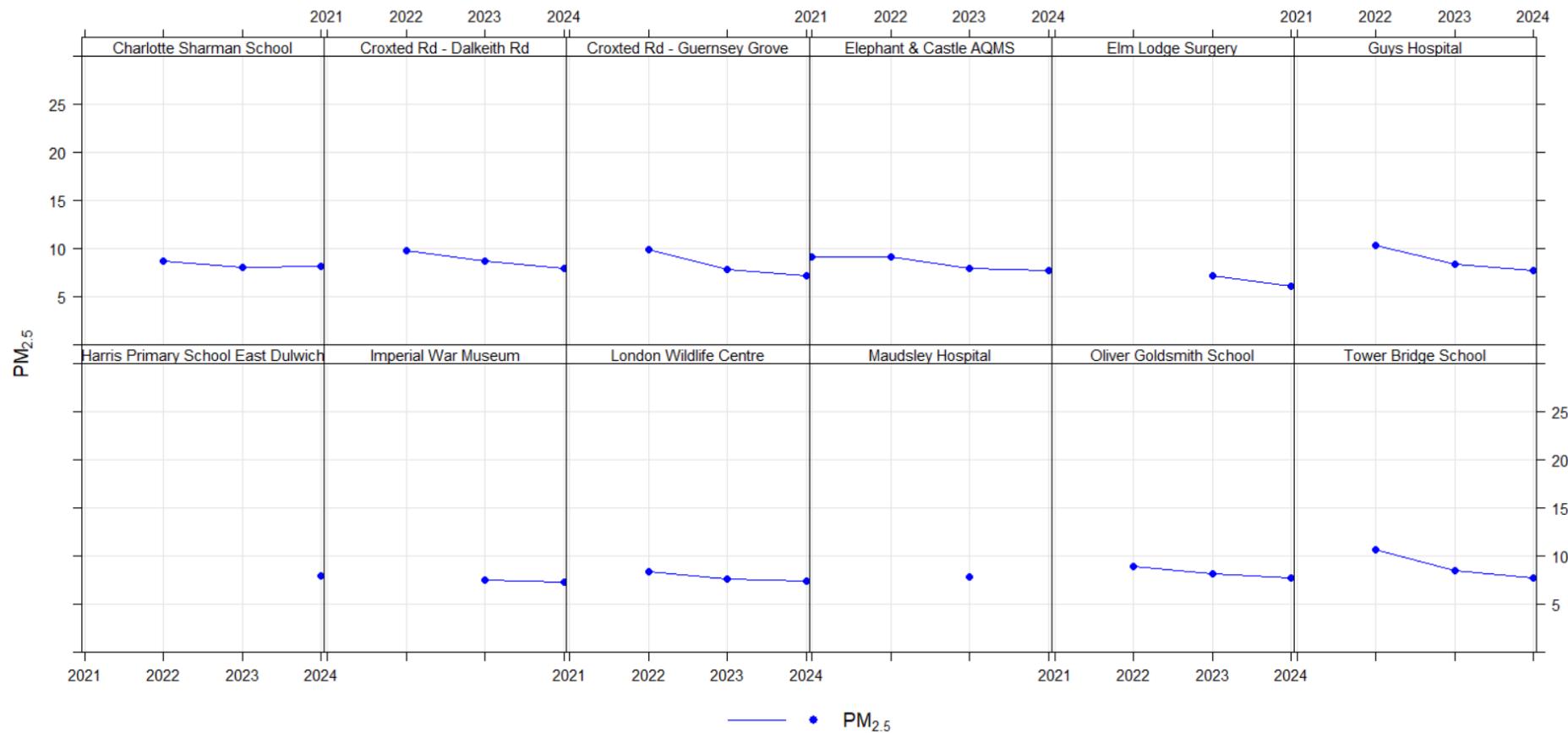
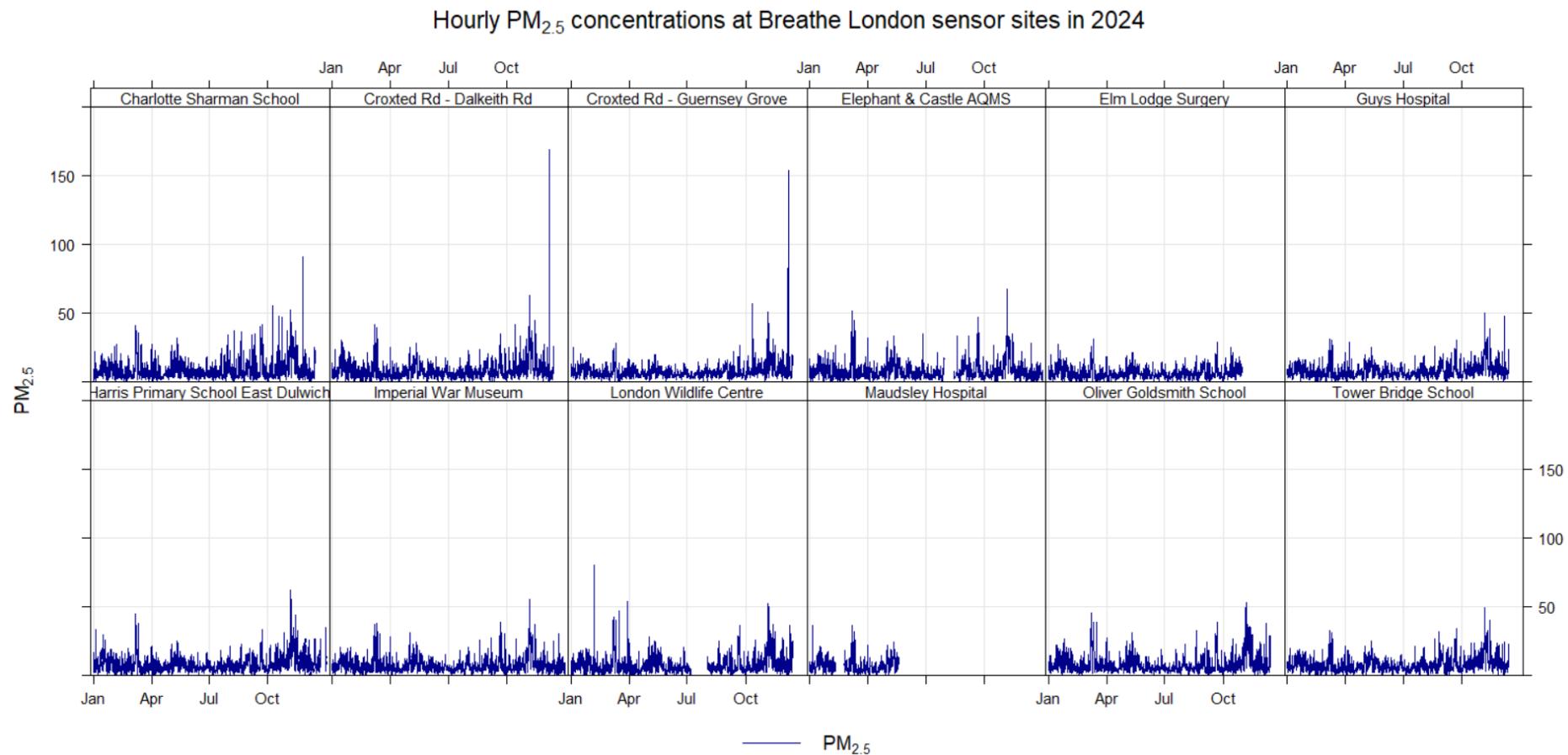


Figure 16 – 1-Hour PM_{2.5} Concentrations at Breathe London Sensor Sites in 2024



NB: Sensor results are indicative only.

Discussion of Trends in PM_{2.5} concentrations

PM_{2.5} objectives have been set out in the UK Air Quality Regulations. Results from the monitoring sites indicate that concentrations have remained well below the limit value of 10 $\mu\text{g.m}^{-3}$ in 2024, which is the new national . All sites were below the earlier WHO guideline value of 10 $\mu\text{g.m}^{-3}$ adopted in the London Plan, although compliance at SKB Vicarage Grove was marginal with a result of 9.4 $\mu\text{g.m}^{-3}$ (**Table K** and **Figure 12**). The latest WHO guideline of 5 $\mu\text{g.m}^{-3}$ has been exceeded at all sites.

The trend for PM_{2.5} concentrations appears to be either slightly decreasing or stable for the monitoring period.

There were no PM_{2.5} episodes in 2024, which is evident in **Figure 13**. The results from sensor sites presented in **Figure 16** indicate the concentrations peaking in the period October-December. **Figure 15** shows the trend for the sensor sites.

The analysis of average hourly concentrations by day of the week indicates that the levels peaked during evening hours throughout the week, with the highest peaks recorded on Fridays and the weekend. The site which recorded the highest time-averaged levels was SKB Vicarage Grove (**Figure 14**).

1.2.4 Ozone (O₃)

Table M - O₃ Automatic Monitoring Results: Comparison with Objective, Daily Maximum 8-hour Running Mean > 100 µg.m⁻³

Site ID & Name	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
SK6 Elephant & Castle	531884	178835	Urban Background	99.5	99.5	9	8	16	14	20	19	22

Notes

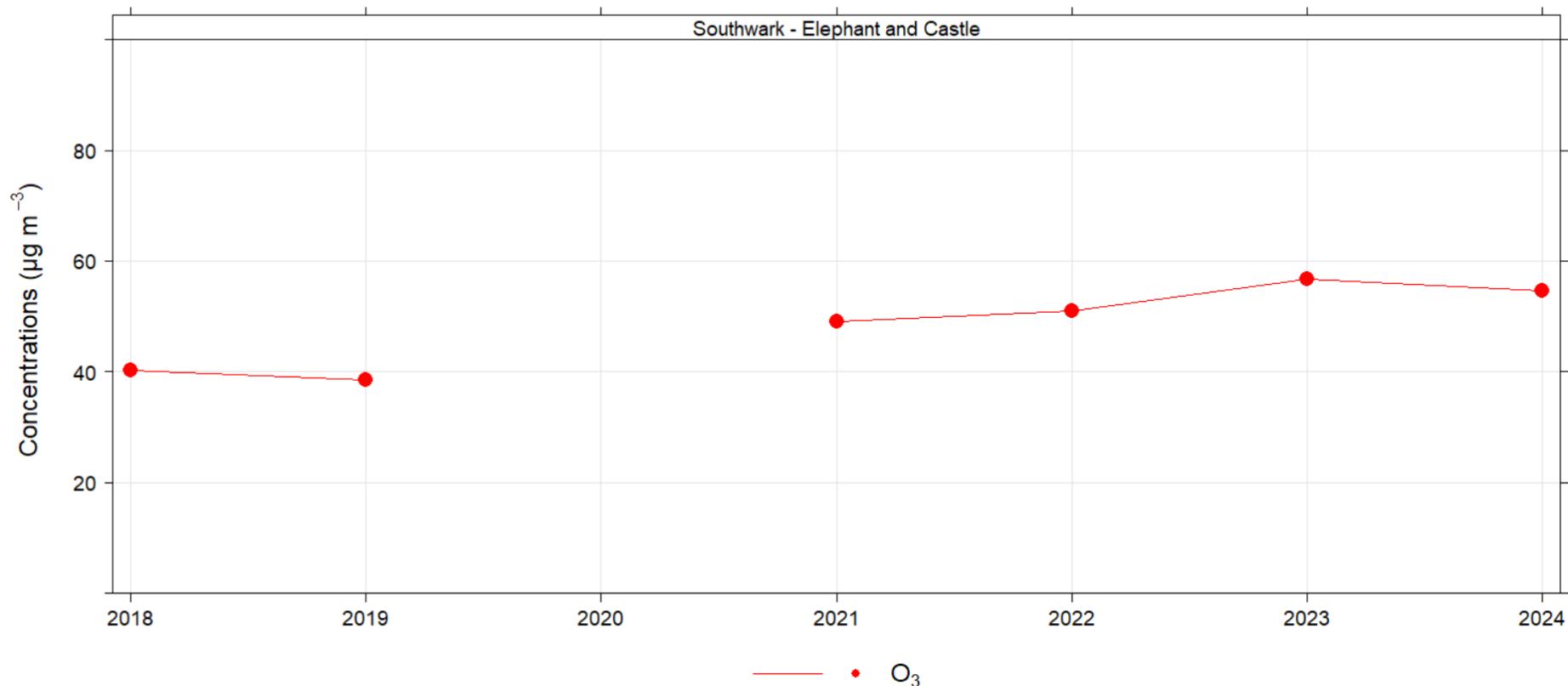
Exceedances of the O₃ 8 hourly running mean objective (100 µg.m⁻³ not to be exceeded more than 10 times a year) are shown in **bold**.

(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 17 - Trend in Annual Mean O₃ Concentrations at Southwark's Existing Air Quality Monitoring Station, 2018 – 2024

Annual mean O₃ concentrations at Elephant & Castle



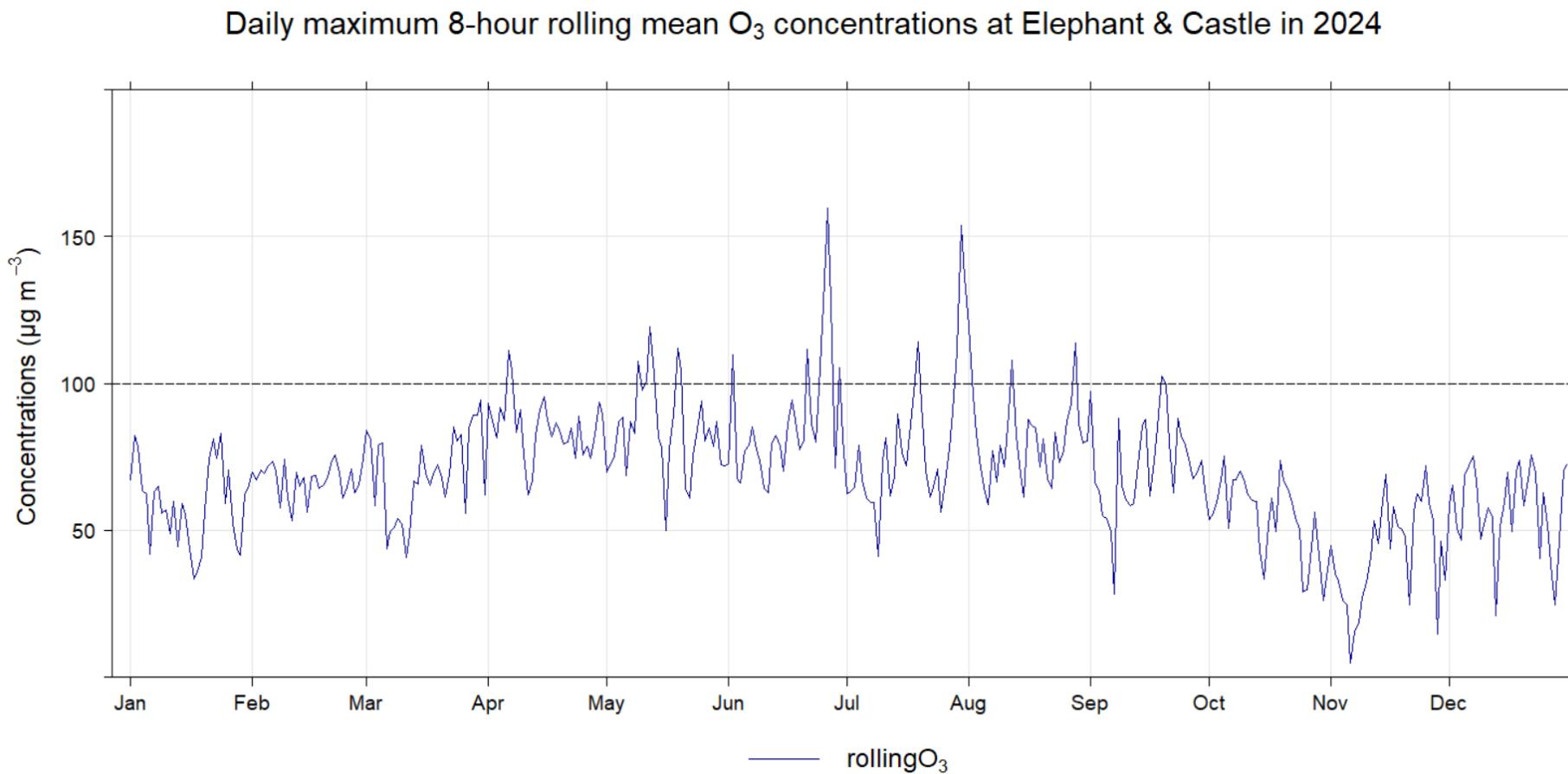
Note: Means below 75% data capture for the calendar year have been excluded from graph.

Figure 18 - Trend in Annual Mean O₃ Concentrations at Southwark's Existing and Past Air Quality Monitoring Stations, 2000 – 2024



Note: Means below 75% data capture for the calendar year have been excluded from graph.

Figure 19 – Daily Maximum 8-Hour Running Mean O₃ Concentrations at Southwark’s Continuous Air Quality Monitoring Station in 2024



Discussion of Trends in O₃ concentrations

Continuous monitoring of O₃ is undertaken at the Elephant and Castle background monitoring site. O₃ is a transboundary pollutant; the sources of O₃ are frequently spatially distant from the measured site of the concentrations. This pollutant does not have a prescribed air quality objective for LLAQM purposes; however, it has been reported as recommended by the GLA.

There has been a notable increase in O₃ concentrations in the recent years (**Table M** and **Figures 17 and 18**). There is no LLAQM standards for O₃, however, the national Air Quality Strategy standards establish a limit of 100 $\mu\text{g.m}^{-3}$ not to be exceeded more than 10 times a year for the 8 hourly running mean. This limit has been consistently exceeded at the Elephant and Castle site since 2020 (**Table M**). **Figure 19** shows that periods of elevated O₃ concentrations spanned over April-September.

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 London Borough of Southwark can be found in **Table N**. The table presents a description of the AQMA that is currently designated within the Southwark Borough. **Appendix C** provides a map of the 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:

- NO₂ annual mean
- PM₁₀ 24-hour mean

Pollutant concentrations may vary significantly from one year to the next, due to the influence of meteorological conditions. Before considering revocation of the AQMA based on measured pollutant concentrations, Southwark needs certainty that any future exceedances (that might occur in more adverse meteorological conditions) are unlikely. Southwark will not consider revocation of the Air Quality Management Area until measurements carried out over several years, national trends in emissions, local emissions factors and national monitoring information, all indicate that the AQMA should be revoked. **Tables G, I, J, K and N** indicate that these conditions have not yet been met. Furthermore, to avoid revocation of the Air Quality Management Area followed soon after by the need for re-declaration, Southwark will also consider the potential for air quality standards to be stricter in future, and for this

purpose will consider changes in international guidance issued by the World Health Authority, alongside the UK national air quality standards and objectives.

Table N - 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
Southwark AQMA	Declared 01/06/2003, Amended 08/06/2024	NO ₂ – Annual Mean	Whole Borough	NO – LBS & TfL	43.0µg.m ⁻³ . (Southwark 1) 68.8µg.m ⁻³ . (Southwark 2)	37.1µg.m ⁻³ . (SDT 18) 37.4µg.m ⁻³ . (SDT 24)	Historical sites Southwark 1 and Southwark 2 were located in the north area of the district. Although those sites had been closed down, more recent monitoring continues to show that some locations remain close to the objective level. Compliance has been achieved in the south part of the district.	LBS AQAP 2022-2027, January 2024	London Borough Southwark Air Quality Action Plan 2022-2027
Southwark AQMA	Declared 01/06/2003, Amended 08/06/2024	PM ₁₀ – 24-Hour Mean	Whole Borough	NO – LBS & TfL	32* (Southwark 1) 39* (Southwark 2)	1* (SKA Lower Road) 3* (SK9 Old Kent Road)	Monitoring has shown legal compliance with PM ₁₀ objectives, however WHO standards for particulate matter have not been met at some monitoring sites.	LBS AQAP 2022-2027, January 2024	London Borough Southwark Air Quality Action Plan 2022-2027

* Number of exceedances of the 24-hour mean objective of 50 µg.m⁻³

- London Borough of Southwark confirm the information on UK-Air regarding their AQMA(s) is up to date
- London Borough of Southwark confirm that all current AQAPs have been submitted to GLA

2.2 Air Quality Action Plan Progress

The Southwark Air Quality Action Plan (AQAP) outlines the actions Southwark Council will take to improve air quality in the borough. The current AQAP was adopted in December 2022 and covers the period from 2023 to 2027. The plan is set to be reviewed and updated as necessary, with the next major revision expected after the current plan period ends in 2027.

Table O provides a brief summary of Southwark Council progress against the Air Quality Action Plan, showing progress made this year.

Table O - Delivery of Air Quality Action Plan Measures

Three Key Measures

Action ID	Action	Outputs, Targets and KPIs	Progress
2.6	Minimise emissions from construction by ensuring all construction site Non-Road Mobile Machinery (NRMM) comply with the London Environment Strategy Policy 4.2.3a	All relevant Planning applications to include the appropriate NRMM condition KPI - 100% of all relevant applications Southwark to maintain an updated list of construction sites on a quarterly basis KPI - Four lists each year Southwark to subscribe to the Mayor's Air Quality Fund South London NRMM Enforcement Project KPI - Annual subscription paid	<ul style="list-style-type: none">• Emissions/Concentration data<ul style="list-style-type: none">• Benefits• Negative impacts / Complaints <ul style="list-style-type: none">• London Borough of Merton are contracted to undertake construction site NRMM inspection visits as part of a pan London project.• Annual subscription to the pan-London project was paid.• LBS maintained a list of construction sites in 2024 and all sites found non-compliant were investigated. 28 audits of NRMM on construction sites in Southwark were carried out by Merton (as contractor through pan-London project), and all were either made compliant, were already self-compliant, or had no NRMM on site.

Action ID	Action	Outputs, Targets and KPIs	Progress
		<p>Mayor's Air Quality Fund South London NRMM Enforcement Project to submit regular reports to Southwark KPI - Four reports each year</p> <p>Southwark's Environment Protection Team to investigate all non-compliant sites as reported by the NRMM Lead Authority KPI - All non – compliant sites investigated</p>	<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints <ul style="list-style-type: none"> • Southwark are participating in a new innovative project in conjunction with Impact of Urban Health and ARUP. The aim is to reducing polluting emissions from construction sites, by identifying the obstacles and formulating solutions to overcome them. As part of this project the, London Borough of Southwark have recruited to the new post of a Construction Monitoring Officer. • Active list of construction sites was compiled. New mapping tool to be introduced to show active sites. • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
2.12	Southwark's Smoke Control Area (SCA) is fully promoted and enforced (GLA mandatory action)	<p>Enforce the requirements of the Clean Air Act in the Borough KPI - 100% of service requests investigated</p> <p>Enforce the requirements of the Environment Act in the Borough to control the sale of unauthorised solid fuels.</p> <p>KPI - At least one campaign per year.</p> <p>KPI - When appropriate formal action to be taken in 100% of cases.</p> <p>Publicise on a regular basis that whole of Southwark is a Smoke Control Zone KPI - At least one campaign per year.</p>	<ul style="list-style-type: none"> • Southwark's Smoke Control Area (SCA) can be found at https://www.southwark.gov.uk/assets/attach/1468/smoke-control-order-2009.pdf All service request investigated • A grant application was submitted to Defra in July 2023 and it was approved in principle in November 2024 to extend the SCA to inland waterways. • Full attendance of the GLA Wood Burning Group meetings and participation in the pan-London campaigns. • Smoke enforcement action was taken for all relevant cases and appropriate notices served. • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.

Action ID	Action	Outputs, Targets and KPIs	Progress
		Attend the GLA Wood Burning Working Group and contribute to the outcomes of the group.	<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
7.1	Transport and air quality policies and projects are integrated	<p>KPI - The number of Healthy Streets projects delivered during the year</p> <p>KPI - The number of walking and cycling infrastructure projects delivered during the year</p> <p>Annual progress reporting</p> <p>KPI – Number of bookable permit holder only Loading Bays in the Borough (see Action ID 4.2).</p>	<ul style="list-style-type: none"> • The number of Healthy Streets implemented is four: Cycleway 4 (Lower Road), Sydenham Hill 20mph, Southwark Spine (P4) and Browning Street. • All Highways schemes are set up to improve walking or cycling or both. Highways implemented 24 projects aimed at improving walking/cycling. • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.

LLAQM Action Matrix Theme - Monitoring and other core statutory duties

Action ID	Action	Outputs, Targets and KPIs	Progress
1.1	Maintain the Authority's automatic air quality monitoring stations in the Borough	All monitors maintained and over 90% data capture annually	<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
1.2	Maintain the Authority's Nitrogen Dioxide Diffusion Tube Survey in the Borough in accordance with current guidance	All diffusion tube results to be published within 5 weeks of collection on the website	<ul style="list-style-type: none"> • All stations were maintained, serviced and calibrated to current guidance. • No emissions / concentrations benefits but critical in terms of understanding emissions. • Data capture for all pollutants reported on was very good (above 90%).
1.3	Work with the GLA Breathe London Project	Southwark has several sites in Borough, details to be reported annually.	<ul style="list-style-type: none"> • The diffusion tube network was maintained at 2023 level, and the in accordance with current guidance. • A diffusion tube air quality dashboard was created but is not yet published. • No emissions / concentrations benefits but critical in terms of understanding emissions.

Action ID	Action	Outputs, Targets and KPIs	Progress
1.4	Prepare and produce all London Local Air Quality Management Framework reports as required.	Submission of the Annual Status Report to the GLA KPI – Report submitted by the 31st May each year	<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints • All reports required by the London Local Air Quality Management Framework were produced and submitted. This report to be submitted by the deadline of 31st May 2025. • No direct emissions / concentrations benefits but critical in terms of air quality work.
1.5	New publicly consulted Air Quality Action Plan every 5 years	The next full revised Air Quality Action Plan is due 2028 KPI – Report submitted by the 31st May each year	<ul style="list-style-type: none"> • A final version of AQAP 2023 -2027 was published in August 2022. <p>We are reviewing the KPIs, and a new measure was added for permitted boilers.</p> <ul style="list-style-type: none"> • Reduction in emissions of Particulate Matter and Nitrogen Dioxide depending on the nature of the measures.
1.6	Review the Authority's Air Quality Management Area and air quality action plan annually	Review every year when preparing the Annual Status Report ASR will have an annual progress note published within it	<ul style="list-style-type: none"> • The AQMA designation for annual mean NO₂ was reviewed and approved by Cabinet in 2022, AQMA boundary amended on UK-Air website in June 2024. • The is reviewed: a) quarterly through internal processes, and b) annually through the ASR reporting process. • No emissions / concentrations benefits but critical in terms of understanding emissions.
1.7	Respond to all appropriate air quality consultations	Consultation to be responded within consultation timetable	<ul style="list-style-type: none"> • The Environment Protection Team received and responded to all air quality related consultations during the year.

Action ID	Action	Outputs, Targets and KPIs	Progress
			<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
1.8	Support the introduction of a new or revised Clean Air Act that improves public protection from atmospheric pollution	To lobby Government for the introduction of the Clean Air Act and / or GLA to introduce new Clean Air provisions within a London Local Authority Act	Action complete. LBS was in support of changes to the smoke control area regime, which were implemented in the Environment Act 2021.
1.9	Respond to Defra's Environment Act 2021 consultation in setting a PM _{2.5} target to improve public protection from Particulate Matter (PM2.5) atmospheric pollution	To lobby Government for the inclusion of WHO PM _{2.5} guidelines into the Environment Act 2021 regulations	Action complete.
1.10	Promote delivery of information on pollen	AirTEXT distributes information on pollen, which is available through a daily text	<ul style="list-style-type: none"> • Pollen alerts are shared with the public through the AirText service. • The reach of the AirText pollen alerts is being increased through a Southwark-led project. • No emissions / concentrations benefits.
1.11	To adopt the World Health Organization air quality guidelines	L.B. Southwark to adopt the guidelines as part of Air Quality Action Plan and work with the Mayor of London towards meeting the standard by 2030 KPI – Report annually	<ul style="list-style-type: none"> • Guidelines were adopted in the new AQAP. • LBS is committed to achieving World Health Organisation targets for Particulate Matter in accordance with the targets in the London Plan and the Environment Strategy. • Medium to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
1.12	Review best practice and technical guidance on the use of Low Cost Sensors	QA and QC report on performance of low cost sensors will be published in the ASR	<ul style="list-style-type: none"> • The EPT team has taken part in surveys on the use of low-cost air quality sensors. • The team has supported and welcomed the publication of a Code of Practice for the selection,

Action ID	Action	Outputs, Targets and KPIs	Progress
			<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
1.13	Embed air quality considerations in all new Council policies.	Report annually in the ASR	<p>deployment, and quality control of low-cost air quality sensor systems in outdoor ambient air - Low Cost AQ Sensor Code of Practice: PAS 4023:2024.</p> <ul style="list-style-type: none"> • No emissions / concentrations benefits but critical in terms of understanding emissions. <ul style="list-style-type: none"> • LBS has a legal duty to monitor air pollution and progress the Air Quality Action Plan. • When relevant policies are due to be updated, the policy is reviewed to ensure that air quality improvements are included in the revised document. • Transport Policy include poor air quality as one of the determining factors when prioritising areas for new interventions, especially in the vicinity of sensitive uses, such as schools. • The Environmental Protection team shared their inputs on the s106 SPD. <ul style="list-style-type: none"> • Small to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
1.14	Maintain the Authority's sensor network in the Borough in accordance with current guidance	All monitors maintained and data published on website	<ul style="list-style-type: none"> • A sensor monitoring survey was in operation throughout 2024. LBS have been investigating budget options for the QA/QC work. • Data Analyst resource provided to progress creation of air quality dashboard.

Action ID	Action	Outputs, Targets and KPIs	Progress
			<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints • No emissions / concentrations benefits but critical in terms of understanding emissions.

LLAQM Action Matrix Theme - Emissions from developments and buildings

Action ID	Action	Outputs, Targets and KPIs	Progress
2.1	Ensuring emissions from construction are minimised by developers fully complying with Southwark's Technical Guidance for Demolition and Construction	<p>All major sites to submit an Air Quality Assessment in accordance the current version of the GLA's guidance "The Control of Dust and Emissions during Construction and Demolition Supplementary Planning Guidance".</p> <p>Review Highways standard contract terms in 2025-2026 to address idling at road works and generator types.</p> <p>KPI - All applications met the requirements of the technical guide.</p>	<ul style="list-style-type: none"> EPT officers work plans ensure that the requirements are practically met. All development must comply with Southwark's Technical Guidance for Demolition and Construction. The guidance is being peer reviewed. London Borough of Southwark Technical Guidance for Demolition and Construction EPT is contributing to the new Exemplar sites project. A new Construction Monitoring Officer post agreed. Medium to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
2.2	All Major development sites to submit a demolition management (DEMP) and / or Construction Management Plan (CEMP)	<p>Annual reporting of number of Demolition Management Plans and Construction Management Plans that have been reviewed</p> <p>KPI - Number of reviews of Demolition Management Plans and Construction Management Plans</p>	<ul style="list-style-type: none"> This was required of all Major³ development. 16 planning applications were approved in 2024 with a CEMP. Medium to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
2.3	Ensuring all medium and high risk sites have real – time PM monitoring on site and that the information from	Annual reporting of number of sites that are reporting site monitoring	<ul style="list-style-type: none"> All relevant sites are made to have real time monitoring as per CEMP condition. This was required of all Major⁴ development.

³ A MAJOR development is defined by Town and Country Planning (Development Management Procedure) Order (England) 2015: <https://www.legislation.gov.uk/uksi/2015/595/article/2/made>

⁴ As above

Action ID	Action	Outputs, Targets and KPIs	Progress
	this monitoring is easily accessible to the public	KPI - Number of construction sites with site monitoring KPI - Review technical guide to ensure appropriate mitigation and dust management responses	<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
2.4	Ensuring emissions from construction are minimised by developers by submitting a transport logistics assessment in accordance with Transport for London's (TfL) Construction Logistics guidance	All major sites to submit a Transport Logistics Assessment in accordance the current version of the TfL guidance Control of construction vehicles delivery times to reduce impact on local communities congestion and air quality KPI - 100% of all major sites	<ul style="list-style-type: none"> • New requirement has been implemented for all development to have a Construction Logistics Plan. • The Technical Guidance document⁵ applies to all sites, both minor and major. All standards remain the same for all sites. • Medium to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
2.5	Produce a construction code of practice for minor sites to be used as informative	Information to be secured by either planning conditions or s106 agreements KPI - Annual reporting of informatives issued	<ul style="list-style-type: none"> • The GLA's "The Control of Dust and Emissions during Construction and Demolition Supplementary planning guidance can be found at GLA's "The Control of Dust and Emissions during Construction and Demolition Supplementary Planning Guidance • The Technical Guidance document⁶ applies to all sites, both minor and major. All standards remain the same for all sites.

⁵ https://www.southwark.gov.uk/sites/default/files/2024-05/technical_guidance_for_demolition_construction.pdf

⁶ https://www.southwark.gov.uk/sites/default/files/2024-05/technical_guidance_for_demolition_construction.pdf

Action ID	Action	Outputs, Targets and KPIs	Progress <ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
			<ul style="list-style-type: none"> • Medium to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
2.6	<p>Minimise emissions from construction by ensuring all construction site Non-Road Mobile Machinery (NRMM) comply with the London Environment Strategy Policy 4.2.3a</p>	<p>All relevant Planning applications to include the appropriate NRMM condition KPI - 100% of all relevant applications</p> <p>Southwark to maintain an updated list of construction sites on a quarterly basis KPI - Four lists each year</p> <p>Southwark to subscribe to the Mayor's Air Quality Fund South London NRMM Enforcement Project KPI - Annual subscription paid</p> <p>Mayor's Air Quality Fund South London NRMM Enforcement Project to submit regular reports to Southwark KPI - Four reports each year</p> <p>Southwark's Environment Protection Team to investigate all non-compliant sites as reported by the NRMM Lead Authority KPI - All non – compliant sites investigated</p>	<ul style="list-style-type: none"> • London Borough of Merton are contracted to undertake construction site NRMM inspection visits as part of a pan London project. • Annual subscription to the pan-London project was paid. • LBS maintained a list of construction sites in 2024 and all sites found non-compliant were investigated. 28 audits of NRMM on construction sites in Southwark were carried out by Merton (as contractor through pan-London project), and all were either made compliant, were already self-compliant, or had no NRMM on site. • Southwark are participating in a new innovative project in conjunction with Impact of Urban Health and ARUP. The aim is to reducing polluting emissions from construction sites, by identifying the obstacles and formulating solutions to overcome them. As part of this project the, London Borough of Southwark have recruited to the new post of a Construction Monitoring Officer. • Active list of construction sites was compiled. New mapping tool to be introduced to show active sites.

Action ID	Action	Outputs, Targets and KPIs	Progress
			<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
			<ul style="list-style-type: none"> • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
2.7	Ensuring emissions from construction and demolition sites are minimised by developers to comply with the London Environment Strategy Policy 4.2.3	<p>All major sites to submit an Air Quality Assessment in accordance the current version of the GLA's The Control of dust and emissions during Construction and Demolition Supplementary Planning Guidance"</p> <p>KPI - 100% of all relevant applications</p> <p>KPI - Annual reporting of the number of NRMM conditions / s106 interventions</p>	<ul style="list-style-type: none"> • LBS secured funding for a Construction Monitoring Officer, whose role will be to look to progress and report on all measures aimed at tackling emissions from construction sites and events. The officer started his role in January 2025. • EPT officers work plans ensure that the requirements are practically met. • Medium to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
2.8	Continue to control emissions from permitted processes via inspection and enforcement	<p>Annual reporting of number of inspections in accordance with LAPPCC risk regime and number of enforcement notices.</p> <p>KPI - Report to be submitted to Defra by the due date</p>	<ul style="list-style-type: none"> • LBS complied with the inspection schedule. • The report will be submitted in 2024. • Low reduction in emissions of Particulate Matter and Nitrogen Dioxide.
2.9	Enforce Air Quality Neutral Policy and Air Quality Positive Policy	<p>KPI - All Planning applications with boilers or other heat sources to be given a standard planning condition which requires pre-occupation information or testing reports to be submitted to Planning.</p>	<ul style="list-style-type: none"> • This measure was agreed in principle with Planning in 2023. • LBS received two air quality positive applications in 2024 and they were accepted (see application ref. 24/AP/1958 and 24/AP/3432). • All planning applications that were granted permission in 2024 met the air quality neutral requirements.

Action ID	Action	Outputs, Targets and KPIs	Progress
			<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
2.10	Master planning and redevelopment areas aligned with the Air Quality Positive and Healthy Streets approach	<p>KPI - Complete review of Southwark Plan in the context of air quality</p> <p>KPI - Respond to the Sustainable Transport Plan consultation to include improvements to air quality in 2022 – 2023</p>	<ul style="list-style-type: none"> • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide. • Southwark Plan adopted in 2022. Climate and Environment SPD to be adopted in 2025. The Old Kent Road Area Action Plan out for consultation in January 2025. • Planners have programmed the air quality review in late 2024. • Climate Change Plan Action A.1.iii is now complete. • EH team responded to the Sustainable Transport Plan consultation. • See Southwark Plan Policy 65. • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
2.11	Promoting and delivering energy efficiency and energy supply retrofitting projects in all buildings through Energy for Londoners (EfL) retrofit programmes such as RE:FIT, RE:NEW , DEEP and through Borough carbon offset funds.	<p>KPI - Implement improvements to Council Medium Combustion Plant (MCP) to reduce emissions and improve monitoring by the end of 2025</p> <p>KPI - Retrofit to improve energy efficiency at five libraries and three children centres by 2024</p>	<ul style="list-style-type: none"> • All MCP boilers underwent emission tests in 2024 and there were no exceedances of the permit limits. • LBS aims to introduce a new KPI on boilers permitted under the Medium Combustion Plan Directive. • Retrofit work for the libraries and children centres commenced in 2024 and is in progress. • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.

Action ID	Action	Outputs, Targets and KPIs	Progress <ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
2.12	Southwark's Smoke Control Area (SCA) is fully promoted and enforced (GLA mandatory action)	<p>Enforce the requirements of the Clean Air Act in the Borough KPI - 100% of service requests investigated</p> <p>Enforce the requirements of the Environment Act in the Borough to control the sale of unauthorised solid fuels.</p> <p>KPI - At least one campaign per year.</p> <p>KPI - When appropriate formal action to be taken in 100% of cases.</p> <p>Publicise on a regular basis that whole of Southwark is a Smoke Control Zone KPI - At least one campaign per year.</p> <p>Attend the GLA Wood Burning Working Group and contribute to the outcomes of the group.</p>	<p>Southwark's Smoke Control Area (SCA) can be found at Smoke Control Order 2009.pdf</p> <p>All service request investigated</p> <ul style="list-style-type: none"> • A grant application was submitted to Defra in July 2023 and it was approved in principle in November 2024 to extend the SCA to inland waterways. • Full attendance of the GLA Wood Burning Group meetings and participation in the pan-London campaigns. • Smoke enforcement action was taken for all relevant cases and appropriate notices served. • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
2.13	Ensuring adequate, appropriate and well located green space and infrastructure is included in new and existing developments	<p>KPI - The number of new green infrastructure schemes granted through the planning process in the year</p> <p>KPI - The number of new green infrastructure schemes implemented in the year</p>	<ul style="list-style-type: none"> • This KPI needs changing as the data is not collected in this way. Green infrastructure projects have not been defined. Planning may review definition of green corridors within the early review of the new Southwark plan. • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.

Action ID	Action	Outputs, Targets and KPIs	Progress <ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
2.14	Reducing emissions from all Combustion Plant	All developments to comply with the London Plan heating hierarchy and that air quality and carbon emissions are fully assessed in planning applications KPI - 100% of all relevant applications KPI - Annual reporting of the number of conditions / s106 interventions KPI - Number of ultra-low NOx boilers / heat pumps installed in the year	<ul style="list-style-type: none"> • The work plan of the Development Control Officers contains requirement to ensure that London Plan heating hierarchy is met and assessed. • There were no S106 deeds signed in 2024 which contain a specific air quality contribution. • Conditions relating to low NOx boilers were attached to two planning approvals⁷. • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
2.15	To reduce emissions of Particulate Matter from commercial kitchens especially PM _{2.5}	Devise and complete a pilot project to produce technical guidance for kitchen operators to reduce emissions of PM _{2.5} .	<ul style="list-style-type: none"> • LBS explored options for a pilot project to produce technical guidance for kitchen operators to reduce emissions of PM_{2.5}. Not progressed due to resources at present. • LBS to contact any catering chains with a Southwark Home Authority agreement, to discover whether they may have any interest in participating in a project to validate the current air quality modelling due to commercial catering in the London Atmospheric Emissions Inventory. See comment above. • Low to Medium reduction in emissions of Particulate Matter and Nitrogen Dioxide.
2.16	Embed air quality in designs of estates	KPI - Number of Design Briefs produced that include air quality principles	<ul style="list-style-type: none"> • No design briefs produced in 2023.

⁷ Returns records in the Planning database where the proposal description contains 'CHP', 'heat', 'power' or 'biomass' and permission was granted subject to a condition containing the words 'low', 'nox' and 'boiler'.

Action ID	Action	Outputs, Targets and KPIs	Progress
		KPI - Number of Air Quality Positive Estates built in the year	<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
2.17	Reducing emissions from Combustion Plant in heating networks	<p>Officers to regularly update the borough – level energy masterplan and identify opportunities for new heat networks as well as extending or inter-connecting existing networks to support cleaner, lower carbon heat supply.</p> <p>Installation of heat pumps on site in three locations - Consort, Newington & Wyndham</p> <p>KPI: Confirmation of the completion of all 3 sites</p> <p>KPI: Annual reporting of the number of conditions / s106 interventions</p> <p>Regular meetings held throughout the year with the s106 compliance manager</p> <p>Complete feasibility studies (with input from residents) which will allow every estate in the borough to design plans to move away from gas as an energy source</p>	<ul style="list-style-type: none"> • No Air Quality Positive Estates were proposed during 2024, however two air quality positive development applications were proposed in 2024. • Highways and regeneration teams would have included air quality in project design. • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide. <ul style="list-style-type: none"> • Three sites completed for the installation of ASHP by 2024: Consort, Newington & Wyndham. • Ongoing work on Southwark's housing stock. Housing Strategy to be published in 2026. <ul style="list-style-type: none"> • An Energy Use review has been carried for operational buildings, it planned to repeat the review for state schools and the housing estate. • Installation of heat pumps at the 3 sites mentioned was completed. • Regular meetings were held with s106 Compliance Manager. • The total carbon emissions from LBS operational buildings for 2021/22 were estimated at 5,997 tCO₂e⁸.

⁸ Draft Operational Buildings Decarbonisation Strategy 2024, London Borough of Southwark, 2024.

Action ID	Action	Outputs, Targets and KPIs	Progress <ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
		<p>KPI: Procurement of ten detailed feasibility studies to set the scope for upcoming major decarbonisation works at high priority estates. Southwark will be consulting with residents as part of the works process.</p> <p>Identifying combustion sources where cost effective carbon reduction with substantial air quality benefits</p> <p>KPI: Annual reporting of energy use in Council owned buildings.</p>	<ul style="list-style-type: none"> • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.

LLAQM Action Matrix Theme - Public health and awareness raising

Action ID	Action	Outputs, Targets and KPIs	Progress <ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
3.1	Public Health having shared responsibility for borough air quality issues	<p>Director of Public Health to chair Air Quality Steering Group KPI - Annual progress report</p> <p>The Public Health - Place & Health Improvement Team actively involved with Air Quality Projects KPI- Annual progress report</p> <p>Biennial review of Southwark's Joint Strategic Needs Assessment (Air Quality) ('Air Quality JSNA'). KPI - Annual progress report</p> <p>Air Quality is a Health and Wellbeing Board priority KPI - Annual report to the Health and Wellbeing Board</p>	<ul style="list-style-type: none"> • Public Health co-created a new air quality governance structure in the council. This structure provides strong local air quality leadership by bringing together external partners as well as senior leadership from across the council. • The Director of Public Health and Director of Environment co-chair the new Air Quality Board, while a Public Health Manager co-chairs the new Air Quality Delivery Group with the Head of Regulatory Services. Public Health have been involved with air quality work across the council, including with EPT, Construction, Housing, and schools. EH have supported Public Health's air quality work, including the Annual Public Health Report 2023 which focuses on air quality. Projects include co-developing training to support construction compliance officers to comply with air quality regulations, offering schools and care homes funding to install air filter units, supporting the redesign of the airTEXT service, and improving air quality through school Superzones. • The air quality JSNA was published in 2022. It was reviewed in 2024 when it fed into the Annual Public Health Report about air quality. • Southwark's Joint Health and Wellbeing Strategy was refreshed in 2024/25. It includes actions on air quality to be undertaken by the council and partners.

Action ID	Action	Outputs, Targets and KPIs	Progress
			<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
3.2	Work with the Public Health Team to strengthen engagement with Southwark Clinical Commissioning Group and GP surgeries	To promote the Airtxt service through the GP's and other health providers KPI - Report annually on the progress	<ul style="list-style-type: none"> • Low reduction in emissions of Particulate Matter and Nitrogen Dioxide. • The Public Health team is part of the air quality alerts cascade system in the council. Public Health is also an active member of the airTEXT review project which will be used to promote airTEXT through health services. • Reduction in emissions of Particulate Matter and Nitrogen Dioxide by undertaking the measures in this Action Plan.
3.3	Engagement on air quality issues with Business through the Borough's Business Improvement Districts.	KPI - Number of businesses actively engaged on air quality KPI - Number of businesses acting to reduce emissions	<ul style="list-style-type: none"> • Launch of Thriving High Streets Fund (THSF) in Q1 2023/24. Developed to support thriving town centres and high streets in Southwark. Grants of up to £25k available with a focus on a greener Southwark and healthy and safe high streets as cross cutting themes. In total, 50 applications were received in Round 1 and grants awarded to 11 projects across the borough. Round 2 of THSF to launch in Q4 2023/24. • Low reduction in emissions of Particulate Matter and Nitrogen Dioxide.
3.4	Southwark supports Airtxt and promotes and shares the GLA high pollution alert services (GLA mandatory action)	Southwark annual subscription to the Airtxt service operated by Cambridge Environmental Research Consultants (CERC) To promote the Airtxt service through the GP's and other health providers KPI - Number of Airtxt subscribers in the Borough To cascade the London Mayor's High and very High pollution alerts	<ul style="list-style-type: none"> • At the end of 2024, Southwark had 434 airTEXT subscribers receiving air quality alerts by SMS text message (300 subscribers), email (110 subscribers) and voicemail (24 subscribers). • This represents an increase of 40 (10.2%) compared with the end of 2022, when there were 394 Southwark airTEXT subscribers (269 text, 101 email and 24 voicemail).

Action ID	Action	Outputs, Targets and KPIs	Progress
		KPI - 100% High and Very High alerts cascaded	<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
3.5	Improve the uptake of Air Quality information to vulnerable persons in the Borough	Implementation of recommendations in the Air Alert Discovery project KPI - Annual Communication Plan and campaign of relevant air quality improvement topics	<ul style="list-style-type: none"> • All four of the High and Very High alerts in 2024 were cascaded to the schools and the public. • No emissions / concentrations benefits but helps avoid or mitigate the effects of high exposure.
3.6	Provide air quality information leaflets at health care facilities, libraries, pharmacies and other frequently used facilities	KPI - Annual progress reports	<ul style="list-style-type: none"> • All elements of the airText website were updated and upgraded including: <ul style="list-style-type: none"> ◦ Daily quality data and forecasts for specific locations; ◦ Daily air pollution 3-day forecast maps; ◦ Alert subscription form; ◦ Health advice pages; ◦ Button for sharing forecasts. • A dynamically generated file that shows different pieces of information depending on the forecast was designed for use on JCDecaux digital boards. • No measurable emissions / concentrations benefits but helps avoid or mitigate the effects of high exposure.

Action ID	Action	Outputs, Targets and KPIs	Progress
			<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
			<ul style="list-style-type: none"> • Public Health installed Breathe London monitors so the Superzone school community can access air pollution information in a localised, personalised and relevant way. Schools were also sent personalised reports with air quality information, including analysis of their localised data, an overview of its importance, and signposted potential action. • No measurable emissions / concentrations benefits but helps avoid or mitigate the effects of high exposure.
3.7	Promote School Air Quality Audits to all schools in the Borough (GLA mandatory action)	<p>To promote the London Mayor's School Pollution Helpdesk and GAP's online 'school air quality audit' and other promotion materials to all schools.</p> <p>A school audit evaluation report will be produced</p>	<ul style="list-style-type: none"> • Action complete. A Final report for the Southwark School Air Quality Audit Programme 2020-2022 was published in April 2024. • Low reduction in emissions of Particulate Matter and Nitrogen Dioxide.
3.8	Reducing pollution in and around schools (GLA mandatory action)	<p>Implementation of recommendations from the Southwark Schools' Air Quality Audits</p> <p>At least one recommendation from each air quality audit is implemented annually</p> <p>Idling signage will be offered to all schools</p> <p>Develop priority list for new schools streets to be put in place</p> <p>Develop a list of schools that would benefit from green screens</p> <p>KPI - Implement 9 new school streets before 2026</p>	<ul style="list-style-type: none"> • Starter grants awarded and works completed at two schools: Treasure House and Brunswick Park. • A list for new school streets has been prepared. This has now been complete and has formed the basis for 25/26 programme. • The team are currently looking into schools that would benefit from green screens. • There were several green screens recently installed at Southwark schools: <ul style="list-style-type: none"> ◦ St Saviours & St Olaves School, New Kent Road ◦ Nell Gwyn Nursery Meeting House Lane

Action ID	Action	Outputs, Targets and KPIs	Progress
			<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
3.9	Encourage schools to join the TfL STARS accredited travel planning programmes	Proportion of schools in Southwark with STARS Bronze, Accreditation each year Proportion of schools in Southwark with STARS Silver Accreditation each year Proportion of schools in Southwark with STARS Gold Accreditation each year	<ul style="list-style-type: none"> ○ Tower Bridge Primary School Tower Bridge Road ○ Charlotte Sharman Primary School, West Square ○ St Joseph's Primary School, Lower Road ○ Dulwich Village Primary School Village Way <ul style="list-style-type: none"> • 24/25 school street programme was put on hold due to the need to obtain legal advice. 25/26 programme plans for more school streets. • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
3.10	Assess the feasibility of Street Space measures around educational and health premises	KPI - Annual progress report Implement additional 3 school streets every year.	<ul style="list-style-type: none"> • The total number of schools in Southwark is 94, of which 60 were accredited at the end of 2024: <ul style="list-style-type: none"> - 39 Gold accredited schools - 10 Silver accredited schools - 11 Bronze accredited schools • The work is ongoing. • Low reduction in emissions of Particulate Matter and Nitrogen Dioxide. <ul style="list-style-type: none"> • Streets for People Delivery Plan 2025-2030 has been published⁹. • Three School Streets implemented in 2024.

⁹ https://southwark.sharepoint.com/sites/SouthwarkNews/SitePages/Streets-for-People-Delivery-Plan-%E2%80%93-learn-how-we%E2%80%99re-making-our-streets-cleaner,-greener-and-safer.aspx?utm_content=&utm_medium=email&utm_name=&utm_source=govdelivery&utm_term=

Action ID	Action	Outputs, Targets and KPIs	Progress
		Review of all schools to determine any potential measures to reduce traffic near schools to be undertaken completed before 2024.	<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
3.11	To create school super zones in the Borough	Annual progress report KPI – Number of School Super zones in the Borough	<ul style="list-style-type: none"> • 30 School Streets schemes in place. LBS aims to get at least three new schools signed up each year. Some school streets may cover more than one school, for example the Kingswood Estate School Street covers three schools: Dulwich Wood Primary School, Kingsdale Foundation School, and Dulwich Prep and Senior. • Review and assessment of locations to improve streetspace outside a number of other schools where timed closures are not feasible. • Review of all schools to determine any potential measures to reduce traffic near schools has been carried out and forms the basis of 2025/26 Highways Programme. • Medium reduction in emissions of Particulate Matter and Nitrogen Dioxide. <ul style="list-style-type: none"> • LBS has six Superzones: Ark Walworth Secondary (created in 2022), St Francis Primary (created in 2022), Surrey Square Primary (created in 2023), Bacons College Secondary (created in 2024), Keyworth Primary (created in 2024) and Brid in Bush Primary (created in 2024). • Between September 2024 to April 2025 air quality monitors were in place at all of the Superzone Schools. Whilst the reports are still being finalised, the data across all schools reveals that air quality was particularly poor during school drop off and pick up times. Whilst wider transport trends in the local area will be an important factor, we are using the information to

Action ID	Action	Outputs, Targets and KPIs	Progress
			<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
			<p>help work with the school and local community to identify local interventions to both improve the air quality in the immediate area but also mitigate against the harmful impacts.</p> <ul style="list-style-type: none"> • Low to Medium reduction in emissions of Particulate Matter and Nitrogen Dioxide.
3.12	To create school walking maps for all schools in the Borough	<p>Annual progress report KPI - Number of School Walking Maps in the Borough</p>	<ul style="list-style-type: none"> • All Walking Maps are located here: www.southwark.gov.uk/school-walking-map • The objective was to create 25 maps FY 24/25. A total of 27 maps were completed as of 30/01/2025. • All Walking maps are located here: www.southwark.gov.uk/school-walking-map • The maps are offered to primary, SEN and nursery schools. The Highways team targets those in the high obesity/deprivation area first; then offer to those taking part in the timed school street closure programme and/or working towards their travel plan accreditation. • Low to Medium reduction in emissions of Particulate Matter and Nitrogen Dioxide.
3.13	Raising awareness about indoor air quality	<p>To produce a toolkit on domestic and commercial indoor air pollution and how to reduce personal exposure KPI - Indoor Air Quality toolkit produced</p>	<ul style="list-style-type: none"> • Joint applications for funding by the Central London Cluster Air Quality Group were unsuccessful so the project is waiting for funding. • Indoor air quality projects are being undertaken in partnership with Impact on Urban Health.

Action ID	Action	Outputs, Targets and KPIs	Progress <ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
			<ul style="list-style-type: none"> • Low to Medium reduction in emissions of Particulate Matter and Nitrogen Dioxide.
3.14	<p>Review the progress of recommendation 13 of the Chief Medical Officers report 2017</p> <p>a) Southwark Clinical Commissioning Group (CCG) Groups should analyse local air quality monitoring data for breaches of air pollution standards, and publish these alongside the local hospital data for impacts on admissions for respiratory and cardiovascular disease and</p> <p>b) Public Health England should aggregate and analyse progress annually for a national public report to NHS England</p>	<p>KPI - Annual progress report</p> <p>Work with NHS to develop a method to analyse air quality and correlation with admission and outpatient presentation data for air pollution related conditions</p>	<ul style="list-style-type: none"> • Connections with NHS colleagues have been strengthened. For example, they are represented on the new Air Quality Board, and the council is working with health professionals at Evelina to develop a referral system with Housing. • No emissions / concentrations benefits but critical in terms of understanding impacts of air pollution.

LLAQM Action Matrix Theme - Delivery servicing and freight

Action ID	Action	Outputs, Targets and KPIs	Progress
4.1	Develop guidance to support procurements and contracts that impact air quality.	<p>Council approach to consider impacts of air quality in Southwark when procuring goods and services</p> <p>Develop guidance for all departments to consider the impact of their procurement on air quality in Southwark</p> <p>Air quality considerations included within the specification or terms of procurement or contracts as most appropriate</p> <p>Develop a robust monitoring process to review effectiveness of air quality guidance on the procurement process KPI - Guidance developed</p> <p>Report on the number of contracts with air quality criteria as a specification of the contract on an annual basis</p> <p>Review TfL report findings into fleet vehicle speed limiters and consider inclusion in Fleet procurement policy</p>	<p>Progress</p> <ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints <ul style="list-style-type: none"> • The procurement guide is under development. • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
4.2	Installing bookable permit only loading bays at pilot projects.	Annual progress reporting KPI – Number of bookable permit holder only Loading Bays in the Borough	<ul style="list-style-type: none"> • Trial in Bankside (Kerb dock) - involving two virtual loading bays to be booked by local operators with a potential to link up with river freight- ended in 2023. However, the bays have remained in place and bookable. An evaluation report, signed off by Impact On Urban Health. An executive summary with action plan based on the consultation of workshops was produced. Project page and links to the documents: https://gridsmartercities.com/kerb-dock-project/

Action ID	Action	Outputs, Targets and KPIs	Progress
			<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
4.3	Explore with the Port of London Authority (PLA) the methods of control of shipping emissions and use of shipping to mitigate land based emissions	<p>Annual progress reporting</p> <p>KPI: Reduction in NO_x, PM₁₀ & PM_{2.5} emissions</p> <p>Review riverside hotspot indicated by LAEI and consider further actions</p> <p>Submit consultation response on any future revision of PLA Air Quality Strategy</p>	<ul style="list-style-type: none"> • Grid Smarter Cities have continued working with the Swan pub and operators in the area to see them use the bays at Bankside. <ul style="list-style-type: none"> • Project page and the links to the documents: https://gridsmartercities.com/kerbdock/ • Trial in Walworth LEN – five bookable loading bays and one associated virtual bay - started in January 2024 and has continued into 2025. Project evaluation is underway. • New bays being considered in Peckham and East Dulwich. • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide. <ul style="list-style-type: none"> • The PLA published its first Air Quality Strategy (AQS) in 2018, later updated in 2020. It contains a 5-year action plan to reduce emissions across the PLA's jurisdiction. An action from the AQS is the monitoring of emissions on the Thames. An AQMesh sensor with two NO₂ diffusion tubes has been collecting data at Tower Pier. • Specific classes of vessel must be fitted with Thames AIS (Automatic Identification System). The data, collected by the PLA, can be used for boat emission estimation. Emissions are also tracked through PLA's Maritime Emissions Portal (MEP). <ul style="list-style-type: none"> • EPT awaiting a revised AQAP from the PLA. • LBS has completed a 12-month period of air quality monitoring along the Southwark riverfront, focusing on

Action ID	Action	Outputs, Targets and KPIs	Progress
			<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints <p>locations near piers with high boat traffic and background sites. Monitoring concludes end of May 2025, with final data analysis and reporting scheduled for July.</p> <ul style="list-style-type: none"> • Preliminary data indicates correlation between boat activity and elevated NO₂, PM₁₀ and PM_{2.5} concentrations at certain hotspots. Findings will support PLA's ongoing emissions work and inform future strategy revisions. • Medium to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
4.4	Support an engagement with river and rail movement projects.	Participation in three projects associated with river freight	<ul style="list-style-type: none"> • LBS has continued its engagement with river freight initiatives through the Riverside Air Quality Monitoring Project. Collaboration has helped strengthen understanding of localised air quality impacts associated with river transport activity. • Data from this project has been shared with the PLA to support analysis of emissions from river-based freight movements. Final project outputs (due July 2025) will contribute to evidence base for sustainable river freight planning. • The Highways team has been monitoring and participating in Thames-wide bodies, such as the Thames Estuary Growth Board, and offering support where appropriate. • The Highways held a meeting with the City to understand their long term goals for Walbrook Wharf and the role they see it playing in river freight.

Action ID	Action	Outputs, Targets and KPIs	Progress
			<ul style="list-style-type: none"> • Medium to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
4.5	Reducing emissions from delivering to local businesses and residents	<p>Percentage increase in Ultra Low emission Vehicles in Southwark</p> <p>Monitor survey information from cargo bikes e.g. bikes from bikes for business. Support click and collect projects</p> <p>Use connections to businesses and markets to facilitate shorter supply and distribution chains</p> <p>KPI - Work with the Business Improvement Districts to understand best practice in supporting local supply chains and how this can be rolled out to other areas of the borough</p> <p>Develop and deliver a Sustainable Freight and Last Mile Delivery Hubs Plan by 2026 that prioritises areas of greatest need and potential</p> <p>Support businesses to switch to zero pollution delivery vehicles, working with them to shift more local deliveries to electric cargo bikes</p> <p>Support and engage in all available projects that increase the use of cargo bikes and e-cargo vehicles</p> <p>KPI - Number of projects that supported</p>	<ul style="list-style-type: none"> • Internal working group continued to convene reviewing cargo bike scheme options for Southwark. • Monthly monitoring data from the four cargo bikes in Southwark were received and are available on request. • Streets for People included the support for the increase use of low- and ultra low emission vehicles in freight and servicing. These are being developed as part of the forthcoming Freight Plan. • Draft of the Freight Plan has been completed, and is currently waiting for confirmation from colleagues that the content is acceptable. This sets out the ways we will seek to reduce the impact of freight traffic. Alongside this, a research proposal is being developed with Lambeth and Impact on Urban Health to understand the source and content of freight traffic in the borough, to inform measures to mitigate its impact. • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.

LLAQM Action Matrix Theme - Borough fleet

Action ID	Action	Outputs, Targets and KPIs	Progress
5.1	Reducing emissions from Council Fleets (GLA mandatory action)	<p>Smarter Driver training for all fleet drivers KPI - All new drivers to receive training within six months of starting in Southwark</p> <p>Monitor the mileage and fuel use reports passed to Business Unit Managers KPI - Reduce the fossil fuel usage by 10% per year</p> <p>Every commercial vehicle procured to undergo full sustainability evaluation Climate Change Action Plan K.3.i KPI - Reduction of fossil fuel combustion vehicles in accordance with targets in the fleet strategy</p> <p>KPI - Proportion of vehicles within the Fleet that are electric, hydrogen, or hybrid.</p> <p>Fleet Strategy to promote sustainable travel KPI - Monitor and report on the EVCP at Tooley Street and Queens Road monthly</p> <p>Review of services to determine if activities can be replaced with e-bike or cargo bike.</p> <p>Identify new locations as part of EV strategy Design and implement a strategic plan to trial low emissions vehicles into the LGV/HGV fleet (including waste and highways)</p>	<p>Progress</p> <ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints <ul style="list-style-type: none"> • Fleet services started meetings with Business unit managers regarding the next procurement of fleet whilst going through mileage reports/ major repairs reports and seeing where possible to reduce fleet or change to EV. • Fleet Services held meetings with all Business unit managers to discuss requirements and also explain the need for reduction of emissions within the next Fleet vehicles. • Strategic plan to trial low emission LGV/HGV fleet has ended as Finance did not approve the proposal. • EVCPs at Queens Road and Tooley Street are monitored for usage data. • Medium to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.

LLAQM Action Matrix Theme - Localised solutions

Action ID	Action	Outputs, Targets and KPIs	Progress
6.1	Green infrastructure	<p>Monitoring and reporting of the impact of Green Infrastructure projects. KPI - Net Gain in the Number of Trees</p> <p>Identify potential green corridors between key green spaces/Sites of Importance for Nature Conservation KPI - Biodiversity Net Gain</p>	<ul style="list-style-type: none"> • This information has been requested and is pending. • A Diversity Net Gain is a new target that LBS started reporting on. The legislative requirements for 10% Biodiversity Net Gain (BNG) on development sites came into effect in 2023/24 and is being monitored by Planning Policy. Many developments are exempt from BNG. • To date, one major application has been approved with significant BNG. There are 22 major applications in the pipeline for approval with statutory Biodiversity Net Gain. Of these, 13 are currently considered to be BNG 'significant' and will require periodic monitoring by the council over 30 years. • As of March 2025, 5 minor applications with BNG have been approved. 26 applications have been submitted with the statutory biodiversity net gain metric that are not significant. • The net gain for trees 2024-25 is +6857 (7890 planted – 1033 removed¹⁰). • Low reduction in emissions of Particulate Matter and Nitrogen Dioxide.
6.2	Street Space Measures	Complete the MAQF Low Emission Neighbourhood scheme in the Walworth Area	<ul style="list-style-type: none"> • Low Emission Neighbourhood scheme in Walworth has been completed.

¹⁰ Trees removed are in the vast majority for public safety/end of safe useful life. A small percentage are removed in association with building subsidence claims.

Action ID	Action	Outputs, Targets and KPIs	Progress
		<p>Explore the opportunities to introduce further Streetspace Measures in Southwark when funding is available</p> <p>KPI - Review the 10 Streetspace Measures over the next 18 months</p>	<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints • Streets for People Delivery Plan 2025-2030 has been published¹¹. <ul style="list-style-type: none"> • Based on community input, LBS adopted a comprehensive “Streets for People” strategy to improve street space measures. • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
6.3	Explore the feasibility with the Environment Agency to stop issuing D7 waste exemption: burning waste in the open registration.	KPI - Annual Reporting on progress	<ul style="list-style-type: none"> • The action has been achieved. The EP team will report the findings to the AQAP Steering Group. • Low reduction in emissions of Particulate Matter and Nitrogen Dioxide.
6.4	To lobby the Central Government and the GLA for policy changes to improve air quality in Southwark	<p>KPI - Annual Reporting on progress</p> <p>Create evidence base for case to TfL for reducing emissions from buses. To include mapping all major traffic derived pollution areas including bus stops/interchanges.</p>	<ul style="list-style-type: none"> • A study was commissioned by EPT and Highways to assess the contribution of bus emissions to total pollutant concentrations in Southwark. At locations where the modelled annual average NO₂ objective is exceeded, buses may contribute to less than 10% of the total NO_x, as seen along Old Kent Road. In contrast, at Elephant Square and St. George's Circus, buses can be responsible for over 40% of total NO_x. This highlights key areas where improving bus infrastructure would result in tangible improvements to air quality.

¹¹ https://southwark.sharepoint.com/sites/SouthwarkNews/SitePages/Streets-for-People-Delivery-Plan-%E2%80%93-learn-how-we%E2%80%99re-making-our-streets-cleaner,-greener-and-safer.aspx?utm_content=&utm_medium=email&utm_name=&utm_source=govdelivery&utm_term=

Action ID	Action	Outputs, Targets and KPIs	Progress
			<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
6.5	Apply for Mayor's Air Quality Funds and Defra Air Quality Grant to deliver air quality projects in Southwark	KPI - Annual Reporting on progress and project reports.	<ul style="list-style-type: none"> • Policy & Partnership Performance will be asked for an update. • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
6.6	To align the measures in Southwark's Climate Strategy and this action plan	KPI - Alignment of Councils strategies and Plans	<ul style="list-style-type: none"> • Defra withdrew the Air Quality grant 2024/24. • When the application window opened for MAQF bids in November 2024 LBS prepared and submitted an application for a school project involving air quality monitoring and engagement for students suffering from asthma. The bid was successful, and the project has commenced. • Low reduction in emissions of Particulate Matter and Nitrogen Dioxide. <ul style="list-style-type: none"> • A number of actions in the Climate Change and Air Quality Plans were aligned and plans are under way to ensure updates to both plans take place concurrently. • Strategies (Streets for People, Walking Plan and Cycling Plan) were aligned. • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.

LLAQM Action Matrix Theme - Cleaner transport

Action ID	Action	Outputs, Targets and KPIs	Progress
7.1	Transport and air quality policies and projects are integrated	<p>KPI - The number of Healthy Streets projects delivered during the year</p> <p>KPI - The number of walking and cycling infrastructure projects delivered during the year</p> <p>Annual progress reporting</p> <p>KPI – Number of bookable permit holder only Loading Bays in the Borough (see Action ID 4.2).</p>	<ul style="list-style-type: none"> • The number of Healthy Streets implemented is four: Cycleway 4 (Lower Road), Sydenham Hill 20mph, Southwark Spine (P4) and Browning Street. • All Highways schemes are set up to improve walking or cycling or both. Highways implemented 24 projects aimed at improving walking/cycling. • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
7.2	Discouraging unnecessary idling by taxis and other vehicles	<p>KPI - Percentage of drivers complying with requests from Civil Enforcements Officers to switch the vehicle's engine off</p> <p>KPI - Respond to consultations on Public Carriage Vehicles</p> <p>KPI - Lobby Government on strengthening idling legislation</p>	<ul style="list-style-type: none"> • Civil enforcement ceased in 2023 due to concerns about legality of anti-idling signage. • Low reduction in emissions of Particulate Matter and Nitrogen Dioxide.
7.3	Regular temporary car free days and pedestrianisation schemes in line with proposal 4.2.1a of the London Environment Strategy	<p>KPI - Undertake 8 car free events.</p> <p>KPI - Number of new controlled pedestrian crossings (annual target) – 5 per year</p> <p>KPI - Number of level access/dropped kerb uncontrolled pedestrian crossings installed (annual target)</p>	<ul style="list-style-type: none"> • Car free events organised in 2024 were: St Barnabas Church Christmas procession; Kidical Mass Spring 2024 (IBike event); I-BikeLondon Southwark Ride November 2024. Car free events will continue into 2025. • Highways installed 4 controlled crossings and 24 uncontrolled crossings during the FY 24/25. • Low reduction in emissions of Particulate Matter and Nitrogen Dioxide.

Action ID	Action	Outputs, Targets and KPIs	Progress
7.4	Support the London Mayor to extend the Ultra-Low Emission Zone to the current LEZ boundary	KPI - Support implementation of ULEZ extension KPI - Respond to consultations on road charging.	<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints • This action is now complete. • LBS was in support of the ULEZ expansion beyond the South Circular; the ULEZ was expanded on 29 August 2024. • There has been no consultation on road charging. • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
7.5	Using parking policy to reduce pollution emissions	Implement borough-wide controlled Parking regime KPI - Coverage of 94% of the Borough by 2025	<ul style="list-style-type: none"> • Action is ongoing but more evidence needed to support the proposed zones. • LBS parking policy can be found in the Streets for People Policy: <ul style="list-style-type: none"> • <u>Streets for People - Southwark Council</u> • Borough-wide Controlled Parking Zones are planned for 2030 or sooner. • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
7.6	Installation of ultra – low emission vehicle infrastructure charging points	KPI - Percentage of electric vehicles registered in Southwark KPI - Install a further 1000 Electric Vehicle charging points in Southwark by 2026 KPI - Implement a borough-wide strategy for EV infrastructure by 2023	<ul style="list-style-type: none"> • A further 1272 charge points were installed across Southwark during 23/24. This was completed before the 2026 deadline. As part of the EV strategy LBS is looking to install a further 1000 charge points by 2035. • Implementation of EV strategy is in place and started, LBS has secured funding through the LEVI fund and looking to start the project in 2025.

Action ID	Action	Outputs, Targets and KPIs	Progress
			<ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
7.7	Provision of infrastructure to support walking and cycling (GLA mandatory action)	<p>KPI - At least 1 kilometre of new segregated cycle lane installed every year</p> <p>KPI - Number of new cycle-hire docking stations in the Borough</p> <p>Improve access to walking in the borough and actively promote this as a zero-carbon method of transport</p> <p>Deliver the Equal Pavements Pledge, working with older people, those with disabilities and limited mobility to make sure Southwark's streets are accessible for everyone</p> <p>KPI - Number of Equal Pavement Pledge projects associated with improving walking</p> <p>Provide free cycle training for residents, including for young people, those with disabilities and cargo bike training</p>	<ul style="list-style-type: none"> • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide. <ul style="list-style-type: none"> • No new segregated cycle lane or new cycle-hire docking stations was implemented in 2024. • Cycling Plan consulted on, consultation closed 31st January 2024. Adoption planned for July 2024. • Request for more KPI statistics has been sent and the information is pending. • Low to High reduction in emissions of Particulate Matter and Nitrogen Dioxide.
7.8	Review ability for bus lanes on borough roads to be used by non-emergency ambulances for patient transport.	KPI - Annual report of progress	<ul style="list-style-type: none"> • Action complete. LBS decided not to take part in the Non-Emergency Bus Lane trial that took place as there was no sufficient evidence on the benefits of the trial to support the proposal. From an air quality perspective the concern was that the scheme would increase congestion in the bus lane. • Measure complete.

3 Planning Update and Other New Sources of Emissions

Table P - Planning requirements met by planning applications Southwark Council in 2024

Condition	Number
Number of planning applications where an air quality impact assessment was reviewed for air quality impacts	52 (Returns records in the Planning database where an Air Quality Assessment report was submitted as part of the application)
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)	52 (Returns Major planning apps in the EPT database)
Number of CHPs/Biomass boilers refused on air quality grounds	0 (Returns records in the Planning database where the proposal description contains 'CHP','heat','power' or 'biomass' and permission was refused citing air quality as a reason)
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 (Returns records in the Planning database where the proposal description contains 'CHP','heat','power' or 'biomass' and permission was granted subject to a condition containing the words 'reduce' and 'emission')
Number of developments required to install Ultra-Low NOx boilers	2 (Returns records in the Planning database where the proposal description contains 'CHP', 'heat', 'power' or 'biomass' and permission was granted subject to a condition containing the words 'low','nox' and 'boiler')
Number of developments where an AQ Neutral building and/or transport assessments undertaken	52
Number of developments where the AQ Neutral building and/or transport assessments not meeting the benchmark and so required to include additional mitigation	1 (1 application which has an Air Quality Assessment which states that additional on-site mitigations are required to meet Air Quality Neutral)
Number of planning applications with S106 agreements including other requirements to improve air quality	There were no S106 deeds signed in 2024 which contain a specific air quality contribution.
Number of planning applications with CIL payments that include a contribution to improve air quality	0

	(CIL contribution for air quality is not a metric s106/CIL team monitor)
<p>NRMM: Central Activity Zone, Canary Wharf and Opportunity Areas</p> <p>Number of planning applications with conditions related to NRMM included.</p> <p>Number of developments registered at www.nrmm.london.</p> <p>Number of audits (based on the pan-London project report and / or inhouse auditing programme)</p> <p>% of sites unregistered prior to audit</p> <p>% of sites compliant with Stage IV of the Directive and/or exemptions to the policy.</p>	<p>16 conditions included (Returns records in the Planning database where site constraints shows it to be within the CAZ and permission was granted subject to a condition containing 'NRMM')</p> <p>18 registered 10 audits</p> <p>0 (0% sites unregistered prior to audit) The NRMM website is used to confirm the development has been registered with the GLA.</p> <p>10 (100% sites compliant after audit)</p>
<p>NRMM: Greater London (excluding Central Activity Zone, Canary Wharf and Opportunity Areas)</p> <p>Number of planning applications with conditions related to NRMM included.</p> <p>Number of developments registered at www.nrmm.london.</p> <p>Number of audits (based on the pan-London project report and / or inhouse auditing programme)</p> <p>% of sites unregistered prior to audit</p> <p>% of sites compliant with Stage IIIB of the Directive and/or exemptions to the policy.</p>	<p>41 conditions included (Returns records in the Planning database where site constraints shows it to be NOT within the CAZ and permission was granted subject to a condition containing 'NRMM')</p> <p>29 registered 18 audits</p> <p>0 (0% sites unregistered prior to audit) The NRMM website is used to confirm the development has been registered with the GLA.</p> <p>17 (94% sites compliant after audit)</p>

The Environmental Protection Team (EPT) review planning applications for air quality implications, and comments and recommendations are communicated to planning officers. EPT queried both the planning and environmental health reporting systems to produce the data shown in **Table P**. The data has been extracted from the planning systems and will undergo further review and refinement.

Southwark has engaged L.B. Merton to inspect construction sites in the Borough to check for compliance with the London Non-Road Mobile Machinery requirements.

Southwark provides a list of the known construction sites in the Borough to L.B. Merton who then report to Southwark any non-compliant sites. Any non-compliances are then addressed and or enforced by Southwark officers to ensure that all the equipment on the sites are compliant.

3.1 New or significantly changed industrial or other sources

Amended sources of significance identified in the Borough during 2024 were the following. These are existing gas-fired boilers used by Southwark to supply district heating throughout the Council area, which have come into the Medium Combustion Plant (MCP) remit¹².

Amended Source	Details
Brimmington Boiler House Culmore Road London SE14 5BW Grid reference 535114 17	Permit number – EPR/PP3628L2/A001 To operate a medium combustion plant 2x 3.5MWth Natural Gas Boilers & 1x 4.0MWth Natural Gas Boilers
North Peckham Boiler House Blakes Road London SE15 6FJ Grid reference 533453 177213	Permit number EPR/PP3928LR/A001 To operate a medium combustion plant 2x 5.0MWth Natural Gas Boilers
Setchell Boiler House Alscot Way London SE1 5XT Grid reference 533738 178897	Permit number EPR/VP3929LL/A002 To operate a medium combustion plant 3x 1.22MWth Natural Gas Boilers
Sceaux Estate Lakanel House Dalwood Street London SE5 7DN Grid reference 533321 176851	Permit number EPR/VP3529LR/A002 To operate a medium combustion plant 2x 2MWth Natural Gas Boilers
Aylesbury Boiler House Thurlow Street London SE17 2HZ Grid reference 533050 178217	Permit number EPR/VP3029L/A001 To operate a medium combustion plant 3x 5.0MWth Natural Gas Boilers & 2x 1.4652MWth Natural Gas Boilers

Southwark will be applying for 29 further boiler permits by 2029 as existing boilers between 1MWth and 5MWth must obtain a permit by 1 January 2029 and comply with emission limits by 1 January 2030.

¹² To comply with the requirements of the Environmental Permitting Regulations (EPR), Schedule 25A & 25B existing standalone MCPs between 5-50MWth must obtain permits by the Environment Agency by 1st January 2024 and be compliant by 1st January 2025.

4. Additional Activities to Improve Air Quality

4.1 London Borough of Southwark Fleet

Southwark are currently reviewing their fleet vehicles as part of the procurement process. This includes a review of vehicle usage, possible switch to EV and reduction of vehicles. Southwark's fleet consists of 330 vehicles, which includes 18 electric and 7 hybrid, 5% and 2% of the total respectively. Following the procurement of a new contract to supply vehicles, vehicles will be replaced incrementally once the review has been completed in mid-2025. Where possible, EVs and Hybrids will be prioritised.

4.2 Planning Enforcement

For major planning applications, an air quality assessment and air quality positive assessment are required. All applications must include an air quality neutral assessment. The council monitors compliance with air quality conditions through site inspections and reviews of submitted documentation. A new Climate and Environment Supplementary Planning Document (SPD) will play a crucial role in Southwark Council's planning application review process by providing detailed guidance on the application of measures to improve air quality and enforce air quality conditions, including NRMM standards.

4.3 Pan-London NRMM Auditing Project

Southwark continues to support the NRMM Enforcement project. The status of construction sites are reviewed by officers and any changes are noted and reported. Any non-compliances from the audits that are undertaken are actioned by the Environmental Protection Team at Southwark.

Southwark are participating in an innovative project to work with Exemplar Construction sites in conjunction with Impact of Urban Health and ARUP. The aim is to reducing polluting emissions from construction sites, by identifying the obstacles and formulating solutions to overcome them. As part of this project the, London Borough of Southwark have recruited to the new post of a Construction Monitoring Officer. The officer's role will be to work with construction sites to minimise

emissions and provide quantitative and qualitative data which will be evaluated to form the basis for subsequent conclusions. The emissions focussed on will be on PM, NO₂ and carbon dioxide. Minimising emissions from Non-Road Mobile Machinery will play a significant role in the project achieving the objectives.

LBS have a construction condition (for a Construction Environmental Management Plan - CEMP) that goes on any major applications. That condition requires a CEMP that will include air quality / dust control measures and NRMM commitment. CEMP documents submitted to the LPA will be shared with Environmental Health for review and comments. Requirements for NRMM are also set out within the Construction guidance¹³.

The wording of LBS CEMP condition is copied below. This condition is applied at planning application stage to go onto the decision notice. LBS also have CEMP / DEMP conditions for s106 agreements. It applies to all Major sites, and also any Minor sites where officers consider there to be a large impact from construction works and/or very sensitive receptors.

No development shall take place, including any works of demolition, until a written CEMP has been submitted to and approved in writing by the Local Planning Authority. The CEMP shall oblige the applicant, developer and contractors to commit to current best practice with regard to construction site management and to use all best endeavours to minimise off-site impacts, and will include the following information:

- A detailed specification of demolition and construction works at each phase of development including consideration of all environmental impacts and the identified remedial measures;
- Site perimeter continuous automated noise, dust and vibration monitoring;
- Engineering measures to eliminate or mitigate identified environmental impacts e.g. hoarding height and density, acoustic screening, sound insulation, dust control measures, emission reduction measures, location of specific activities on site, etc.;
- Arrangements for a direct and responsive site management contact for nearby occupiers during demolition and/or construction (signage on hoardings, newsletters, residents liaison meetings, etc.)
- A commitment to adopt and implement of the ICE Demolition Protocol and Considerate Contractor Scheme; Site traffic – Routing of in-bound and outbound site traffic, one-way site traffic arrangements on site, location of lay off areas, etc.;

¹³ <https://www.southwark.gov.uk/environment/environmental-protection/construction>

- Site waste Management – Accurate waste stream identification, separation, storage, registered waste carriers for transportation and disposal at appropriate destinations.
- A commitment that all NRMM equipment (37 kW and 560 kW) shall be registered on the NRMM register and meets the standard as stipulated by the Mayor of London

To follow current best construction practice, including the following:-

- Southwark Council's Technical Guide for Demolition & Construction at <http://www.southwark.gov.uk/construction>
- Section 61 of Control of Pollution Act 1974,
- The London Mayors Supplementary Planning Guidance 'The Control of Dust and Emissions During Construction and Demolition',
- The Institute of Air Quality Management's 'Guidance on the Assessment of Dust from Demolition and Construction' and 'Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites',
- BS 5228-1:2009+A1:2014 'Code of practice for noise and vibration control on construction and open sites. Noise',
- BS 5228-2:2009+A1:2014 'Code of practice for noise and vibration control on construction and open sites. Vibration'
- BS 7385-2:1993 Evaluation and measurement for vibration in buildings. Guide to damage levels from ground-borne vibration,
- BS 6472-1:2008 'Guide to evaluation of human exposure to vibration in buildings - vibration sources other than blasting,
- Relevant Stage emission standards to comply with Non-Road Mobile Machinery (Emission of Gaseous and Particulate Pollutants) Regulations 1999 as amended & NRMM London emission standards <http://nrmm.london/>

All demolition and construction work shall be undertaken in strict accordance with the approved CEMP and other relevant codes of practice, unless otherwise agreed in writing by the Local Planning Authority.

Reason

To ensure that occupiers of neighbouring premises and the wider environment do not suffer a loss of amenity by reason of pollution and nuisance, in accordance with the Southwark Plan 2022 Policy P56 (Protection of amenity), and the National Planning Policy Framework 2021.

4.4 Air Quality Alerts

We continue to support the airTEXT notification system. Southwark has continued with a Defra Air Quality Grant - funded project to improve this notification system, including better engagement with vulnerable communities.

In addition, Southwark has been cascading GLA's high air pollution alerts to the GP surgeries and schools.

4.5 Air Quality Positive

Two air quality positive development applications were proposed in 2024:

- Borough Triangle - 24/AP/1958
- Skipton House - 24/AP/3432

The proposed mitigation measures committed as part of a submitted Air Quality Positive Matrix are set out in the table below.

Air quality positive measures will be developed as part of the Exemplar Construction sites project (see s.4.2 above).

BUILDINS: <ul style="list-style-type: none">• Energy demand will be met by Air Source Heat Pumps (ASHP) and photovoltaic (PV) panels.	TRANSPORT INFRASTRUCTURE AND CONNECTIVITY: <ul style="list-style-type: none">• Provision of disabled / accessible parking only;• Promoting sustainable transport options, including the provision of electric vehicle charging points, and improved cycling infrastructure;• Consolidation of deliveries to minimise the number of delivery and servicing trips.
BETTER DESIGN AND REDUCING EXPOSURE: <ul style="list-style-type: none">• No residential units at ground-floor level.• Mechanical ventilation with heat recovery (MVHR) in all dwellings and non-residential units.	INNOVATION AND FUTURE-PROOFING: No specifics agreed so far.

Appendix A Details of Monitoring Site Quality QA/QC

A.1 Automatic Monitoring Sites

The Authority is a member of the London Air Quality Network. All monitoring data is ratified in accordance with Imperial College London, QA/QC procedures for the network. The Authority has out-sourced the Local Site Operator role to ESU1. They are contracted to calibrate all the pollutant monitors fortnightly.

PM₁₀ Monitoring Adjustment

Ratified data would have been corrected by the data management team at Imperial College London by dividing the data by a slope correction factor of 1.035.

A.2 Diffusion Tubes

Diffusion Tube Bias Adjustment Factors

Appendix B presents the Southwark network's raw monthly results.

A national bias adjustment factor was obtained from Defra national bias adjustment factor database (spreadsheet version number 03/25 published in March 2025) based on 27 co-location studies. The bias adjustment factor given for this methodology was 0.84, and was applied to the results presented in section 1.2 of this report.

National Diffusion Tube Bias Adjustment Factor Spreadsheet				Spreadsheet Version Number: 03/25						
Follow the steps below in the correct order to show the results of relevant co-location studies				This spreadsheet will be updated at the end of June 2025						
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.				LAQM Helpdesk Website						
The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.				Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.						
Step 1:	Step 2:	Step 3:	Step 4:							
Select the Laboratory that Analyses Your Tubes from the Drop-Down List	Select a Preparation Method from the Drop-Down List	Select a Year from the Drop-Down List	Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor* shown in blue at the foot of the final column.							
If a laboratory is not shown, we have no data for this laboratory.	If a preparation method is not shown, we have no data for this method at this laboratory.	If a year is not shown, we have no data	If you have your own co-location study then see footnote*. If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953							
Analysed By*	Method	Year	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) ($\mu\text{g}/\text{m}^3$)	Automatic Monitor Mean Conc. (Cm) ($\mu\text{g}/\text{m}^3$)	Bias (B)	Tube Precision*	Bias Factor (A) (Cm/Dm)
Gradko	20% TEA in water	2024		Overall Factor* (27 studies)				Use	0.84	

The Authority incorporates two local co-location diffusion tube studies, by exposing triplicate tubes at two automatic air quality monitoring stations at the

Elephant & Castle (Urban Background) and the Old Kent Road (Roadside). The Local Air Quality Management bias spreadsheet has been used to obtain a combined local bias adjustment factor of 0.77 derived from the two co-location studies (**Table O**). However this factor was not used to adjust the results – see the Discussion of Choice of Factor to Use section below.

QA/QC of Diffusion Tube Monitoring

The Authority has appointed Gradko International Ltd. to provide and analyse the Nitrogen Dioxide survey diffusion tubes. The laboratory supplies the Authority 20% TEA in water diffusion tubes each month. The laboratory has confirmed that it follows the procedures set out in the Practical Guidance. The Didcot Laboratory of Environmental Services Group and Gradko International submit two sets of results, whereas the other laboratories in the scheme only submit one set of results.

Laboratories participate in two QA/QC schemes. The new Air Proficiency Testing (AIR-PT) Scheme - a continuation of the Workplace Analysis Scheme for Proficiency (WASP) - is run by LGC and supported by the Health & Safety Laboratory. The other scheme is a monthly field Inter-comparison Exercise operated by the National Physics Laboratory (NPL). Defra advises that local authorities should use diffusion tubes supplied by laboratories that have demonstrated satisfactory performance under the QA/QC schemes.

The AIR-PT scheme has up to 40 regular different samples for the analytic laboratories to analyse. LGC Ltd has a programme to send out different combinations of the samples in six rounds throughout the year. Each sample for Nitrogen Dioxide diffusion tube as part of Sample PT-AR-11 program contains 4 dynamically loaded Palmes type diffusion tubes.

Gradko International is a UKAS accredited laboratory and participates in both QA/QC schemes described above. The list of those laboratories which have performed satisfactorily in the AIR-PT scheme is provided to local authorities on the LAQM Support website¹⁴. In the latest available AIR-PT results Gradko has

¹⁴ <https://laqm.defra.gov.uk/air-quality/air-quality-assessment/precision-and-accuracy/>

scored 100% for all rounds in 2024. The percentage score reflects the results deemed to be satisfactory based upon the z-score of $< \pm 2$.

Regarding the inter-comparison co-location study from Marylebone Road, it was rated as ‘good’ (tubes are considered to have “good” precision where the coefficient of variation of duplicate or triplicate diffusion tubes for eight or more periods during the year is less than 20%).

A.3 Breathe London Sensors

Details of the QA/QC procedures for Breathe London sensors can be obtained from Imperial College. The website for the network states the following “Every Breathe London Node is co-located at London Air reference sites and checked by researchers at Imperial before deployment. Once deployed, the data is continually cross-checked against reference sites on the London Network in real-time to ensure the data from every sensor is as good as it can be”¹⁵.

¹⁵

<https://www.breathelondon.org/about#:~:text=Every%20Breathe%20London%20Node%20is%20co%20located%20at%20London%20Air,good%20as%20it%20can%20be.>

Factor from Local Co-location Studies

Southwark has two continuous monitoring sites, where co-located three Nitrogen Dioxide diffusion tubes are deployed at each site, these are at Old Kent Road, and Elephant & Castle AQMS sites. **Table Q** below is an extract from the from the LAQM Diffusion Tube Data Processing Tool v4.0 accessed at [Diffusion Tube Data Processing Tool](#) showing the local bias co-location studies.

Table Q - Factors from Local Co-location Studies

Local Bias Adjustment Outputs - Information Only							
Go back to STEP 3 - Bias Adjustment to define factor							
	STEP 3a Local Bias Adjustment Input 1	STEP 3b Local Bias Adjustment Input 2	STEP 3c Local Bias Adjustment Input 3	STEP 3d Local Bias Adjustment Input 4	STEP 3e Local Bias Adjustment Input 5	STEP 3f Local Bias Adjustment Input 6	STEP 3g Local Bias Adjustment Input 7
Periods used to calculate bias	12	11					
Bias Adjustment Factor A	0.77 (0.71 - 0.83)	0.68 (0.64 - 0.73)					
Diffusion Tube Bias B	30% (21% - 40%)	46% (37% - 56%)					
Diffusion Tube Mean ($\mu\text{g}/\text{m}^3$)	26.4	22.9					
Mean CV (Precision)	3.2%	6.0%					
Automatic Mean ($\mu\text{g}/\text{m}^3$) (for periods used to calculate bias)	20.3	15.7					
Data Capture (for periods used to calculate bias)	98%	95%					
Overall Data Capture	98%	95%					
Adjusted Tube Mean ($\mu\text{g}/\text{m}^3$)	20 (19 - 22)	16 (15 - 17)					
Overall Diffusion Tube Precision	Good Overall Precision	Good Overall Precision					
Overall Continuous Monitor Data Capture	Good Overall Data Capture	Good Overall Data Capture					
Combined Local Bias Adjustment Factor	0.72						

Discussion of Choice of Factor to Use

The diffusion tube data presented within the 2024 ASR have been corrected for bias using an adjustment factor (**Table R**). Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LLAQM.TG19 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO₂ continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

The combined local bias factor, calculated using Defra's Diffusion Tube Data Processing Tool, is 0.72, while the factor obtained from Defra's national bias adjustment factor database is 0.84. The decision was made to apply the national database factor to the diffusion tube data in 2024 for two main reasons. Firstly, the use of bias adjustment factors over the past few years has varied but generally fluctuated around 0.8 (see **Table R**), and the adjustment factor from the Elephant & Castle site was notably low in comparison (0.68). Secondly, Elephant & Castle is an urban background site, whereas the majority of diffusion tube sites are roadside. Therefore, it is anticipated that using the national database co-location factor of 0.84 in this report provides a higher degree of certainty and is a more conservative approach.

Table R - Bias Adjustment Factor

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2024	National	03/25	0.84
2023	National	03/24	0.81
2022	Local	N/A	0.85
2021	National	04/22	0.84
2020	National	03/21	0.81
2019	National	03/21	0.91
2018	National	03/21	0.92
2017	National	03/21	0.87
2016	National	03/21	0.92

A.4 Adjustments to the Ratified Monitoring Data

Short-term to Long-term Data Adjustment (annualisation)

Where data capture is less than 75% and greater than 25% of a full calendar year (between 3 and 9 months), the mean should be ‘annualised’ – i.e. adjusted using the methodology outlined in LLAQM.TG(19), before being compared to annual mean objectives.

Due to good data capture (all sites recording over 75% of data for all the pollutants measured) annualisation has not been required at any diffusion tube or continuous monitoring site.

Distance Adjustment

If an exceedance was measured at a monitoring site which was not representative of public exposure, Southwark used the procedure specified in LLAQM.TG (19) to estimate the concentration at the nearest receptor.

Distance correction should be considered at any monitoring site where the annual mean concentration is greater than $36\mu\text{g.m}^{-3}$ and the monitoring site is not located at a point of relevant exposure (taking into account the limitations of the Data Processing Tool/NO₂ fall-off with distance calculator).

Southwark Diffusion tube data was distance adjusted using the Diffusion Tube Data Processing Tool¹⁶. The data is provided in **Table S** below.

¹⁶ [Diffusion Tube Data Processing Tool | LAQM \(defra.gov.uk\)](https://defra.gov.uk)

Nitrogen Dioxide

Table S - NO₂ Fall off With Distance Calculations

Diffusion Tube ID	Distance (m)		NO ₂ Annual Mean Concentration (µg.m ⁻³)			Comment
	Monitoring Site to Kerb	Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted (µg m ⁻³)	Background Concentration (µg m ⁻³)	Concentration Predicted at Receptor (µg m ⁻³)	
SDT 18	0.5	3.5	37.1	28.8	34.2	
SDT 24	0.5	3.5	37.4	24.5	33.0	

Appendix B Full Monthly Diffusion Tube Results for 2024

Table T - NO₂ 2024 Diffusion Tube Results (µg.m⁻³)

Site 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 (National Bias = 0.81)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
SDT 1	534849	177512	29.7	26.1	25.5	24.2	28.9	23.2	23.2	19.4	27.0	27.5	36.2	25.8	-	-		Triplicate Site with SDT 1, SDT 2 and SDT 3 - Annual data provided for SDT 3 only
SDT 2	534849	177512	29.3	27.3	25.8	23.1	29.9	22.5	20.9	21.0	28.9	27.9	34.7	25.0	-	-		Triplicate Site with SDT 1, SDT 2 and SDT 3 - Annual data provided for SDT 3 only
SDT 3	534849	177512	31.8	26.5	24.3	24.1	29.5	21.4	23.1	20.4	27.6	28.9	36.0	25.0	26.4	22.2		Triplicate Site with SDT 1, SDT 2 and SDT 3 - Annual data provided for SDT 3 only
SDT 4	535675	178796	31.0	31.7	31.1	27.2	36.1	30.3	30.5	28.4	32.1	34.6	36.3	27.9	31.4	26.4		
SDT 5	534640	179336	24.7	22.5	25.1	19.7	20.2	15.6	19.0	19.1	19.0	21.2	26.1	22.2	21.2	17.8		
SDT 6	535253	176679	29.7	33.4	31.4	27.8	30.3	30.2	30.3	29.3	32.8	35.7	42.5	33.0	32.2	27.0		
SDT 7	534333	176155	31.0	26.1	27.1	20.9	27.4	21.3	21.5	20.4	24.1	27.1	32.7	24.2	25.3	21.3		
SDT 8	534553	174263	23.2	20.0	18.5	14.7	18.6	13.8	13.1	13.6	16.1	20.5	29.0	20.3	18.4	15.5		
SDT 9	533470	173204	33.3	29.3	31.6	23.5	30.7	26.5	25.2	22.7	28.3	29.6	29.5	26.9	28.1	23.6		
SDT 10	532940	174392	26.5	21.6	20.3	15.4	19.1	15.8	15.7	15.5	21.4	22.0	24.6	21.5	19.9	16.7		
SDT 11	532663	176740	36.4	36.7	35.1	33.6	39.5	35.4	33.7	32.6	39.8	40.4	42.0	33.5	36.6	30.7		
SDT 12	531884	178836	31.6	23.2	20.4	18.5	22.5	15.4	18.8	16.2	23.5	17.5	36.9	28.8	-	-		Triplicate Site with SDT 12, SDT 13 and SDT 14 - Annual data provided for SDT 14 only
SDT 13	531884	178836	29.7	23.1	21.5	17.5	20.5	19.2	19.5	18.8	22.7	26.6	32.9	27.3	-	-		Triplicate Site with SDT 12, SDT 13 and SDT 14 - Annual data provided for SDT 14 only
SDT 14	531884	178836	25.8	25.4	22.9	18.9	20.8	17.0	18.5	17.3	23.6	25.4	32.8	25.8	23.0	19.3		Triplicate Site with SDT 12, SDT 13 and SDT 14 - Annual data provided for SDT 14 only
SDT 15	531641	180290	33.2	37.2	30.1	27.3	32.0	24.8	26.5	23.4	30.7	38.5	38.2	39.3	31.7	26.7		
SDT 18	533599	180062	42.1	46.5	43.4	40.9	28.5	53.5		49.8	48.8	47.4	45.0	39.6	44.1	37.1	34.2	
SDT 20	533520	179849	34.2	34.3	32.3	31.1	18.1	30.7	29.3	24.7	33.8	35.5	24.8	29.4	29.9	25.1		
SDT 24	533444	179620	42.9	47.8	43.8	42.3	44.6	50.5	46.8	45.0	37.0	46.9	44.2	42.7	44.5	37.4	33.0	

Site 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 (National Bias = 0.81)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
SDT 29	533105	179117	39.3	42.3	36.6	38.6	41.1	37.6	38.1	36.6	38.5	38.0	45.2	39.6	39.3	33.0		
SDT 31	532937	179043	31.8	35.0	30.0	26.9	34.9	25.9	26.6	24.7	31.6	36.0	36.2	29.2	30.7	25.8		
SDT 37	532340	178711	27.4	23.9	20.2	15.2	18.4	13.0	16.8	14.5	19.3	26.0	26.9	24.5	20.5	17.2		
SDT 38	532074	178825	37.4	41.7	36.0	36.3	38.3	35.5	35.6	32.6	34.0	38.3	36.2	33.7	36.3	30.5		
SDT 39	532053	179070	33.8	32.8	30.7	26.6	30.5	31.5	29.0	29.0	31.4	38.3	39.3	35.9	32.4	27.2		
SDT 41	532390	178974	37.6	36.3	33.0	31.4	33.8	31.4	31.8	28.7	36.6	36.8	39.2	33.6	34.2	28.7		
SDT 42	536037	180341	27.1	28.6	29.7	23.8	26.7	21.8	21.7	18.7	23.0	31.7	33.1	25.1	25.9	21.8		
SDT 48	533912	171366	31.1	29.4	32.2	25.1	30.8	27.7	29.2	27.3	27.1	30.6	36.5	25.4	29.4	24.7		
SDT 49	533873	178592	22.9	22.5	20.8	14.9	18.1	14.2	15.8	15.5	18.3	23.4	27.9	23.8	19.8	16.7		
SDT 52	533150	172123	20.9	18.2	16.5	11.9	15.0	12.1	11.2	11.2	16.1	19.5	25.0	19.1	16.4	13.8		
SDT 53	532668	173998	22.1	17.6	16.1	11.1	14.5	11.8	12.3	12.0	14.9	19.5	25.5	18.7	16.3	13.7		
SDT 54	532951	176417	27.4	24.7	23.1	15.5	20.0	15.6	17.1	15.6	19.1	24.0	28.7	23.8	21.2	17.8		
SDT 55	533350	177603	21.6	18.6	16.9	12.2	15.5	12.5	13.0	12.1	15.3	20.2	25.3	21.0	17.0	14.3		
SDT 57	531531	179256	28.3	26.8	24.2	22.5	23.4	21.5	23.2	21.3	27.7	29.2	36.2	27.3	26.0	21.8		
SDT 61	535176	179665	27.3	26.7	24.7	19.2	24.9	19.0	22.0	20.4	22.6	26.9	31.9	24.6	24.2	20.3		
SDT 66	535384	179161	24.9		23.9	16.2	23.3	16.2	17.1	15.3	22.9	22.2	30.9	22.0	21.3	17.9		
SDT 77	532294	180406	33.3	33.8	31.9	27.5	44.6	31.2	29.2	13.4	29.6	31.1	37.8	33.0	31.4	26.3		
SDT 81	532690	180212	37.2	38.8	38.2	39.3	44.6	37.9	40.0	35.9	40.7	36.0	40.2	33.2	38.5	32.3		
SDT 82	532572	180029	32.9	33.1	34.5	29.7		59.1	28.0	27.0	33.9	27.4		10.2	31.6	26.5		
SDT 84	532487	179850	26.3	29.1	25.8	25.8	26.3	22.0	22.7	23.2	27.4		34.2	29.5	26.6	22.3		
SDT 87	535795	178828	37.0	43.5	43.0	37.5	44.4	43.1	40.0	37.8	37.0	42.5	43.2	36.4	40.4	34.0		
SDT 88	534457	179454	36.3	38.7	36.9	32.3	32.7	32.0	31.4	30.7	31.9	36.7	42.1	31.6	34.4	28.9		
SDT 89	534241	179435	31.8	26.8	27.8		30.9	20.8	22.6	19.1	30.0	31.3	36.9	26.5	27.7	23.2		
SDT 90	533800	178220	37.1	35.0	37.5	31.6	41.9		33.6	32.0	42.1	44.6	47.8	32.9	37.8	31.8		
SDT 91	533379	178556	33.5	33.7		33.0	30.6	31.8	32.8		39.7	40.9	40.8	31.6	34.8	29.3		
SDT 92	535222	178032	30.1	29.1	29.5	23.5	32.2	26.4	24.0	24.2	31.4	29.7	37.0	27.3	28.7	24.1		
SDT 93	534243	176558	34.9	44.2	40.0	33.2		34.1	37.6	36.4	35.5	35.6	41.2	35.3	37.1	31.1		
SDT 95	533700	173892	21.8	16.0	15.4	11.6	13.0	10.7	10.7	9.6	14.4	16.7	23.0	18.0	15.1	12.7		
SDT 97	533940	173998	26.4	26.3	25.2	17.9	21.9	19.1	20.6	20.7	22.0	26.4	27.6	23.1	23.1	19.4		
SDT 98	534503	173251	33.2	30.9	32.4	28.8	34.3	30.7	31.0	27.8	33.4	33.2	36.9	30.2	31.9	26.8		
SDT 100	533159	174191	20.6	18.1	15.9	11.4	13.5	10.5	11.3	12.7	16.6	19.1	24.1	18.8	16.0	13.5		
SDT 101	532303	174756	28.6	26.9	24.3	18.5	23.9	19.0	19.6	19.4	23.0	28.5	31.2	21.7	23.7	19.9		
SDT 102	532599	176277	27.4	27.1	24.7	19.3	23.1	20.6	19.2	19.7	22.6	26.4	31.6		23.8	20.0		

Site 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 (National Bias = 0.81)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
SDT 103	532471	176388	33.1	30.9	29.3	25.7	27.8	23.1	18.7	20.5	25.5	28.0	32.9	28.8	27.0	22.7		
SDT 104	531835	178686	40.0	41.0	39.1	32.7	38.0	34.5	34.4	28.9	36.8	38.4	44.6	36.3	37.0	31.1		
SDT 105	533592	176851	26.9	29.6	27.8	20.7	13.2	24.8	24.7	24.3	25.9		31.2	28.6	25.2	21.2		
SDT 106	532409	177597	41.5	41.7	40.8	39.8	40.7	35.9	34.1	31.8	38.3	40.0	41.5	34.8	38.4	32.2		
SDT 107	532426	178051	27.5	29.5	29.4	23.5	25.3	20.6	21.1	20.8	24.9	31.1	34.8	25.9	26.2	22.0		
SDT 111	532294	178354	33.7	24.0	31.0	28.9	35.6	25.5	27.9	26.1	33.4	36.2	39.4	30.6	31.0	26.1		
SDT 112	531621	179112	23.4	21.7	18.5	14.8	16.5	13.6	14.3	13.1	17.4	22.0	25.5	21.7	18.6	15.6		
SDT 113	531481	179421	34.8	44.0	43.0	38.2	39.9	33.9	40.1	36.3	38.4	45.7	46.2	36.4	39.7	33.4		
SDT 114	533799	175324	27.2	27.5	24.5	19.7	19.7	18.3	18.9	18.3	20.6	23.3	29.7	24.4	22.7	19.0		
SDT 132	534237	176363	29.1	31.8		25.5	31.2	25.8	26.7	24.7	30.6	27.5	35.7	27.4	28.7	24.1		
SDT 136	533232	175775	26.4	21.8	21.0	13.9	17.5	16.7	17.0	16.8	18.9	24.5	28.0	18.5	20.1	16.9		
SDT 137	532988	175570	22.1	18.0	16.7	12.0	15.4	11.6	10.4	11.2	16.2	17.9	24.2	17.4	16.1	13.5		
SDT 138	533364	175561	29.1	28.0	26.9	22.3	24.1	23.2	21.9	22.0	27.4	31.4	35.1	29.0	26.7	22.4		
SDT 139	533030	176022	26.0	22.4	19.8	17.1	16.8	16.1	14.6	13.7	19.4	24.5	30.3	24.6	20.4	17.2		
SDT 140	533221	175715	26.9	21.7	22.7	18.2	21.8	17.1	14.4	15.3	22.3	26.2	30.7	22.1	21.6	18.2		
SDT 142	535321	175023	21.0	18.5		13.4	15.9	12.4	12.6	12.4	18.0	20.3	26.1		17.1	14.3		
SDT 143	534540	172387	23.5	21.6	20.3	15.9	17.1	14.1	14.4	15.4	16.8	21.1	26.5	18.3	18.7	15.7		
SDT 144	533328	171601	21.6	19.6	19.2	17.6	23.2	19.5	17.2	18.2	21.6	22.4	27.2	18.8	20.5	17.2		
SDT 145	532768	172732	22.8	20.2		15.7	15.8	14.7	13.6	13.6	10.3	20.6	24.5	20.7	17.5	14.7		
SDT 146	532486	173535	25.0	22.2	19.4	16.5	19.9	16.6	16.5	15.7	21.1	23.6	27.6	22.6	20.6	17.3		
SDT 147	532230	177756	28.2	26.9	23.8	18.9	21.2	17.0	19.5	19.0	21.8	25.7	31.7	25.4	23.3	19.5		
SDT 148	532002	177578	26.8	24.5	24.2	18.3	22.9	20.2	16.9	19.1	23.8	26.7	31.1	24.0	23.2	19.5		
SDT 149	531479	177990	26.7	23.5	21.7	17.2	19.7	16.6	16.0	16.0	19.4	24.2	28.0	25.0	21.2	17.8		
SDT 150	533522	178187	30.3	29.7		22.6	28.7	24.8	26.4	23.2	27.6	29.6	34.9	23.7	27.4	23.0		
SDT 151	533660	174480	24.8	18.9	19.8	15.0	18.1	14.4	14.6	13.9	18.3	19.7	27.0	19.4	18.7	15.7		
SDT 152	533245	174655	23.3	21.3	18.8	14.7	17.9	15.8	15.0	13.6	18.5	21.3	29.1	21.9	19.3	16.2		
SDT 153	533123	173780	22.5	18.3	18.1	14.4	16.8	14.7	14.3	14.2	16.5	19.4	23.7	18.3	17.6	14.8		
SDT 154	532836	177844	27.3	26.2	24.9	20.0	21.0	17.9	19.5	19.0	22.4	28.5	30.2	27.2	23.7	19.9		
SDT 155	532597	178433	26.4	23.7	19.3	16.0	18.0	14.0	15.1	13.8	19.1	24.4	29.1	24.0	20.2	17.0		
SDT 156	532643	178677	29.9	28.4	24.4	18.8	23.3	17.5	19.7	17.1	20.4	28.5	34.1	27.7	24.1	20.3		
SDT 157	531648	178257	25.5	22.8	18.7	15.5	17.7	15.1	15.0	15.4	19.1	23.2	28.8	21.6	19.9	16.7		
SDT 158	532195	178276	25.0	19.9	17.1	14.4	18.0	12.8	14.7	12.8	18.6	24.6	27.8	21.0	18.9	15.9		
SDT 159	532167	178336	24.4	18.9	16.6	14.6	16.8	12.3	12.9	12.2	16.7	22.2	23.4	21.9	17.7	14.9		

Site 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 (National Bias = 0.81)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
SDT 160	532202	173907	24.7	22.9	23.0	17.9	21.7	18.0	17.1	16.6	22.9	25.6	19.5	22.3	21.0	17.6		
SDT 161	533771	175173	29.6	26.7	27.3	24.2	27.6	24.4	22.8	22.5	29.4	30.5	37.1	26.8	27.4	23.0		
SDT 163	532025	177057	29.6	30.4	29.2	24.5	30.2	27.3	26.0	23.7	30.0	30.4	38.4	29.1	29.1	24.4		
SDT 164	532087	177193	24.7	25.9	23.2	18.0	22.5	18.2	20.1	17.1	20.1	26.1	31.6	22.1	22.5	18.9		

- All erroneous data has been removed from the NO₂ diffusion tube dataset presented in Table T
- Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22
- Local bias adjustment factor used
- National bias adjustment factor used
- Where applicable, data has been distance corrected for relevant exposure in the final column
- London Borough of Southwark confirm that all 2024 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System

Notes:

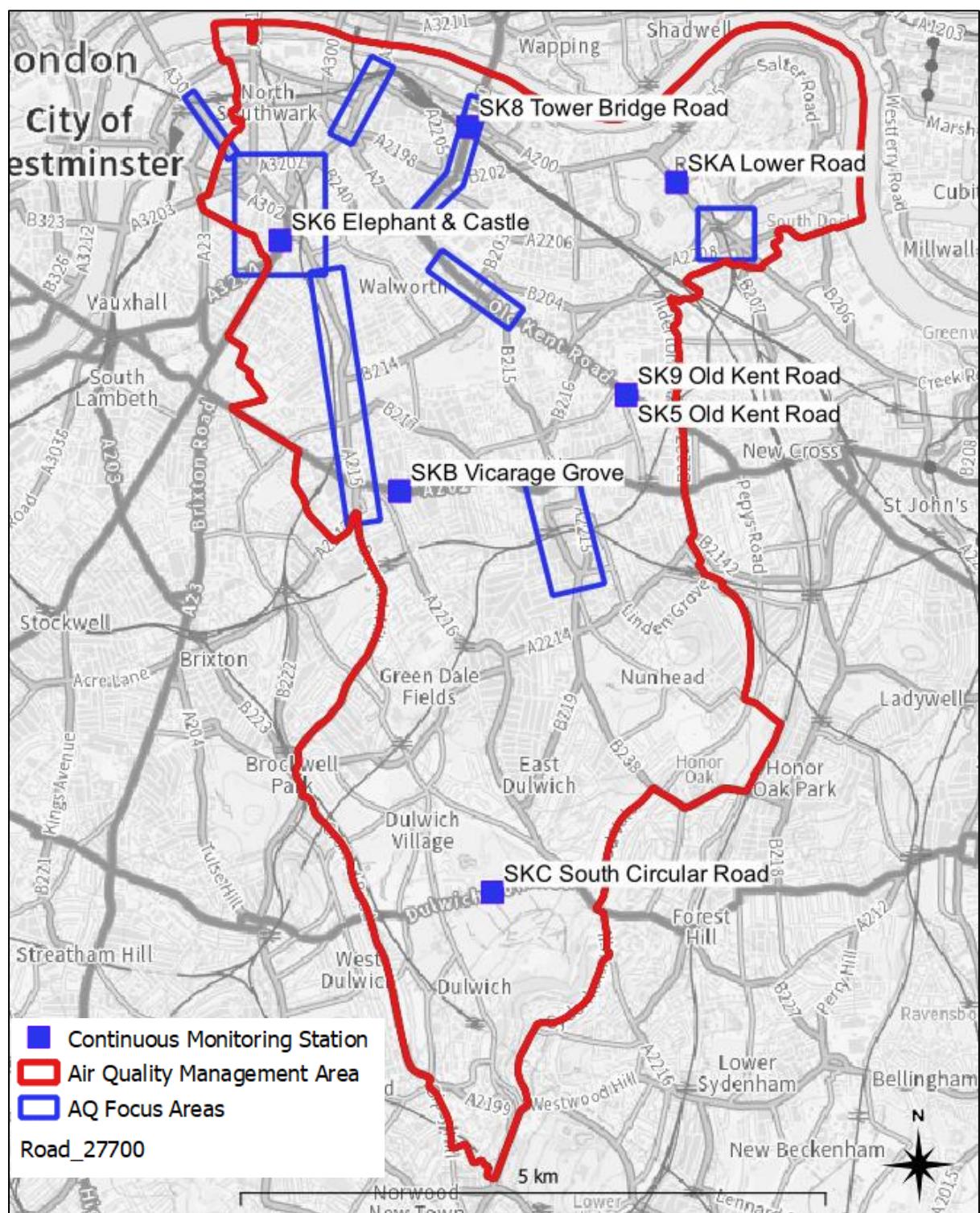
Exceedances of the NO₂ annual mean objective of 40µg.m⁻³.are shown in **bold**.

NO₂ annual means exceeding 60µg.m⁻³., indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **bold and underlined**.

See **Appendix A** for details on bias adjustment and annualisation.

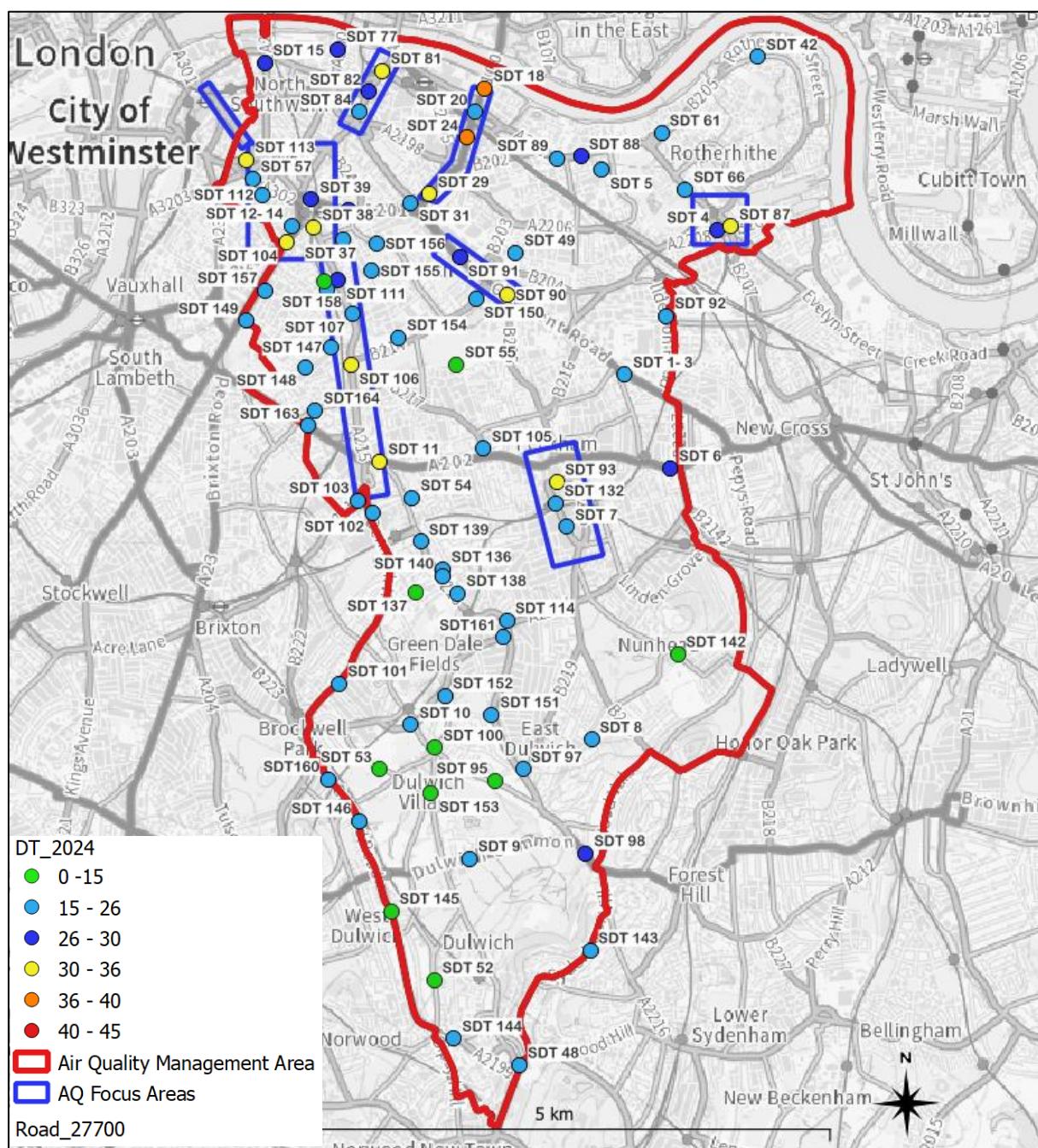
Appendix C Map(s) of Monitoring Locations and AQMAs

Figure 20 - Map of Southwark's Automatic Monitoring Sites



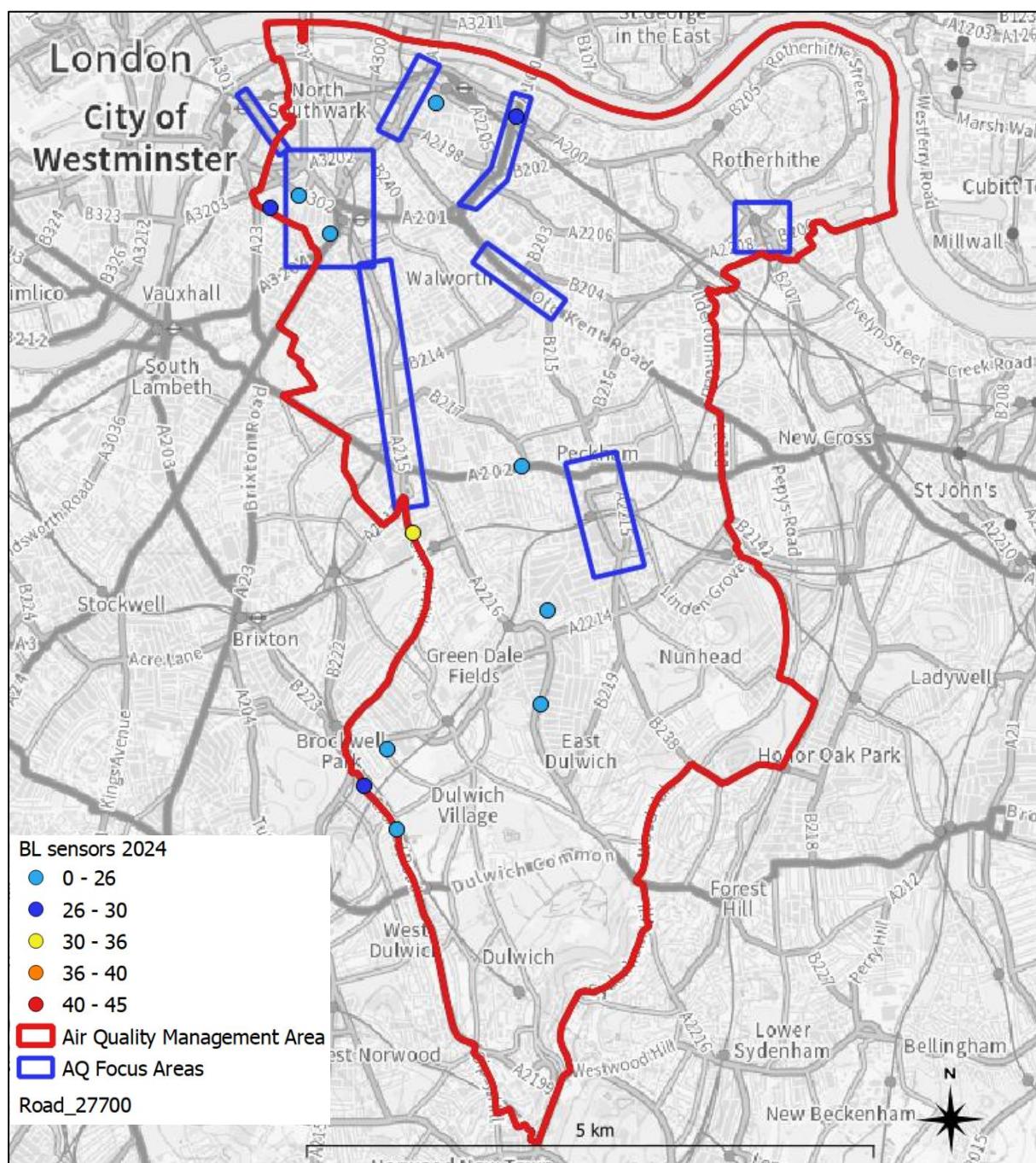
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Figure 21 - Map of NO₂ Diffusion Tubes in Southwark in 2024 showing annual mean NO₂ concentrations, µg/m³



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Figure 22 - Map of Breathe London Sensors in Southwark in 2024 showing annual mean NO₂ concentrations, µg/m³



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NB: Sensor results are indicative only.

London Borough of Sutton Air Quality Annual Status Report for 2024

Date of publication: August 2025



This report provides a detailed overview of air quality in the London Borough of Sutton during 2024. It has been produced to meet the requirements of the London Local Air Quality Management (LLAQM) statutory process¹.

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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})	10 µg m ⁻³ ⁽³⁾	Annual mean	2040
Particles (PM _{2.5})	London Mayoral Objective ⁽⁴⁾ : 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 not 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) Environmental Target Regulations under the Environment Act 2021
- (4) 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) ⁽²⁾	Inlet Height (m)
ST4	Wallington	Kerbside	528925	163804	NO ₂ , PM ₁₀	Yes	Sutton AQMA	Chemiluminescent; FDMS	5	0.8	1.5
ST5	Beddington Lane North	Industrial	529400	167224	NO ₂ , PM ₁₀ , PM _{2.5}	Yes	Sutton AQMA	Chemiluminescent; FDMS	6	4	1.5
ST6	Worcester Park	Kerbside	522557	165787	NO ₂ , PM ₁₀	Yes	Sutton AQMA	Chemiluminescent; FDMS	2	1.3	1.5
ST8 ⁽³⁾	Beddington Lane	Industrial	529781	166597	NO ₂ , PM ₁₀	Yes	Sutton AQMA	Chemiluminescent; FDMS	330	N/A	1.5
ST9 ⁽⁴⁾	Beddington Village	Roadside	530124	165223	NO ₂ , PM ₁₀	Yes	Sutton AQMA	Chemiluminescent; FDMS	15	5	1.5

Notes:

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

(2) N/A if not applicable

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)
ST21	Glastonbury Road	Urban Background	525567	166291	NO ₂	In AQMA	6.0	2.0	No	2.0
ST22	Dorset Road, Belmont	Roadside	525063	162474	NO ₂	In AQMA	12.0	2.0	No	2.0
ST23	Sandy Lane South	Roadside	529734	163868	NO ₂	In AQMA	5.0	2.0	No	2.0
ST24	Derry Road	Roadside	530130	165404	NO ₂	In AQMA	7.0	2.0	No	2.0
ST25	Staines Avenue	Roadside	523874	165683	NO ₂	In AQMA	15.0	2.0	No	2.0
ST26	West Street	Roadside	527683	164663	NO ₂	In AQMA	2.0	2.0	No	2.0
ST07	Hackbridge Primary	Urban Background	528401	166038	NO ₂	In AQMA	0.0	56.0	No	2.0
ST08	Victor Seymour	Urban Background	527786	165021	NO ₂	In AQMA	0.0	33.0	No	2.0
ST29	Park Lane	Roadside	528339	164615	NO ₂	In AQMA	2.0	6.0	No	2.0
ST10	Muschamp Priory	Urban Background	527284	165778	NO ₂	In AQMA	0.0	20.0	No	2.0

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)
ST11	Sherwood Park School	Urban Background	529835	165041	NO ₂	In AQMA	0.0	35.0	No	2.0
ST32	Alcorn Close	Urban Background	525184	165845	NO ₂	In AQMA	40.0	25.0	No	2.0
ST33	Carshalton Road	Roadside	526021	164025	NO ₂	In AQMA	3.0	1.0	No	2.0
ST34	Oakhill Road	Roadside	525772	165118	NO ₂	In AQMA	10.0	1.0	No	2.0
ST35	Gander Green Lane	Roadside	524782	165167	NO ₂	In AQMA	10.0	1.0	No	2.0
ST36	Croydon Road Beddington	Roadside	530645	164839	NO ₂	In AQMA	0.0	11.0	No	2.0
ST27	Haddon Road St Nicholas Way	Roadside	525691	164599	NO ₂	In AQMA	11.0	2.0	No	2.0
ST38	Brighton Road Sutton	Roadside	526046	163636	NO ₂	In AQMA	2.0	10.0	No	2.0
ST39	Rose Hill Roundabout	Roadside	526019	166469	NO ₂	In AQMA	6.0	2.0	No	2.0

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)
ST40	38 High Street Cheam	Roadside	524357	163599	NO ₂	In AQMA	2.0	1.0	No	2.0
ST42	Royston Park	Urban Background	526605	165364	NO ₂	In AQMA	20.0	95.0	No	2.0
ST43	Chiltern Road	Roadside	525883	162518	NO ₂	In AQMA	13.0	1.0	No	2.0
H1	Hackbridge Road	Roadside	528359	166067	NO ₂	In AQMA	0.5	17.0	No	2.0
H2	Clover Way	Urban Background	528437	166275	NO ₂	In AQMA	0.0	25.0	No	2.0
H3	57 London Road	Roadside	528637	166021	NO ₂	In AQMA	0.0	5.0	No	2.0
BL	Beddington Lane	Roadside	529400	167235	NO ₂	In AQMA	15.0	2.0	No	2.0

Notes:

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

(2) N/A if not applicable.

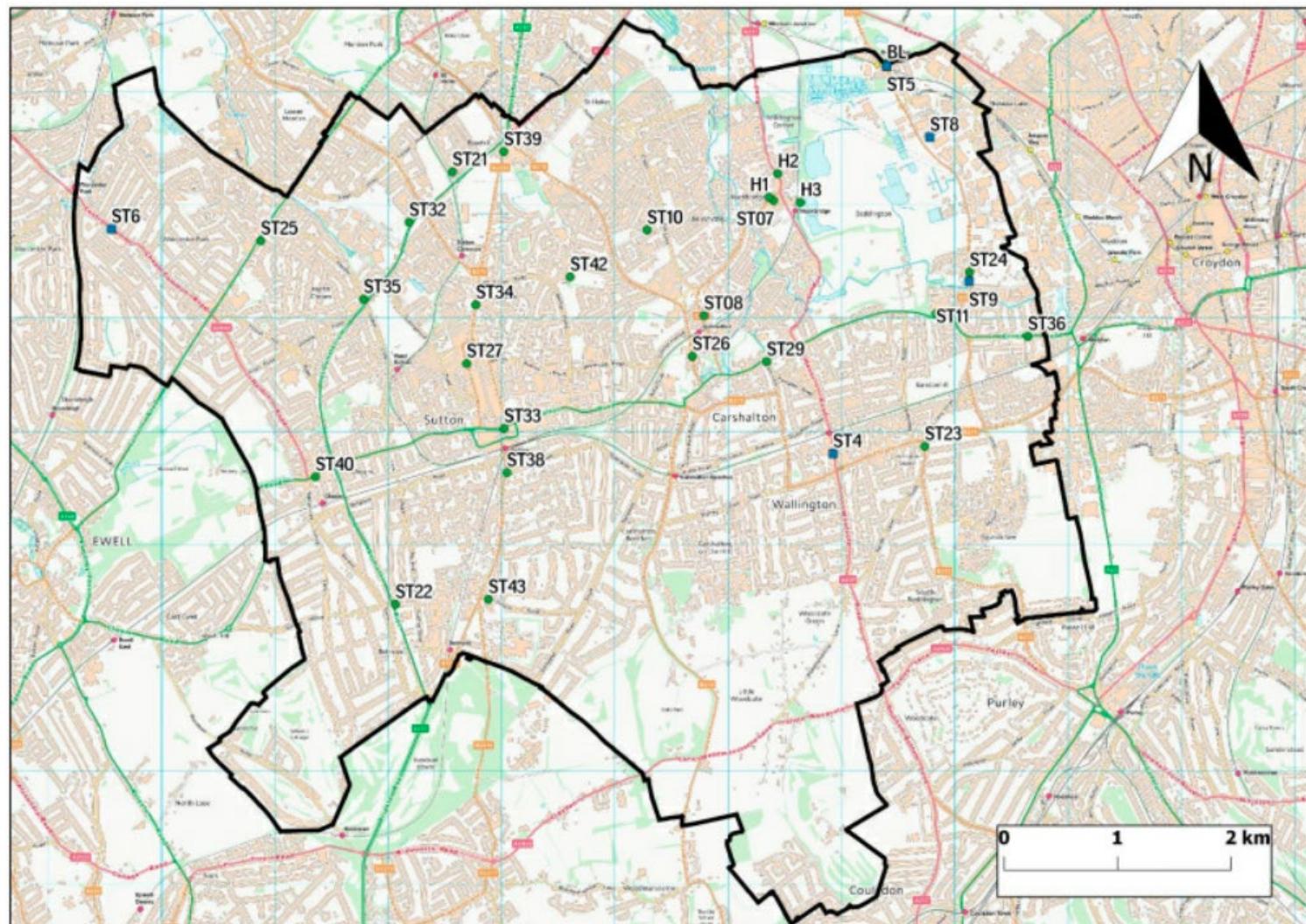


Figure 1-A Air Quality Monitoring Locations in the London Borough of Sutton

1.2 Comparison of Monitoring Results with AQOs

Table D. Annual Mean NO₂ 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
ST4 Wallington	528925	163804	Kerbside	98.0	43.1	47.0	45.9	40.8	43.3	44.2 (32.7)	44.8 (32.9)	35.0 *Ann
ST5 Beddington Lane North	529400	167224	Industrial	94.0	94.0	29.0	29.4	22.8	21.9	24.4	20.5	17.9
ST6 Worcester Park	522557	165787	Kerbside	99.5	99.5	52.0	51.1	39.4 (34.9)	43.4	39.9	30.8	26.0
ST8 ⁽¹⁾ Beddington Lane	529781	166597	Industrial	-	-	25.0	25.1	19.1 *Ann	-	-	-	-
ST9 ⁽²⁾ Beddington Village	530124	165223	Roadside	43.1	99.6	-	-	21.6 **	24.3	22.7	19.8	17.5

Notes:

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

Exceedances of the NO₂ annual mean AQO of 40 μg m⁻³ are shown in **bold**.

NO₂ annual means in excess of 60 μg m⁻³, indicating a potential exceedance of the NO₂ hourly mean AQS objective are shown in **bold and underlined**.

Means for diffusion tubes have been corrected for bias.

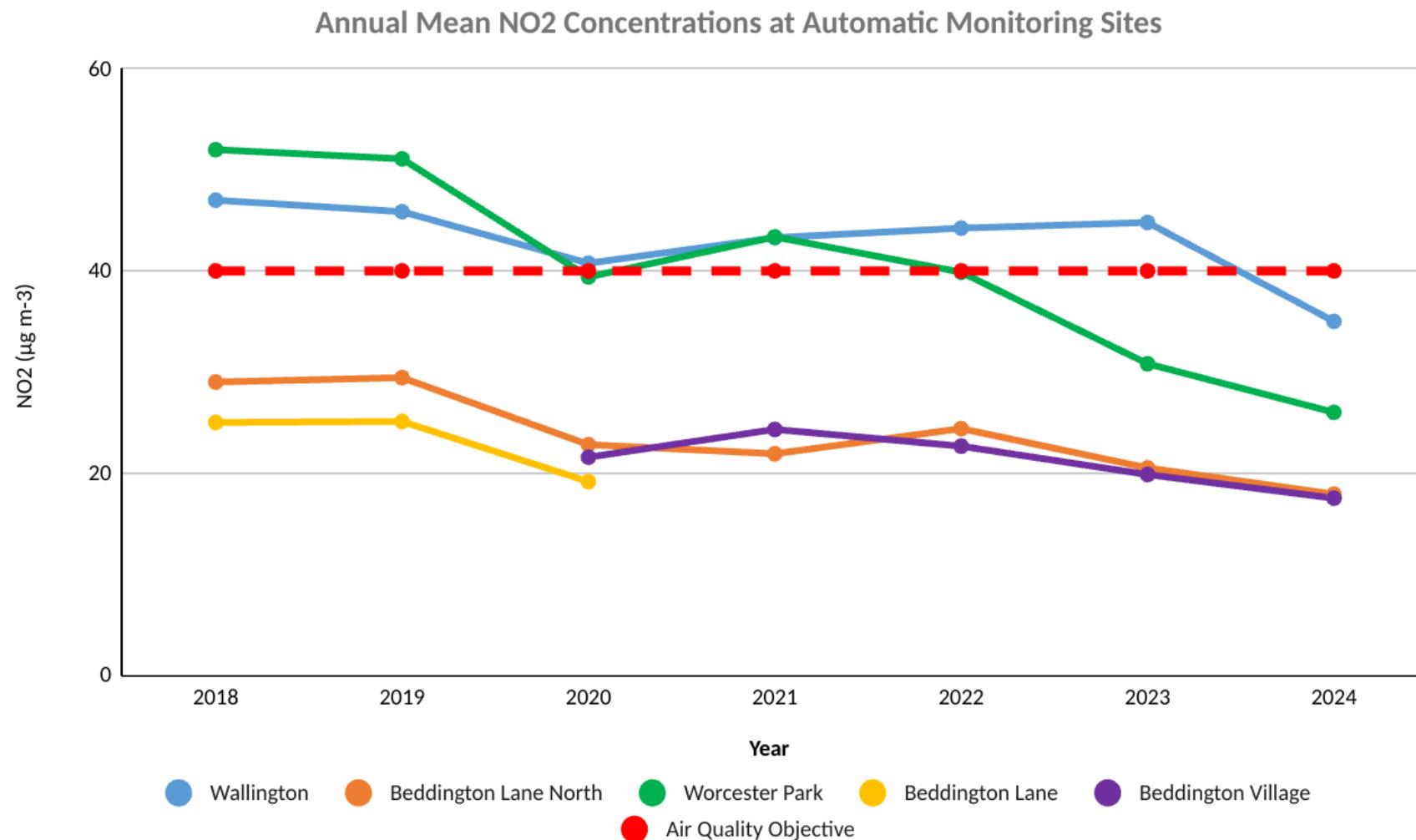
All means have been “annualised” in accordance with LLAQM Technical Guidance if valid data capture for the calendar year is less than 75% and greater than 25%.

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%).

Figure 1-B



Discussion

2024 saw the annual mean NO₂ concentrations at automatic monitoring sites in the London Borough of Sutton falling in comparison to concentrations recorded in 2023. No sites in the borough have exceeded the national objective in 2024.

Over the last 7 years, all monitoring sites have continued to show a reduction in annual mean NO₂ concentrations. Since 2021, automatic monitoring sites have once again shown the gradual fall in annual mean NO₂ concentration. The general fall in NO₂ concentrations post-2020 may be attributed to many factors including the decreased use of high emission vehicles, improved traffic systems, and post-COVID hybrid working.

In late August 2023, the Ultra-Low Emission Zone (ULEZ) was expanded to include most of Sutton. 2024 is the first full calendar year that ULEZ has been in effect in this area. The continued reduction of NO₂ concentrations across all sites may be indicative of the positive impacts of the expansion of the ULEZ. The sites Wallington (ST4) and Worcester Park (ST6) have consistently had the highest annual mean NO₂ concentrations in the London Borough of Sutton, the difference is likely due to both sites being located on congested roads. Worcester Park has remained below the annual national objective for the second year in a row, and Wallington has met the objective for the first time in 2024, however;

In June 2024 the equipment in Wallington (ST4) failed, and as a result, the data had to be annualised. This is likely the prevailing reason for the compliance to the national objective observed this year. As this site is still in close proximity to Wallington Town Centre bus stop (Stop K), rather than repair the monitor in its current location, it has been decided to dedicate that resource to relocating and commissioning a new monitor in a new location along the same road. The location has been decided, and soon the work will be going out to tender.

Table E. Annual Mean NO₂ 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
ST21	525567	166291	Urban Background	85.3	85.3	29.4	26.8	20.6	21.5	20.2	17.7	15.6
ST22	525063	162474	Roadside	100.0	100.0	36.1	33.5	26.7	24.0	25.0	20.4	18.7
ST23	529734	163868	Roadside	100.0	100.0	37.0	34.9	27.0	28.1	27.1	22.3	17.8
ST24	530130	165404	Roadside	100.0	100.0	28.9	25.7	19.2	21.9	20.3	17.0	15.5
ST25	523874	165683	Roadside	100.0	100.0	31.6	29.7	23.9	25.2	22.6	19.1	15.4
ST26	527683	164663	Roadside	92.2	92.2	38.4	36.0	25.6	29.6	26.1	23.3	19.1
ST07	528401	166038	Urban Background	85.0	85.0	22.4	20.5	17.1	16.6	16.1	15.2	13.3
ST08	527786	165021	Urban Background	82.6	82.6	24.0	23.2	17.4	12.3	17.4	15.1	13.0
ST29	528339	164615	Roadside	100.0	100.0	38.9	35.7	29.6	33.5	34.6	32.9	26.8
ST10	527284	165778	Urban Background	92.5	92.5	22.7	20.1	14.6	16.2	14.6	12.5	11.1
ST11	529835	165041	Urban Background	92.2	92.2	24.5	22.6	18.6	19.5	19.5	16.6	14.6

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
ST32	525184	165845	Urban Background	100.0	100.0	24.3	20.0	16.7	19.3	18.2	14.8	12.7
ST33	526021	164025	Roadside	81.0	81.0	34.5	34.2	27.7	30.2	30.4	26.5	21.4
ST34	525772	165118	Roadside	100.0	100.0	38.9	40.7	32.9	33.3	32.1	29.1	26.8
ST35	524782	165167	Roadside	100.0	100.0	31.1	28.7	22.0	24.0	22.0	18.2	16.1
ST36	530645	164839	Roadside	100.0	100.0	29.3	27.4	22.7	25.5	23.1	20.0	18.7
ST27	525691	164599	Roadside	100.0	100.0	35.6	34.7	28.1	29.1	30.0	21.3	21.4
ST38	526046	163636	Roadside	90.3	90.3	35.1	33.2	24.7	29.1	27.5	23.1	20.2
ST39	526019	166469	Roadside	100.0	100.0	40.7	41.8	49.5	41.1	40.7 (33.0)	34.0	30.0
ST40	524357	163599	Roadside	92.2	92.2	41.1	42.1	31.0	33.0	34.3 (34.9)	29.4 (29.2)	25.7 *Ann
ST42	526605	165364	Urban Background	85.0	85.0	19.9	17.4	14.1	17.1	15.1	11.5	10.5
ST43	525883	162518	Roadside	100.0	100.0	-	28.4	22.2	23.9	23.9	20.0	17.7
H1	528359	166067	Roadside	100.0	100.0	30.0	32.6	24.2	27.0	27.5	24.7	25.2

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
H2	528437	166275	Urban Background	100.0	100.0	26.8	24.3	18.1	21.9	19.1	16.2	15.1
H3	528637	166021	Roadside	90.6	90.6	44.1	44.5	36.1	33.0	33.6	31.4	29.3
BL	529400	167235	Roadside	83.4	83.4	29.0	29.1	26.8	24.6	31.1	26.3	24.5

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 $\mu\text{g m}^{-3}$.

Exceedances of the NO_2 annual mean objective of $40\mu\text{g m}^{-3}$ are shown in **bold**.

NO_2 annual means exceeding $60\mu\text{g m}^{-3}$, 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%).

Figure 1-C
Annual Mean NO₂ Concentrations at Diffusion Tubes Monitoring Sites - Urban Background

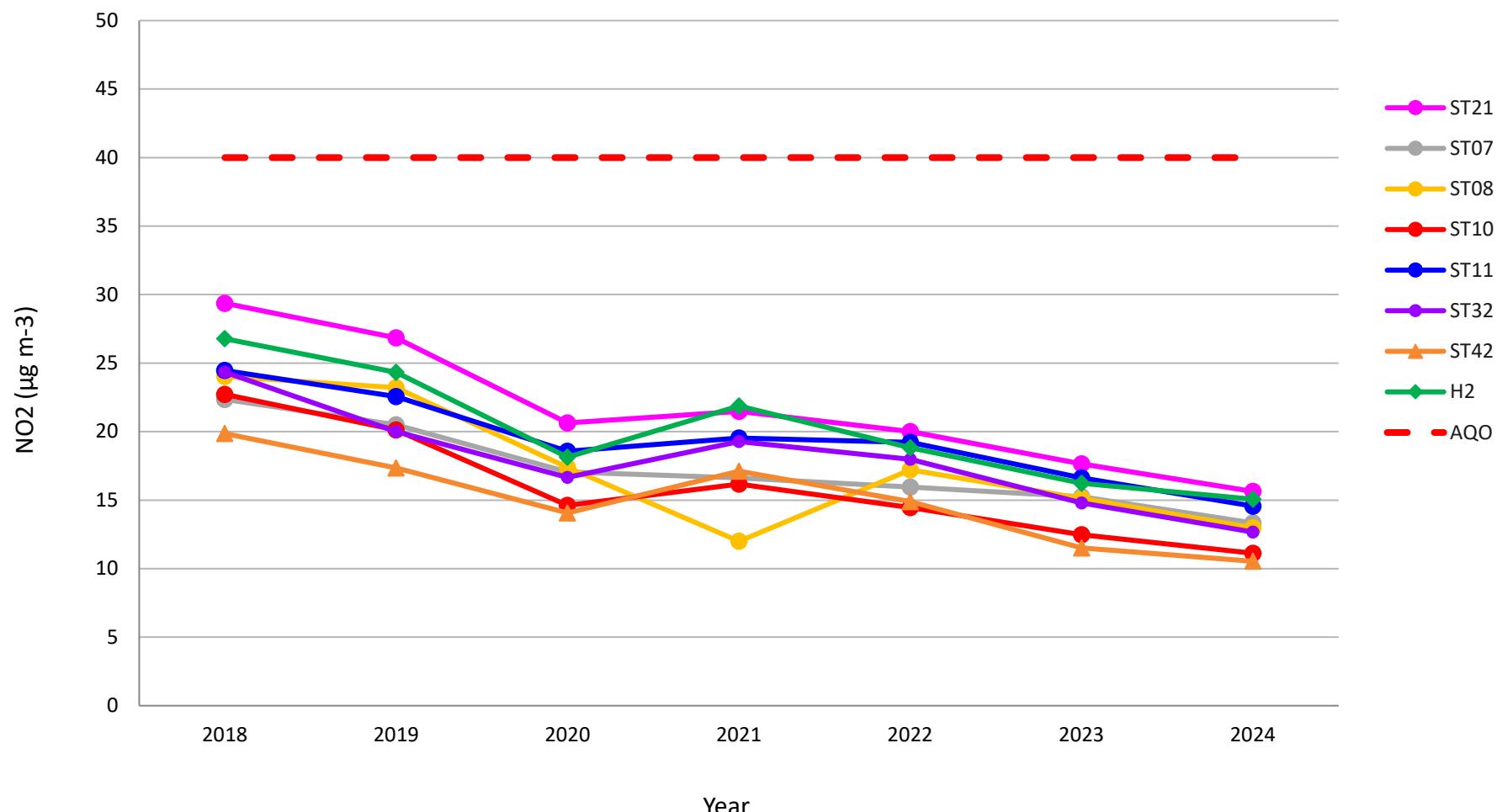
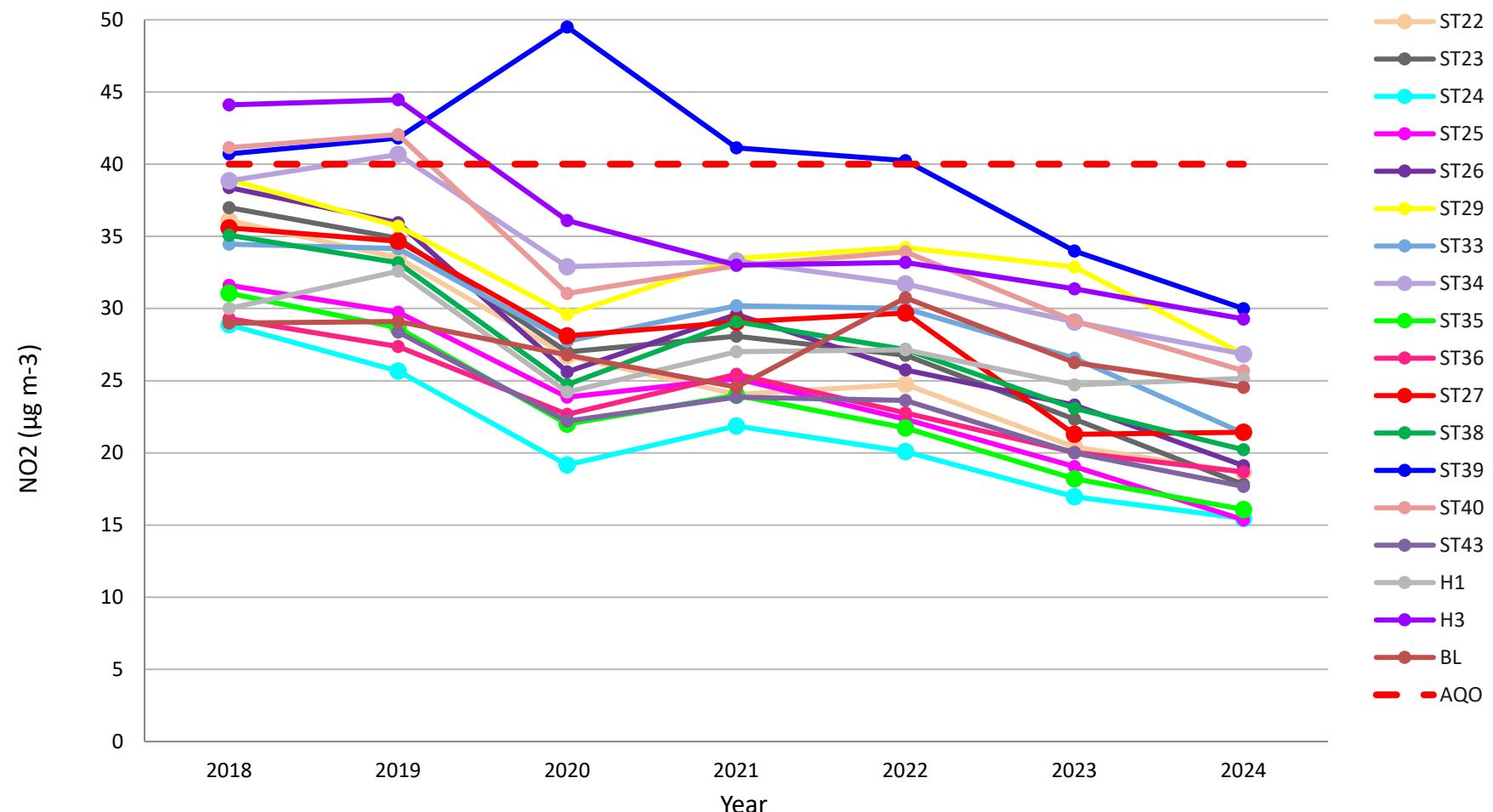


Figure 1-D

Annual Mean NO₂ Concentrations at Diffusion Tubes Monitoring Sites - Roadside



General Overview

In 2024, the NO₂ annual mean air quality objective was met across all diffusion tube sites in the London Borough of Sutton. No sites required annualisation or distance correction. The annual mean NO₂ concentration at diffusion tube sites continued to decrease over the 7 years and in comparison to 2023. The two exceptions to this were two roadside sites; H1 (Hackbridge Road) and ST27 (Haddon Road, St Nicholas Way). Both of these sites showed a slight increase in NO₂ concentrations in comparison to 2023, however concentrations have not exceeded those measured in years previous to 2023 (barring 2020 for H1). All other sites have reported 2024 concentrations lower than those in 2020. There are various likely causes for the continued reduction in NO₂ concentrations since 2021, including, the decreased use of high emission vehicles by the general public, traffic improvements, ULEZ expansion, and post-COVID hybrid working.

In late August 2023, the London Ultra Low Emission Zone (ULEZ) was expanded to include the majority of the London Borough of Sutton. This could also be a reason for the general reduction in pollutant concentrations observed in 2024.

Rosehill Roundabout

Sharp reductions in NO₂ concentrations have been observed at ST39 (Rosehill Roundabout) since 2022, by approximately 25% over these years (40.3 µg m⁻³ in 2022, reduced to 30.0 µg m⁻³ in 2024). Now the concentration is well below the national air quality objective despite the heavily trafficked location; Rosehill Roundabout connects to the highly congested A297 road, which links several areas of the borough to central London. This route is also attractive to other road users in neighbouring boroughs, due to this. This location also has other pull factors, including St Helier's Hospital, and shops on Wrythe Lane. This is the initial explanation for the relatively high annual mean NO₂ concentrations observed in previous years, and was especially apparent in

2020 where an NO₂ increase in concentrations was observed. While still recording the highest NO₂ concentrations of all monitoring sites in 2024, the gap between this site and all others has narrowed considerably. The narrowing of this gap may be attributed to the closure of the roundabout and surrounding roads between February and August 2024 for road resurfacing works; these works were carried out in evenings into early mornings. While traffic is generally reduced during these times, a location as busy as this roundabout would likely see relatively higher amounts of traffic at all times of the day so this may be a factor in the decreased NO₂ concentrations. Another factor may be ULEZ, as this area would likely see the highest number of vehicles regardless of their compliance to the ULEZ regulations. Increased compliance since Sutton's inclusion within ULEZ may have contributed to reduced NO₂ concentrations in 2024.

Hackbridge

The Hackbridge site H3 (London Road) had the second highest annual mean NO₂ concentrations in the London Borough of Sutton in 2024. This is slightly worse than its standing in 2023 (as 3rd highest) despite a continuing decline in NO₂ concentrations. This is, however, more to do with the improved performance of the formerly second place site ST29 (Park Lane).

Other Hackbridge sites, H1 (Hackbridge Road) and H2 (Clover Way) still maintain lower annual mean NO₂ concentrations; H1 is one of two sites in the borough which showed an increase in annual NO₂ concentrations in 2024. This increase is very minor (approx. 0.5 µg m⁻³) and could therefore be attributed to statistical noise, as this value falls well within the bias percentage. H2 continues to decrease, albeit at a slightly slower rate than previous years.

Cheam

NO₂ concentrations at the Cheam High Street site ST40 have continued to decrease since 2022, when it previously had the second highest annual mean NO₂ concentrations in the borough between 2018 and 2019. The site ST40 is a roadside diffusion tube located on the congested A232 that connects highly populated areas across south London and high traffic volumes is likely the

reason for the high annual mean NO₂ concentration. The sharp fall in concentration in 2020 is likely attributed to COVID restrictions, and this fall was in line with other roadside diffusion tube sites. The site has never again reached its pre-2020 annual mean NO₂ concentrations even with the slight increases, once again, this is in line with other diffusion tube sites in the borough. This is another heavily trafficked location that may have benefited from the ULEZ expansion to cover Sutton, as there were no long term disruptions to traffic flow in this location across the year.

Site ST40 did not require annualisation this year, so the data is as accurate as possible this year, in comparison to 2022 and 2023.

Table F. NO₂ 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
ST4 Wallington	528925	163804	Kerbside	98.0	43.1	0	0	0	1	0	3	0
ST5 Beddington Lane North	529400	167224	Industrial	94.0	94.0	0	0	0	0	0	0	0
ST6 Worcester Park	522557	165787	Kerbside	99.5	99.5	7	9	0	0	0	0	0
ST8 ⁽¹⁾ Beddington Lane	529781	166597	Industrial	-	-	25.0	25.1	19.1 *Ann	-	-	-	-
ST9 ⁽²⁾ Beddington Village	530124	165223	Roadside	43.1	99.6	-	-	0 (72.1)	0	0	0	0

Notes

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

Exceedance of the NO₂ short term AQO of 200 $\mu\text{g m}^{-3}$ 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%)

Discussion

The NO₂ 1-hour mean objective was met across all automatic monitoring sites in London Borough of Sutton, with Beddington Lane North (ST5), Worcester Park (ST6), and Beddington Village (ST9) showing that an exceedance of 200 $\mu\text{g m}^{-3}$ was not reached. No locations recorded a breach in 2024, although this may be due to the Wallington monitor (ST4) being inactive for a significant proportion of the year.

Table G. Annual Mean PM₁₀ 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
ST4 Wallington	528925	163804	Kerbside	98.0	43.1	23	21	18.7	18.0	20.2	18.9	19.0 *Ann
ST5 Beddington Lane North	529400	167224	Industrial	94.0	94.0	22	22	21.4	17.6	20.2	17.9	16.7
ST6 Worcester Park	522557	165787	Kerbside	99.5	99.5	20	21 *Ann	15.3 *Ann	14.8	18.2	14.7	14.4
ST8 ⁽¹⁾ Beddington Lane	529781	166597	Industrial	-	-	22	17	14.5 *Ann	-	-	-	-
ST9 ⁽²⁾ Beddington Village	530124	165223	Roadside	43.1	99.6	-	-	14.5 **	17.3	19.4	18.2 (17.6) *Ann	18.4

Notes

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

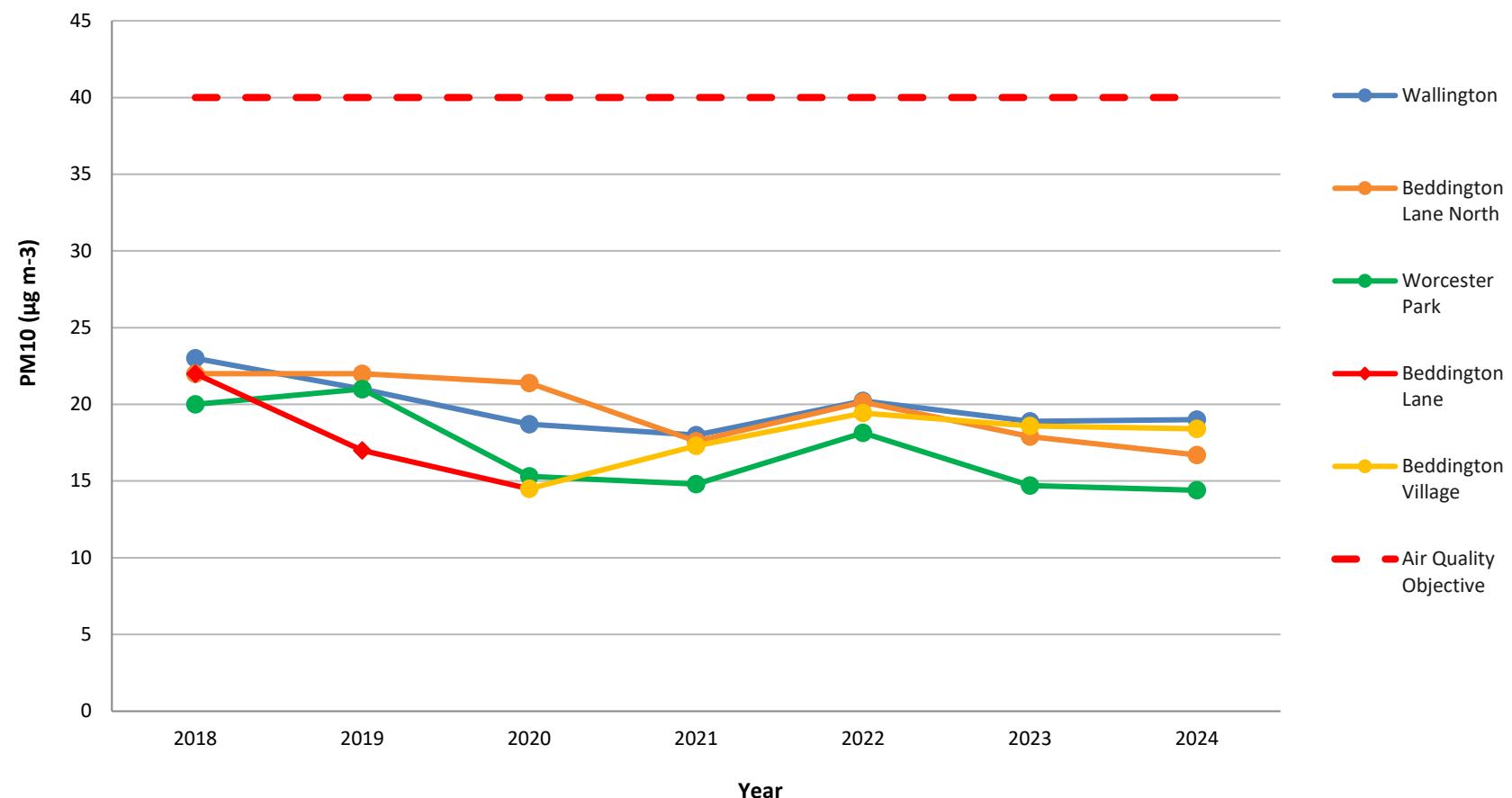
Exceedances of the PM₁₀ annual mean AQO of 40 μg m⁻³ are shown in **bold**.

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%).

Figure 1-E
Annual Mean PM10 Concentrations at Automatic Monitoring Sites



Discussion

The main source of PM₁₀ is dust from construction sites, wood burning, car tyres, brake and road wear, dust resuspension and various other activities in industrial sites. In 2024, the annual mean PM₁₀ air quality objective was met across all monitoring sites. All stations recorded PM₁₀ concentrations between 14 and 19 µg m⁻³.

Wallington (ST4), Beddington Village (ST9), and Worcester Park (ST6) appear to be beginning to plateau, with no significant reductions in PM₁₀ concentrations; further observations over the next year or so years will confirm this trend. The smallest reduction was observed at ST6, of 0.3 µg m⁻³, which easily falls within the realm of statistical noise.

The Beddington industrial area has two nearby automatic PM₁₀ monitoring sites, Beddington Lane North and Beddington Village. Both sites have consistently met the annual mean PM₁₀ air quality objective and show PM₁₀ levels similar to other (non-industrial) sites in the borough.

Site ST4 had annual mean PM₁₀ data capture of 43%, and was annualised using urban background sites Honor Oak (Lewisham), Westminster, Hillingdon, and North Kensington AURN sites. Significant equipment failure resulted in the total loss of data since June 2024. The annualised annual mean PM₁₀ concentration was 19.0 µg m⁻³ and the unadjusted mean was 18.3 µg m⁻³. The calculations can be found in the Appendix under section A.3 and Table R.

Table H. PM₁₀ Automatic Monitoring Results: Comparison with 24-Hour Mean Objective, Number of PM₁₀ 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
ST4 Wallington	528925	163804	Kerbside	98.0	43.1	4	7	1	0	1	2	1
ST5 Beddington Lane North	529400	167224	Industrial	94.0	94.0	2	13	8	1	1	2	0
ST6 Worcester Park	522557	165787	Kerbside	99.5	99.5	7	10 (44)	1 (22.6)	0	2	2	0
ST8 ⁽¹⁾ Beddington Lane	529781	166597	Industrial	-	-	2	4	0 (23.3)	-	-	-	-
ST9 ⁽²⁾ Beddington Village	530124	165223	Roadside	43.1	99.6	-	-	1 (26.2)	0 (28)	1	2 (30)	1

Notes

Exceedances of the PM₁₀ 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%).

Discussion

In 2024, all automatic monitoring sites in London Borough of Sutton met the PM₁₀ 24-hour mean objective as no site had an exceeded 50 µg m⁻³ for over 35 days. Over the last 7 years, the number of exceedances have fallen, with the greatest fall occurring in 2020, as predicted with COVID restrictions. However, since 2020, the number of exceedances have never again reached their pre-2020 numbers. Only Wallington (ST4) and Beddington Village (ST9) recorded a single instance of an exceedance each across 2024.

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
ST5 Beddington Lane North	529400	167224	Industrial	94.0	94.0	12	11.7	9.4	10	10.2	8.7	10.0

Notes

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

Exceedances of the PM_{2.5} annual mean concentration target of 10 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.

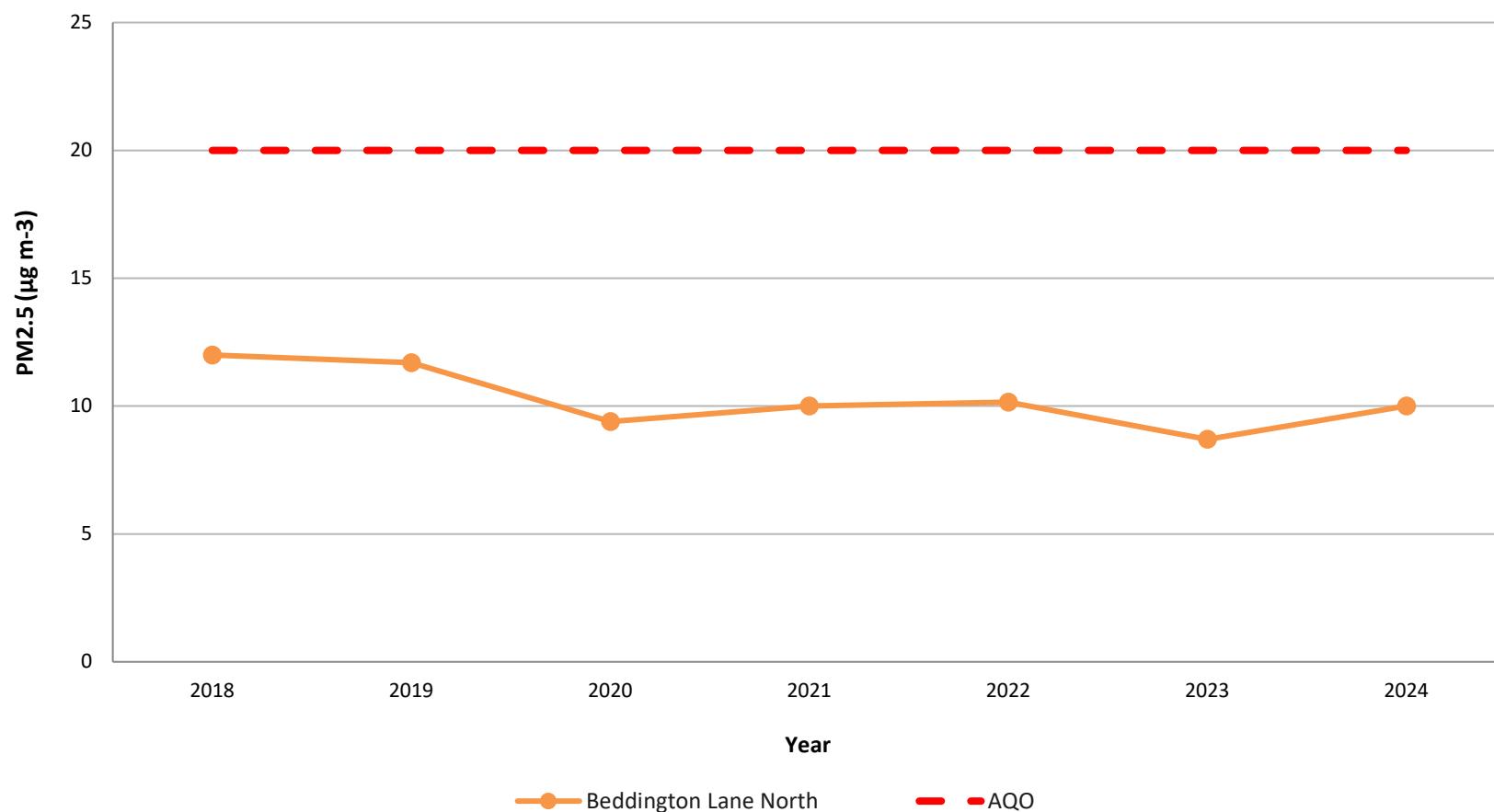
(b) Data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%).

Discussion

2024 saw ST5 (Beddington Lane North) again meet the annual mean PM_{2.5} air quality objective as it has done so for the last 7 years. Over years, the annual mean PM_{2.5} concentrations have shown gradual falls, with the greatest fall occurring in 2020. This was followed by consistent concentration between 2020 and 2022. In 2024, a slight increase in annual mean PM_{2.5} concentrations has been recorded, going up to 2022 levels. This minor increase (1.3 μg m⁻³) is still well within the annual air quality objective.

Figure 1-F

Annual Mean PM2.5 Concentrations at Automatic Monitoring Sites



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 London Borough of Sutton can be found in Table J. The table presents a description of the one borough wide AQMA that is currently designated within London Borough of Sutton. 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:

- Particulate Matter PM₁₀ – Annual Mean and 24-Hour Mean
- Nitrogen dioxide NO₂ – Annual Mean and 1-Hour Mean

Table L. Declared Air Quality Management Areas

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
Sutton AQMA	01/06/2013	NO ₂ (annual mean, 1-hour mean) PM ₁₀ (annual mean, 24 hour mean)	Whole Borough	No	NO ₂ - annual mean - 69.6 µg m ⁻³ (ST4) NO ₂ 1-hour mean - 69 exceedances (ST4) PM ₁₀ - annual mean - 27.7 µg m ⁻³ (ST6) PM ₁₀ - 24 hour mean - 20 exceedances (ST6)	None	1	London Borough of Sutton AQAP 2024-2029	Currently undergoing redesign for publication.

The London Borough of Sutton confirm the information on UK-Air regarding their AQMA(s) is up to date.

The London Borough of Sutton confirm that all current AQAPs have been submitted to GLA.

2.2 Air Quality Action Plan Progress

Table M provides a brief summary of Sutton's progress against the Air Quality Action Plan (2024-2029), showing progress made this year.

2024 is the year of the development of a new air quality action plan for Sutton, which will be implemented over the next 5 years.

Therefore, updates on the actions included in the table are limited as the first year of implementation has not concluded; updates will be provided where available in this report. The actions provided within Table M will be formatted in *italics* where an update (interim or otherwise) has been provided. The first full update of this new action plan will come in 2026 with the publication of the 2025 annual progress report. Actions developed from the old action plan are also identified within the table.

Table M. Delivery of Air Quality Action Plan Measures

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
14	Public health and awareness raising	Encourage safe active travel over car use by preserving safe routes to school	Ongoing	Sustainable Transport	<ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints <p>Use of TfL Safer Corridors and Neighbourhoods LIP budget including Behaviour Change workstreams; 21 schemes proposed for 2024/25, further targets to be set annually as part of budget management processes.</p>
15	Public health and awareness raising	<i>Encourage safe active travel over car use by maintaining an effective Bikeability service offered to adults, families and all school across the</i>	Ongoing	Sustainable Transport	<i>Subject to TfL for funding, and other funding opportunities, the Council proposes to expand the Bikeability service to engage with 1200 unique children and 200 unique adults</i>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
		<i>borough</i>			<p><i>per year.</i></p> <p><i>Academic Year 2025-22026. Autumn Bikeability programme allocated already to instructors. Spring and summer bookings sent will be sent to instructors, Week 28 July</i></p>
23	Localised solutions	Undertake 'Neighbourhood Place Shaping' consultation with residents regarding the 'Safer and Healthier Streets' programme, developing and co-designing potential schemes as appropriate.	Ongoing	Sustainable Transport and Commissioning (Highways)	Two key areas - Worcester Park and Butter Hill - have currently been identified for further engagement in 2024 to consider traffic measures, including improvements for pedestrians and ways to manage through traffic levels. No specific measures have been designed yet, and will follow from the engagement in 2024/25 and beyond.
1	<i>Monitoring and other core statutory duties</i>	<i>Maintaining and where possible expanding air quality monitoring networks, and fulfilling other statutory duties such as reporting on progress</i>	<i>Ongoing through and beyond the period of this AQAP</i>	Regulatory Services (Pollution Control)	<p><i>Following the issues with the Wallington Monitor, the process of procurement has begun for replacement and relocation. Other monitors considered for upgrades include the monitors at Beddington Lane and Beddington Village. This process started at the end of 2024, but has been delayed to 2025 due to a change in the council's procurement processes.</i></p> <p><i>The council continues to be represented at</i></p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<p><i>working groups:</i></p> <ul style="list-style-type: none"> • MAQF London Wood Burning Project • MAQF Anti idling Project <p><i>Training was provided and attended by all officers on enforcement procedure in October 2024.</i></p>
2	<i>Emissions from developments and buildings</i>	<i>Ensuring emissions from construction are minimised</i>	<i>Ongoing through and beyond the period of this AQAP</i>	Planning	<p>Formerly action 19 of the 2019-24 AQAP Air Quality Assessments (incl AQN, and AQP statements where required) are required for 100% of major applications;</p> <p><i>Currently working on a method to record the number of construction logistics/environmental management plans are conditioned/received</i></p> <p><i>KPI: number of construction sites about which relevant complaints are received; 100% of complaints investigated within 3 working days.</i></p>
3	<i>Emissions from developments and buildings</i>	<i>Ensuring enforcement of non-road mobile machinery (NRMM) air quality policies</i>	<i>Ongoing through and beyond the period of this AQAP</i>	Regulatory Services (Pollution Control)	<p>Formerly action 20 of the 2019-24 AQAP A relevant code within our databases has been created to record this value. Due to</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
					<p><i>personnel changes in that team, the statistics currently remain unavailable to us.</i></p> <p><i>KPI: 100% of all relevant planning applications to include a condition requiring NRMM compliance; measured as a number per year.</i></p> <p><i>Sutton maintains subscription to the Pan-London NRMM Scheme; A quarterly list of active development sites to the NRMM enforcement project leads is provided.</i></p> <p><i>Compliance values are recorded in Table N.</i></p>
4	Emissions from developments and buildings	Reducing emissions from Combined Heat and Power (CHP)	Ongoing through and beyond the period of this AQAP	Planning	<p>Formerly action 21 of the 2019-24 AQAP</p> <p>100% of relevant applications to include appropriate conditions.</p> <p>Performance to be reported annually as standard in the Annual Status Report on air quality.</p>
5	Emissions from developments and buildings	Applying London Plan 2021 Air Quality Neutral policies to new major development.	Ongoing until next London Plan Update	Planning	<p>Formerly action 22 of the 2019-24 AQAP</p> <p>100% of relevant applications to include appropriate AQN conditions.</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
6	Emissions from developments and buildings	Urban Greening Factor requirement for relevant development in line with the London Plan; Maintenance plans for green infrastructure secured by planning condition.	Ongoing through and beyond the period of this AQAP	Planning	Formerly action 23 of the 2019-24 AQAP 100% of relevant applications to include appropriate conditions. All officers involved with major schemes to have received training on Healthy Streets Check and apply the checklist to all schemes
7	Emissions from developments and buildings	Ensuring Smoke Control Zones are fully promoted and enforced	Ongoing through and beyond the period of this AQAP	Pollution Control	Formerly action 25 of the 2019-24 AQAP <i>Officers continue to attend working groups for the London Wood burning Project 2024/25. Potential Smoke Control breaches are recorded along with case outcomes. The recording sheet was developed over 2024.</i> KPI: Suppliers of appliance and fuels visited or contacted regarding the sale of exempt appliances / authorised fuel - target 10 visits per year KPI 100% of complaints investigated within 3 working days, and appropriate enforcement action taken in accordance with our Enforcement Policy;

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
8	Emissions from developments and buildings	Promoting and delivering energy efficiency and energy supply retrofitting projects in workplaces and homes through EFL retrofit programmes such as RE:FIT, RE:NEW 'Sutton Healthy Homes' and through borough carbon offset funds.	2026	Property Service/Environment Project Officer	<p>Formerly action 26 of the 2019-24 AQAP Energy efficiency improvements delivered within Council's own buildings.</p> <p>KPIs: Percentage of Sutton Housing Partnership residential properties fitted with energy efficient boilers;</p> <p>15% of the borough's energy needs to be met from renewable or community sources by 2026.</p>
9	Emissions from developments and buildings	Ensure that planning and development within the borough are compliant with relevant planning policies (Air Quality Positive and Healthy Streets Approach) in relation to air quality in order to mitigate the potential impacts of development on air quality and to protect the health and amenity of the population.	Ongoing through and beyond the period of this AQAP	Planning	<p>Formerly action 23 of the 2019-24 AQAP Performance to be reported annually in the Annual Status Report on air quality.</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
10	Public health and awareness raising	Ensure that the Director of Public Health is fully briefed on the content of the Annual Status Reports on air quality in relation to the current situation in our local authority area, actions that have been taken thus far, and what is needed to reduce the health impacts of poor air quality in the future.	Annually after March 31st - in time for the ASR submission deadline.	Regulatory Services (Pollution Control)	Formerly action 27 of the 2019-24 AQAP Air Quality Action Plan signed off by the Director of Public Health Annual Status Reports to be reviewed by the Director of Public Health prior to publication. Air quality updates to be provided to the Director of Public Health through an Air Quality Working Group of officers that will meet a minimum of twice per year.
11	Public health and awareness raising	<i>Director of Public Health will be consulted on all relevant air quality projects to liaise with key stakeholders.</i>	<i>Ongoing through and beyond the period of this AQAP</i>	Public Health	Formerly action 28 of the 2019-24 AQAP <i>Sutton Air Quality Working Group, membership to be established in 2025</i> Air Quality to be further integrated into Sutton's Joint Strategic Needs Assessment
12	Public health and awareness raising	Promotion of availability of airTEXT air pollution alert system on the website, doctor's surgeries, hospitals, and schools. Mayor's air quality alerts to be disseminated using social media.	Ongoing	Regulatory Services (Pollution Control)	Formerly action 30 of the 2019-24 AQAP KPIs: <ul style="list-style-type: none"> • 10% year on year increase in the number of Sutton based registered users of airTEXT service; • Quarterly promotion of the airTEXT service through website, social media, NHS and other methods as appropriate.

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
					<ul style="list-style-type: none"> • Measured by the number of events where airTEXT promoted and the number of air quality alerts disseminated.
13	Public health and awareness raising	<i>Work with businesses to support their travel planning. Encourage schools to join the TfL Transport for Life STARS accredited travel planning programme</i>	Ongoing	Sustainable Transport	<p>Formerly actions 29 and 31 of the 2019-24 AQAP</p> <p><i>Schools with accredited travel plans in 2024/25 tbc but likely to be 23 schools with Gold accreditation, 1 with Bronze and two engaged on Travel for Life programme. No businesses engaged with travel planning due to lack of resources and funding.</i></p>
15	Public health and awareness raising	<i>Encourage safe active travel over car use by maintaining an effective Bikeability service offered to adults, families and all school across the borough</i>	Ongoing	Sustainable Transport	<p><i>Subject to TfL for funding, and other funding opportunities, the Council proposes to expand the Bikeability service to engage with 1200 unique children and 200 unique adults per year.</i></p> <p><i>Academic Year 2025-22026. Autumn Bikeability programme allocated already to instructors. Spring and summer bookings sent will be sent to instructors, Week 28 July</i></p>
16	Public health and awareness raising	<i>Promote green walking routes over car use</i>	Ongoing	Sustainable Transport	<i>Walking and cycling map developed and distributed to Sutton businesses and GP surgeries. Suggestions for new routes</i>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<p><i>including Avenue Verte suggested for reprint in 2026.</i></p> <p><i>AQ issues highlighted in Travel for Life engagement with all accredited schools taking part in AQ awareness and education.</i></p>
17	Public health and awareness raising	Air quality in and around schools	Ongoing - First Audit to be completed by the end of 2025	Regulatory Services (Pollution Control)/ Sustainable Transport / Public Health	<p>Formerly action 32 of the 2019-24 AQAP KPIs:</p> <p>Change in levels of awareness of air quality issues among the school community; measured through hands up surveys and engagement as part of School Street schemes.</p> <p>Change in modes of transport used to travel to / from school; linked to Action 13.</p> <p>Number of schools that have carried out an air quality audit and/or are using the toolkit of measures to improve air quality - targets linked to Action 13.</p>
18	<i>Delivery servicing and freight</i>	<i>Update of procurement policies to reduce pollution from logistics and servicing</i>	<i>Ongoing (currently in line with Sutton's Procurement Strategy 2023-2027)</i>	<i>Procurement & Commissioning</i>	<p>Formerly Action 14 of the 2019-24 AQAP</p> <p>This is now covered by Sutton's Sustainable Procurement Policy and Sustainable Procurement Strategy. As stated</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
					<p>in the strategy: <i>“Air quality priorities are chosen using an estimation of difficulty of implementation versus magnitude of potential impact on local air quality.</i></p> <p><i>The London Borough of Sutton has nine air quality priorities which are supported by the Action Plan:</i></p> <ul style="list-style-type: none"> • <i>Increase uptake of zero emission vehicles in the Borough's fleet. Review and update policies to guidance on scoring bidders for procurement projects who use low emission or electric vehicles more favourably. Aims to a fully zero emission vehicle waste fleet.”</i>
19	Delivery servicing and freight	Reducing emissions from deliveries to local businesses and residents	2024/25 and ongoing	Energy Manager / Head of FM Client / Climate Partnerships Manager	<p>On-street charging points delivered for residents and businesses; target 100 per year.</p> <p>Explore opportunities to work with industry partners to consolidate last mile parcel deliveries and reduce delivery vehicle</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
					mileage. Local lockers to be installed in up to 15 locations by the end of 2024/25.
20	Borough Fleet	<i>Reducing emissions from council fleets</i>	2025/2026	Procurement/ Sustainable Transport	<p>Formerly actions 17 & 18 of the 2019-24 AQAP</p> <p>5 vehicles replaced with EV/Hybrid through renewal of (non-Waste) Fleet Contract. Meals on Wheels and Inclusion Centre vehicles (12 vehicles) under review.</p> <p>This is also related to action 18, and procurement is conducted in line with Sutton's Procurement Strategy and Policy.</p>
21	Localised solutions	Expanding and improving green Infrastructure (GI)		Parks and Open Spaces	Bid for funding to provide green infrastructure.
22	Localised solutions	<i>Implement a programme of School Streets, working with residents and schools.</i>	<i>Ongoing through and beyond the period of this AQAP</i>	<i>Sustainable Transport and Commissioning (Highways)</i>	Formerly action 31 of the 2019-24 AQAP School Streets Phase 3 programme - consultation on one new school streets scheme complete. Awaiting final sign off for implementation.
24	Cleaner transport	Ensuring that Sustainable Transport and Air Quality policies and projects are integrated	Ongoing through and beyond the period of this AQAP	Pollution Control / Highways & Transport	Formerly action 2 of the 2019-24 AQAP Head of Highways and Sustainable Transport briefed on the Services' role in delivering air quality measures though an Air Quality

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
					<p>Working Group of officers that will meet a minimum of twice per year.</p> <p>Briefing prepared for officers on integrating air quality into transport policies and programmes by the end of 2026.</p>
25	Cleaner transport	Discouraging unnecessary idling by taxis and other vehicles	Ongoing through and beyond the period of this AQAP	Pollution Control / Parking Services / Sustainable Transport	<p>Formerly action 1 of the 2019-24 AQAP</p> <p>Mapping of complaints received will be ongoing so focus will be on reported hotspots. Investigate options for creating No Engine Idling Zone(s) around a school at peak times.</p>
26	Cleaner transport	<i>TfL are now proposing for the red bus fleet to be zero emission by 2030. The council will continue to lobby for earlier adoption in Sutton as changes caused by the Bus Review are implemented.</i>	2030	Highways & Sustainable Transport	<p>Formerly action 11 of the 2019-24 AQAP</p> <p>Roll out of cleaner buses on specific routes is normally carried out as each route comes up for re-tender. Ongoing work being carried out by TfL and operators</p>
27	Cleaner transport	<i>Continue to seek improvement to rail services in the borough including</i>	<i>Ongoing through and beyond the period of</i>	<i>Highways & Sustainable</i>	<i>Support for metroisation and other measures, including the Sutton Link tram scheme, is included as part of the ongoing LBS Local</i>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
		<i>metroisation, meaning a more frequent service.</i>	<i>this AQAP</i>	<i>Transport</i>	<i>Plan Review. The draft revised Local Plan will be released for consultation late in 2025.</i> <i>Measures for the London Cancer Hub are being developed by the relevant team.</i>
28	Cleaner transport	Deliver and monitor the Parking Strategy to identify any displacement activities and reduction in traffic	2029	Highways & Sustainable Transport and Parking Services	Displacement identified and measures implemented to manage the impact. To aid this understanding the borough have carried out before and after parking beat surveys at a number of locations to under the impacts where permit parking schemes have been introduced. Beat surveys will continue and will identify reductions in the level of vehicles in the area, and from that it is identified that there will have been local reductions in traffic volumes
29	Cleaner transport	Produce a new travel plan for council staff travel to, from and at work, including HR policies, travel allowances, the use of personal vehicles, pool and electric hire bikes, car clubs, lift sharing and public transport. Encourage partners to do	2025	Climate action and sustainability	Formerly Action 4 of the 2019-24 AQAP Travel plan to be completed by the end of 2026. Pool bike membership measured through uptake via induction for staff new to this service.

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
		<p>the same.</p> <p>As part of this work, review awareness and effectiveness of cycle to work salary sacrifice scheme and investigate the feasibility of a salary sacrifice scheme to support staff take up of electric (or other renewable fuels) vehicles.</p>			Uptake of the salary sacrifice scheme, electric bike hire, and car club membership measured through payroll.
30	Cleaner transport	<p><i>Encourage e-bike use by working with bike shops to promote offers on e-bikes, and promote to residents.</i></p>	Ongoing	Highways & Sustainable Transport / Climate Partnerships Manager	<p><i>The Forest e-bike contract is being extended by "variation" for a maximum period of six months to allow for a re-procurement across Sutton & Kingston boroughs. Increased usage provides the opportunity to include a profit-sharing option & the potential new contract requires Committee approval, resulting in delays to the initial time frame. Up to the end of June 2025, 332,424 journeys have been taken by Forest users in Sutton with an estimated saving of 55.87 tonnes CO2. In June 2025 the scheme recorded its busiest month with 29,296 trips being taken on Forest bikes; in October 2022, when the scheme launched, just 5101 trips took place.</i></p>
30.1	Cleaner transport	<i>Encourage workplaces to introduce electric cargo bikes as part of services/</i>	Ongoing	Highways & Sustainable	<i>Ourbike e-cargo bike scheme launched in June 2024 at the Cryer Arts Centre & in</i>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
		goods delivery.		Transport / Climate Partnerships Manager	<p><i>September 2024 at Sutton FC. Unfortunately, the Ourbike located at Sutton FC was stolen on two occasions and not recovered the second time. Under the lease, Ourbike replaced the cargo bike and it now has a new home at Sutton Riverside Centre. OurBike is based on a 'back-to-base' model which means the bike must always be returned to the location it was collected from. To integrate the bike into the local community the scheme uses a 'host' model whereby a local business will be the OurBike cargo bike 'host'. The OurBike host receives a number of benefits including free use of the bike for their business and branding on the cargo box in return for them managing the batteries. Uptake from local residents & businesses remains poor & following a recent meeting with Ourbike, they are promoting the opportunity for registered users to book a free training session with a Sutton Council Cycling Instructor to help build confidence and encourage use (Ourbike has agreed to allow instructors free access to the e-cargo bike during the training sessions).</i></p>
31	Cleaner transport	Build upon previous successes, securing funding to install electric	Ongoing until 2027	Highways & Sustainable	<p><i>At least 100 lamp column chargers are added every year.</i></p>

Measure	LLAQMP Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
		<p>vehicle charging points in residential roads and at key places across the borough where this supports a switch away from more polluting vehicles, with an aim to install 100 points a year.</p>		Transport	<p><i>Replacing concrete street lamp column stock will allow implementation of future EV charging points on street lamp columns</i></p> <p>Measured by the number and type of accessible electric vehicle charging points installed in the borough each year; there are no current targets for this activity.</p> <p>Measured by the number of electric vehicles registered to postcodes within the borough. Strategy and toolkit to be put in place to create targets in 2024/25.</p> <p>Progress on the electrification of the car club fleet throughout the lifetime of the new contract due to commence in 2024/25.</p>
32	Cleaner transport	<p>Provision of infrastructure to support walking and cycling</p> <p>Lobby for improvements in facilities to support walking and cycling on the Transport for London Road Network.</p>	Implement the Sustainable Transport Strategy 2020 - 2025	Highways & Sustainable Transport and Commissioning (Highways)/Principal Policy	<p>Formerly action 10 of the 2019-24 AQAP</p> <p>Progress is reported annually to the Environment and Sustainable Transport Committee.</p> <p>Full utilisation of TfL funding for transport</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
				Officer	<p>projects each year.</p> <p>E-bikes promotion including the dockless e-bike hire scheme through press releases, the Council website and in council social media. Measured by trip data and hires per day (against the number of bikes available). This is ongoing throughout the life of the Action Plan.</p>
33	Localised solutions	Expanding efforts and opportunities for Community Engagement	Ongoing through and beyond the period of this AQAP	Regulatory Services (Pollution Control)/ Sustainable Transport / Public Health / Communications	<p>This action is focused on encouraging community action on air pollution, by establishing a communication plan, and has direct links to other actions (12, 13, 17, 18, , 23, 25, 30, 34) within the table.</p> <p>Success may be measured in- Number of Community Groups Engaged; target 5:</p> <ul style="list-style-type: none"> - Not limited to those which have an environmental focus <p>Number of Schools engaged; target 10:</p> <ul style="list-style-type: none"> - Anti-Idling - Clean Air Poster competitions - Information leaflets and/or

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
					assemblies Publicising Air Quality Related events; minimum 3: <ul style="list-style-type: none"> - Numbers of people engaging with social media posts on X, Facebook, Instagram etc. - Number of enquiries regarding events
34	Public health and awareness raising	Empowering communities, residents, and volunteers in taking action on poor Air Quality	Ongoing through and beyond the period of this AQAP	Regulatory Services (Pollution Control)/ Sustainable Transport / Public Health / Communications	Promoting opportunities e.g., Breathe London Community Programme, and the Asthma and Lung UK air quality monitoring project. Target linked to the <i>NEW (Localised Solutions)</i> action Providing guidance and support to groups wanting to take a proactive approach to the reduction of air pollution. We will aim to address 100 % of all requests. Assess the feasibility and viability of Sutton specific physical (Doctors Surgeries and Health centres, Schools, community/church halls etc.), and digital (Sutton Council Website, social media channels etc.) air

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
					<p>quality information hubs, with the aim of implementing 2 hubs (one physical, one digital) over the course of the AQAP period.</p> <p>Measured by number of:</p> <ul style="list-style-type: none"> - website hits, - emails or newsletters distributed, - hard copy posters/leaflets distributed - social media interactions (as appropriate)

3 Planning Update and Other New Sources of Emissions

Table N. Planning requirements met by planning applications in the London Borough of Sutton in 2024

Condition	Number
Number of planning applications where an air quality impact assessment was reviewed for air quality impacts	<p>All major developments are assessed for air quality; including operational air quality, air quality neutral, and construction impacts.</p> <p><i>A relevant code within our databases has been created to record this value. Due to personnel changes in that team, the statistics currently remain unavailable to us. .</i></p>
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)	<p>All major developments with demolitions and Air Quality Dust Management Plans perform monitoring, visual or otherwise.</p> <p>Our database is not currently set up to record the number of sites, however when data is requested, it is generally by contractors in a pdf report, or spreadsheet file.</p>
Number of CHPs/Biomass boilers refused on air quality grounds	<p>0</p> <p>(context: no applications were submitted which included CHP/Biomass)</p>
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.	<p>0</p> <p>(context: no applications were submitted which included CHP/Biomass)</p>
Number of developments required to install Ultra-Low NOx boilers	<p>This information is not collected.</p> <p>All developments are required to install boilers with NOx emissions below 40 mg/kWh, in adherence to the London Plan 2021</p>
Number of developments where an AQ Neutral building and/or transport assessments undertaken	<p>285 planning applications were assessed by the pollution control team in 2024 –</p> <p>All sites are required to either be AQ neutral or exempt, and are assessed for this.</p> <p><i>A relevant code within our databases has been created to record this value. Due to personnel changes in that team, the statistics currently remain unavailable to us. .</i></p>
Number of developments where the AQ Neutral building and/or transport assessments not meeting the benchmark and so required to include additional mitigation	<p><i>We currently do not collect this information.</i></p>
Number of planning applications with S106 agreements including other requirements to improve air quality	<p>0</p> <p>(context: no applications were submitted which included CHP/Biomass)</p>

Condition	Number
Number of planning applications with CIL payments that include a contribution to improve air quality	0 (context: no applications were submitted which included CHP/Biomass)
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 programme)	Sutton has no relevant developments in Opportunity Areas
% of sites unregistered prior to audit	
% of sites compliant	
with Stage IV of the Directive and/or exemptions to the policy.	
NRMM: Greater London (excluding Central Activity Zone, Canary Wharf and Opportunity Areas)	
Number of planning applications with conditions related to NRMM included.	12 audits; 4 cold engaged
Number of developments registered at www.nrmm.london .	11 sites self-compliant
Number of audits (based on the pan-London project report and / or inhouse auditing programme) % of sites unregistered prior to audit	11 registered
% of sites compliant with	1 site with no NRMM
Stage IIIB of the Directive and/or exemptions to the policy.	<i>A relevant code within our databases has been created to record the number of NRMM conditions applied; due to personnel changes in that team, the statistics currently remain unavailable to us.</i>

The London Borough of Sutton Planning Department consults the Pollution Control Team on all major planning applications as well as some non-major applications that are likely to be of interest. Applications are reviewed by officers within the team in respect of contaminated land, noise and air quality. Typically, one officer coordinates the team's response and records data such as the air quality conditions that were recommended.

3.1 New or significantly changed industrial or other sources

No new or significantly changed sources identified in 2024

4 Additional Activities to Improve Air Quality

4.1 London Borough of London Borough of Sutton Fleet

There are currently 5 zero emission and zero emission capable vehicles within the borough's fleet.

4.2 Planning Enforcement

The enforcement of air quality conditions is largely the responsibility of the Planning Enforcement Team unless environmental nuisance issues arise. However, NRMM enforcement is carried out by the LB Merton-led pan-London NRMM enforcement project, funded by the Mayor's Air Quality Fund with Borough contributions.

4.3 Pan-London NRMM Auditing Project

London Borough of Sutton will continue to support the NRMM Enforcement project in 2024-25.

The council uses planning conditions to enforce NRMM requirements on construction sites;

“NRMM”

All Non-Road Mobile Machinery (NRMM) of net power of 37kW and up to and including 560kW used during the course of the demolition, site preparation and construction phases shall comply with the emission standards as published on the NRMM Website (<https://nrmm.london/>). Unless it complies with the standards set out on the website, no NRMM shall be on site, at any time, whether in use or not, without the prior written consent of the local planning authority. The developer shall keep an up to date list of all NRMM used during the demolition, site preparation and construction phases of the development on the online register at <https://nrmm.london/>”

and some conditions for NRMM (e.g. generators) in an operational site is being adapted and trialled;

“Prior to the occupation of the development hereby permitted, a report with details of the combustion plant in order to mitigate air pollution shall be submitted to and approved in writing by the council. The report shall include the following:

- a) *Details to demonstrate that the termination height of the Flue stack for the combustion Plant has been installed a minimum of 2 metres above any openable window and/or roof level amenity area*

- b) *Details of emissions certificates, and the results of NOx and PM10 emissions testing of each Emergency Diesel Generator Plant and associated abatement technologies including Diesel Particulate Filters (DPF) shall meet a minimum dry NOx emissions standard of 100 mg/Nm³ (at 15% O₂) respectively by an MCERTS accredited organisation shall be provided following installation and thereafter on an annual basis to verify compliance of the relevant emissions standards in part b). The DPF particulate emissions abatement system must achieve a value less than 0.015 g/kWh and a minimum reduction of 95% in the weighted engine-out brake-specific PM mass emissions. Where any combustion plant does not meet the relevant emissions Standards in part b) above, it should not be operated without the fitting of suitable secondary NOx abatement Equipment or technology as determined by a specialist to ensure comparable emissions.*
- c) *Details to demonstrate where secondary abatement is used for the Emergency Diesel Generator the relevant emissions standard in part b) is met within 10 minutes of the generator commencing operation. During the operation of the emergency Diesel generators there must be no persistent visible emission. The maintenance and cleaning of the systems shall be undertaken regularly in accordance with manufacturer specifications. The diesel fuelled generators shall only be used for a maximum of 24 hours when there is a sustained interruption in the mains power supply to the site, and the testing of these diesel generators shall not exceed a maximum of 12 hours per calendar year.*

Approved details shall be fully implemented prior to the occupation/use of the development and thereafter permanently retained and maintained.”

The above wording is applied in decision notices.

All sites in Greater London are subject to NRMM conditions in accordance with the guidance provided by the Greater London Authority (GLA).

4.4 Air Quality Alerts

The Council website promotes the AirTEXT service as well as recommends ways in which residents can reduce their exposure to and emissions of, air pollution. The Council has also shared pollution episode alerts from the GLA forecasting service.

4.5 Air Quality Positive

Large major developments (i.e. >200 dwellings) are required to submit Air Quality Positive statements in accordance with the London Plan 2021, following the criteria set out in the latest guidance; currently the Air Quality Positive LPG (London Plan Guidance), published in February 2023 is the standard by which all statements are assessed.

Appendix A Details of Monitoring Site Quality QA/QC

A.1 Automatic Monitoring Sites

The Council's monitoring stations are routinely calibrated, serviced and audited to ensure data is as accurate as possible. Monthly calibration and servicing is performed by Matt's Monitors. Ricardo Energy and Environment perform site audits and data management to national standards and the operational procedures defined by AURN. Audits were carried out in June and December 2024, and data subsequently ratified.

All minor monitor faults occurring in 2024 were able to be addressed in a manner that did not have a significant impact on annual data collection.

The Wallington Monitor (ST4) experienced an equipment failure, which had a significant impact on data collection at this location; no data has been collected at this site since June 2024. It has been decided that the monitor is not repaired in its current location, which is very close to a bus stop. This monitoring site is in the process of being relocated, upgraded and replaced.

PM₁₀ Monitoring Adjustment

The monitoring stations in the London Borough of Sutton are serviced and calibrated by Matt's Monitors, and the data is collected and managed (including ratification) by Ricardo.

A.2 Diffusion Tubes

The diffusion tubes used by the Royal Borough of Kingston upon Thames are supplied and analysed by Gradko utilising the 20% triethanolamine (TEA) in water preparation method. A bias adjustment factor of 0.84 for the year 2024 has been derived from the national bias adjustment calculator dated June 2025.

The Royal Borough of Kingston upon Thames did not conduct any co-location studies in 2024, so it was not possible to calculate a local adjustment factor. As a result, the national adjustment factor of 0.84 is applied to diffusion tube monitoring results in this report.

Gradko International Ltd is a UKAS-accredited laboratory and participates in laboratory performance and proficiency testing schemes. These provide strict performance criteria for participating laboratories to meet, thereby ensuring NO₂ concentrations reported are of a high calibre. The lab follows the procedures set out in the Harmonisation Practical Guidance. Gradko previously participated in the Workplace Analysis Scheme for Proficiency (WASP) for NO₂ diffusion tube analysis Page 38 and the Annual Field Inter Comparison Exercise. In April 2014, a new scheme, AIR PT13, was introduced. This is an independent analytical proficiency-testing (PT) scheme operated by LGC Standards and supported by the Health and Safety Laboratory (HSL). AIR PT combines two long-running PT schemes: LGC Standards STACKS PT scheme and HSL WASP PT scheme.

Laboratory performance in AIR PT is also assessed by the National Physical Laboratory (NPL) alongside laboratory data from the monthly NPL Field Intercomparison Exercise carried out at Marylebone Road, central London. A laboratory is assessed and given a 'z' score. A score of 2 or less indicates satisfactory laboratory performance.

Gradko International Ltd.'s performance for 2024 for 100% of samples submitted by Gradko was deemed satisfactory.

The laboratory has also achieved a "good" precision result for 2024. Tubes are considered to have "good" precision where the coefficient of variation of duplicate or triplicate diffusion tubes for eight or more periods during the year is less than 20%, and the average CV of all monitoring periods is less than 10%.

Discussion of Choice of Factor to Use

Using the most recent national bias adjustment data (Version 06/24), a bias adjustment factor of 0.84 has been applied to all the diffusion tubes in the 2024 calendar year. For comparison, in 2023 a national bias adjustment factor of 0.81 was

used. The relevant examples were selected using the spreadsheet workflow by using the same laboratory, and preparation method. A local bias adjustment was not used as there are no co-located diffusion tubes. Details are shown in Table O. The bias adjustment factor obtained from the LAQM Support Website at: <https://laqm.defra.gov.uk/biasadjustment-factors/national-bias.htm>

Table O. Bias Adjustment Factor

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2024	National	06/25	0.84
2023	National	06/24	0.81
2022	National	06/23	0.84
2021	National	03/22	0.84
2020	National	03/21	0.81
2019	National	03/20	0.93
2018	National	03/19	0.93
2017	National	03/18	0.89

National Diffusion Tube Bias Adjustment Factor Spreadsheet				Spreadsheet Version Number: 06/25						
Follow the steps below in the correct order to show the results of relevant co-location studies										
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods				Sheet will be updated at the end of September						
Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet										
This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.				LAQM Helpdesk Website						
The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.				Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.						
Step 1:	Step 2:	Step 3:	Step 4:							
Select the Laboratory that Analyses Your Tubes from the Drop-Down List	Select a Preparation Method from the Drop-Down List	Select a Year from the Drop-Down List	Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor ³ shown in blue at the foot of the final column.							
If a laboratory is not shown, we have no data for this laboratory.	If a preparation method is not shown, we have no data for this method at this laboratory.	If a year is not shown, we have no data for this year at this laboratory.	If you have your own co-location study then see footnote ⁴ . If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953							
Analysed By ¹	Method ²	Year ³	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (mg/m ³)	Automatic Monitor Mean Conc. (Cm) (mg/m ³)	Bias (B)	Tube Precision ⁶	Bias Adjustment Factor (A) (Cm/Dm)
Gradiko	20% TEA in water	2024	R	Worcestershire	12	12	12	-3.4%	G	1.04
Gradiko	20% TEA in water	2024	R	Cheshire West And Chester	12	33	27	21.7%	G	0.82
Gradiko	20% TEA in water	2024	R	Cheshire West And Chester	11	30	27	12.9%	G	0.89
Gradiko	20% TEA in water	2024	R	The Highland Council	12	19	18	6.9%	G	0.94
Gradiko	20% TEA in water	2024	R	The Highland Council	11	15	11	35.3%	G	0.74
Gradiko	20% TEA in water	2024		Overall Factor ³ (31 studies)				Use		0.84

A.3 Adjustments to the Ratified Monitoring Data

Short-term to Long-term Data Adjustment

In 2024, one automatic air quality monitoring site in the London Borough of Sutton required annualisation.

The Wallington Monitor (ST4) experienced an equipment failure, which had a significant impact on data collection at this location; no data has been collected at this site since June 2024. It has been decided that the monitor is not repaired in its current location, which is very close to a bus stop. This monitoring site is in the process of being relocated, upgraded and replaced.

No diffusion tube air quality monitoring sites in the London Borough of Sutton required annualisation.

Distance Adjustment

No distance adjustment was required for annual diffusion tube data collected for 2024.

Table Q. Automatic NO₂ Monitoring Data Adjustment

Background Site	Annual Data Capture (%)	Annual Mean (A _m)	ST4							
			Period Mean (P _m)	Ratio (A _m / P _m)	Period Mean (P _m)	Ratio (A _m / P _m)	Period Mean (P _m)	Ratio (A _m / P _m)	Period Mean (P _m)	Ratio (A _m / P _m)
Westminster	98.3	20.1	19.9	1.008						
N. Kensington	99.1	15.4	15.7	0.980						
Hillingdon	99.1	23.5	23.5	0.996						
Average (R_a)			0.995							
Raw Data Annual Mean (M)			35.223							
Annualised Annual Mean (M x R_a)			35.029							

Table R. Automatic PM₁₀ Monitoring Data Adjustment

Background Site	Annual Data Capture (%)	Annual Mean (A _m)	ST4							
			Period Mean (P _m)	Ratio (A _m / P _m)	Period Mean (P _m)	Ratio (A _m / P _m)	Period Mean (P _m)	Ratio (A _m / P _m)	Period Mean (P _m)	Ratio (A _m / P _m)
Honor Oak Park	99.6	10.7	10.3	1.041						
N. Kensington	99.6	11.9	11.2	1.060						
Hillingdon	99.7	12.9	12.9	1.000						
Average (R_a)			1.034							
Raw Data Annual Mean (M)			18.3							
Annualised Annual Mean (M x R_a)			19.0							

Appendix B Full Monthly Diffusion Tube Results for 2024

Table U. NO₂ 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 (0.84)	Annual Mean: Distance Corrected to Nearest Exposure
ST21	525567	166291	24.1	20.6	19.9	13.7	16.3		13.3	13.2		21.0	23.7	20.3	18.6	15.6	
ST22	525063	162474	23.8	23.1	29.0	18.7	19.7	17.6	17.5	16.4	34.5	22.1	23.4	20.6	22.2	18.7	
ST23	529734	163868	29.7	22.4	21.9	18.0	21.6	16.8	16.5	14.8	20.5	25.5	26.8	20.0	21.2	17.8	
ST24	530130	165404	25.9	18.3	18.7	15.7	19.2	14.3	14.2	12.3	19.5	22.5	21.0	19.2	18.4	15.5	
ST25	523874	165683	24.1	20.5	18.9	14.3	15.9	14.7	14.0	12.8	17.8	20.0	26.3	20.2	18.3	15.4	
ST26	527683	164663	27.2	21.1	23.2		22.6	20.2	19.6	18.4	23.9	20.4	28.3	25.1	22.8	19.1	
ST07	528401	166038	24.0	15.5			14.4	10.6	10.5	10.4	17.1	17.8	20.4	18.1	15.9	13.3	
ST08	527786	165021	23.1	18.0	17.2	13.4	15.2	11.7	11.8	8.8	16.6	18.8			15.5	13.0	
ST29	528339	164615	35.5	33.5	34.9	24.2	35.9	30.3	26.0	23.1	34.5	35.9	37.6	31.7	31.9	26.8	
ST10	527284	165778	19.0	14.3	14.6	9.4	11.0	8.4		8.6	12.8	15.3	16.5	15.6	13.2	11.1	
ST11	529835	165041	22.9	20.4	17.3		16.4	12.6	13.9	11.8	15.6	19.1	21.0	19.9	17.3	14.6	
ST32	525184	165845	20.5	15.5	17.4	11.1	15.2	9.9	11.5	11.2	15.9	17.0	20.7	15.0	15.1	12.7	
ST33	526021	164025	32.3		23.3	23.3	28.0	22.1	22.5	19.8	26.4		30.5	26.0	25.4	21.4	
ST34	525772	165118	33.8	37.2	32.5	29.4	30.1	29.8	31.6	29.7	31.9	33.0	37.7	26.8	32.0	26.8	
ST35	524782	165167	24.2	20.7	22.3	15.5	17.1	14.0	15.0	14.5	19.0	21.7	23.7	21.9	19.1	16.1	
ST36	530645	164839	28.7	22.2	23.1	18.8	22.3	18.4	18.2	17.0	21.7	24.7	29.9	21.7	22.2	18.7	
ST27	525691	164599	35.5	25.3	33.1	20.7	24.8	19.4	20.2	16.6	25.9	28.7	31.1	24.8	25.5	21.4	
ST38	526046	163636	29.1	25.1	23.9	20.9	25.6	20.1	19.3		24.8	23.3	29.7	22.8	24.1	20.2	
ST39	526019	166469	41.1	35.1	33.3	34.2	40.4	35.9	33.2	31.5	38.0	31.3	41.0	33.6	35.7	30.0	
ST40	524357	163599	32.6	32.5	25.1		34.9	29.0	30.3	31.5	21.3	33.3	35.7	30.4	30.6	25.7	
ST42	526605	165364	19.6	14.3	15.2	9.4	10.3		8.2	9.0	13.1	13.0		13.3	12.5	10.5	

ST43	525883	162518	25.9	22.9	19.4	17.9	19.4	17.4	17.0	16.6	23.3	25.0	25.9	21.8	21.0	17.7	
H1	528359	166067	34.2	29.7	30.0	25.1	30.9	25.0	25.6	25.7	32.2	32.1	38.4	30.6	30.0	25.2	
H2	528437	166275	23.2	20.4	21.2	12.9	15.3	13.4	14.7	14.7	16.6	20.6	22.6	19.5	17.9	15.1	
H3	528637	166021	39.9		39.8	32.8	31.2	30.3	33.5	33.3	33.7	36.3	39.2	33.4	34.9	29.3	
BL	529400	167235		35.8	32.9	26.0		24.1	29.7	25.6	27.3	30.3	33.8	26.7	29.2	24.5	

All erroneous data has been removed from the NO₂ diffusion tube dataset presented in Table R.

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

The London Borough of Sutton confirms that all 2024 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System

Notes:

Exceedances of the NO₂ annual mean objective of 40µg m⁻³ are shown in **bold**.

NO₂ annual means exceeding 60µg m⁻³, indicating a potential exceedance of the NO₂ 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 5-A Map of Non-Automatic Monitoring Site(s)

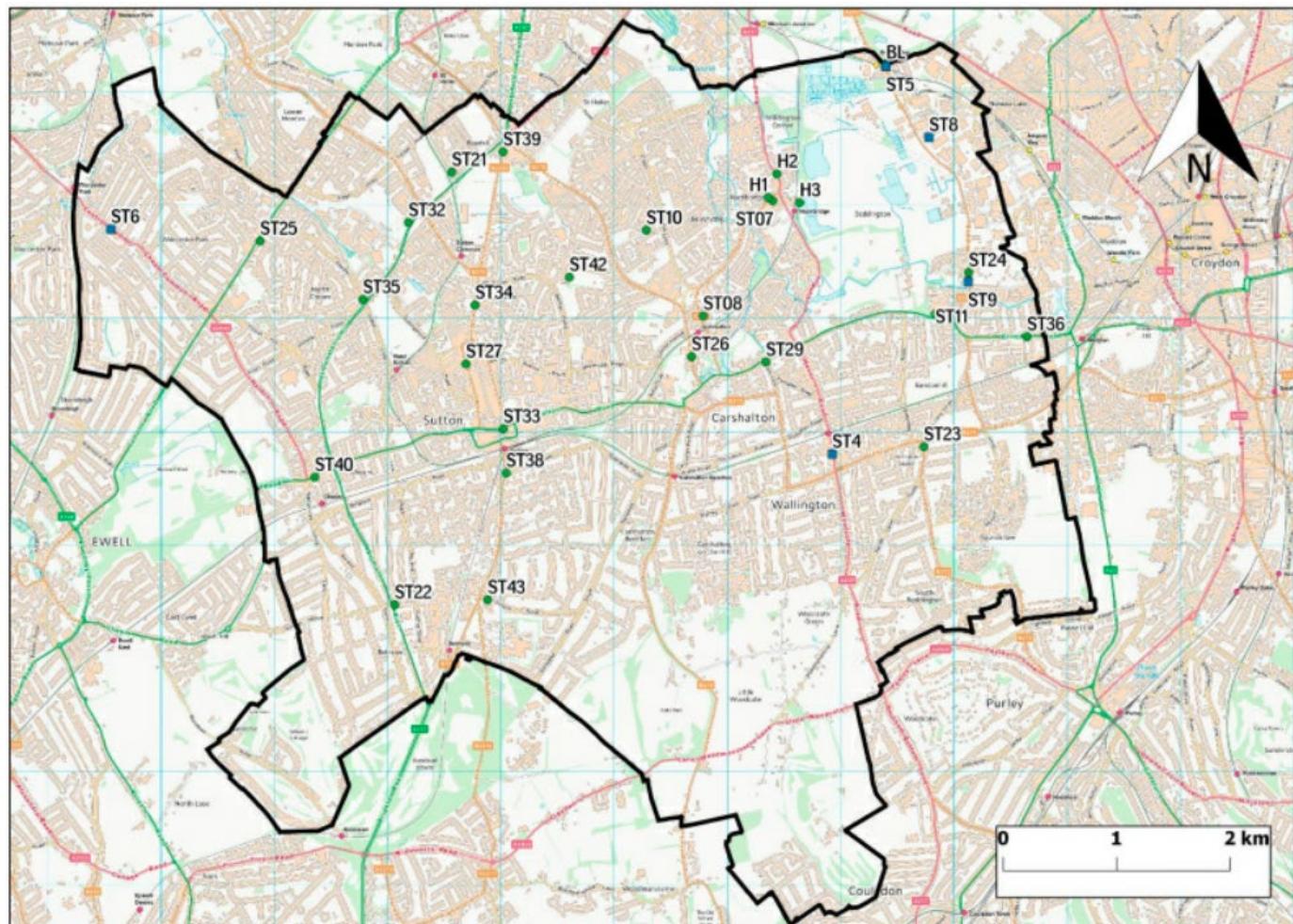
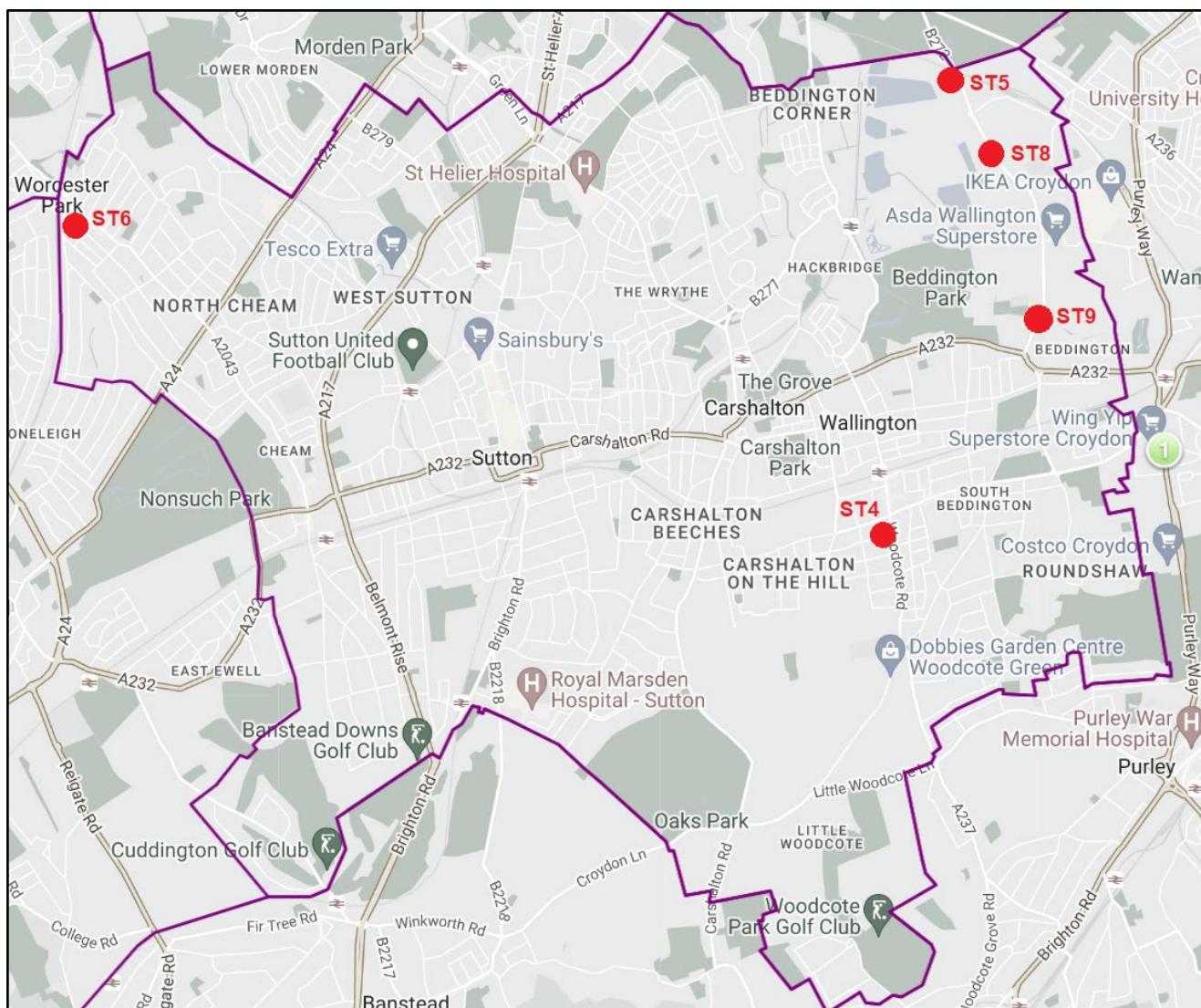


Figure 5-B Map of Automatic Monitoring Site(s)





LONDON BOROUGH OF
TOWER HAMLETS

AIR QUALITY ANNUAL STATUS REPORT 2024



Date of Publication: _____

This report provides a detailed overview of air quality in London Borough of Tower Hamlets during 2024. It has been produced to meet the requirements of the London Local Air Quality Management (LLAQM) statutory process¹.

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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 not 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) ⁽²⁾	Inlet Height (m)
TH2 and TH2P	Mile End ⁽¹⁾	Roadside	535927	182221	NO ₂ , NO, NO _x , PM _{2.5}	YES	Whole Borough AQMA	Chemiluminescence; BAM for PM _{2.5}	1m (offices) (40m residential)	3	3
TH004	Blackwall	Roadside	538290	181452	NO ₂ , NO, NO _x , PM _{2.5} , PM ₁₀ , O ₃	YES	Whole Borough AQMA	Chemiluminescence; UV photometric; FDMS TEOM (for PM)	29m (residential)	3	3
TH002	Victoria Park	Background	536487	184238	NO ₂ , NO, NO _x , PM _{2.5} , PM ₁₀	YES	Whole Borough AQMA	Chemiluminescence; BAM for PM _{2.5} and PM ₁₀	290m (residential)	300	2
TH001	Millwall Park	Background	538052	178559	NO ₂ , NO, NO _x , PM ₁₀ , O ₃	YES	Whole Borough AQMA	Chemiluminescence; BAM UV absorption	60m (residential)	60	1.5
TH005	King Edward Memorial Park (KEMP) ⁽²⁾	Roadside	535384	180752	NO _x , NO ₂ PM _{2.5}	YES	Whole Borough AQMA	T200 Chemiluminescence; BAM 1020	12m (residential)	2	1.5

Notes:

(1) Mile End: BAM PM 2.5 monitor installed in 2019

(2) King Edward Memorial Park: Installed in May 2023

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)
1	Colombia Rd / Gossett Street	Kerbside	533883	182815	NO ₂	Whole Borough AQMA	5	0.5	N	2.4
2	Calvert Ave / Boundary Street	Kerbside	533507	182569	NO ₂	Whole Borough AQMA	4	0.5	N	2.3
3	Bethnal Green Rd / Brick Lane	Kerbside	533860	182442	NO ₂	Whole Borough AQMA	3	0.5	N	2.3
4	Commercial St / Calvin St	Kerbside	533611	182037	NO ₂	Whole Borough AQMA	7	0.5	N	2.4
5	Whitechapel High St (KFC)	Kerbside	533985	181426	NO ₂	Whole Borough AQMA	3	0.5	N	2.3
6	Mansell St	Kerbside	533800	181021	NO ₂	Whole Borough AQMA	6	0.5	N	2.2
7	St Katherine's Way	Roadside	533992	180376	NO ₂	Whole Borough AQMA	10	10	N	2.3
8	Wapping High St / Sampson St	Kerbside	534444	180122	NO ₂	Whole Borough AQMA	3	0.5	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)
9	Cartwright Street	Kerbside	533955	180805	NO ₂	Whole Borough AQMA	5	0.5	N	2.4
10	Whitechapel Rd / Adler St	Kerbside	534133	181509	NO ₂	Whole Borough AQMA	6	0.5	N	2.3
11	Brick Lane / Princelet St	Kerbside	533866	181860	NO ₂	Whole Borough AQMA	5	0.5	N	2.3
12	Buckfast St / Bethnal Green Rd	Kerbside	534259	182580	NO ₂	Whole Borough AQMA	4	0.5	N	2.5
13	Squirries St / Gosset St	Kerbside	534313	182810	NO ₂	Whole Borough AQMA	4	0.5	N	2.3
14	Warner Place/Hackney Rd	Kerbside	534255	183130	NO ₂	Whole Borough AQMA	17	0.5	N	2.4
15	Parmiter St / Cambridge Heath Road	Kerbside	534881	183240	NO ₂	Whole Borough AQMA	4	0.5	N	2.2
16	Paradise Row / Bethnal Green Rd	Kerbside	534959	182757	NO ₂	Whole Borough AQMA	3	0.5	N	2.3
17	Finnis St / Three Colts Lane	Kerbside	534783	182385	NO ₂	Whole Borough AQMA	2	0.5	N	2.2

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)
18	Sidney St / Mile End Rd	Roadside	534968	181878	NO ₂	Whole Borough AQMA	6	2	N	2.3
19	Philpot St / Commercial Road	Kerbside	534816	181321	NO ₂	Whole Borough AQMA	8	0.5	N	2.3
20	Dellow St / The Highway	Roadside	534951	180779	NO ₂	Whole Borough AQMA	4	2	N	2.2
21	Queensbridge Rd / Hackney Rd	Kerbside	533985	183122	NO ₂	Whole Borough AQMA	4	0.5	N	2.2
22	Wapping Wall / Garnet St	Kerbside	535133	180376	NO ₂	Whole Borough AQMA	3	0.5	N	2.4
23	Brodlow Lane	Kerbside	535598	180816	NO ₂	Whole Borough AQMA	3	0.5	N	2.2
24	Jubilee Street / Commercial Rd	Kerbside	535174	181290	NO ₂	Whole Borough AQMA	5	0.5	N	2.3
25	Cavell St / Stepney Way	Kerbside	534884	181667	NO ₂	Whole Borough AQMA	20	1	N	2.3
26	Hannibal Rd / Mile End Rd	Kerbside	535386	182021	NO ₂	Whole Borough AQMA	3	0.5	N	2.2

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)
27	Roman Rd / Globe Road	Kerbside	535296	182793	NO ₂	Whole Borough AQMA	12	0.5	N	2.2
28	Bonner Road	Kerbside	535356	183223	NO ₂	Whole Borough AQMA	7	0.5	N	2.7
29	Grove Rd / Old Ford Rd	Kerbside	535930	183385	NO ₂	Whole Borough AQMA	12	0.5	N	2.4
30	Fieldgate Street	Kerbside	534239	181565	NO ₂	Whole Borough AQMA	8	0.5	N	2.3
31	Whitechapel Market	Roadside	534516	181744	NO ₂	Whole Borough AQMA	15	1.5	N	2.2
32	Globe Rd / Mile End Rd	Kerbside	535634	182148	NO ₂	Whole Borough AQMA	4	0.5	N	2.3
33	Stepney Green	Urban background	535545	181604	NO ₂	Whole Borough AQMA	30	15	N	2.4
34	Pitsea St / Commercial Rd	Kerbside	535797	181164	NO ₂	Whole Borough AQMA	4	0.5	N	2.3
35	Narrow St / Limehouse Link	Roadside	535977	180879	NO ₂	Whole Borough AQMA	15	1.5	N	2.6

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)
36	Locksley St / St Paul's Way	Kerbside	536704	181647	NO ₂	Whole Borough AQMA	40	0.5	N	2.9
37	Rhodeswell Rd	Kerbside	536577	181379	NO ₂	Whole Borough AQMA	40	1	N	2.4
38	Ben Johnson Road	Kerbside	536080	181721	NO ₂	Whole Borough AQMA	4	0.5	N	2.6
39	Harford St / Mile End Rd	Roadside	536089	182258	NO ₂	Whole Borough AQMA	3	1.5	N	2.2
40	Thoydon Rd	Kerbside	536105	183049	NO ₂	Whole Borough AQMA	7	0.5	N	2.4
41	Ford Close / Roman Rd	Roadside	536457	183301	NO ₂	Whole Borough AQMA	2	1.5	N	2.3
42	Victoria Park (Co-location site)	Urban background	536494	184170	NO ₂	Whole Borough AQMA	330	320	Y	2.1
43	Victoria Park (Co-location site)	Urban background	536494	184170	NO ₂	Whole Borough AQMA	330	320	Y	2.1
44	Parnell Rd/Old Ford Rd	Kerbside	536875	183740	NO ₂	Whole Borough AQMA	4	0.5	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)
45	St Stephen's Rd / Tredegar Rd	Kerbside	536713	183070	NO ₂	Whole Borough AQMA	3	0.5	N	2.3
46	Rhondda Grove / Mile End Rd	Kerbside	536542	182589	NO ₂	Whole Borough AQMA	5	0.5	N	2.5
47	Wentworth Mews	Kerbside	536452	182454	NO ₂	Whole Borough AQMA	15	0.5	N	2.5
48	Ackroyd Drive	Kerbside	536768	181772	NO ₂	Whole Borough AQMA	40	0.5	N	2.5
49	Dod St / Burdett Rd	Kerbside	537049	181292	NO ₂	Whole Borough AQMA	5	0.5	N	2.5
50	Rich Street	Roadside	536937	180987	NO ₂	Whole Borough AQMA	3	1.5	N	2.2
51	Watney Market	Roadside	534938	181257	NO ₂	Whole Borough AQMA	10	15	N	2.2
52	Wick Lane / Autumn St	Kerbside	537304	183619	NO ₂	Whole Borough AQMA	3	0.5	N	2.4
53	Fairfield Road / Tredegar Road	Kerbside	537159	183415	NO ₂	Whole Borough AQMA	4	0.5	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)
54	Bow Rd / Glebe Terrace	Kerbside	537525	182887	NO ₂	Whole Borough AQMA	5	0.5	N	2.4
55	TH Cemetery Park	Roadside	536732	182361	NO ₂	Whole Borough AQMA	15	5	N	2.5
56	Bow Common Lane / St Paul's Way	Kerbside	537248	181820	NO ₂	Whole Borough AQMA	30	0.5	N	2.3
57	Augusta St / Giraud St	Kerbside	537516	181392	NO ₂	Whole Borough AQMA	15	1	N	2.4
58	Dolphin Lane	Kerbside	537539	180688	NO ₂	Whole Borough AQMA	7	1	N	2.9
59	Westferry Road / Limehouse Link Jnct	Kerbside	537100	180791	NO ₂	Whole Borough AQMA	7	1	N	2.2
60	Cascades, Westferry Road	Kerbside	537115	180074	NO ₂	Whole Borough AQMA	18	0.5	N	2.4
61	Bow Rd / Alfred St	Kerbside	537056	182773	NO ₂	Whole Borough AQMA	6	0.5	N	2.4
62	Mast House Terrace	Kerbside	537348	178690	NO ₂	Whole Borough AQMA	5	0.5	N	2.7

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)
63	Millwall Park	Urban background	538246	178689	NO ₂	Whole Borough AQMA	300	250	N	2.3
64	Lime harbour	Kerbside	537953	179357	NO ₂	Whole Borough AQMA	10	0.5	N	2.2
65	Manchester Road / East Ferry Road	Kerbside	538032	178360	NO ₂	Whole Borough AQMA	2	0.5	N	2.3
66	Millwall Park	Urban background	538258	178689	NO ₂	Whole Borough AQMA	300	250	N	2.3
67	Seyssel Street	Kerbside	538544	178767	NO ₂	Whole Borough AQMA	15	0.5	N	2.3
68	Manchester Road / Ollife Street	Kerbside	538431	179044	NO ₂	Whole Borough AQMA	3	0.5	N	2.3
69	Lawnhouse Close	Kerbside	538190	179750	NO ₂	Whole Borough AQMA	30	0.5	N	2.3
70	Admirals Way	Kerbside	537424	179910	NO ₂	Whole Borough AQMA	15	0.5	N	2.3
71	Toynbee St / Commercial St	Roadside	533689	181705	NO ₂	Whole Borough AQMA	10	2	N	2.5

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)
72	Prestons Road / Coldharbour	Kerbside	538364	180188	NO ₂	Whole Borough AQMA	4	0.5	N	2.2
73	John Smith Mews	Kerbside	538742	180756	NO ₂	Whole Borough AQMA	10	0.5	N	2.3
74	Poplar High St / Cotton St	Kerbside	538244	180761	NO ₂	Whole Borough AQMA	10	0.5	N	2.2
75	Hale Street	Kerbside	537661	180768	NO ₂	Whole Borough AQMA	7	0.5	N	2.3
76	Chrissp Street / E India Dock Road	Kerbside	537940	181021	NO ₂	Whole Borough AQMA	20	0.5	N	2.7
77	Morris / Barchester Street	Kerbside	537731	181761	NO ₂	Whole Borough AQMA	4	0.5	N	2.5
78	Devons Road / Campbell Road	Kerbside	537577	182232	NO ₂	Whole Borough AQMA	10	0.5	N	2.4
79	Hatfield Terrace / Fairfield Road	Kerbside	537355	183059	NO ₂	Whole Borough AQMA	3	0.5	N	2.4
80	Wrexham Road	Kerbside	537581	183209	NO ₂	Whole Borough AQMA	3	0.5	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)
81	Bromley High Street / St Leonards	Kerbside	537868	182912	NO ₂	Whole Borough AQMA	5	0.5	N	2.4
82	Devas Street / Devons road	Kerbside	537821	182332	NO ₂	Whole Borough AQMA	7	0.5	N	2.4
83	Zetland Street / A12	Kerbside	538178	181747	NO ₂	Whole Borough AQMA	50	0.5	N	2.3
84	Blair Street (End of Street)	Roadside	538365	181180	NO ₂	Whole Borough AQMA	15	5	N	2.5
85	Portree Street	Kerbside	538895	181296	NO ₂	Whole Borough AQMA	4	0.5	N	2.3
86	Newport Avenue	Kerbside	538954	180872	NO ₂	Whole Borough AQMA	15	0.5	N	2.6
87	Mile End Road Corner Bancroft Rd	Kerbside	535929	182220	NO ₂	Whole Borough AQMA	30	0.5	N	2.3
88	Shirbutt St o/s Holy Family School	Kerbside	537555	180892	NO ₂	Whole Borough AQMA	10	0.5	N	2.3
89	Thames Path Storers Quay	Roadside	538730	178733	NO ₂	Whole Borough AQMA	4	10	N	2.3

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)
90	Sextant Avenue	Kerbside	538674	178888	NO ₂	Whole Borough AQMA	4	1	N	2.3
91	At the entrance of MOT station	Kerbside	539007	181146	NO ₂	Whole Borough AQMA	8	1.9	N	2.5
92	At the exit of MOT station	Roadside	538907	181127	NO ₂	Whole Borough AQMA	12	3.7	N	2.3
93	Millwall Park-North Greenwich Bowls Club (Co-location site)	Urban background	538016	178569	NO ₂	Whole Borough AQMA	60	60	Y	1.5
94	Millwall Park-North Greenwich Bowls Club (Co-location site)	Urban background	538016	178569	NO ₂	Whole Borough AQMA	60	60	Y	1.5

1.2 Comparison of Monitoring Results with AQOs

Table D. Annual Mean NO₂ 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
TH2 Mile End	535927	182221	Roadside	99.5	99.5	47	35	25	26	23	22	21.2
TH004 Blackwall	538290	181452	Roadside	99.6	99.6	51	47	39	37	28	28	30.6
TH002 Victoria Park	536487	184238	Background	99.4	99.4	26	24	17	16	17	15	13.8
TH001 Millwall Park	538052	178559	Background	99.5	99.5	23	24	17	17	20	17	14.0
TH005 King Edward Memorial Park ^c	535384	180752	Roadside	99.6	99.6	-	-	-	-	-	16	17.8

Notes:

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

Exceedances of the NO₂ annual mean AQO of 40 μg m⁻³ are shown in **bold**.

NO₂ annual means in excess of 60 µg m⁻³, indicating a potential exceedance of the NO₂ hourly mean AQS objective are shown in **bold and underlined**.

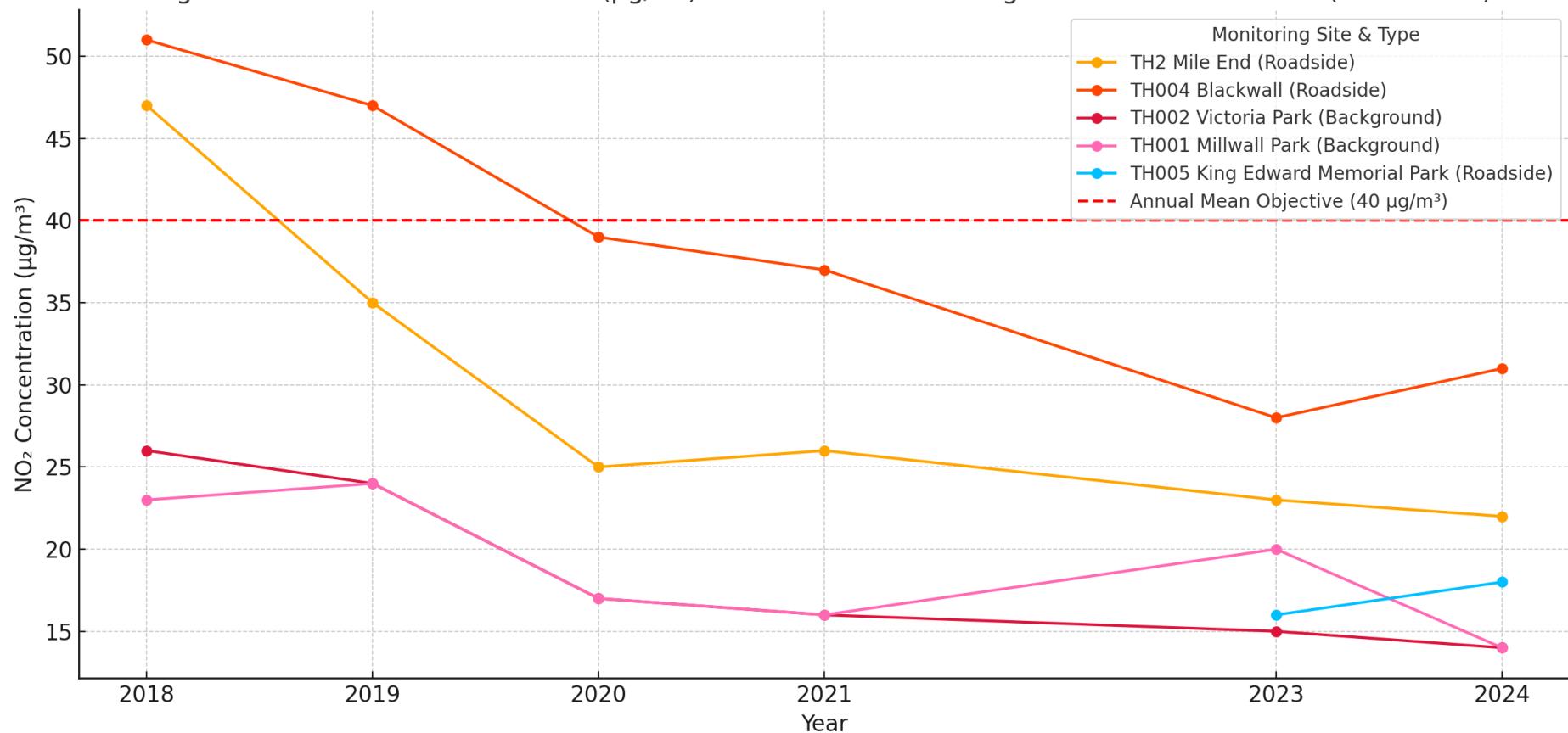
Means for diffusion tubes have been corrected for bias.

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%).
- (c) King Edward Memorial Park: Installed in May 2023

Figure 1: Annual Mean NO₂ Levels (µg/m³) at Automatic Monitoring Sites in Tower Hamlets (2018-2024)



Key Insights:

- Roadside sites (TH2 Mile End, TH004 Blackwall, TH005 King Edward Memorial Park) consistently record higher NO₂ levels than background sites, reflecting their proximity to busy roads and dense traffic.

- Blackwall has the highest values overall, likely due to its location next to the A1261 dual carriageway, a known high-traffic corridor.
 - Mile End also shows elevated levels, but with a gradual decline from 2018 to 2024.
 - King Edward Memorial Park has only recent data but appears to follow a mid-range trend among roadside locations.
- Background sites (Victoria Park and Millwall Park) show a more pronounced and consistent decline in NO₂ levels over time, reflecting improvements in baseline air quality across the borough.
- The contrast between background and roadside trends suggests that while general air quality is improving, roadside pollution remains more resistant to change, potentially due to localised traffic impacts, idling, and congestion.
- 2024 data shows that all sites are now comfortably below the national objective of 40 µg/m³, though continued attention is needed at roadside locations where reductions have slowed or reversed slightly.
- Data capture was good (above 75%) during 2023 at all five sites, and as such, no annualisation has been required.

Table E. Annual Mean NO₂ 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
1	533883	182815	Kerbside	100	100.0	34.0	33.0	24.9	21.5	20.0	19.6	16.5
2	533507	182569	Kerbside	100	100.0	37.0	35.0	26.0	22.0	21.4	20.3	16.6
3	533860	182442	Kerbside	64.2	64.2	36.0	37.0	27.4	26.3	26.4	27.7	23.9
4	533611	182037	Kerbside	100	100.0	53.0	48.0	34.2	32.7	30.4	26.3	27.0
5	533985	181426	Kerbside	90.6	90.6	61.0	48.0	33.9	37.7	36.8	32.9	31.8
6	533800	181021	Kerbside	83	83.0	50.0	45.0	35.2	30.3	32.1	30.5	27.9
7	533992	180376	Roadside	41.5	41.5	28.0	28.0	19.9	19.1	25.4	17.9	16.6
8	534444	180122	Kerbside	92.5	92.5	31.0	30.0	21.6	21.0	21.2	20.4	18.2
9	533955	180805	Kerbside	92.5	92.5	33.0	34.0	24.7	22.2	22.8	20.3	17.5
10	534133	181509	Kerbside	81.1	81.1	46.0	40.0	28.9	28.1	30.5	25.9	30.7
11	533866	181860	Kerbside	83	83.0	35.0	32.0	24.4	22.2	23.8	21.0	19.3
12	534259	182580	Kerbside	100	100.0	35.0	32.0	24.2	22.5	22.3	22.1	18.1
13	534313	182810	Kerbside	90.6	90.6	38.0	38.0	27.1	25.4	26.1	22.1	18.9
14	534255	183130	Kerbside	100	100.0	38.0	35.0	25.5	22.5	26.1	25.0	23.1
15	534881	183240	Kerbside	100	100.0	45.0	41.0	30.0	28.5	27.4	24.9	23.7
16	534959	182757	Kerbside	100	100.0	41.0	36.0	28.0	28.1	28.4	26.9	20.8
17	534783	182385	Kerbside	100	100.0	29.0	31.0	21.0	20.2	20.5	17.4	15.1
18	534968	181878	Roadside	90.6	90.6	40.0	37.0	29.0	27.9	26.1	26.5	25.6
19	534816	181321	Kerbside	92.5	92.5	44.0	41.0	31.0	29.5	29.5	26.4	22.3
20	534951	180779	Roadside	90.6	90.6	52.0	49.0	34.0	37.5	37.8	33.3	27.4
21	533985	183122	Kerbside	100	100.0	55.0	35.0	26.0	24.4	24.4	23.8	21.0
22	535133	180376	Kerbside	92.5	92.5	32.0	30.0	23.0	24.6	23.8	19.8	16.3
23	535598	180816	Kerbside	92.5	92.5	43.0	40.0	30.0	29.3	29.2	26.6	21.4

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
24	535174	181290	Kerbside	84.9	84.9	64.0	47.0	33.0	37.1	34.8	32.6	25.9
25	534884	181667	Kerbside	60.4	60.4	40.0	38.0	30.0	26.3	29.4	28.2	25.9
26	535386	182021	Kerbside	100	100.0	44.0	42.0	29.0	27.0	25.8	25.0	20.9
27	535296	182793	Kerbside	100	100.0	36.0	34.0	26.0	26.8	24.2	23.4	18.4
28	535356	183223	Kerbside	100	100.0	37.0	35.0	26.0	32.1	32.3	31.4	21.5
29	535930	183385	Kerbside	90.6	90.6	43.0	40.0	28.0	26.8	26.5	26.1	22.3
30	534239	181565	Kerbside	100	100.0	46.0	38.0	28.0	28.2	28.7	26.3	21.4
31	534516	181744	Roadside	100	100.0	63.0	54.0	40.0	40.4	37.6	37.9	29.0
32	535634	182148	Kerbside	100	100.0	48.0	42.0	30.0	30.3	30.9	29.3	27.8
33	535545	181604	Urban Background	92.5	92.5	39.0	28.0	24.0	21.2	20.8	19.0	16.0
34	535797	181164	Kerbside	49.1	49.1	37.0	35.0	26.0	25.8	24.9	22.4	20.6
35	535977	180879	Roadside	90.6	90.6	86.0	77.0	54.0	60.5	59.4	54.9	45.7
36	536704	181647	Kerbside	75	75.0	35.0	32.0	26.0	26.2	21.3	24.1	18.6
37	536577	181379	Kerbside	100	100.0	34.0	30.0	27.0	24.8	23.7	21.6	19.8
38	536080	181721	Kerbside	92.5	92.5	36.0	36.0	29.0	28.4	27.3	26.3	21.8
39	536089	182258	Roadside	84.9	84.9	42.0	36.0	26.0	28.1	27.1	24.5	20.4
40	536105	183049	Kerbside	100	100.0	36.0	33.0	24.0	24.3	23.8	20.6	17.2
41	536457	183301	Roadside	92.5	92.5	38.0	34.0	26.0	28.9	28.0	25.4	20.5
42, 43	536494	184170	Urban Background	100	100.0	22.0	21.0	17.0	14.9	14.5	14.6	11.0
44	536875	183740	Kerbside	92.5	92.5	35.0	34.0	28.0	27.9	27.8	26.7	23.8
45	536713	183070	Kerbside	100	100.0	56.0	39.0	31.0	29.4	28.7	25.5	21.5
46	536542	182589	Kerbside	84.9	84.9	48.0	33.0	26.0	24.1	24.1	20.6	17.4
47	536452	182454	Kerbside	90.6	90.6	48.0	41.0	32.0	32.4	29.0	27.1	25.0
48	536768	181772	Kerbside	100	100.0	38.0	37.0	32.0	30.0	28.5	27.6	23.0
49	537049	181292	Kerbside	100	100.0	33.0	30.0	25.0	22.0	21.0	20.1	18.6

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
50	536937	180987	Roadside	92.5	92.5	42.0	35.0	29.0	29.5	28.6	26.9	22.6
51	534938	181257	Roadside	67.9	67.9	33.0	29.0	23.0	23.7	23.0	21.6	20.3
52	537304	183619	Kerbside	100	100.0	40.0	37.0	30.0	30.3	28.6	27.2	22.6
53	537159	183415	Kerbside	100	100.0	42.0	43.0	35.0	35.4	32.0	31.2	27.0
54	537525	182887	Kerbside	100	100.0	60.0	50.0	37.0	38.3	41.2	41.4	30.4
55	536732	182361	Roadside	100	100.0	23.0	22.0	17.0	16.8	16.5	13.3	11.8
56	537248	181820	Kerbside	100	100.0	37.0	32.0	26.0	25.4	25.3	25.1	21.9
57	537516	181392	Kerbside	90.6	90.6	28.0	27.0	23.0	22.1	21.0	19.6	17.2
58	537539	180688	Kerbside	100	100.0	29.0	28.0	23.0	21.7	22.4	19.9	17.7
59	537100	180791	Kerbside	75	75.0	37.0	31.0	28.0	27.5	27.2	25.0	21.8
60	537115	180074	Kerbside	90.6	90.6	39.0	36.0	34.0	32.2	30.5	27.3	23.8
61	537056	182773	Kerbside	92.5	92.5	35.0	35.0	28.0	25.4	24.5	23.2	20.2
62	537348	178690	Kerbside	100	100.0	29.0	32.0	27.0	26.5	25.2	23.9	21.2
63	538246	178689	Urban Background	83	83.0	22.0	24.0	21.0	20.3	18.6	16.2	15.2
64	537953	179357	Kerbside	100	100.0	38.0	37.0	36.0	36.5	33.3	30.4	28.6
65	538032	178360	Kerbside	100	100.0	28.0	29.0	25.0	23.3	22.7	20.9	18.3
66	538258	178689	Urban Background	100	100.0	25.0	22.0	18.0	19.6	19.7	16.5	14.4
67	538544	178767	Kerbside	90.6	90.6	30.0	31.0	27.0	26.4	24.5	23.2	20.8
68	538431	179044	Kerbside	100	100.0	32.0	34.0	26.0	27.0	25.0	24.9	21.0
69	538190	179750	Kerbside	100	100.0	34.0	31.0	27.0	25.9	24.2	23.7	20.5
70	537424	179910	Kerbside	100	100.0	27.0	29.0	24.0	22.3	22.8	19.4	17.8
71	533689	181705	Roadside	100	100.0	54.0	45.0	35.0	33.0	31.7	29.5	28.7
72	538364	180188	Kerbside	90.6	90.6	39.0	38.0	30.0	31.2	28.3	28.5	25.3
73	538742	180756	Kerbside	100	100.0	32.0	31.0	25.0	26.0	22.3	21.6	16.9
74	538244	180761	Kerbside	100	100.0	64.0	71.0	59.0	54.9	55.7	50.4	42.5

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
75	537661	180768	Kerbside	100	100.0	34.0	29.0	24.0	23.5	22.3	19.9	18.7
76	537940	181021	Kerbside	100	100.0	45.0	39.0	33.0	33.4	30.6	31.4	25.8
77	537731	181761	Kerbside	84.9	84.9	37.0	31.0	26.0	22.5	21.7	21.0	18.1
78	537577	182232	Kerbside	100	100.0	43.0	36.0	32.0	31.3	30.3	29.0	26.1
79	537355	183059	Kerbside	83	83.0	32.0	28.0	24.0	24.8	22.8	19.7	17.1
80	537581	183209	Kerbside	75	75.0	38.0	35.0	28.0	29.6	26.4	24.9	20.2
81	537868	182912	Kerbside	90.6	90.6	38.0	34.0	29.0	30.7	27.4	24.5	22.0
82	537821	182332	Kerbside	100	100.0	45.0	37.0	29.0	32.4	28.5	28.4	22.7
83	538178	181747	Kerbside	100	100.0	63.0	52.0	41.0	43.3	40.9	40.1	33.6
84	538365	181180	Roadside	92.5	92.5	44.0	39.0	36.0	32.1	29.9	27.5	24.7
85	538895	181296	Kerbside	90.6	90.6	45.0	38.0	34.0	33.5	31.6	29.7	28.2
86	538954	180872	Kerbside	83	83.0	30.0	28.0	22.0	24.6	22.5	21.4	16.8
87	535929	182220	Kerbside	100	100.0	49.0	37.0	31.0	30.2	27.9	25.5	22.8
88	537555	180892	Kerbside	75	75.0	28.0	26.0	21.0	21.3	20.0	19.4	17.1
89	538730	178733	Roadside	100	100.0	26.0	26.0	23.0	21.5	21.9	19.7	16.5
90	538674	178888	Kerbside	100	100.0	25.0	24.0	20.0	20.8	19.3	19.3	15.8
91	539007	181146	Kerbside	100	100.0	-	-	-	31.0	23.1	23.6	23.8
92	538907	181127	Roadside	100	100.0	-	-	-	39.3	27.7	29.2	20.8
93, 94	538016	178569	Urban background	100	100.0	-	-	-	-	-	-	13.8

Notes:

The annual mean concentrations are presented as $\mu\text{g m}^{-3}$.

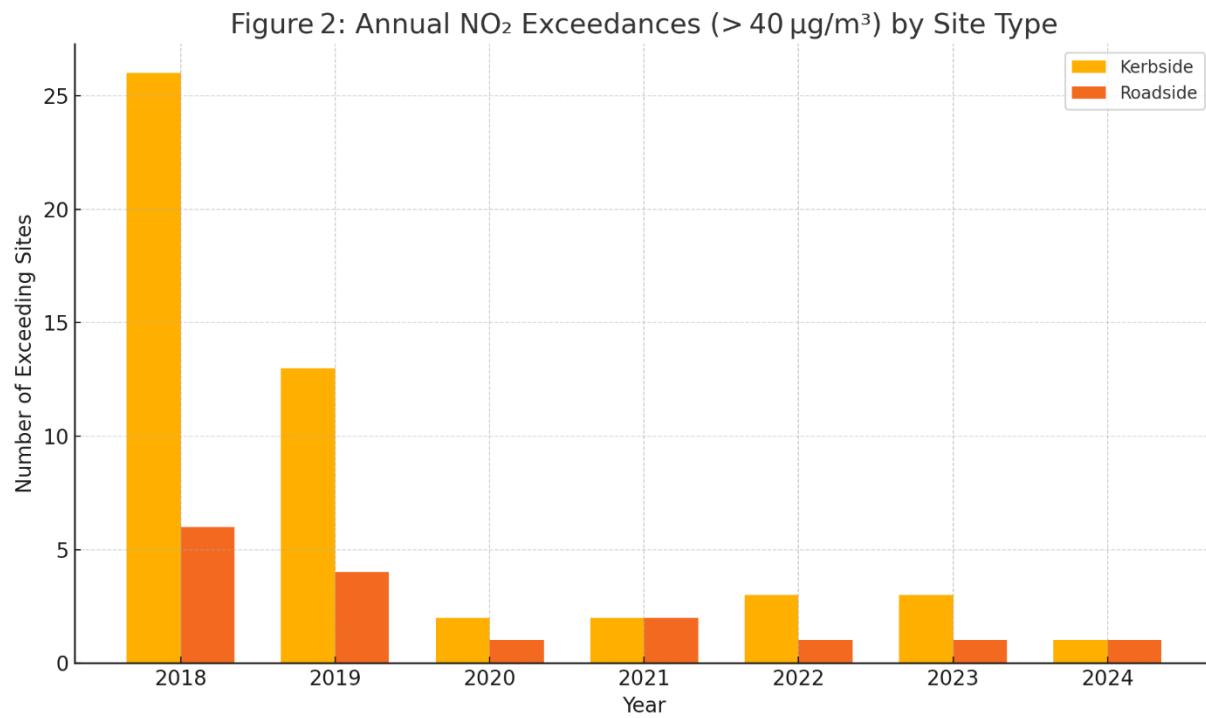
Exceedances of the NO_2 annual mean objective of $40\mu\text{g m}^{-3}$ are shown in **bold**.

NO_2 annual means exceeding $60\mu\text{g m}^{-3}$, 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%).



Key Insights from 2024 Diffusion Tube Monitoring

Question: Is air quality getting better?

Answer: Yes – the borough-wide average NO₂ fell another 14% from 2023 to 2024 and is now approximately 45% lower than in 2018.

Question: Where are the worst spots in 2024?

Answer: Two roadside tubes are still above the UK annual limit (40 $\mu\text{g}/\text{m}^3$): Tube 35 (A13 / East India Dock Road) at 45.7 $\mu\text{g}/\text{m}^3$, and Tube 74 (A13 / Limehouse Link) at 42.5 $\mu\text{g}/\text{m}^3$.

Question: Urban vs Roadside – how do the levels compare?

Answer: Roadside sites remain higher, with an average of 23.7 $\mu\text{g}/\text{m}^3$, compared to kerbside sites at 22.0 $\mu\text{g}/\text{m}^3$ and urban-background sites at 14.1 $\mu\text{g}/\text{m}^3$.

Question: What was the biggest year-on-year improvement in 2024?

Answer: Tube 54 (Bow Road) dropped by 11 $\mu\text{g}/\text{m}^3$ (a 27% reduction) – the largest improvement recorded.

Question: Which site showed the least improvement or worsened in 2024?

Answer: Tube 10 (Manchester Road) increased by 4.8 $\mu\text{g}/\text{m}^3$ (a 19% rise), making it the only location with a clear setback.

Question: Which part of the borough struggles the most with air quality?

Answer: The central corridor along the A13 / Commercial Road – especially East India Dock Road – has the densest cluster of high readings. This includes Tubes 35, 31, 54, 74, and 83. The average difference between north–south and east–west zones is less than 3 $\mu\text{g}/\text{m}^3$.

In 2024, nitrogen dioxide (NO_2) levels were monitored at 94 locations across the borough using diffusion tubes. The results show a clear and ongoing improvement in air quality, with 92 out of 94 sites representing 98% compliance, meeting the national annual mean objective of 40 $\mu\text{g}/\text{m}^3$.

Only two locations initially recorded exceedances: sites 35, and 74. However, after applying distance correction calculations to reflect the nearest relevant residential exposure (in accordance with Local Air Quality Management guidance), no site remained above the objective.

The biggest absolute improvement in NO_2 levels between 2023 and 2024 was seen at Tube 54 on Bow Road (kerbside), where concentrations dropped from $41.4 \mu\text{g}/\text{m}^3$ to $30.4 \mu\text{g}/\text{m}^3$, a reduction of $11 \mu\text{g}/\text{m}^3$, or 27%. This sharp fall may be linked to recent changes in local traffic flow following the completion of nearby roadworks.

The second largest absolute drop was at Tube 28 on Bethnal Green Road, where levels fell from $31.4 \mu\text{g}/\text{m}^3$ to $21.5 \mu\text{g}/\text{m}^3$, a $9.9 \mu\text{g}/\text{m}^3$ (or 32%) decrease. This is likely due to signal timing adjustments by TfL, which helped reduce congestion and improve traffic efficiency along this busy corridor.

The third most improved site was Tube 35 on East India Dock Road (A13). Here, NO_2 dropped from $54.9 \mu\text{g}/\text{m}^3$ in 2023 to $45.7 \mu\text{g}/\text{m}^3$ in 2024, a reduction of $9.2 \mu\text{g}/\text{m}^3$ (17%). The improvement may be linked to the introduction of a new bus lane and upgrades to cleaner Euro VI buses, both of which reduce vehicle emissions on this heavily trafficked route.

Over seven years of monitoring (2018–2024), NO_2 levels have shown a marked downward trend across the borough. These improvements are likely driven by a combination of factors:

- The expansion of London's Ultra Low Emission Zone (ULEZ), which discourages high-emission vehicles from entering the area,
- Cleaner bus and taxi fleets,
- Increased adoption of walking and cycling infrastructure,
- Changes in local travel behaviour, and
- Targeted traffic management interventions.

Urban background and residential kerbside sites in particular have shown steady, sustained improvements year on year.

A significant drop in NO_2 was observed in 2020, partly due to reduced traffic during COVID-19 restrictions. However, the continued year on year reductions into 2023 and 2024 indicate that longer term measures such as ULEZ expansion, cleaner vehicle technology, and local interventions are driving sustained air quality improvements.

Table F. NO₂ 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
TH2	535927	182221	Roadside	99.5	99.5	0	1	0	0	0	0	0
TH004	538290	181452	Roadside	99.6	99.6	0	0	0	0	0	0	0
TH002	536487	184238	Background	99.4	99.4	1	0	0	0	0	0	0
TH001	538052	178559	Background	99.5	99.5	0	0	0	0	0	0	0
TH005	535384	180752	Roadside	99.6	99.6	-	-	-	-	-	0 (91)	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 NO₂ 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%)

Key Insights:

In 2024, compliance against the 1-hour mean NO₂ objective was achieved at all five automatic monitoring sites.

Since 2020, there were no exceedances of the 1-hour mean, 200µg m⁻³ at any of the automatic monitoring site.

In 2019, only 1 exceedance occurred at Mile End automatic monitoring site (roadside site), although significantly below the permitted 18 days per year.

In 2018, only 1 exceedance occurred at Victoria Park automatic monitoring site, again significantly below the permitted 18 days per year.

Data capture rate of more than 99% was achieved at all nitrogen dioxide automatic monitoring stations.

Table G. Annual Mean PM₁₀ 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
TH004 Blackwall	538290	181452	Roadside	99.5	99.5	20	20	17	18	-	15	16.2
TH002 Victoria Park	536487	184238	Background	97.5	97.5	18	18	18	18	13	15	13.2
TH001 Millwall Park	538052	178559	Background	92.6	92.6	18	18	17	16	16	14	14.0

Notes

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

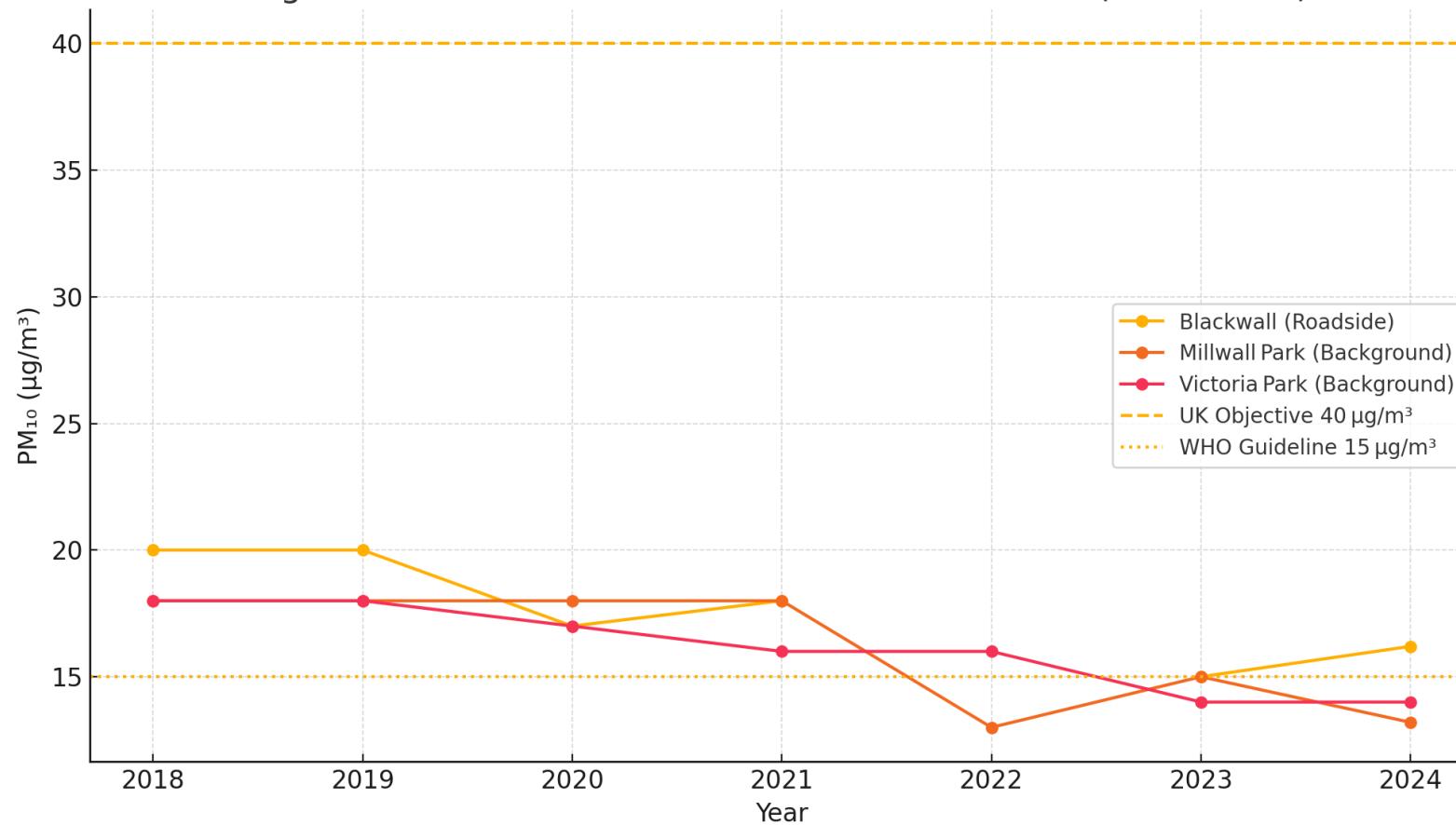
Exceedances of the PM₁₀ annual mean AQO of 40 μg m⁻³ are shown in **bold**.

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%).

Figure 3: Annual Mean PM₁₀ at Automatic Stations (2018-2024)



Key Insights:

1. Data capture remains excellent

- All three stations exceeded the 75 % regulatory requirement in 2024; Blackwall achieved >99 %, giving high confidence in the results.

2. Continued compliance with the UK objective

- Every site stayed well below the $40 \mu\text{g m}^{-3}$ annual mean limit for the eighth consecutive year (since 2017).

3. Progress towards WHO 2021 guideline ($15 \mu\text{g m}^{-3}$)

- Both background sites now meet the WHO level ($13.2 \mu\text{g m}^{-3}$ and $14 \mu\text{g m}^{-3}$).
- Blackwall roadside remains slightly above at $16.2 \mu\text{g m}^{-3}$, but the gap to the guideline has narrowed to $\sim 1 \mu\text{g m}^{-3}$.

4. Trend highlights

- Blackwall (roadside): After a marked fall to $15 \mu\text{g m}^{-3}$ in 2023, a modest rebound to $16.2 \mu\text{g m}^{-3}$ was observed in 2024. Nevertheless, the long-term trajectory since 2017 is still downward ($\approx 19\%$ reduction overall).
- Millwall Park: The 2022 spike ($13 \mu\text{g m}^{-3}$) was followed by a temporary rise to $15 \mu\text{g m}^{-3}$ in 2023, but 2024 returned to $13.2 \mu\text{g m}^{-3}$, the lowest in the record and comfortably below WHO guidance.
- Victoria Park: Levels have gradually edged downwards from $18 \mu\text{g m}^{-3}$ in 2018 to $14 \mu\text{g m}^{-3}$ in 2023 and stabilised at the same value in 2024.

5. Spatial picture

- The roadside location still records the highest PM_{10} , reflecting direct traffic influence near the Blackwall Tunnel approaches.
- Background sites continue to demonstrate lower concentrations, underscoring the importance of local traffic-management for further gains.

Overall, 2024 consolidates the borough's compliance with legal PM_{10} limits and shows encouraging progress towards more stringent WHO air-quality guidelines, though the Blackwall roadside hotspot still warrants focused attention.

Table H. PM₁₀ Automatic Monitoring Results: Comparison with 24-Hour Mean Objective, Number of PM₁₀ 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
TH004 Blackwall	538290	181452	Roadside	99.5	99.5	10	8 (35)	4	0 (27.1)	-	1	0
TH002 Victoria Park	536487	184238	Background	97.5	97.5	1	7 (30)	7	5	4 (31)	1	0
TH001 Millwall Park	538052	178559	Background	92.6	92.6	1	7	5	1	3	0	0

Notes

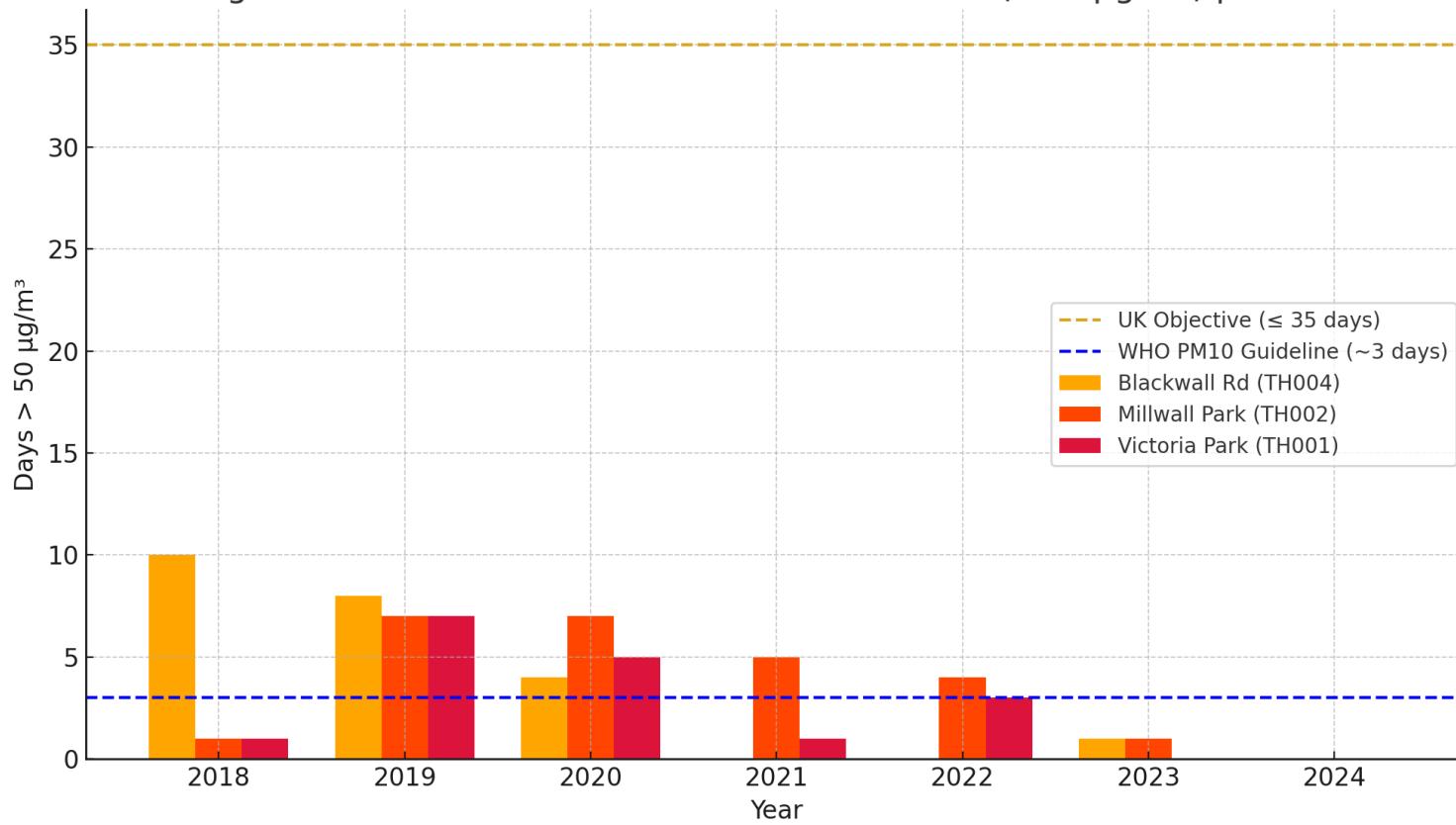
Exceedances of the PM₁₀ 24-hour mean objective (50 µg m⁻³ over the permitted 35 days per year) are shown in **bold**.

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%).

Figure 4: Number of 24-hour PM₁₀ Exceedances ($>50 \mu\text{g}/\text{m}^3$) per Year



Key Insights – PM₁₀ 24-hour exceedances

All three monitoring sites comfortably met the 24-hour PM₁₀ objective in every year reported. The highest value on record—10 exceedance days at Blackwall Road (TH004) in 2018—was still only 29% of the UK limit of 35 days. A clear downward trend has followed the 2019 peak, with no rebound observed in subsequent years. In 2024, a milestone was reached: zero exceedance days at all sites for the first time in the dataset. While Blackwall, the borough's roadside site, recorded the most exceedances up to 2020,

it is now broadly in line with background sites, suggesting that local traffic-related PM₁₀ peaks have been largely mitigated. A data gap at Blackwall in 2022 due to insufficient capture prevents reporting that year but does not affect overall compliance. Notably, the borough also met the WHO guideline for PM₁₀ exceedances (~3 days/year per site) in 2023 and 2024, although only the UK national objectives are legally binding.

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
TH2P Mile End	535927	182221	Roadside	91.6	91.6	-	10	12	11	9	8	8.4
TH004 Blackwall	538290	181452	Roadside	95.4	95.4	13	12	9	11	8	9	9.8
TH002 Victoria Park	536487	184238	Background	96.8	96.8	-	10	12	9	9	8	8.0
TH005 ^c King Edward Memorial Park	535384	180752	Roadside	91.5	91.5	-	-	-	-	-	7	8.9

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**.

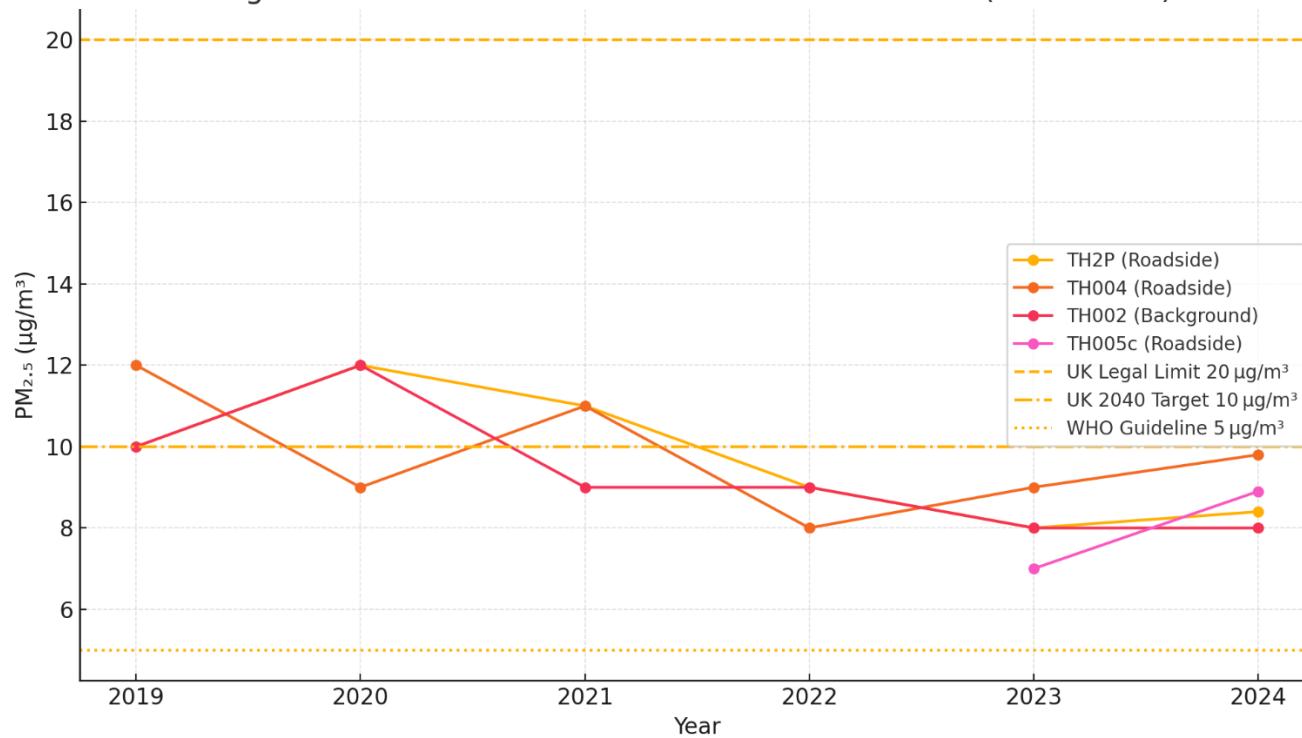
All means have been “annualised” in accordance with LLAQM Technical Guidance, if valid data capture is less than 75% and more than 25%.

(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%).

(c) King Edward Memorial Park (TH005): Installed in May 2023.

Figure 5: Annual Mean $\text{PM}_{2.5}$ at Automatic Stations (2019–2024)



Key Insights

- Legal compliance: Every site sits far below the current UK legal limit of $20 \mu\text{g m}^{-3}$ for annual $\text{PM}_{2.5}$.
- Steady downward trend: All locations have fallen since 2019, with roadside hotspots now well under $10 \mu\text{g m}^{-3}$.
- Approaching future targets: Three of the four stations (TH2P, TH002 and TH005c) are already at or below the UK 2040 target of $10 \mu\text{g m}^{-3}$; TH004 is just under $10 \mu\text{g m}^{-3}$.
- Still above WHO guideline: Values remain 60–95 % higher than the stringent WHO 2021 guideline of $5 \mu\text{g m}^{-3}$, so further gains are needed for full health-based compliance. Although only the UK national objectives are legally binding.

- New site TH005: First full year (2023) recorded $7 \mu\text{g m}^{-3}$, rising slightly to $8.9 \mu\text{g m}^{-3}$ in 2024 but still among the cleanest readings, suggesting benefits from recent local interventions.

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 London Borough of Tower Hamlets can be found in Table KK. The table presents a description of the borough wide AQMA that is currently designated within London Borough of Tower Hamlets. 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:

- I. Nitrogen Dioxide: The London Borough of Tower Hamlets was failing to meet the EU annual average limit for this pollutant at some monitoring stations and modelling indicated it was being breached at several other areas across the Borough.
- II. Particulate Matter: Even though the London Borough of Tower Hamlets was meeting the EU limits for PM₁₀, it was exceeding the World Health Organisation (WHO) air quality guideline for this pollutant. We also have a formal responsibility to work towards reductions of PM_{2.5}, which is a fraction of PM₁₀. Concentrations of PM_{2.5} are measured at specific monitoring points throughout the Borough. The Council supports the London Mayor's 2030 commitment to achieving the WHO 2005 guidelines levels for PM_{2.5} (10ug/m³).

The Air Quality Action Plan (AQAP) 2022 – 2027 is the latest AQAP prepared by the London Borough of Tower Hamlets.

An Air Quality Focus Area is a location that has been identified as having high levels of pollution and human exposure, such as residential properties, schools, hospitals, care homes and town centres.

In the London Borough of Tower Hamlets, there are 7 focus areas for Nitrogen Dioxide: Their names and their locations are listed below and showed in Figure 7. These focus areas are based on the LAEI 2016 data. The GLA have now revisited and reviewed the focus areas against the updated 2019 LAEI data. The conclusion is that problem remains at these focus areas, therefore, the 7 focus areas remain unchanged.

Table J - NO₂ Focus Areas LAEI 2019 in Tower Hamlets

NO₂ Focus Areas LAEI 2019 – Tower Hamlets		
Reference ID for Figure 7	Name	LAEI 2016 ID
1	Tower Hill/Tower Gateway/Cable St/The Highway	157
2	A11 Whitechapel Road to Mile End junction A1205 Burdett Road	158
3	Commercial Road from Aldgate East to junction with Jubilee Street	159
4	A107 Cambridge Heath Rd/Bethnal Green Rd to Mare St/Well Street	160

5	Blackwall A13 East India Dock Road/Aspen Way/Blackwall Tunnel	161
6	Commercial Street	162
7	Aldgate and Aldgate East	163

Figure 6. Map of Air Quality Focus Areas for Nitrogen Dioxide

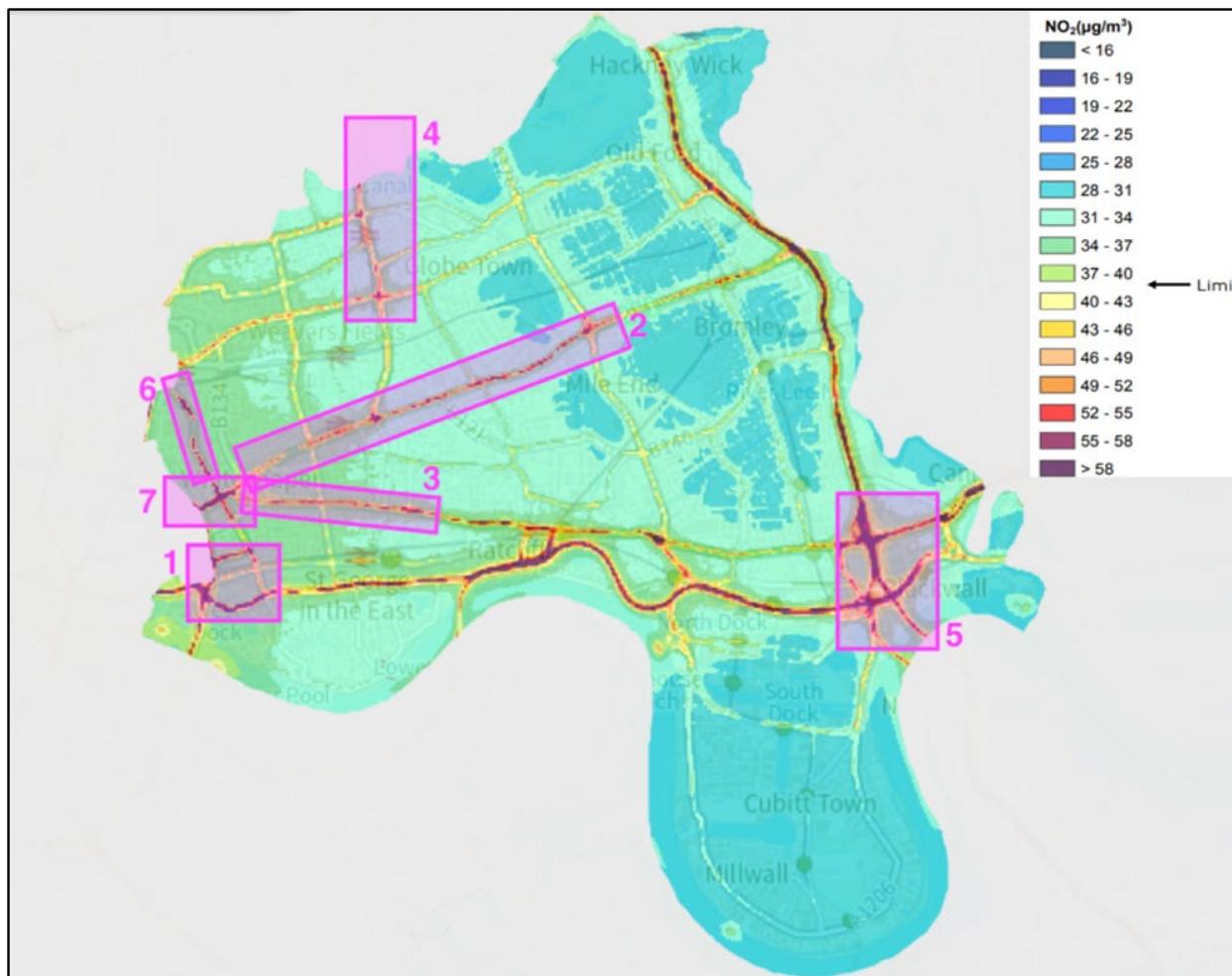


Table K. Declared Air Quality Management Areas

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
Tower Hamlets AQAM	06/12/2000 (as per the UK-AIR DEFRA website: AQMA Details - Defra, UK)	Nitrogen Dioxide (NO ₂) (as per the UK-AIR DEFRA website: AQMA Details - Defra, UK)	The whole borough. Source: Transport and Industrial source (as per the UK-AIR DEFRA website: AQMA Details - Defra, UK)	No	NO ₂ above annual mean at multiple sites.,. (as per the UK-AIR DEFRA website: AQMA Details - Defra, UK)	NO₂ (Annual Mean) – 2024 Update: Based on the latest monitored data, no non-automatic diffusion tube sites exceeded the annual mean NO ₂ objective of 40 µg/m ³ at locations relevant to public exposure within the AQMA in 2024. Although a small number of sites recorded concentrations above the objective at the monitoring location, all were below 40 µg/m³ after distance correction , confirming no exceedances at relevant exposure points. The highest concentration at a relevant receptor in 2024 was 33.6 µg/m ³ , recorded at Diffusion Tube ID 83 (Wapping High Street) after bias adjustment and distance correction.	NO₂ – Automatic Monitoring Sites: Compliant with the annual mean objective since 2020, representing 5 consecutive years of compliance within the AQMA. NO₂ – Non-Automatic Monitoring Sites: Not all sites have achieved compliance. In 2024, the majority of sites were compliant, but two exceeded the annual mean objective. After distance correction, no sites exceeded at a relevant point of exposure.	London Borough of Tower Hamlets Air Quality Action Plan (AQAP) 2022 – 2027 Date of publication- 26 October 2022	Visit: https://www.towerhamlets.gov.uk/lqn/l/environment_and_waste/environment_health/pollution/air_quality/Advanced_information_on_air_quality/Action_plan_and_report.aspx

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
Tower Hamlets AQAM	06/12/2000 (as per the UK-AIR DEFRA website: AQMA Details - Defra, UK)	Particulate Matter (PM ₁₀) (as per the UK-AIR DEFRA website: AQMA Details - Defra, UK)	The whole borough. Source: Transport and Industrial source (as per the UK-AIR DEFRA website: AQMA Details - Defra, UK)	No	PM ₁₀ above 24-hour mean at multiple sites. (as per the UK-AIR DEFRA website: AQMA Details - Defra, UK)	PM ₁₀ 24-hour mean concentrations exceeded the allowable 35 exceedances per year at multiple locations. (Source: UK-AIR Defra AQMA records) PM₁₀ (24-hour Mean): No exceedances recorded at automatic monitoring sites. The short-term objective of no more than 35 exceedances above 50 µg/m ³ was met at all locations. PM₁₀ (Annual Mean): All automatic monitoring sites were within the 40 µg/m ³ limit. However, four non-automatic sites exceeded the annual mean at the monitoring location. Only one (ID 50 – Rich Street) remained above the objective (45.7 µg/m ³) at receptor level.	PM₁₀ – Automatic Monitoring Sites: Compliant with both the annual mean (40 µg/m³) and the 24-hour mean (no more than 35 exceedances of 50 µg/m³) since 2012, representing 13 consecutive years of compliance	London Borough of Tower Hamlets Air Quality Action Plan (AQAP) 2022 – 2027 Date of publication- 26 October 2022	Visit: https://www.towerhamlets.gov.uk/lqn/l/environment_and_waste/environmental_health/pollution/air_quality/Advanced_information_on_air_quality/Action_plan_and_report.aspx

London Borough of Tower Hamlets confirm the information on UK-Air regarding their AQMA(s) is up to date

London Borough of Tower Hamlets confirm that all current AQAPs have been submitted to GLA.

2.2 Air Quality Action Plan Progress

Tower Hamlets' air quality action plan was adopted in 2022. This is a 5-year plan covering period 2022-2027. There are 30 actions to be delivered over the term of the plan by key stakeholders across the Council.

Table L provides a brief summary of London Borough of Tower Hamlets progress against the Air Quality Action Plan, showing progress made this year.

Table L. Delivery of Air Quality Action Plan Measures

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
1	Monitoring and other core statutory duties	Maintaining, and where possible expanding monitoring networks, and fulfilling other statutory duties. (b) Continue to ensure that all air pollution monitoring data is available to the public and the website is regularly updated with the latest available data.	Ongoing	LBTH Pollution Team, Socotec, Breathe London, Ricardo – Energy & Environment, Envirotechnology	We continue to maintain and implement both the Borough-wide NO2 diffusion tubes (passive monitoring) and the continuous monitoring networks. We continue to investigate and implement further monitoring where necessary. 5 reference monitoring stations are operating and maintained in the Borough, monitoring pollutants of concern to ensure air quality objectives are being met and to assess the effectiveness of local and regional policies. King Edward Memorial Park site is the latest addition to our reference monitors. London Borough of Tower Hamlets website updated with latest air quality monitoring results: both monthly diffusion tube data, and air quality continuous monitoring data are entered onto LBTH website.

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
					Data are available in the ASR, on Council plasma screens. and online (Council website).
2	Monitoring and other core statutory duties	Support the London Mayor's 2030 commitment to achieving the WHO interim guideline level for PM _{2.5} annual mean concentration (10ug/m ³) with an aspiration to achieving the new WHO target of 5 ug/m ³ in the shortest possible time.	Ongoing	LBTH: Pollution Team, Highways/ Transport , Breathe London	<p>We are actively working with the Mayor of London to achieve the WHO interim guideline level for PM_{2.5} annual mean concentration by 2030.</p> <p>Latest monitoring data shows compliance with the interim guideline levels for PM_{2.5}.</p>
3	Emissions from developments and buildings	Ensuring emissions from construction are minimised.	Ongoing	LBTH: Pollution Team, Highways/ Transport, Sustainability, Public Health, Planning/ Building Control, Legal	<p>LBTH's Local Plan is in the process of being updated. A Regulation 19 plan i.e. final draft of the plan was consulted on in 2024, with the consultation closing on the 28th October 2024. The Council is targeting to submit the draft local plan to Secretary of State for independent examination by the end of 2025.</p> <p>The emerging local plan includes Policy CG9 Air Quality, which requires in the supporting text that air quality assessments must consider impacts of pollution during construction, major developments are required to include a dust assessment and outline measures to mitigate adverse construction effects. Further detail is provided in Appendix 6 - Air Quality of revised local plan. At this stage it is considered that this policy currently has the lowest weight.</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
					<p>Current Local Plan Policy: D.ES2 (Air Quality). Development is required to meet or exceed air quality neutral and consider impacts of pollution during construction and operation of the Proposed Development.</p> <p>Current Local Plan Policy: D.TR4 (Sustainable Delivery and Servicing). Development that generates a significant number of vehicle trips for goods or materials during its construction and/or operational phases is required to demonstrate sustainable transport).</p> <p>Current Local Plan Policy: S.TR1 (Sustainable Travel). Travel choice (including connectivity and affordability) and sustainable travel will be improved within the borough and to other parts of London, and beyond. Development will therefore be expected to prioritise the needs of pedestrians and cyclists as well as access to public transport, including river transport, before vehicular modes of transport.</p> <p>Current Local Plan Policy: D.TR2 (Impacts on the Transport Network): Major development and any development that is likely to have a significant impact on the transport network will be required to submit a transport assessment or transport statement as part of the planning application.</p>
4	Emissions from developments and buildings	Ensuring enforcement of non-road mobile machinery (NRMM) air quality policies.	Ongoing	LBTH: Pollution Team, Highways/ Transport, Planning/ Building Control, Merton Council	Planning applications are reviewed by the London Borough of Tower Hamlets Environmental Health Department (Pollution Team) in respect to air pollution and air quality. The Pollution Team provides air quality comments and recommends relevant conditions.

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
					<p>Relevant NRMM conditions are recommended for each major site during planning consultations.</p> <p>Monthly planning decisions are forwarded to the London Borough of Merton to feed into the London wide NRMM scheme for their inspections on follow up.</p> <p>The 2023-2024 Financial Year NRMM Report, showed that all schemes were complaint.</p> <p>The 2024 Calender Year NRMM Report identified that all but 1 scheme were complaint. Planning sent this case to Planning Enforcement, and an Enforcement Case was opened (Reference: ENF/25/00018). Following enforcement action is was established that the scheme was now complaint with NRMM condition.</p> <p>CIL Tracker of when projects commence on site is now also sent to the Pollution Team, from Planning.</p> <p>Current Local Plan Policy: D.SG4 (Planning and Construction of a New Development), require construction to comply with NRMM low emission zone requirements and minimize air quality and dust pollution.</p> <p>LBTH's Local Plan is in the process of being updated. A Regulation 19 plan i.e. final draft of the plan was consulted on in 2024, with the consultation closing on the 28th October 2024. The Council is targeting to submit the draft local plan to Secretary of State for independent examination by the end of 2025.</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<p>The emerging local plan includes Appendix 6 - Air Quality which sets out the requirements for NRMM in construction phase assessments.</p>
5	Emissions from developments and buildings	<p>Reducing emissions from Combined Heat and Power (CHP) (new developments only)</p> <p>Ensure policy met.</p>	Ongoing	<p>LBTH: Pollution Team, Highways/ Transport, Sustainability, Public Health, Planning/ Building Control, Legal, Merton Council</p>	<p>Planning applications are reviewed by the Borough of Tower Hamlets Environmental Health Department (Pollution Team) in respect to air pollution and air quality. The Pollution Team provides air quality comments and recommends relevant conditions. Planning applications are reviewed for CHP and relevant conditions recommended.</p> <p>LBTH's Local Plan is in the process of being updated. A Regulation 19 plan i.e. final draft of the plan was consulted on in 2024, with the consultation closing on the 28th October 2024. The Council is targeting to submit the draft local plan to Secretary of State for independent examination by the end of 2025.</p> <p>The emerging local plan includes Policy CG3 Low Carbon Energy and Heating, which requires that new development must not be connected to the gas grid and heat must be provided through zero or low carbon fuels, and that gas boilers in domestic or non-domestic developments will not be supported. At this stage it is considered that this policy currently has the lowest weight.</p> <p>Comments are provided on major planning applications as required by GLA SPG on Sustainable Design and Construction.</p>
6	Emissions from developments and buildings	Enforcing Air Quality Neutral policy or its successor	Ongoing	<p>LBTH: Pollution Team, Planning/ Building Control</p>	<p>Major planning applications reviewed by the Borough of Tower Hamlets Environmental Health Department (Pollution Team) in respect to air pollution and air quality. The Pollution Team provides air quality comments and recommends relevant conditions. Air</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
					<p>quality neutral policies are adopted. Planning applications for major developments are reviewed to ensure compliance with GLA air quality neutral policy.</p> <p>Current Local Plan Policy: D.ES2 (Air Quality). Development is required to meet or exceed air quality neutral and consider impacts of pollution during construction and operation of the Proposed Development.</p> <p>LBTH's Local Plan is in the process of being updated. A Regulation 19 plan i.e. final draft of the plan was consulted on in 2024, with the consultation closing on the 28th of October 2024. The Council is targeting to submit the draft local plan to Secretary of State for independent examination by the end of 2025.</p> <p>The emerging local plan includes Policy CG9 Air Quality, which requires that all other development proposals are required to meet or exceed the 'air quality neutral' standard at this stage it is considered that this policy currently has the lowest weight.</p>
7	Emissions from developments and buildings	Ensuring adequate, appropriate, and well-located green space and infrastructure is included in new developments.	Ongoing	LBTH Sustainability Development Team, Planning and Building Control	<p>This action is ongoing. The Current Local Plan Policy D.ES3 (Urban Greening and Biodiversity) requires developments to protect and enhance biodiversity, maximising 'living building' elements and increasing the provision of trees.</p> <p>The London Borough of Tower Hamlets' local validation list requires the submission of an Urban Greening Statement for major developments, to provide assessment based on the Urban Greening Factor (UGF) model in accordance with London Plan Policy G5. The London Plan Policy G5 requires major</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<p>development to achieve a UFG score of 0.4 for residential development and 0.3 for commercial development.</p> <p>LBTH's Local Plan is in the process of being updated. A Regulation 19 plan i.e. final draft of the plan was consulted on in 2024, with the consultation closing on the 28th of October 2024. The Council is targeting to submit the draft local plan to Secretary of State for independent examination by the end of 2025.</p> <p>The emerging local plan includes Policy BO5 Urban Greening, which reinforces the UGF requirement as set out in the London Plan. At this stage it is considered that this policy currently has medium weight.</p> <p>The emerging local plan includes Policy CG9 Air Quality, which requires that new build proposals which provide any private, communal, publicly accessible open space or child play space in areas of sub-standard air quality are required to demonstrate that they have considered positioning and design of the open space to minimise exposure of future users to air pollution. At this stage it is considered that this policy currently has the lowest weight.</p>
8	Emissions from developments and buildings	(a) Consolidate and update Tower Hamlets' historic Smoke Control orders (b) Delivering annual awareness campaigns	Ongoing	LBTH Pollution Team, Planning/ Building Control, Communications	<p>A report has been prepared for Cabinet that seeks approval to launch a public consultation on revoking and reconsolidating the Smoke Control Order and to include moored vessels.</p> <p>Complaints / investigation records are maintained and updated on Council database. Regulatory controls are</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
		(c) Enforcement of smoke control zone breaches GLA Key Selected Measure		Pollution Team	<p>in place and investigated and / or enforced reactively through complaint investigations. In 2024, a total of 7 complaints about smoke control zone breaches, 6 of which related to canal boats. 100% of complaints investigated within 3 working days</p> <p>Publicity and campaign about wood burning for smoke control area over winter months.</p> <p>A best practice leaflet aimed at canal boat owners has been produced and promoted via Council's webpage, social media, CRT and relevant boating associations and fortnightly engagement with boat owners during the winter months. For further information, see action 17.</p>
9	Emissions from developments and buildings	Promoting and delivering energy efficiency and energy supply retrofitting projects in workplaces and homes through EFL retrofit programmes such as RE:FIT, RE:NEW and through Borough carbon offset funds.	Ongoing	LBTH: Sustainability, Housing & Regeneration, GLA, Ameresco Ltd, Home-Energy-Advice Service Partner, Residential Retrofit Service Partner	<p>£3.3m of new Carbon Fund projects agreed for delivery over the next 3 years. This includes install more Solar PV across the Council corporate and housing estates and installing LED lighting in Council buildings</p> <p>The Home Energy Advice programme was launched in late 2024. this programme provides energy efficiency advice to residents of council and private homes.</p> <p>The Residential Energy Efficiency Programme is due to launch in Q1 25/26. This programme is for residents in receipt of a qualifying benefit who will receive an assessment of how to make their home more energy efficient. they will then be able to access a grant of up to £10,000 to implement the identified measures.</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
					<p>The Residential Energy Efficiency Programme is due to launch in Q1 25/26. This programme is for residents in receipt of a qualifying benefit who will receive an assessment of how to make their home more energy efficient. they will then be able to access a grant of up to £10,000 to implement the identified measures.</p> <p>The procurement process closed, and bids were evaluated at the September 2023 moderation meeting. Ameresco was appointed as the contractor in late 2023</p> <p>The procurement framework went to market as planned in Q3 2023/24, and a service partner was appointed.</p> <p>Both the Residential Energy Efficiency Programme and Home Energy Advice Programme have appointed service partners</p>
10	Emissions from developments and buildings	(a) Planning policy is aligned with Air Quality Positive (GLA Foundation Action) (b) Highway improvements to follow the Healthy Streets approach	Ongoing	LBTH: Pollution Team, Planning/ Building Control	<p>Air Quality Positive Statements are required for developments subject to an Environmental Impact Assessment (EIA), in accordance with London Plan Policy S1 1: Improving air quality. All EIA's in LBTH are accompanied by an Air Quality Positive Statement, and this requirement is made clear in LBTH EIA Scoping Opinions.</p> <p>LBTH's Local Plan is in the process of being updated. A Regulation 19 plan i.e. final draft of the plan was</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
		(GLA Foundation Action)			<p>consulted on in 2024, with the consultation closing on the 28th October 2024. The Council is targeting to submit the draft local plan to Secretary of State for independent examination by the end of 2025.</p> <p>The emerging local plan includes Policy CG9 Air Quality, requires that Large-scale development proposals, and major development within Air Quality Focus Areas should achieve 'air quality positive' standards, in line with the Air Quality Positive LPG (2023). At this stage it is considered that this policy currently has the lowest weight.</p> <p>Healthy Streets Assessments were not undertaken in 2024. The Healthy Streets Checklist has been embedded in scheme prioritisation criteria, and aligning with TfL requirements for selected LIP-funded projects. Healthy Streets Assessments will be introduced from 2025 onward.</p>
11	Emissions from developments and buildings	Reduce the use of private cars by residents by encouraging car free developments and limiting number of parking spaces in new developments	Ongoing	LBTH: Planning/ Building Control, Highways/ Transportation, Parking	<p>The Council is reviewing all major planning applications every year to ensure they meet the latest parking standards.</p> <p>Local Plan Policy D.TR3 (Parking and Permit-free), requires developments to meet the parking standards in Appendix 3 of the local plan, to minimise car parking. LBTH Highways are consulted on all relevant planning applications, to ensure this standard is met.</p> <p>This is an ongoing action. All developments are required to be car free other than blue badge accessible bays.</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
					<p>LBTH's Local Plan is in the process of being updated. A Regulation 19 plan i.e. final draft of the plan was consulted on in 2024, with the consultation closing on the 28th of October 2024. The Council is targeting to submit the draft local plan to Secretary of State for independent examination by the end of 2025.</p> <p>The emerging local plan includes Policy MC4 Parking and Permit-free, which promotes car-free development, and states that residential development is required to be permit-free in terms of on-street parking. All car parking space should be equipped with active electric vehicle charging facilities. At this stage it is considered that this policy currently has the lowest weight.</p>
12	Public health and awareness raising	Public Health department will assist in the development of air quality communications / campaigns to ensure an evidence-based approach is followed to support behavioural change, whilst also advocating for improved air quality locally and regionally.	Ongoing	LBTH: Public Health, Communications, Pollution Team	<p>An Acting Associate Director of Public Health was appointed in 2024 to lead the public health agenda in Tower Hamlets.</p> <p>This is an ongoing action. An Air Quality Communications Strategy Plan has been drafted, and Communications team is developing it together with the Pollution Team. This Plan has been shared with Public Health as well, for collaboration.</p>
13	Public health and awareness raising	Develop an air quality focused Joint Strategic Needs Assessment (JSNA) and maximise opportunities	Ongoing	LBTH: Public Health, Pollution Team	The Air quality JSNA, following recommendation by the Public Health Senior Leadership Team, required to be reviewed and changes to be made. This work was completed in 2024.

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
		for further research and evaluation.			
14	Public health and awareness raising	<p>Supporting a direct alerts service such as airTEXT, and promotion and dissemination of high pollution alert services, such as the Mayor's air pollution forecasts</p> <p>(GLA Key Selected Measure)</p>		<p>LBTH: Public Health, Pollution Team, Communications, CERC, GLA</p>	<p>The Council uses social media to help disseminate the Mayor's alerts (high and very high) to raise awareness and reduce exposure amongst vulnerable residents.</p> <p>Mayor's air Pollution alerts (high air pollution levels in the borough) coming from airTEXT are posted on Council social media by Comms.</p> <p>AirTEXT is still ongoing and renewed.</p> <p>Annual airTEXT statistics for Tower Hamlets at the end of 2024:</p> <p>Number of Subscribers: 458 Number of new subscribers: 28 Number of airText Tower Hamlets alert days: 16 Number of alerts sent out: 4324</p>
15	Public health and awareness raising	<p>Encouraging schools to join the TfL STARS accredited travel planning programme</p> <p>(GLA Foundation Action)</p>	Ongoing	<p>LBTH: Highways/Transportation, TFL</p>	<p>The Council works in partnership with schools in the Borough to maintain or apply for the TfL Travel for Life School Travel Plan (previously STARS) accreditation. The Council encourages schools to share their good news stories and activities via the Travel for Life website.</p> <p>Number of schools engaged with the scheme: 47 schools engaged</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<p>% of schools engaged in STARS (TfL Travel for Life) programme (with current level of resources): 47/117 (40%)</p> <p>3rd KPI: Number of schools at level Bronze, Silver and Gold accreditation: Bronze: 14 Silver: 2 Gold: 22</p>
16	Public health and awareness raising	Extending schools air quality audits to all polluted schools (GLA Key Selected Measure)	Ongoing	LBTH: Pollution Team	<p>In 2024, the Pollution Team met its target by completing four air quality audits at the borough's most-polluted schools.</p>
17	Public health and awareness raising	Tackle issues with emissions from Canal Boats	Ongoing	LBTH: Public Health, Pollution Team, Trading Standards	<p>Trading Standards' involvement focused on conducting retail inspections to assess compliance with the new solid fuel regulations. These inspections were carried out in the first year following the introduction of the regulations, and again in year three. On both occasions, no significant compliance issues were identified. The conclusion was that any old or non-compliant stock had likely worked its way through the supply chain by that point.</p>
18	Public health and awareness raising	Develop and implement a communications strategy for disseminating air quality information in the Borough to	Ongoing	LBTH: Pollution Team, Public Health, Communications	<p>An Air Quality Communications Strategy Plan has been drafted, and Communications team is developing it together with the Pollution Team. This</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
		raise awareness of the impacts of poor air quality and encourage behaviour change			<ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints <p>Plan has been shared with Public Health as well, for collaboration.</p>
19	Delivery servicing and freight	Updating of procurement policies to reduce pollution from logistics and servicing (GLA Foundation Action)	Ongoing	LBTH: Procurement	<p>Policies are still under review. A partial review is planned for 2025, ahead of a full scale review to follow.</p>
20	Delivery servicing and freight	Reducing emissions from deliveries to local businesses and residents (GLA Foundation Action)	Ongoing	LBTH: Development Management	<p>The Local Plan team are also exploring commissioning a freight study to understand its impacts and how we can amend the above policy to encourage modal shift and identify potential locations for sustainable freight hubs. We do not have any Key Monitoring Indicators for this in the Local Plan 2020, but as we prepare the new plan, we could work towards a monitoring mechanism to assess this in the future.</p>
21	Borough actions fleet	Reducing emissions from Council fleets by replacing the council's fleet with zero tail pipe emission vehicles (GLA Key Selected Measure)	2035	LBTH: Fleet	<p>The Council's new Fleet Safety Policy & Procedures were launched and rolled out across all services using vehicles. The policy has been issued to all relevant management teams, who have been inducting and issuing it to existing drivers. All new drivers now receive the policy during their initial fleet assessment by Fleet.</p> <p>The procurement of the first 50+ electric vehicles under Phase 1 of the replacement strategy</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<p>progressed throughout the year. Although progress was affected by charging infrastructure limitations, these vehicles are scheduled for introduction in 2025. Further procurement will continue with a target of reaching 30% electric fleet composition. (Ongoing – Fleet)</p> <p>Additional charging infrastructure was installed across more depots and vehicle parking locations, enabling growth in the number of EVs the Council can operate. (Ongoing –)</p> <p>Cleaner vehicles now make up 5% of the fleet, up from 3.23% in 2023. The Council remains on track to reach 30% cleaner vehicles</p> <p>The original aim of a 100% zero tailpipe emission fleet by 2025 is no longer feasible due to current limitations around permanent parking arrangements and infrastructure capacity and a more realistic target of achieving 30% zero tailpipe emissions by 2027/28, with ambition to go beyond 30% by 2035, depending</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
22	Localised solutions	Expanding and improving green infrastructure (GLA Foundation Action)	Ongoing	LBTH: Park Operations	<p>on available investment and infrastructure. Planning for Phase 2, covering larger HGVs and buses, is ongoing and closely linked to these infrastructure developments.</p>
23	Localised solutions	Low Emission Neighbourhoods (LENs) and Business Low Emissions Neighbourhoods (BLENs) (GLA Foundation Action)	March 2024	LBTH: Highs/Transportation, Sustrans, Poplar Harca, Telford Homes, Queen Mary University).	<p>The Council has planted 310 trees across the Borough's highways and parks during the 2024 planting season. This is broken down as:</p> <ul style="list-style-type: none"> - 217 new street trees - 93 new parks trees <p>The Tower Hamlets BLEEN project, completed in March 2024, focused on reducing emissions from local retail and supporting businesses to adopt low and zero emission operations. Key elements included the Chrisp Street e-cargo bike delivery hub, installation of 10 EV chargers on housing estates, and a workplace travel package. The final report and monitoring sheet have been submitted to the GLA.</p>
24	Localised solutions	Implementing a Carbon Emissions Reduction Programme for Council properties (i.e. council offices) including boiler replacements and insulation projects	Ongoing	LBTH: Sustainability	<p>The main focus in 2024 is installing Solar PV onto the roofs of 7 Council sites.</p> <p>Where possible within the existing budget energy efficiency improvements are made when projects are delivered however there is no allocated funding to carry out energy retrofit projects as the CLM budget is primarily focused on maintenance and maintaining Council sites so they can remain operational.</p> <p>We continue to explore all funding options to support this ongoing work.</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress <ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
25	Cleaner transport	Discouraging vehicle idling (GLA Foundation Action)	Ongoing	LBTH: Pollution Team, Parking	<p>The Pollution Team provided training and advice to Civil Enforcement Officers engaging with drivers about idling.</p> <p>Pollution Team continues to respond to idling complaints and continue to undertake enforcement visits to hotspot locations, deploying signage as appropriate. The Pollution Team supports school and community no idling campaigns.</p> <p>Statistics for 2024:</p> <ul style="list-style-type: none"> - Number / percentage of drivers complying with request (discouraging vehicle idling): 34 vehicles discouraged from idling. 100% comply with request - Number of enforcement visits undertaken: 12 - Number of idling complaints responded to within 3 working days: 21 - Number of anti-idling patrols / events held: 12 - No-idling signs installed: 9
26	Cleaner transport	Regular temporary car free days and pedestrianisation schemes	Ongoing	LBTH: Highways/Transport, Pollution Team	No car-free days events held, because clarification is needed on whether there is political support for

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
		(GLA Key Selected Measure)			<p>holding large-scale car free events and for resident led Play Streets.</p> <p>Play Streets held at Robinson Road, E2 and Louisa Gardens, E1. Successful pilot Play Estate also held on estate road at Cornwall Street, Tarling West Estate, E1.</p>
27	Cleaner transport	Using parking policy to reduce pollution emissions (GLA Foundation Action)	Ongoing	LBTH: Highways/Transportation/ Parking	<p>The Council uses fees and charges to discourage heavily polluting vehicles in favour of greener vehicles. We have a surcharge for diesel cars and heavily reduced parking fees for electric vehicles, applying to both residents and visitors. In 2024 we had reduce the bands from 9 (A-G) down to 4 bands, with the higher polluting vehicles charged at a higher price. We also increased the charges by RPI to all permit charges.</p> <p>Parking services had successfully introduced 3 new vehicles as part of the car club scheme, whereby these vehicles were open to council staff between Mon to Fri 8am to 6pm. Out of these hours the vehicles were open to the public. Furthermore, we are still working with operating car club providers in the borough to produce a comms plan to all residents, businesses and visitor the benefits of using the car club scheme. We also working with a provider to implement 12 new bays within the borough to improve the accessibility to car clubs.</p>
28	Cleaner transport	Installation of Ultra-low Emission Vehicle (ULEV)	Ongoing	LBTH: Highways/Transportation	Approval is requested for the Corporate Director to award two contracts covering the installation of 2,035

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
		infrastructure (e.g., electric vehicle charging points, rapid electric vehicle charging point and hydrogen refuelling stations) (GLA Key Selected Measure)			<p>electric-vehicle charging points, in line with the procurement strategy endorsed by the Mayor in Cabinet in January 2024. The contract documentation is still being finalised</p>
29	Cleaner transport	Provision of infrastructure to support walking and cycling (GLA Key Selected Measure)	Ongoing	LBTH: Highways/Transportation, TfL	<p>New walking and cycling strategy and action plan being developed, due for publication in 2025.</p> <p>51% of residents live within 400 metres of London Strategic Cycle Network (source: TfL, 2024)</p> <p>Total of 80 secure cycle parking spaces installed in 2024.</p>
30	Cleaner transport	Continue to encourage staff sustainable travel	Ongoing	LBTH: Highways/Transportation, TfL, Sustrans	<p>Staff travel survey to be carried out in 2025, the first since move over to new offices in Whitechapel in February 2023. Staff travel survey to inform subsequent staff travel plan.</p> <p>Annual Santander Cycle Hire memberships provided to 81 staff in 2024, resulting in 4734 trips.</p> <p>In 2024: A total of 32 Dr Bike sessions held, with 590 bikes fixed.</p>

3. Planning Update and Other New Sources of Emissions

Table M. Planning requirements met by planning applications in the London Borough of Tower Hamlets in 2024

The total number of planning applications in 2024 (minor and major applications, requests for Environmental Impact Assessments EIAs, full planning applications, and submissions of details) is 205.

Condition	Number		
Number of planning applications where an air quality impact assessment was reviewed for air quality impacts	51		
Number of planning applications required to monitor for construction dust	42		
Number of CHPs/Biomass boilers refused on air quality grounds	1		
Number of CHPs/Biomass boilers subject to GLA emissions limits and/or other restrictions to reduce emissions	2		
Number of developments required to install Ultra-Low NOx boilers	33		
Number of developments where an AQ Neutral building and/or transport assessments undertaken	32		
Number of developments where the AQ Neutral building and/or transport assessments not meeting the benchmark and so required to include additional mitigation	5		
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	<ul style="list-style-type: none"> Total number of audits in 2024: 20 % of sites unregistered prior to audit <ul style="list-style-type: none"> - 20% sites of sites audited were cold engaged and therefore not 	NRMM: Central Activity Zone, Canary Wharf and Opportunity Areas	<ul style="list-style-type: none"> 40 conditions related to NRMM 8 developments registered and compliant 1 development unregistered/uncompliant and being chased

Condition	Number
<p>registered prior to auditing.</p> <p>- 80% sites audited were not cold engaged and therefore not registered prior to auditing.</p>	<p>NRMM: Greater London (excluding Central Activity Zone, Canary Wharf and Opportunity Areas)</p> <ul style="list-style-type: none"> • 27 conditions related to NRMM • 7 developments registered and compliant • 2 developments unregistered/uncompliant and being chased

Commentary

All major planning applications are referred to the Pollution Team for review and comments. Each application is individually reviewed to ensure that the GLA SPGs on the ‘Sustainable Design and Construction’, as well as ‘The Control of Dust and Emissions During Construction and Demolition’ is followed.

Where there are compliance issues, Pollution Officers recommend either further information to be obtained from the applicant, or relevant conditions recommended including NRMM conditions where necessary. Enforcement of planning conditions are a matter for the planning department. Where breaches of NRMM condition is identified by the London borough of Merton NRMM team, this is referred to planning enforcement for follow up action.

3.1 New or significantly changed industrial or other sources

No new sources were identified in 2024.

4. Additional Activities to Improve Air Quality

4.1 London Borough of Tower Hamlets Fleet

As of 2024 update, the council operates a fleet of approximately 300 vehicles.

a) Zero emission vehicles:

We currently have 13 fully electric vehicles, which are classed as zero emission. This represents approximately 4.3% of the total fleet.

b) Zero emission capable vehicles:

We do not currently operate any hybrid or plug-in hybrid vehicles, so there are no zero emission capable vehicles in the fleet beyond the fully electric ones.

The council is committed to transitioning to a cleaner fleet in line with our air quality and climate targets, and we continue to assess opportunities to expand our electric vehicle (EV) provision.

4.2 Planning Enforcement

Tower Hamlets continue to support the NRMM project by:

- Providing match funding.
- Forwarding details of major applications determined by the Council to the project team.
- Checking sites for completion.
- Follow up action on non-compliance reported to us.
- Including NRMM condition on major planning applications consent.

4.3 Pan-London NRMM Auditing Project

Continued participation in the pan-London NRMM auditing project

Tower Hamlets will continue to support and resource the Greater London Authority's Non-Road Mobile Machinery (NRMM) audit and enforcement programme for the 2025-2026 financial year.

Standard NRMM planning-condition wording

All Non-Road Mobile Machinery (NRMM) used during the course of the development that is within the scope of the Greater London Authority 'Control of Dust and Emissions during Construction and Demolition' Supplementary Planning Guidance (SPG) 2014, or any subsequent amendment or guidance, shall comply with the emission requirements:

- a. All plant and machinery to be used at the demolition and construction phases is required to meet Stage IV of EU Directive 97/68/ EC for both NOx and PM.
- b. All Non-Road Mobile Machinery (NRMM) and plant to be used on the site of net power between 37kW and 560 kW has been registered at <http://nrmm.london/>.

An inventory of all Non-Road Mobile Machinery (NRMM) must be kept on site during the course of the demolition, site preparation and construction phases of the development, and must be registered on the online register at <https://nrmm.london/>. All machinery should be regularly serviced and service logs kept on site for inspection. Records should be kept on site which details proof of emission limits for all equipment. This documentation should be made available to local authority officers as required until development completion.

Reason: To manage and prevent further deterioration of existing low quality air across London in accordance with policies SI1 of the London Plan (2021) and D.ES2 of Tower Hamlets Local Plan 2031 (2020).

Where the condition is applied

- **Planning Decision Notice** – inserted as a **stand-alone pre-commencement condition** on every qualifying permission; applicants must have the condition discharged before any works start.

- **Construction Management Plan / Site Environmental Management Plan –** the CMP/SEMP, which must be approved before commencement, must reproduce the wording and include a live NRMM inventory.
- **Code of Construction Practice (CoCP) 2023** – sets out the same Stage IV and registration requirements and is automatically referenced in the above planning condition.

Which developments receive the condition

- **All Strategic and Major applications** (10 + dwellings or $\geq 1\,000\text{ m}^2$ floorspace).
- **Minor or Basement schemes** that involve substantial demolition, piling or earthworks, **or** that are located within an Air-Quality Focus Area or adjacent to sensitive receptors (schools, hospitals, care homes) – added at the case officer's discretion, guided by Local Plan policy D.ES2 and the CoCP submission matrix.
- Very small infill and householder projects are assessed case by case; the condition is added wherever Stage IV-rated plant is likely to be used.

Summary

Tower Hamlets will maintain full support for the pan-London NRMM audit. The updated Stage IV NRMM condition is secured on the Decision Notice, mirrored in the CMP/SEMP and referenced in the CoCP, and is applied to every Strategic and Major scheme plus any Minor or Basement site with meaningful air quality risk.

4.4 Air Quality Alerts

Tower Hamlets support *airTEXT* (<https://www.airtext.info/>). Details can be found in Action 6 of Table I 'Delivery of Air Quality Action Plan Measures'.

The borough cascades the Mayor's air quality alert messages through social media.

4.5 Air Quality Positive

No, Tower Hamlets does not yet have any submitted *Air Quality Positive* Matrices that contain innovative mitigation measures we would wish to showcase as a GLA case study.

Appendix A Details of Monitoring Site Quality QA/QC

A.1 Automatic Monitoring Sites

Calibrations at all Tower Hamlets automatic monitoring sites are undertaken by Ricardo Energy & Environment. Millwall Park and Victoria Park are both background sites, so they are calibrated every 4 weeks. Tower Hamlets roadside sites (Blackwall, Mile End, and King Edward Memorial Park) are calibrated every 2 weeks. All sites are provided with ISO 17025 QC audits by Ricardo every 6 months.

PM₁₀ Monitoring Adjustment

Millwall Park – 1020 Heated BAM, correction applied Victoria Park – TEOM, VCM correction applied Both VCM and BAM correction is applied automatically when data is downloaded from Air Quality England web site.

A.2 Diffusion Tubes

- Lab supplying and analysing the tubes:

SOCOTEC Unit 12, Moorbrook, Southmead Industrial Park Didcot OX11 7HP

- Preparation method used:

The tubes were prepared by spiking acetone: triethanolamine (50:50) onto the grids prior to the tubes being assembled. The tubes were desorbed with distilled water and the extract analysed using a segmented flow auto analyser with ultraviolet detection.

- Confirmation that the lab follows the procedures set out in the Practical Guidance:

The samples have been analysed in accordance with SOCOTEC's standard operating procedure ANU/SOP/1015 Issue 1. This method meets the guidelines set out in DEFRA's 'Diffusion Tubes For Ambient NO₂ Monitoring: Practical Guidance.'

- Results of laboratory precision results:

This analysis of diffusion tube samples to determine the amount of nitrogen dioxide present on the tube is within the scope of our UKAS schedule. Any further calculations and assessments requiring exposure details and conditions fall outside the scope of our accreditation. In the AIR PT intercomparison scheme for comparing spiked Nitrogen Dioxide diffusion tubes, SOCOTEC currently holds the highest rank of a 'Satisfactory' laboratory.

Factor from Local Co-location Studies

As every year, a co-location study was undertaken with the use of the two sets of 2 diffusion tubes at Millwall Park and Victoria Park automatic monitoring sites, which has high quality chemiluminescence results (to national AURN standards).

Two duplicate diffusion-tube pairs are co-located with our automatic stations:

- Millwall Park (TH001): Site IDs 93 and 94
- Victoria Park (TH002): Site IDs 42 and 43

Each automatic analyser therefore has a set of two diffusion tubes alongside it for bias-adjustment and QA/QC purposes.

As per the LLAQM Technical Guidance 22, we have calculated the local bias-adjustment factor from our co-location study (Table L).

Figure 7. Local & National Bias Adjustment Factor for 2024



Local Bias Adjustment Outputs - Information Only

Go back to STEP 3 - Bias Adjustment to define factor			
	STEP 3a Local Bias Adjustment Input 1	STEP 3b Local Bias Adjustment Input 2	STEP 3c Local Bias Adjustment Input 3
Periods used to calculate bias	8	11	
Bias Adjustment Factor A	0.91 (0.85 - 0.99)	0.8 (0.71 - 0.91)	
Diffusion Tube Bias B	9% (1% - 17%)	26% (10% - 41%)	
Diffusion Tube Mean ($\mu\text{g}/\text{m}^3$)	15.1	17.7	
Mean CV (Precision)	4.1%	7.2%	
Automatic Mean ($\mu\text{g}/\text{m}^3$) (for periods used to calculate bias)	13.8	14.1	
Data Capture (for periods used to calculate bias)	100%	99%	
Overall Data Capture	99%	100%	
Adjusted Tube Mean ($\mu\text{g}/\text{m}^3$)	14 (13 - 15)	14 (13 - 16)	
Overall Diffusion Tube Precision	Poor Overall Precision	Good Overall Precision	
Overall Continuous Monitor Data Capture	Good Overall Data Capture	Good Overall Data Capture	
Combined Local Bias Adjustment Factor	0.85	Warning - One or more Co-location studies has Poor Overall Diffusion Tube Precision (i.e. CV >10%). Local Bias Adjustment Factor should be treated with caution.	

National Diffusion Tube Bias Adjustment Factor Spreadsheet

Spreadsheet Version Number: 04/25

Follow the steps below [in the correct order](#) to show the results of [relevant](#) co-location studies

This spreadsheet will be updated at the end of June 2025

Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods

[LAQM Helpdesk Website](#)

Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet

This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.

Step 1:	Step 2:	Step 3:	Step 4:				
Select the Laboratory that Analyses Your Tubes from the Drop-Down List	Select a Preparation Method from the Drop-Down List	Select a Year from the Drop-Down List	Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor ³ shown in blue at the foot of the final column.				
If a laboratory is not shown, we have no data for this laboratory.	If a preparation method is not shown, we have no data for this method at this laboratory.	If a year is not shown, we have no data ²	If you have your own co-location study then see footnote ⁴ . If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953				
Analysed By ¹	Method ⁴ Under your selection, choose (All) from the pop-up list	Year ⁵ Under your selection, choose (All)	Site Type Local Authority Length of Study (months) Diffusion Tube Mean Conc. (Dm) ($\mu\text{g}/\text{m}^3$) Automatic Monitor Mean Conc. (Cm) ($\mu\text{g}/\text{m}^3$) Bias (B) Tube Precision ⁶ Bias Adjustment Factor (A) (Cm/Dm)				
SOCOTEC Didcot	50% TEA in Acetone	2024	R Leeds City Council 11 24 18 36.4% G 0.73				
SOCOTEC Didcot	50% TEA in Acetone	2024	UC Leeds City Council 10 25 19 31.2% G 0.76				
SOCOTEC Didcot	50% TEA in Acetone	2024	R Huntingdonshire District Council 10 28 23 21.1% G 0.83				
SOCOTEC Didcot	50% TEA in Acetone	2024	R North East Lincolnshire Council 11 39 21 84.1% G 0.54				
SOCOTEC Didcot	50% TEA in Acetone	2024	UB North East Lincolnshire Council 10 12 10 20.0% G 0.83				
SOCOTEC Didcot	50% TEA in Acetone	2024	R North East Lincolnshire Council 11 21 18 15.7% G 0.86				
SOCOTEC Didcot	50% TEA in acetone	2024	Overall Factor ³ (33 studies)			Use	0.78

Discussion of Choice of Factor to Use

The diffusion tube data presented within the 2024 ASR have been corrected for bias using an adjustment factor (Table S). Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LLAQM.TG22 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Duplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion

tube results with data taken from NOx/NO2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

The combined local bias adjustment factor was calculated as 0.85 using the DEFRA NO₂ data processing tool. However, one or more of the co-location studies used to derive this factor exhibited poor overall diffusion tube precision (i.e. coefficient of variation >10%), which reduces confidence in the result.

As a result, Tower Hamlets has opted to use the national database co-location bias adjustment factor of 0.78 for this report. This factor is based on a larger, more statistically robust dataset and provides a higher degree of confidence. It is also a more conservative value, ensuring the reported concentrations are not underestimated.

Table N. Bias Adjustment Factor

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2024	National	04/2025	0.78
2023	National	03/2024	0.77
2022	National	03/2023	0.76
2021	National	03/2022	0.78
2020	National	03/2021	0.77
2019	National	03/2020	0.75
2018	National	03/2019	0.77
2017	National	03/2018	0.77

A.3 Adjustments to the Ratified Monitoring Data

Short-term to Long-term Data Adjustment

Where data capture for a diffusion tube is between 25% and 75% of a full calendar year (i.e. between 3 and 9 months of valid data), the annual mean concentration must be adjusted ('annualised') before being compared to the annual mean air quality objective, in accordance with the methodology set out in LLAQM.TG(22).

In this case, short-to-long term data adjustment has been undertaken for the following diffusion tube locations:

- Tube 3 – Bethnal Green Rd / Brick Lane
- Tube 7 – St Katherine's Way
- Tube 25 – Cavell St / Stepney Way
- Tube 34 – Pitsea St / Commercial Rd
- Tube 51 – Watney Market

The annualisation calculations were completed using the Diffusion Tube Data Processing Tool, in line with the methodology prescribed in London Local Air Quality Management Technical Guidance (LLAQM.TG(22)). The results are presented in Table O.

No automatic monitoring sites required annualisation.

Distance Adjustment

Where an exceedance of the annual mean objective was recorded at a monitoring location not representative of relevant public exposure, Tower Hamlets applied the distance correction procedure outlined in LLAQM.TG(22) to estimate concentrations at the nearest point of relevant exposure (e.g. building façades or residential receptors).

In line with LLAQM guidance, distance correction was considered at any site where the annual mean NO₂ concentration exceeded 36 µg/m³, and where the monitoring location did not reflect exposure for the general public. This process takes into account the known limitations of the NO₂ Fall-off with Distance Calculator and the Diffusion Tube Data Processing Tool.

Tower Hamlets' diffusion tube data requiring distance adjustment was processed accordingly, and the adjusted values are presented in Table Q.

Table O. Non-Automatic Monitoring Data Adjustment

Site ID	Annualisation Factor Millwall Park	Annualisation Factor Victoria Park	Average Annualisation Factor	Raw Data Annual Mean ($\mu\text{g m}^{-3}$)	Annualised Annual Mean ($\mu\text{g m}^{-3}$)
3	1.0054	0.9863	0.9958	30.7	30.6
7	0.9230	0.9124	0.9177	23.2	21.3
25	1.0917	1.1190	1.1053	30.0	33.1
34	0.9712	0.9819	0.9765	27.1	26.4
51	0.9627	0.9450	0.9539	27.3	26.0

Table P. NO₂ Fall off With Distance Calculations

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted ($\mu\text{g m}^{-3}$))	Background Concentration ($\mu\text{g m}^{-3}$)	Concentration Predicted at Receptor ($\mu\text{g m}^{-3}$)
35	1.5	16.5	45.7	22.3	33.4
74	0.5	10.5	42.5	26.6	33.9

Appendix B Full Monthly Diffusion Tube Results for 2024

Table Q. NO₂ 2024 Diffusion Tube Results (μg m⁻³)

Site ID	Site Name	X OS Grid Reference	Y OS Grid Reference	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Raw Annual Mean (μg/m3)	Bias Adjusted and Annualised Annual Mean (μg/m3)	Distance Corrected Annual Mean (μg/m3)
1	Colombia Rd/Gossett Street	533883	182815	27.9	30.0	21.3	17.1	17.7	15.1	17.5	15.3	19.7	17.8	31.2	24.0	21.2	16.5	
2	Calvert Ave/Boundary Street	533507	182569	29.7	26.5	21.7	18.9	19.2	17.7	19.9	18.5	18.9	20.2	21.1	23.4	21.3	16.6	
3	Bethnal Green Rd/ Brick Lane	533860	182442	40.0		30.1	21.7			28.6	28.3	28.3		37.9	30.9	30.7	23.9	
4	Commercial St/Calvin St	533611	182037	39.1	38.5	37.1	31.4	33.5	28.5	32.6	28.7	32.1	40.7	42.3	31.4	34.7	27.0	
5	Whitechapel High St (KFC)	533985	181426	41.1	45.8	43.6	38.6	40.6	36.8	38.9	39.4	41.4	37.1	45.6		40.8	31.8	
6	Mansell St	533800	181021	41.1	43.2	42.2	30.5	37.1	31.9	31.4	29.1	34.6	37.0			35.8	27.9	
7	St Katherine's Way	533992	180376	26.1	21.5		18.2	19.4					30.7			23.2	16.6	
8	Wapping High St/Sampson St	534444	180122	26.5	28.0	25.1		21.7	16.6	21.8	20.7	21.7	25.3	33.3	15.4	23.3	18.2	
9	Cartwright Street	533955	180805		21.0	24.3	20.6	22.9	17.9	20.4	18.5	19.6	28.2	33.2	20.0	22.4	17.5	
10	Whitechapel Rd/Adler St	534133	181509	33.4		69.7	64.3	32.9	28.6	28.7	30.8	33.4		39.9	32.0	39.4	30.7	
11	Brick Lane/Princelet St	533866	181860	31.2	30.9	26.8	22.6	24.0		22.0		12.9	24.1	27.4	25.6	24.8	19.3	
12	Buckfast St/Bethnal Green Rd	534259	182580	27.6	30.0	25.2	19.8	24.3	11.1	22.3	18.4	24.8	26.1	31.2	17.4	23.2	18.1	
13	Squirries St/Gosset St	534313	182810	16.7		27.7	21.9	22.3	20.6	25.1	22.3	25.5	27.0	34.2	23.5	24.3	18.9	
14	Warner Place/Hackney Rd	534255	183130	31.0	33.9	29.7	24.1	28.0	25.2	30.6	25.0	31.3	33.6	32.5	31.0	29.7	23.1	
15	Parmiter St/ Cambridge Heath Road	534881	183240	38.1	32.2	29.6	26.0	30.4	26.5	26.9	21.7	32.1	31.9	40.8	28.8	30.4	23.7	
16	Paradise Row/Bethnal Green Rd	534959	182757	26.1	34.0	35.3	22.3	20.0	22.6	26.7	21.7	26.0	28.9	32.8	23.4	26.7	20.8	
17	Finnis St/Three Colts Lane	534783	182385	25.0	25.1	20.5	11.0	18.9	15.5	16.7	15.9	19.4	24.2	27.0	12.5	19.3	15.1	

18	Sidney St/Mile End Rd	534968	181878	37.0	36.7	34.7	28.9	30.3	28.1	28.1	29.0	38.9		34.7	34.8	32.8	25.6	
19	Philpot St/Commercial Road	534816	181321	24.4	37.6	33.6	23.4	27.5	28.9	24.2	26.3	27.4	33.0		28.6	28.6	22.3	
20	Dellow St/The Highway	534951	180779	36.3	43.3	39.7	27.7	26.6	39.0	33.7	37.0	32.1		39.2	31.4	35.1	27.4	
21	Queensbridge Rd/Hackney Rd	533985	183122	33.1	32.1	27.2	21.9	25.7	19.7	26.6	19.9	24.7	28.2	34.4	29.5	26.9	21.0	
22	Wapping Wall/Garnet St	535133	180376	25.2	24.5		15.4	19.4	14.3	17.3	15.6	20.6	25.2	28.8	23.5	20.9	16.3	
23	Brodlove Lane	535598	180816	27.8	33.7		15.3	23.7	29.5	29.9	28.7	22.1	31.1	34.2	25.9	27.4	21.4	
24	Jubilee Street/Commercial Rd	535174	181290		40.0	39.1	35.0	37.3	39.4	33.8	33.5	20.5	40.8		12.3	33.2	25.9	
25	Cavell St/Stepney Way	534884	181667		42.4			28.9	25.4	30.7	28.2	14.4	39.9			30.0	25.9	
26	Hannibal Rd/Mile End Rd	535386	182021	31.0	32.9	28.2	22.2	25.7	26.6	25.5	26.5	24.3	31.9	30.2	16.5	26.8	20.9	
27	Roman Rd/Globe Road	535296	182793	25.2	31.9	26.1	21.1	28.5	22.3	19.6	21.7	13.2	17.5	36.9	19.0	23.6	18.4	
28	Bonner Road	535356	183223	35.0	32.4	27.5	29.6	33.1	30.6	23.5	22.7	21.2	25.9	32.2	17.1	27.6	21.5	
29	Grove Rd/Old Ford Rd	535930	183385	30.8	36.1	31.2	23.8	27.7	24.6	22.4	27.1	29.7	27.4	34.0		28.6	22.3	
30	Fieldgate Street	534239	181565	29.3	24.5	34.6	23.5	28.2	23.9	29.9	29.2	14.6	36.9	33.9	20.2	27.4	21.4	
31	Whitechapel Market	534516	181744	45.1	47.2	34.3	34.9	33.0	35.7	42.8	38.1	19.5	42.0	38.1	35.7	37.2	29.0	
32	Globe Rd/Mile End Rd	535634	182148	30.7	41.1	40.2	30.0	34.8	33.0	31.1	32.7	38.9	41.8	42.8	30.1	35.6	27.8	
33	Stepney Green	535545	181604	24.3	28.0	24.1	14.7	9.9	16.0	16.9	19.6	21.3	24.1		26.6	20.5	16.0	
34	Pitsea St/Commercial Rd	535797	181164	33.5	29.9		18.8			21.8		29.4	29.0			27.1	20.6	
35	Narrow St/Limehouse Link	535977	180879	62.5	61.3	65.8	56.2		55.5	60.2	60.2	69.7	55.2	62.6	35.0	58.6	45.7	33.4
36	Locksley St/St Paul's Way	536704	181647		31.9	28.6	16.0	22.1	20.6	19.2	20.2	26.0	29.9			23.8	18.6	
37	Rhodeswell Rd	536577	181379	30.3	33.6	28.1	18.7	21.4	20.1	18.7	18.7	22.5	34.0	32.9	25.8	25.4	19.8	
38	Ben Johnson Road	536080	181721	25.7	31.8	34.4	25.2	27.6	26.4	26.3	25.6	33.4	35.5		14.9	27.9	21.8	
39	Harford St/Mile End Rd	536089	182258	32.4	33.9		22.0	19.1	22.0	22.3	23.4	29.7	31.5		25.4	26.2	20.4	

40	Thydon Rd	536105	183049	22.3	26.9	20.6	21.0	21.0	21.2	20.2	19.3	23.8	23.8	33.8	11.3	22.1	17.2	
41	Ford Close/Roman Rd	536457	183301	33.1	29.6	24.8	23.4	30.0	23.1		21.7	28.7	21.3	35.2	18.4	26.3	20.5	
42, 43	Victoria Park (Co-location site)	536494	184170	19.6	18.4	17.2	9.5	13.3	9.6	11.0	12.9	10.5	14.6	22.5	10.9	14.1	11.0	
44	Parnell Rd/Old Ford Rd	536875	183740	39.5	35.2	33.6	26.9	26.6		21.6	24.3	29.4	34.5	37.6	27.1	30.6	23.8	
45	St Stephen's Rd/Tredegar Rd	536713	183070	33.1	29.7	27.0	21.9	28.3	22.2	24.7	23.9	31.4	29.0	38.7	20.3	27.5	21.5	
46	Rhondda Grove/Mile End Rd	536542	182589		21.7		18.9	19.4	19.6	20.4	18.6	26.2	23.4	31.2	24.2	22.4	17.4	
47	Wentworth Mews	536452	182454	39.0		32.9	25.1	32.3	28.4	28.5	26.8	34.9	38.9	39.2	27.1	32.1	25.0	
48	Ackroyd Drive	536768	181772	28.1	30.7	33.0	24.1	28.2	26.1	29.3	28.2	33.2	37.6	40.4	15.1	29.5	23.0	
49	Dod St/Burdett Rd	537049	181292	27.2	27.9	27.8	18.3	20.9	18.8	19.8	19.6	21.9	30.9	34.5	18.9	23.9	18.6	
50	Rich Street	536937	180987	35.6	29.5	30.1	24.7		22.4	25.5	26.4		32.1	37.1	25.8	28.9	22.6	
51	Watney Market	534938	181257		28.8	25.3				21.8	20.9	26.8	32.5	33.0	29.3	27.3	20.3	
52	Wick Lane/Autumn St	537304	183619	25.9	35.3	29.6	22.8	26.5	25.1	26.0	26.1	31.7	40.7	41.1	17.0	29.0	22.6	
53	Fairfield Road/Tredegar Road	537159	183415	43.8	40.1	38.1	34.6	34.2	29.8	24.2	30.5	37.4	36.1	37.0	29.9	34.6	27.0	
54	Bow Rd /Glebe Terrace	537525	182887	47.5	48.7	53.3	31.1	26.7	31.3	43.2	36.1	24.5	34.0	50.9	39.7	38.9	30.4	
55	TH Cemetery Park	536732	182361	19.9	20.2	16.6	12.3	13.4	12.7	11.5	12.9	16.5	16.6	21.6	8.1	15.2	11.8	
56	Bow Common Lane/St Paul's Way	537248	181820	33.1	28.4	32.0	20.2	28.9	24.4	26.1	25.6	27.2	30.1	32.6	27.7	28.0	21.9	
57	Augusta St/Giraud St	537516	181392	29.1	24.3	22.7	17.4	23.4	17.1	17.9	16.9	22.1		30.5	20.9	22.0	17.2	
58	Dolphin Lane	537539	180688	27.8	27.8	23.7	16.4	21.5	17.7	20.1	20.2	22.6	20.4	32.0	21.5	22.6	17.7	
59	Westferry Road/Limehouse Link jnct	537100	180791		31.5			29.0	22.8	25.8	23.9	27.8	30.9	38.3	21.5	27.9	21.8	
60	Cascades, Westferry Road	537115	180074	30.9	32.8	30.4	28.5	34.0	26.2	30.3	24.6	34.7		33.2		30.6	23.8	
61	Bow Rd/Alfred St	537056	182773	33.1	32.1	25.0	20.6	21.7		22.6	20.5	19.3	30.3	36.6	22.4	25.8	20.2	
62	Mast House Terrace	537348	178690	29.3	28.7	26.7	23.4	28.0	23.4	25.7	24.0	28.5	26.5	34.8		27.2	21.2	

63	Millwall Park	538246	178689	24.4	22.8	17.9	14.9	nul		17.1	16.8		20.7	25.7	15.6	19.5	15.2	
64	Limeharbour	537953	179357	36.2	38.0	37.5	30.9	45.2	35.6	34.7	34.0	37.9	37.1	37.8	34.5	36.6	28.6	
65	Manchester Road/East Ferry Road	538032	178360	26.0	27.8	20.4	20.5	25.1	20.5	21.2	20.8	22.6	25.6	32.2	18.6	23.4	18.3	
66	Millwall Park	538258	178689	25.5	22.7	17.8	16.4	16.0	14.1	14.0	15.7	16.9	21.5	26.6	14.8	18.5	14.4	
67	Seyssel Street	538544	178767	28.6	31.6	24.8	23.8	26.3	22.8	22.8	23.4	24.0	29.1	36.3		26.7	20.8	
68	Manchester Road/Ollife Street	538431	179044	31.7	29.2	21.8	24.3	28.4	25.4	25.1	21.4	29.3	29.4	35.0	22.6	27.0	21.0	
69	Lawnhouse Close	538190	179750	21.9	28.8	28.0	23.9	19.5	26.8	24.0	24.9	25.8	29.3	34.9	27.8	26.3	20.5	
70	Admirals Way	537424	179910	28.6	19.8	21.0	19.4	22.9	19.1	18.8	21.4	22.0	25.3	32.2	22.7	22.8	17.8	
71	Toynbee St/Commercial St	533689	181705	39.4	42.7	37.6	34.1	36.7	30.4	32.6	31.9	36.3	39.6	42.9	37.7	36.8	28.7	
72	Prestons Road/ Coldharbour	538364	180188	30.8	39.1	31.0	25.9	35.8	29.1	27.4	28.4	34.7	35.3	39.9		32.5	25.3	
73	John Smith Mews	538742	180756	17.2	26.0	19.5	17.9	25.4	18.1	18.1	18.1	22.7	22.6	33.4	20.4	21.6	16.9	
74	Poplar High St/Cotton St	538244	180761	51.4	53.7	54.9	50.5	68.7	41.0	60.8	60.6	59.7	61.3	60.7	30.1	54.5	42.5	33.9
75	Hale Street	537661	180768	29.8	29.8	21.1	19.9	22.1	18.2	16.6	19.6	20.9	26.4	36.8	27.0	24.0	18.7	
76	Chrissp Street/E India Dock Road	537940	181021	37.6	29.6	37.9	28.2	37.1	29.6	29.4	29.3	39.1	37.5	41.1	19.8	33.0	25.8	
77	Morris/Barchester Street	537731	181761	23.8	30.2	26.7	20.3	24.0		21.1	19.3	24.5	27.5		14.3	23.2	18.1	
78	Devons Road / Campbell Road	537577	182232	33.4	39.9	32.5	30.8	38.4	31.6	27.0	29.9	36.2	39.6	46.7	15.4	33.5	26.1	
79	Hatfield Terrace/Fairfield Road	537355	183059	31.4		25.7	20.7	23.5	16.9	18.5	18.0	18.0	24.0		22.0	21.9	17.1	
80	Wrexham Road	537581	183209	36.4		28.8		28.3	23.5	12.5	21.5	14.1	31.2	36.8		25.9	20.2	
81	Bromley High Street/ St Leonards	537868	182912	36.4	33.2	29.1	27.1	28.3	24.7	23.4	26.5	15.2	28.9	37.1		28.2	22.0	
82	Devas Street /Devons road	537821	182332	39.9	35.5	30.3	24.0	20.3	23.5	24.9	25.0	33.4	35.5	32.6	23.9	29.1	22.7	
83	Zetland Street/A12	538178	181747	52.7	35.9	48.2	42.7	55.0	33.1	39.7	37.9	47.6	45.8	50.9	27.1	43.1	33.6	
84	Blair Street (End of Street)	538365	181180	35.7	44.0	36.2	26.9	29.5	28.1	30.1	31.2	28.0	35.3		23.6	31.7	24.7	

85	Portree Street	538895	181296	42.3	37.2	42.2	34.0	40.4	32.9	32.2	30.3	36.1		41.1	28.9	36.1	28.2	
86	Newport Avenue	538954	180872	23.9	26.1	23.0	19.1	23.6	16.0	17.2	19.8	19.7	26.7			21.5	16.8	
87	Mile End Road Corner Bancroft Rd	535929	182220	36.6	28.9	24.8	26.1	29.8	29.1	26.0	26.1	36.8	23.2	46.9	15.7	29.2	22.8	
88	Shirbutt St o/s Holy Family School	537555	180892	23.5		21.6		21.3	15.9	17.8		20.3	24.1	31.5	21.2	21.9	17.1	
89	Thames Path Storers Quay	538730	178733	20.9	24.8	22.9	15.1	21.4	16.7	18.9	17.6	22.5	27.2	30.7	15.2	21.2	16.5	
90	Sextant Avenue	538674	178888	26.7	25.2	19.2	17.7	20.4	7.5	17.5	15.8	18.7	24.3	29.0	20.4	20.2	15.8	
91	At the exit of MOT station	539007	181146	35.8	35.2	30.4	28.1	34.7	20.0	26.8	29.1	26.5	35.4	41.0	22.8	30.5	23.8	
92	At the entrance of MOT station	538907	181127	32.2	31.6	31.4	21.3	28.3	19.9	21.0	21.0	27.7	29.0	36.7	20.3	26.7	20.8	
93, 94	Millwall Park- North Greenwich Bowls Club(Co-location site)	538016	178569	22.7	21.9	19.5	16.5	15.8	12.5	16.3	14.3	15.8	15.8	23.6	18.2	17.7	13.8	

- All erroneous data has been removed from the NO₂ diffusion tube dataset presented in Table .
- Annualisation has been conducted where data capture is <75% and >25% in line with LLAQM.TG19.
- Local bias adjustment factor used .
- National bias adjustment factor used.
- Where applicable, data has been distance corrected for relevant exposure in the final column.
- London Borough of Tower Hamlets confirm that all 2024 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.

Notes:

Exceedances of the NO₂ annual mean objective of 40 $\mu\text{g m}^{-3}$ are shown in **bold**.

NO₂ annual means exceeding 60 $\mu\text{g m}^{-3}$, indicating a potential exceedance of the NO₂ 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 8A. Map of Non-Automatic Monitoring Site(s) and Whole Borough AQMA

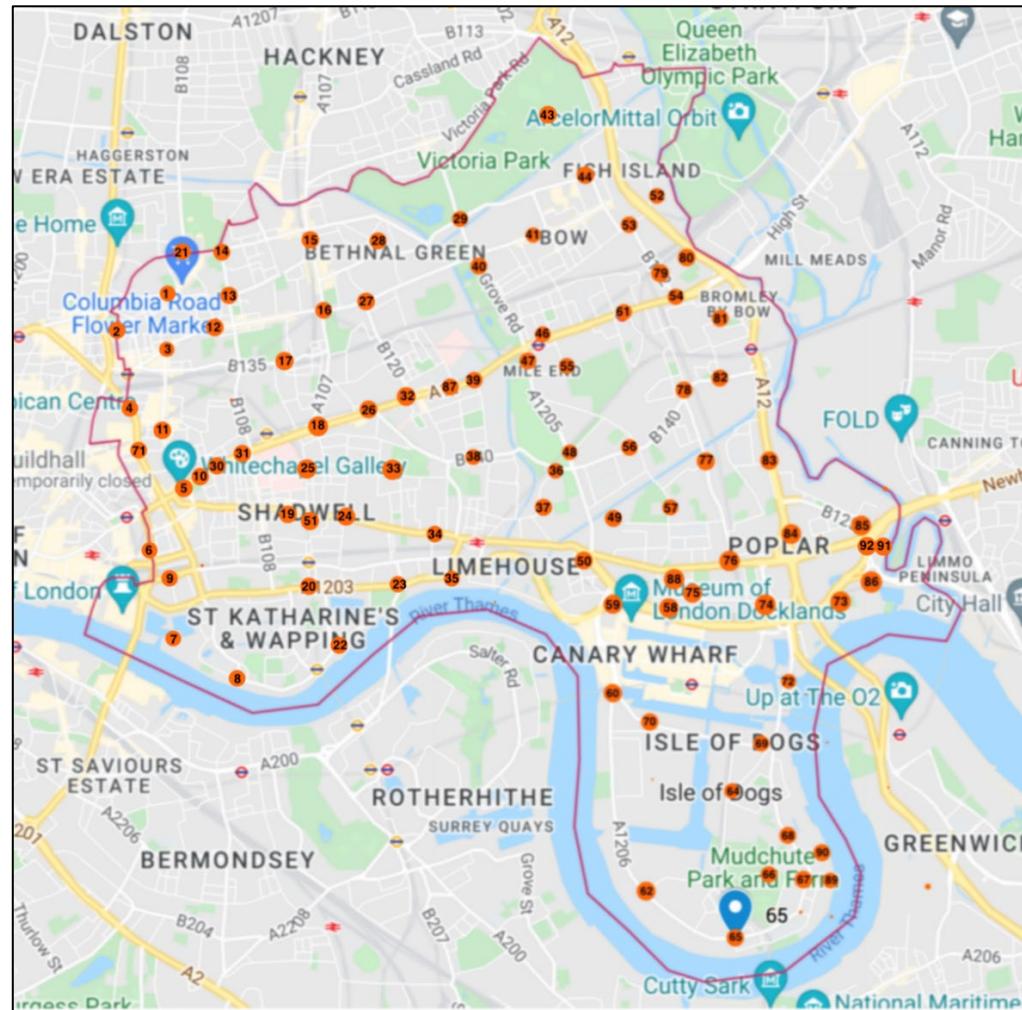
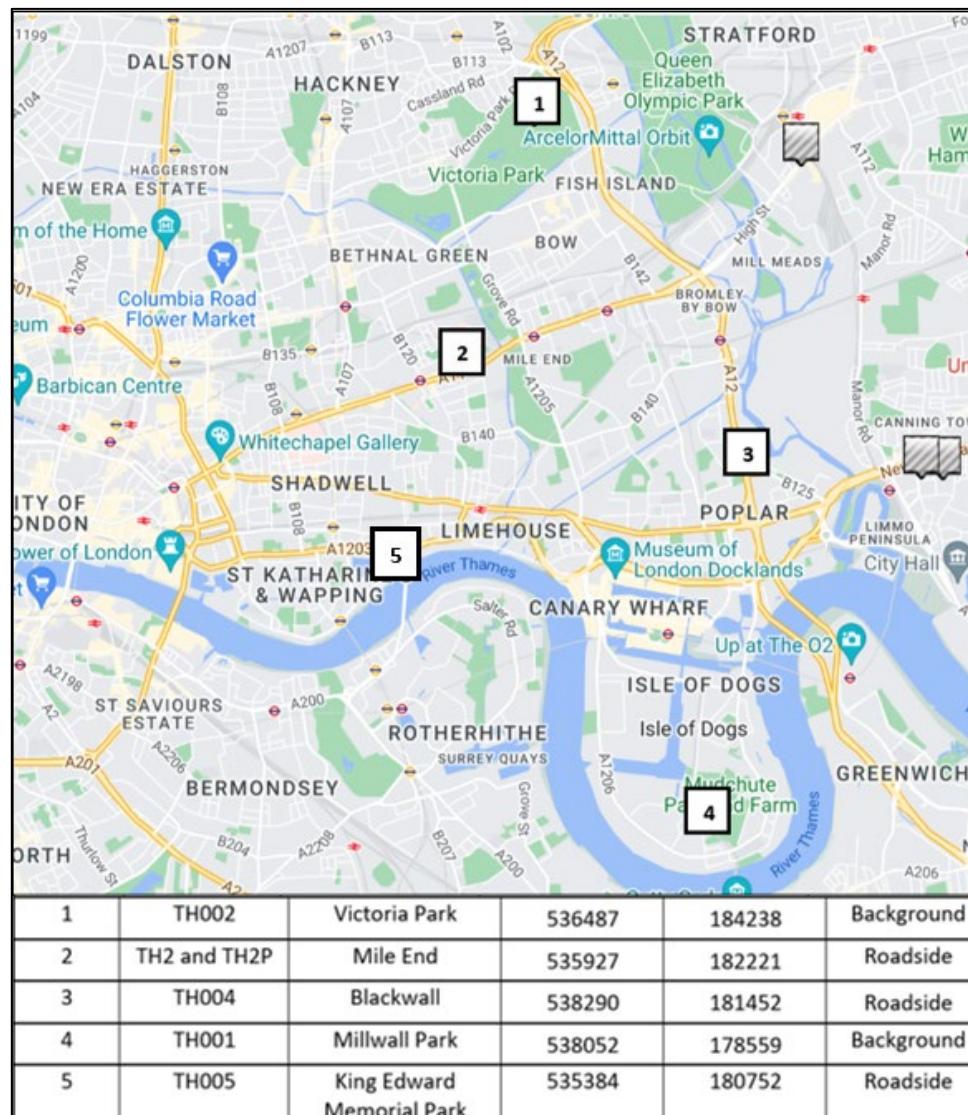


Figure 8B. Map of Automatic Monitoring Site(s)



London Borough of Waltham Forest

Air Quality Annual Status Report for 2024

Date of publication: 31st May 2025



This report provides a detailed overview of air quality in London Borough of Waltham Forest during 2024. It has been produced to meet the requirements of the London Local Air Quality Management (LLAQM) statutory process¹.

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})	10 µg m ⁻³ ⁽³⁾	Annual mean	2040
Particles (PM _{2.5})	London Mayoral Objective ⁽⁴⁾ : 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 not 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) Environmental Target Regulations under the Environment Act 2021
- (4) London Mayoral Objective

1. Air Quality Monitoring

1.1 Locations

Table B. Details of Automatic Monitoring Sites for 2024

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
WL1	<i>Dawlish Rd</i>	538380	186717	<i>Urban Background</i>	Y	5.5m	15m	3.5m	<i>NO₂, PM₁₀, PM_{2.5}</i>	<i>Chemiluminescent; NOx analyser</i>
WL4	<i>Crooked Billet Roundabout</i>	537468	191071	<i>Kerbside</i>	Y	11m	0.5m	2m	<i>NO₂, PM₁₀</i>	<i>Chemiluminescent; NOx analyser</i>
WL5	<i>Ruckholt Close</i>	537804	186025	<i>Roadside</i>	Y	8m	1.5m	3.5m	<i>NO₂, PM₁₀</i>	<i>Chemiluminescent; FDMS; NOx analyser</i>

Notes:

- (1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).
- (2) N/A if not applicable

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)	Distance to Kerb of Nearest Road (m)	Tube Co-located with a Continuous Analyser (Y/N)	Height (m)
A03	<i>Shernhall St, Greville Rd</i>	Roadside	538366	188994	NO2	<i>Waltham Forest</i>	5.0	5.0	No	2.0
A04	<i>Blackhorse Rd in front of St Patricks Catholic School</i>	Roadside	536048	189159	NO2	<i>Waltham Forest</i>	0.2	2.2	No	2.0
A05	<i>Boundary Rd & Hoe St</i>	Roadside	537600	188251	NO2	<i>Waltham Forest</i>	3.5	0.2	No	2.0
A06	<i>Chestnuts House on Hoe St</i>	Roadside	537498	188436	NO2	<i>Waltham Forest</i>	9.0	2.2	No	2.0
A07	<i>Chingford Assembly Hall</i>	Roadside	538699	194426	NO2	<i>Waltham Forest</i>	4.0	2.2	No	2.0
A09	<i>Dawlish Rd (playground area next to 195 Dawlish Rd)</i>	Roadside	538400	186734	NO2	<i>Waltham Forest</i>	2.5	4.5	No	2.4
A10	<i>Forest Rd and Melville Rd</i>	Roadside	536938	189753	NO2	<i>Waltham Forest</i>	0.5	4.5	No	2.0
A11	<i>Francis Rd & High Rd Leyton</i>	Roadside	538022	187162	NO2	<i>Waltham Forest</i>	13.0	2.0	No	2.0
A12	<i>Gloucester Rd & Lea Bridge Rd</i>	Roadside	537088	187632	NO2	<i>Waltham Forest</i>	3.5	0.0	No	2.0
A13	<i>Howard Rd & Church Rd</i>	Roadside	537583	189310	NO2	<i>Waltham Forest</i>	3.5	2.2	No	2.0

A14	<i>Kings Rd & Kingswood Rd</i>	Roadside	539259	187567	NO2	<i>Waltham Forest</i>	1.8	2.5	No	2.0
A15	<i>Lea Bridge Rd (entrance of Lea Valley Riding School)</i>	Roadside	535928	186914	NO2	<i>Waltham Forest</i>	0.0	2.0	No	2.0
A16	<i>Lea Bridge Rd and Perth Rd</i>	Roadside	536457	187238	NO2	<i>Waltham Forest</i>	2.0	1.0	No	2.0
A17	<i>Leyton Library</i>	Roadside	538243	186286	NO2	<i>Waltham Forest</i>	4.5	3.8	No	2.0
A18	<i>Oliver Rd and Ruckholt Rd</i>	Roadside	538022	186126	NO2	<i>Waltham Forest</i>	0.5	2.0	No	2.0
A19	<i>Pembroke Rd & Grosvenor Park Rd</i>	Kerbside	537719	188685	NO2	<i>Waltham Forest</i>	1.8	0.2	No	2.0
A20	<i>Queens Rd near the Cemetery</i>	Roadside	536951	188436	NO2	<i>Waltham Forest</i>	10.5	2.7	No	2.0
A21	<i>Radlix Rd and Church Rd</i>	Roadside	537251	187156	NO2	<i>Waltham Forest</i>	13.0	0.8	No	2.0
A22	<i>Ruckholt Close</i>	Roadside	537937	186109	NO2	<i>Waltham Forest</i>	13.0	0.0	No	2.0
A23	<i>Vicarage Rd near St Josephs Junior</i>	Kerbside	537620	187387	NO2	<i>Waltham Forest</i>	8.8	0.2	No	2.2
A24	<i>Winns Ave junct Mersey Rd</i>	Roadside	536887	189998	NO2	<i>Waltham Forest</i>	22.0	0.5	No	2.2
A25	<i>Aymler Rd</i>	Roadside	539563	187517	NO2	<i>Waltham Forest</i>	22.0	0.5	No	2.0
A26	<i>Chingford Road junct Loxham Rd</i>	Roadside	537455	191429	NO2	<i>Waltham Forest</i>	12.0	0.2	No	2.0
A27	<i>Hale End Road (~230-240)</i>	Roadside	538632	191096	NO2	<i>Waltham Forest</i>	6.0	0.8	No	2.0

A28	<i>Hall Lane o/s retail park</i>	Roadside	538863	191080	NO2	<i>Waltham Forest</i>	5.0	1.2	No	2.0
A29	<i>Winchester Rd (~160-170)</i>	Roadside	538863	191080	NO2	<i>Waltham Forest</i>	3.0	0.5	No	2.0
A31	<i>James Lane Leytonstone School</i>	Roadside	539034	188244	NO2	<i>Waltham Forest</i>	12.0	2.2	No	2.0
E01	<i>Mornington Rd and High Rd Leytonstone</i>	Roadside	539664	187618	NO2	<i>Waltham Forest</i>	2.0	1.5	No	2.2
E02	<i>Coppermill School Edward Road</i>	Roadside	535942	188731	NO2	<i>Waltham Forest</i>	6.0	2.2	No	2.0
E03	<i>William Marshall Cl and S. Access Rd</i>	Roadside	536251	188272	NO2	<i>Waltham Forest</i>	3.5	1.2	No	2.0
E04	<i>Argalway Foot Bridge</i>	Roadside	535891	187365	NO2	<i>Waltham Forest</i>	160.0	4.0	No	2.2
E05	<i>Veralum Ave</i>	Roadside	536593	187974	NO2	<i>Waltham Forest</i>	4.5	1.2	No	2.2
E06	<i>Markhouse Rd opposite Acacia Rd</i>	Roadside	536644	188089	NO2	<i>Waltham Forest</i>	15.0	2.5	No	2.2
E07	<i>Station Rd junct with Buxton Rd E5</i>	Kerbside	538954	194512	NO2	<i>Waltham Forest</i>	12.0	0.2	No	2.0
E08	<i>87 Palmerston Road</i>	Roadside	536619	189322	NO2	<i>Waltham Forest</i>	4.5	2.5	No	2.2
E09	<i>Chingford Road junct Penhryn Cres</i>	Kerbside	537536	190697	NO2	<i>Waltham Forest</i>	5.0	0.2	No	2.0
E10	<i>Forest Rd Bell Corner</i>	Roadside	537431	189784	NO2	<i>Waltham Forest</i>	10.0	0.2	No	2.0
E11	<i>Forest Road junct Wood St</i>	Kerbside	538295	189964	NO2	<i>Waltham Forest</i>	25.0	0.2	No	2.2

E12	<i>Friday Hill junct Normanton Pk</i>	Kerbside	539129	193377	NO2	<i>Waltham Forest</i>	5.0	0.2	No	2.2
E13	<i>Fulbourne Rd</i>	Kerbside	538123	190790	NO2	<i>Waltham Forest</i>	5.0	0.2	No	2.0
E14	<i>Hale End Road junct The Avenue</i>	Roadside	538588	191750	NO2	<i>Waltham Forest</i>	2.8	0.2	No	2.0
E15	<i>High Rd E10 junct Buckingham Rd</i>	Roadside	538072	186479	NO2	<i>Waltham Forest</i>	0.0	3.5	No	2.0
E16	<i>High Rd E10 junct Etchingham Rd</i>	Roadside	538386	185800	NO2	<i>Waltham Forest</i>	3.0	2.7	No	2.2
E17	<i>High Rd E11 junct West St</i>	Kerbside	539227	186335	NO2	<i>Waltham Forest</i>	1.8	0.8	No	2.2
E18	<i>Higham Hill junct Forest Road</i>	Roadside	536547	189641	NO2	<i>Waltham Forest</i>	5.6	2.0	No	2.4
E19	<i>Higham Hill Rd junct Claremont Road</i>	Roadside	536226	190223	NO2	<i>Waltham Forest</i>	5.6	2.0	No	2.0
E20	<i>Larkshall Rd junct Dale View Cres E5</i>	Roadside	538627	193361	NO2	<i>Waltham Forest</i>	6.0	2.4	No	2.0
E21	<i>Lea Bridge Rd Bakers Arms</i>	Kerbside	537792	188144	NO2	<i>Waltham Forest</i>	0.0	0.5	No	2.4
E23	<i>Old Church Rd o/s Mansfield Park</i>	Kerbside	537660	193854	NO2	<i>Waltham Forest</i>	11.0	0.2	No	2.0
E24	<i>Selbourne 1 (South Grove)</i>	Roadside	536732	188811	NO2	<i>Waltham Forest</i>	45.0	0.4	No	2.0
E25	<i>Selbourne 2</i>	Kerbside	536791	188897	NO2	<i>Waltham Forest</i>	49.0	0.4	No	2.2
E26	<i>Selbourne 3</i>	Kerbside	536999	188939	NO2	<i>Waltham Forest</i>	45.0	0.4	No	2.5

<i>E27</i>	<i>Selbourne 4</i>	<i>Roadside</i>	<i>537142</i>	<i>188976</i>	<i>NO2</i>	<i>Waltham Forest</i>	<i>55.0</i>	<i>2.5</i>	<i>No</i>	<i>2.5</i>
<i>E27_1</i>	<i>Selbourne 4</i>	<i>Roadside</i>	<i>537142</i>	<i>188976</i>	<i>NO2</i>	<i>Waltham Forest</i>	<i>55.0</i>	<i>2.5</i>	<i>No</i>	<i>2.5</i>
<i>E28</i>	<i>Francis Road</i>	<i>Roadside</i>	<i>538321</i>	<i>186872</i>	<i>NO2</i>	<i>Waltham Forest</i>	<i>4.0</i>	<i>0.8</i>	<i>No</i>	<i>2.0</i>
<i>E29</i>	<i>Orford Road</i>	<i>Roadside</i>	<i>537786</i>	<i>188946</i>	<i>NO2</i>	<i>Waltham Forest</i>	<i>5.0</i>	<i>0.8</i>	<i>No</i>	<i>2.2</i>
<i>E30</i>	<i>Woodville Mornington</i>	<i>Roadside</i>	<i>539707</i>	<i>187463</i>	<i>NO2</i>	<i>Waltham Forest</i>	<i>5.0</i>	<i>0.8</i>	<i>No</i>	<i>2.2</i>
<i>E31</i>	<i>Whipps Cross Asham Homes</i>	<i>Roadside</i>	<i>538716</i>	<i>188888</i>	<i>NO2</i>	<i>Waltham Forest</i>	<i>5.0</i>	<i>5.0</i>	<i>No</i>	<i>2.0</i>
<i>A08</i>	<i>Connaught School</i>	<i>Roadside</i>	<i>539024</i>	<i>186945</i>	<i>NO2</i>	<i>Waltham Forest</i>	<i>6.0</i>	<i>1.8</i>	<i>No</i>	<i>2.0</i>
<i>E22</i>	<i>Chingford Mount</i>	<i>Kerbside</i>	<i>537339</i>	<i>192767</i>	<i>NO2</i>	<i>Waltham Forest</i>	<i>0.0</i>	<i>0.5</i>	<i>No</i>	<i>2.0</i>

Notes:

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).
 (2) N/A if not applicable.

1.2 Comparison of Monitoring Results with AQOs

Concentration values are those at the location of the monitoring site (bias adjusted and annualised, as required), not those following any fall-off with distance correction.

Table D. Annual Mean NO₂ Monitoring Results: Automatic Monitoring (µg/m³)

Site ID	Site type	Valid data capture for monitoring period % ^(a)	Valid data capture 2024% ^(b)	2018	2019	2020	2021	2022	2023	2024
WL1	Automatic	N/A	98.4	23	24	19	18	20	17	14.9
WL4	Automatic	N/A	50.4	58	58	42	45	41	40	36.4
WL5	Automatic	N/A	97.4	30	31	25	23	22	21	19.9

Notes:

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

Exceedances of the NO₂ annual mean AQO of 40 µg m⁻³ are shown in **bold**.

NO₂ annual means in excess of 60 µg m⁻³, indicating a potential exceedance of the NO₂ 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%).

Table E. Annual Mean NO₂ Monitoring Results: Non-Automatic Monitoring (µg/m³)

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
A03	538359	188999	Roadside	N/A	97.8	37.4	33.9	31.5		22.6	16.7	16.7
A04	536048	189159	Roadside	N/A	73.9	44.6	45.2	32.4	28.7	29.9	30.1	28.6
A05	537600	188251	Roadside	N/A	90.0	41.6	41.6	37.3		27.3	26.2	25.6
A06	537498	188436	Roadside	N/A	90.0	32.7	36.3	34.7		30.0	29.7	27.3
A07	538699	194426	Roadside	N/A	88.4	29.6	29.7	22.4	20.8	21.6	20.3	18.3
A09	538400	186734	Roadside	N/A	80.9	22.8	25.1	21.5		16.7	15.2	15.3
A10	536938	189753	Roadside	N/A	90.3	33.1	31	22.1	21.7	20.9	19.2	18.5
A11	538022	187162	Roadside	N/A	90.3	30.9	30.2	22.8	23.8	21.5	19.5	18.7
A12	537088	187632	Roadside	N/A	88.7	38.6	38.3	27.7	26.7	25.8	23.7	21.7
A13	537583	189310	Roadside	N/A	97.8	31	31.2	22.4	20.6	20.6	18.7	17.0
A14	539259	187567	Roadside	N/A	97.8	32	32.9	22	23.2	21.3	19.2	18.0
A15	535928	186914	Roadside	N/A	97.8	27.3	27.1	20	20.3	19.9	18.7	17.1
A16	536457	187238	Roadside	N/A	97.8	31.7	31.6	23.6	23.7	22.1	21.3	20.5
A17	538243	186286	Roadside	N/A	80.9	37	41.2	36.6	35.1	31.8	29.0	30.6
A18	538022	186126	Roadside	N/A	97.8	44.7	43	33.2	32.5	29.9	27.1	26.2
A19	537719	188685	Kerbside	N/A	97.8	28.1	29.6	21.1	19.6	21.4	19.1	16.4
A20	536951	188436	Roadside	N/A	97.8	28.4	28.5	20.6	19.7	19.6	17.9	16.8
A21	537251	187156	Roadside	N/A	97.8	39.5	32.5	30.3		30.8	29.7	28.7
A22	537937	186109	Roadside	N/A	81.4	34.6	35.8	25.7	25.6	24.5	22.7	20.8
A23	537620	187387	Kerbside	N/A	80.6	26.4	26.6	21.9		17.8	17.3	16.1
A24	536887	189998	Roadside	N/A	90.3	29.6	28.1	18.8		18.0	16.5	15.1
A25	539563	187517	Roadside	N/A	81.1	29.8	37.4	28.5	29.5	26.1	25.5	25.1
A26	537455	191429	Roadside	N/A	90.0	34.2	35.1	27.5	38.1	29.6	36.7	37.0
A27	538632	191096	Roadside	N/A	97.8	34.2	36.6	25.5	24.5	25.7	24.3	22.1
A28	538863	191080	Roadside	N/A	88.7	38.5	38.9	33.3		34.0	32.5	29.6
A29	538863	191080	Roadside	N/A	97.8	48.7	35.2	27.5	27.9	25.5	23.0	22.5
A31	539034	188244	Roadside	N/A	73.0	38.3	37.6	29.4	29.4	24.5	22.7	22.0
E01	539664	187618	Roadside	N/A	88.7			35.7	34.1	33.8	32.5	26.8
E02	535942	188731	Roadside	N/A	90.3	34.6	28.4	19	16.3	16.0	15.3	14.6
E03	536251	188272	Roadside	N/A	87.3	39.3	27.2	18.6	17	17.3	16.0	15.4
E04	535891	187365	Roadside	N/A	97.8			22.6	23.8	23.1	21.8	20.2

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
E05	536593	187974	Roadside	N/A	97.8			25.6	18.1	18.4	18.1	15.8
E06	536644	188089	Roadside	N/A	97.8			27.3	26.2	28.8	29.4	27.2
E07	538954	194512	Kerbside	N/A	97.8	50.3	33.1	22.4	24.5	25.3	24.4	21.3
E08	536619	189322	Roadside	N/A	70.9	43.7	36.1	28.5	27.8	24.8	23.6	20.7
E09	537536	190697	Kerbside	N/A	90.0	46.4	35.6	26.1	25.9	25.6	23.9	22.6
E10	537431	189784	Roadside	N/A	97.8	30.2	38.1	32.3	35.2	33.0	29.3	29.2
E11	538295	189964	Kerbside	N/A	97.8	27.3	40.8	31		28.3	25.0	24.5
E12	539129	193377	Kerbside	N/A	97.8	50.9	29.4	17.5		18.7	18.0	16.1
E13	538123	190790	Kerbside	N/A	97.8	43.5	36	25.4	24.6	24.3	22.1	21.2
E14	538588	191750	Roadside	N/A	97.8	39	35.9	22.9	26.8	26.7	24.8	22.5
E15	538072	186479	Roadside	N/A	97.8	40.7	36.6	28.3	27.6	25.0	24.5	21.7
E16	538386	185800	Roadside	N/A	97.8	59.6	47.2	38.2	35	34.5	35.0	32.7
E17	539227	186335	Kerbside	N/A	88.7	57	40.9	32.4	34	32.0	30.4	29.0
E18	536547	189641	Roadside	N/A	82.5	43.2	37	30.6		31.4	30.7	29.2
E19	536226	190223	Roadside	N/A	97.8		31.6	22.1	20.6	21.4	18.8	17.6
E20	538627	193361	Roadside	N/A	97.8		27.4	19.9	19.6	17.2	17.5	15.8
E21	537792	188144	Kerbside	N/A	90.0		51.5	30.7		35.0	32.6	35.3
E23	537660	193854	Kerbside	N/A	97.8		30.2	28.5	28.5	27.4	25.8	21.6
E24	536732	188811	Roadside	N/A	97.8	40.7 ^c	42.7 ^c	34.4	25.9	30.1	28.4	24.9
E25	536791	188897	Kerbside	N/A	97.8	59.6 ^c	58.4 ^c	47.6 ^c	46.2 ^c	36.2 ^c	40.0	36.6
E26	536999	188939	Kerbside	N/A	97.8	57 ^c	58.0 ^c	41.6 ^c	40.4 ^c	36.6 ^c	36.6	38.0
E28	537142	188976	Roadside	N/A	87.3		30.7	20.8	22	20.0	21.6	16.4
E29	538321	186872	Roadside	N/A	97.8		29.6	27.9		21.1	19.4	16.7
E30	537786	188946	Roadside	N/A	88.9			31.7	24.8	20.4	20.2	19.4
E31	538716	188888	Roadside	N/A	97.8			26.0				23.4
A08	539024	186945	Roadside	N/A	97.8							16.1
E22	537339	192767	Kerbside	N/A	90.0			27.0				32.2

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 $\mu\text{g}/\text{m}^3$.

Exceedances of the NO_2 annual mean objective of $40\mu\text{g}/\text{m}^3$ are shown in **bold**.

NO_2 annual means exceeding $60\mu\text{g}/\text{m}^3$, 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%).

There continues to be a decreasing trend in NO_2 levels in the vast majority of the monitoring sites. This demonstrates that local actions in Waltham Forest, combined with regional policies have led to sustained air quality improvements.

Figure A shows the 7-year trend in NO_2 concentrations in the air quality focus areas identified in our Air Quality Action Plan.

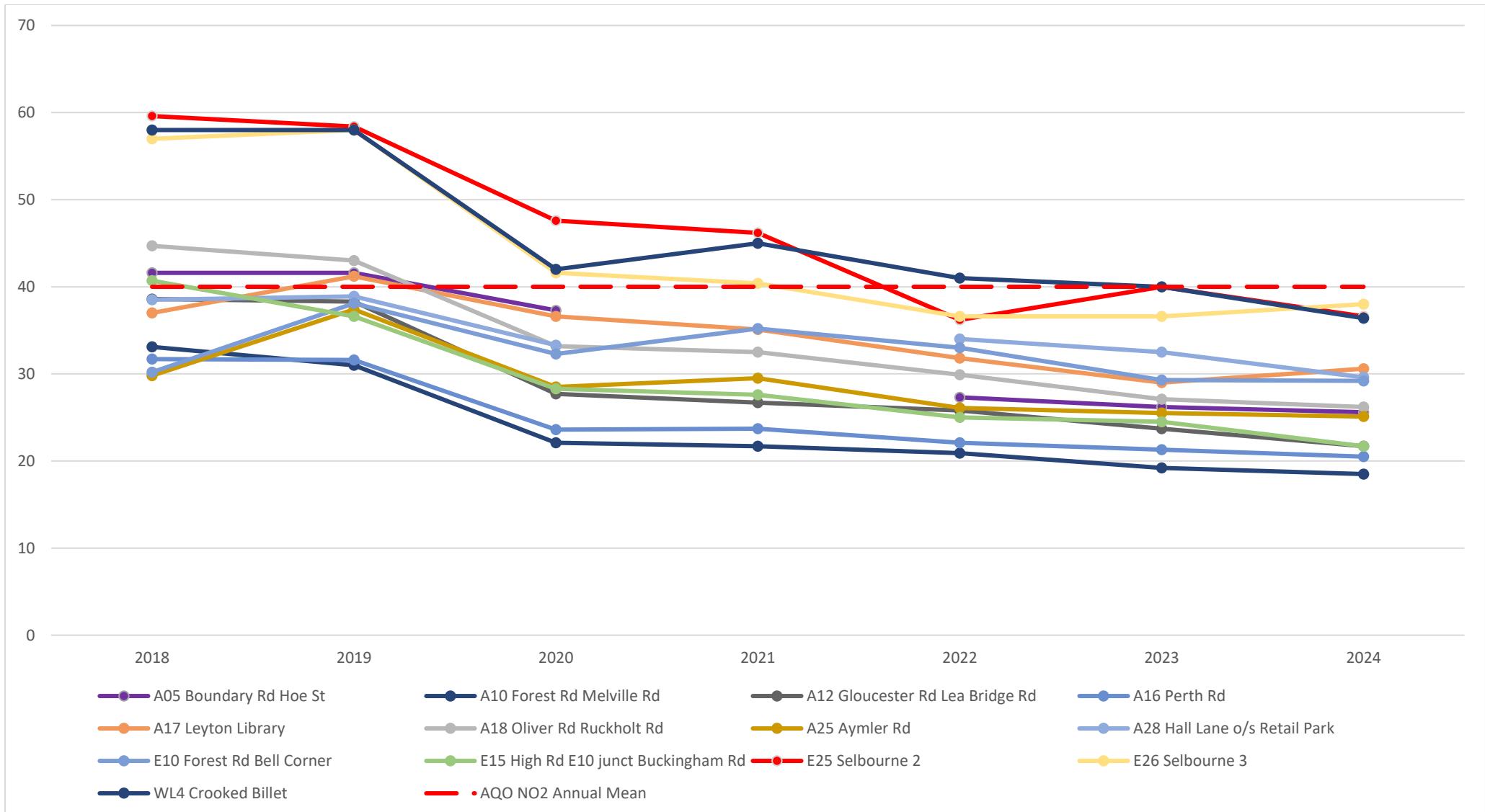


Figure A. Trends in Nitrogen Dioxide Concentrations in AQ focus areas within the London Borough of Waltham Forest 2018-2024

Table F. NO₂ 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 2024 % ^(b)	2018	2019	2020	2021	2022	2023	2024
WL1 <i>Dawlish Road</i>	N/A	98.4	0	0	0	0	0	0	0
WL4 <i>Crooked Billet</i>	N/A	50.4	0	2	0	0	0 (121)	0 (120)	0 (112)
WL5 <i>Ruckholt Close</i>	N/A	97.4	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 NO₂ 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%)

Table G. Annual Mean PM₁₀ Automatic Monitoring Results (μg m⁻³)

Site ID	Valid data capture for monitoring period % ^(a)	Valid data capture 2024 % ^(b)	2018	2019	2020	2021	2022	2023	2024
WL1 <i>Dawlish Road</i>	N/A	98.9	17	19	17	15	15	16	15.7
WL4 <i>Crooked Billet</i>	N/A	98.7	28	29	25	23	25	26	24.7
WL5 <i>Ruckholt Close</i>	N/A	93	18	19	17	15	15	14	15.6

Notes

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

Exceedances of the PM₁₀ 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%).

Figure B shows the 7-year trend in PM10 annual means at the automatic monitoring station within Waltham Forest.

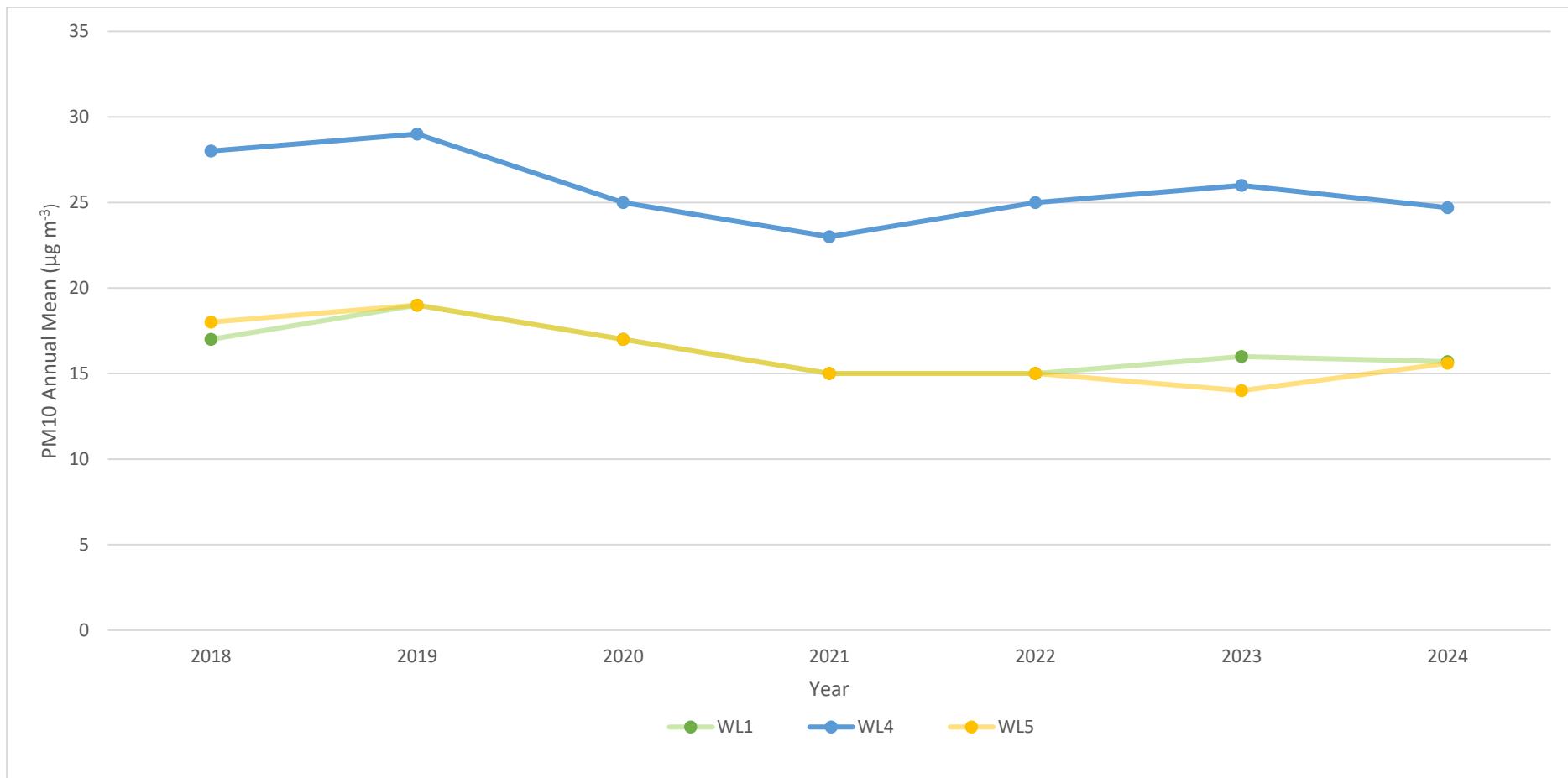


Figure B: Trends in PM10 Annual Means at Automatic Monitoring Station Sites within the London Borough of Waltham Forest 2018-2024

Table H. PM₁₀ Automatic Monitoring Results: Comparison with 24-Hour Mean Objective, Number of PM₁₀ 24-Hour Means > 50 µg m⁻³

Site ID	Valid data capture for monitoring period % ^(a)	Valid data capture 2024 % ^(b)	2018	2019	2020	2021	2022	2023	2024
WL1 <i>Dawlish Road</i>	N/A	98	17	19	1	0	0	0	0
WL4 <i>Crooked Billet</i>	N/A	92	28	15	10	5	6	6	2
WL5 <i>Ruckholt Close</i>	N/A	97	18	19	4	1	3	0	0

Notes

Exceedances of the PM₁₀ 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%).

Table I. Annual Mean PM2.5 Automatic Monitoring Results (µg m-3)

Site ID	Valid data capture for monitoring period % ^(a)	Valid data capture 2024 % ^(b)	2018	2019	2020	2021	2022	2023	2024
WL1 Dawlish Road	N/A	99.2	-	12	10	9	10	9	9.4

Notes

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

Exceedances of the PM_{2.5} annual mean concentration target of 10 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%).

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.

The entire borough of Waltham Forest has been declared an AQMA, as shown in Table J. Appendix C provides maps of the air quality monitoring locations in Waltham Forest. The air quality objectives pertinent to the current AQMA designation are as follows:

- NO₂ annual mean;
- PM₁₀ 24-hour mean;

Table J. 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
Waltham Forest AQMA	31/10/2001	NO ₂ annual mean (40 µg m ⁻³)	Whole Borough	YES	Modelling identified a number of roads with NO ₂ exceedances (e.g. A406, A104 A12 A112, A11 High Road Leytonstone, A503, A106, parts of B160, B159, B179) The highest measured concentration was approx. 60 µg m ⁻³	38.0 µg m ⁻³	2	Air Quality Action Plan 2023-2028 (April 2023)	https://www.walthamforest.gov.uk/sites/default/files/2023-04/Air%20Quality%20Action%20Plan%202023-2027_v3%20LR_0.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
Waltham Forest AQMA	31/10/2001	PM ₁₀ 24-hour mean (50 µg m ⁻³ not to be exceeded more than 35 times a year)	Whole Borough	YES	Information not held	PM10 24-hour exceeded 2 times at one monitoring location	18	Air Quality Action Plan 2023-2028 (April 2023)	https://www.walthamforest.gov.uk/sites/default/files/2023-04/Air%20Quality%20Action%20Plan%202023-2027_v3%20LR_0.pdf

- London Borough of Waltham Forest confirm the information on UK-Air regarding their AQMA(s) is up to date.
- London Borough of Waltham Forest confirm that all current AQAPs have been submitted to GLA.

2.2 Air Quality Action Plan Progress

Table K provides a brief summary of London Borough of Waltham Forest progress against its Air Quality Action Plan 2023-2028, showing progress made in 2024. Actions which have been scheduled for years 3-5 of the Action Plan have not been included.

Table K. Delivery of Air Quality Action Plan Measures

Measure	LLAQM Action Matrix Theme	Action	Progress <ul style="list-style-type: none"> • Emissions/Concentration data <ul style="list-style-type: none"> • Benefits • Negative impacts / Complaints
A01	Monitoring and other core statutory duties	Maintain the current core monitoring network	<u>Action Ongoing</u> The current monitoring network is being maintained and consists of 3 automatic stations and 58 diffusion tubes sites NO ₂ annual means and PM ₁₀ 24-hour means continue to be compliant with declared AQMA objectives, with only 2 exceedances of the PM ₁₀ 24-hour mean.
A03	Monitoring and other core statutory duties	Investigate the installation of a PM2.5 monitor at the Crooked Billet automatic monitoring station	<u>Action in progress</u> The cost analysis for new PM2.5 monitors, and replacement of old monitoring equipment has been completed. Procurement process has not yet commenced, as there has been some delay in receiving s106 funding, which will cover this upgrade.

B03	Emissions from developments and buildings	Review the Council's Supplementary Planning Document (SPD) for Air Quality to reflect new policies and requirements of the Waltham Forest Local Plan and London Plan	<u>Action Ongoing</u> SPDs being reviewed for 2025/2027. SPD regarding S106 fees is currently being drafted and will include set fees for major developments towards the implementation of AQAP.
B07	Emissions from developments and buildings	Support and encourage urban greening measures, facilitated by new developments, which will further improve air quality and deliver new green spaces, in line with policies and requirements of the Waltham Forest Local Plan and the London Plan	<u>Action Ongoing</u> Development Management have had the Site Monitoring Module enabled in Idox and will work with Place & Design to ensure it captures the required data. The Draft Local Validation Checklist (3-week consultation due to start next week) has been updated to include a standard format for UGF (a plan and calculation).
B06	Emissions from developments and buildings	Continue to participate in the London-wide NRMM monitoring project	<u>Action Ongoing</u> LB Waltham Forest continues to participate in the NRMM scheme. In 2024, 18 audits were carried out. All sites were either self-compliant or complied following engagement.
B08	Emissions from developments and buildings	Undertaking a promotional campaign to make people aware of the harm caused by woodburning and bonfires	<u>Action Ongoing</u> LB Waltham Forest is part of the multi-borough wood burning project. Resources and comms messages were shared with residents.
B09	Emissions from developments and buildings	Increasing awareness of the borough's smoke control areas and actively taking enforcement action where necessary	<u>Action Ongoing</u> The Council's relevant webpage provides extensive information and useful links regarding wood burning, the key rules that apply in the borough and how smoke issues can be reported. All domestic chimney complaints which were received in 2024 were investigated. Enforcement action was not necessary. As part of the London Wood Burning Project, templates for enforcement action were developed to ensure a consistent enforcement approach across participating boroughs. Informative leaflets were also developed for

			distribution to residents, aiming to increase awareness of the borough's smoke control areas.
B10	Emissions from developments and buildings	Promoting and delivering energy efficiency and retrofitting projects in domestic properties	<p><u>Action Ongoing</u></p> <p>Council-owned housing:</p> <ul style="list-style-type: none"> • The Solshare solar system has been put in place at 4 sites, totalling 126 participating households. The system involves the installation of a large array on sheltered accommodation buildings and the sharing of generated electricity evenly between the dwellings. • Under SHDF Wave 2.2, 41 domestic properties had energy efficiency works delivered in 2024. <p>Private-owned housing:</p> <ul style="list-style-type: none"> • The council website has informative pages on retrofitting advice and what schemes are available to help increase energy efficiency in properties. • Promotion of energy efficiency and retrofitting projects and available schemes were carried out as part of the Landlord forums and in the Landlords Newsletter.
B12	Emissions from developments and buildings	Promoting and delivering energy efficiency and retrofitting projects in Council owned non-residential properties	<p><u>Action Ongoing</u></p> <p>4 council-owned sports facilities were retrofitted with LED lighting as part of the Energy Team's retrofit programme.</p>
C01	Public health and awareness raising	Promotion of airText scheme and the Mayor of London's air pollution forecasts	<p><u>Action Ongoing</u></p> <p>At the end of 2024:</p> <ul style="list-style-type: none"> • 255 active subscribers receiving alerts via email (46), text (192), voicemail (12), and X/Twitter (5). • 15 days on which airTEXT alerts were issued for Waltham Forest

			<ul style="list-style-type: none"> • Total of 2560 alert messages delivered to subscribers.
C03	Public health and awareness raising	Public Health department taking shared responsibility for borough air quality issues and implementation of Air Quality Action Plans	<u>Action Ongoing</u> Publication of a local report 'Building a Fairer and Healthier Waltham Forest: Our Response to the Marmot Recommendations'. The report sets out the council's response plan to address health inequalities. Principle 8 (Pursue environmental sustainability and health equity together) of the report addresses issues that benefit both health equity and air quality.
C06	Public health and awareness raising	Engagement with schools to raise awareness of pollution effects and supporting measures to improve air quality around schools, including promotion of the TfL Travel for Life accredited travel planning programme	<u>Action Ongoing</u> <ul style="list-style-type: none"> • Schools were encouraged to conduct anti-idling campaigns and take part in national days and events such as World Car Free Day and Cycle to School Week. • 74 Schools (84%) in Waltham Forest engaged in the Travel for Life programme. • 85% of pupils and staff at Travel for Life accredited schools travel to school by active and sustainable modes. • 47% of schools participating in the Travel for Life programme are gold accredited.
C07	Public health and awareness raising	Maintaining School Streets and seeking to undertake further School Street projects	<u>Action Ongoing</u> <ul style="list-style-type: none"> • 2 new School Streets were introduced in September 2024 at Walthamstow School for Girls and Eden Girls' School, bringing the total number of schemes in the borough to 24 (covering 26 schools). • Over 17,000 pupils now attend a school in a School Street zone • We're currently working to identify 1-2 potential School Street schemes to consult on in 2025.

D01	Delivery servicing and freight	Investigate options for freight consolidation, work with businesses to promote such initiatives, including expanding zero emission delivery services	<u>Action Ongoing</u> We have promoted freight consolidation options when responding to relevant planning applications and have promoted zero emission delivery service options including ZED Waltham Forest and our cargo bike loan schemes.
D02	Delivery servicing and freight	Support existing zero emission delivery (ZED) services	<u>Action ongoing</u> 67,000 deliveries were made by ZED Waltham Forest in 2024 and travelled 246,000km. Unfortunately, Zedify who operated the ZED Waltham Forest service, went into administration in January 2025 and we're currently assessing options to maintain the service in the borough.
E01	Borough Fleet Actions	Reducing emissions from the Council's vehicle fleet and that of our contractors	<u>Action Ongoing</u> <ul style="list-style-type: none"> • 4 fully electric vehicles added to fleet. Addition of more vehicles is limited by charging constraints at Low Hall Depot. • Entered planning application for construction of new Electricity Sub Station on site. This will form part of a full refurbishment of the Depot and allow us to move towards our electric fleet goals. • ~20% of our fleet are electric vehicles. 100% of ULEZ compliant.
F02	Localised solutions	Implementation of the Council's Trees Strategy, including aiming to maintain and, where possible, increase tree canopy cover	<u>Action Ongoing</u> In 2024, approx. 5530 trees and 5000 whips were planted
F03	Localised solutions	Supporting research into air pollution issues affecting the borough	<u>Action Ongoing</u> A research study was commissioned by the council and undertaken in 2024 by Imperial College London. The aim was to better understand the sources of the key pollutants in the borough, in order to target actions which will help the Council accelerate air quality improvements. The main policy focus areas which were identified are energy efficiency

			improvements in commercial properties, dust mitigation in construction projects, and reduction in domestic wood burning.
F04	Localised solutions	Working with neighbouring boroughs, the GLA, and other stakeholders on projects to tackle poor air quality	<u>Action Ongoing</u> LB Waltham Forest has been part of many multi-borough / London-wide schemes. In 2024, we continued to participate in the London wood burning project, which was successful in obtaining funding from the Mayor's Air Quality Fund Round 4. We also continued to participate in the NRMM scheme. We also recently joined a project led by London Clean Air and UCL, investigating PM2.5 emissions from commercial cooking businesses.
G01	Cleaner transport	Promoting and implementing Low Emission Neighbourhoods	<u>Action Ongoing</u> <ul style="list-style-type: none"> • No modal filters installed in 2024. • 8 public realm improvements were delivered, of which 4 could be classed as pocket parks.
G02	Cleaner transport	Continue installation of EV infrastructure	<u>Action Ongoing</u> 379 EV charging sockets were installed in 2024, bringing the total number of sockets in the borough to 1,079.
G03	Cleaner transport	Installation and maintenance of cycling and walking infrastructure	<u>Action Ongoing</u> <ul style="list-style-type: none"> • 0.9km cycle track installed • No new Cycle Hubs were installed in 2024. • 134 Bikehangars were installed in 2024, bringing the total number in the borough to 897.
G04	Cleaner transport	Promotion of cycling and walking	<u>Action Ongoing</u> <ul style="list-style-type: none"> • 60 Dr Bike sessions were held in 2024. • 58 All Ability Cycle Clubs were held in 2024. • 4 bike maintenance courses were held in 2024.

			<ul style="list-style-type: none">• 3 Try Out Cycling Days, Mini Tour de Waltham Forest, Teen Tour de Waltham Forest and Tour de Waltham Forest events were held between April and September 2024.• The average daily number of cyclists recorded by our permanent cycle counter network increased by 1% in 2024 compared to 2023. At a site-specific level, there was a 43% increase in people cycling at Crooked Billet underpass in 2024 compared to 2023
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3. Planning Update and Other New Sources of Emissions

Table L. Planning requirements met by planning applications in Waltham Forest in 2024

Condition	Number
Number of planning applications where an air quality impact assessment was reviewed for air quality impacts	8
Number of planning applications required to monitor for construction dust	13
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	0
Number of developments required to install Ultra-Low NOx boilers	All Applicable Major Developments
Number of developments where an AQ Neutral building and/or transport assessments undertaken	8
Number of developments where the AQ Neutral building and/or transport assessments not meeting the benchmark and so required to include additional mitigation	0
Number of planning applications with S106 agreements including other requirements to improve air quality	6
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.	14 conditions included 18 audits were carried out, of which 7 were self compliant, 4 had no NRMM on site, 5 complied following engagement and 2 sites complete at the time of the audit.

Construction dust monitoring requirements:

For developments assessed to be medium risk or greater for any of the steps required in an Air Quality and Dust Risk Assessment (AQDRA), regular or continuous PM10 monitoring should be carried out on site. Baseline monitoring should commence 3 months before the commencement of works and continue throughout all construction phases. Details of the equipment to be used, its positioning, additional mitigation to be employed during high pollution episodes and a proposed alert system should be submitted to the Council for approval.

Boiler / CHP / Biomass requirements:

Prior to installation, details of the boilers shall be forwarded to the Local Planning Authority for approval. The boilers shall have dry NOx emissions not exceeding 40 mg/kWh (0%). Should the development have CHP or biomass, the CHP and or biomass boilers must not exceed the Band B Emission Standards for Solid Biomass Boilers and CHP Plant as listed in Appendix 7 of the London Plan's Sustainable Design and Construction SPG document and must have a discharge stack which is at least 3m above any openable windows or ventilation air inlets within a distance of 5Um. Prior to the development commencing, evidence to demonstrate compliance with these emission limits will be submitted to the Local Planning Authority for approval.

3.1 New or significantly changed industrial or other sources

No new sources were identified in 2024.

4. Additional Activities to Improve Air Quality

4.1 London Borough of Waltham Forest Fleet

The Council now operates a 100% ULEZ compliant fleet, with a total of 7 fully electric vehicles, comprising ~20% of the fleet.

4.2 NRMM Enforcement Project

Waltham Forest has continued to support the NRMM enforcement scheme and intends to continue supporting it in 2024/25.

The NRMM related condition which is currently used to all planning applications and attached to decision notices, is the following:

Condition: 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 7.14 and the Mayor's SPG: The Control of Dust and Emissions during Construction and Demolition.

4.3 Air Quality Alerts

Waltham Forest supports airText and has raised awareness of the benefits of using this app. At the end of 2024 there were 255 active subscribers receiving airTEXT alerts for Waltham Forest by email (46), text (192), voicemail (12) and X/Twitter (5). In 2024 there were 15 days on which airTEXT alerts were issued for Waltham Forest, and a total of 2,560 alert messages were sent to Waltham Forest subscribers by text, email or voicemail.

Appendix A Details of Monitoring Site Quality QA/QC

A.1 Automatic Monitoring Sites

The three automatic monitoring sites in the London Borough of Waltham Forest are currently part of the Air Quality England Network operated by Ricardo Energy & Environment. Ricardo Energy & Environment are the current data management providers. The data has traceability to national standards and operational procedures defined for the AURN network. All the monitoring sites are currently audited by Ricardo Energy & Environment. Data from the Council's automatic monitoring data can be found on the following site: <http://www.airqualityengland.co.uk/>

The sites are serviced every six months and are calibrated every 2 weeks by our current service and maintenance provider, Matts Monitors.

PM₁₀ Monitoring Adjustment

Ricardo Energy & Environment add the Volatile Correction Model (VCM) for correction of conventional TEOM PM10 datasets to the Air Quality England web pages. This function automates the VCM process and enables near real time VCM corrected TEOM datasets and statistics to be generated and downloaded. Annually, when AURN FDMS TEOM datasets on which the model is based are ratified, the provisional VCM corrected data will be replaced by ratified VCM corrected datasets.

Ricardo Energy & Environment version of the VCM model follows best practice as advised by Defra and will use available FDMS data as set out within the guidance. For example, the model uses the volatile fraction measured by FDMS analysers within a 130 km range where available. This process will correct conventional TEOM measurement to account for the loss of the volatile component of particulate matter due to the high sampling temperatures generated by the TEOM instrument.

A.2 Diffusion Tubes

The Council currently uses Gradko International for the supply and analysis of its diffusion tubes. The tubes are prepared using a 20%TEA/water solution. Gradko International is UKAS accredited and follows the procedures set out in the Practical Guidance.

Refer to https://laqm.defra.gov.uk/wp-content/uploads/2025/03/Database_Diffusion_Tube_Bias_Factors_v03_25-

[FINAL.xlsx](#) for the summary of precision results for nitrogen dioxide diffusion tube collocation studies. Precision Summary Table in <https://laqm.defra.gov.uk/air-quality/air-quality-assessment/precision-and-accuracy/#SummaryPrecision> demonstrates Gradko International's performance summary for WASP/AIR quality scheme.

Table M. Bias Adjustment Factor

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2024	National	03/25	0.81
2023	National	03/24	0.81
2022	National	03/23	0.83
2021	National	03/22	0.84
2020	National	09/21	0.81
2019	National	06/20	0.93
2018	National	03/19	0.93
2017	Local	-	0.89
2016	Local	-	0.94
2015	Local	-	0.88

A.3 Adjustments to the Ratified Monitoring Data

Short-term to Long-term Data Adjustment

Where data capture is less than 75% and greater than 25% of a full calendar year (between 3 and 9 months), the mean should be “annualised” – i.e. adjusted using the methodology outlined in LLAQM.TG(19) before being compared to annual mean objectives.

Tables N and O were completed using the outputs from the LAQM annualisation tool. The tool should be used to ensure the correct methodology for the annualisation off diffusion tubes is utilised, the tool can be downloaded from <https://laqm.defra.gov.uk/air-quality/air-quality-assessment/annualisation-tool/>.

Distance Adjustment

If an exceedance is measured at a monitoring site which is not representative of public exposure, use the procedure specified in LLAQM.TG(19) to estimate the concentration at the nearest receptor and describe the process followed here. Table P was completed using the outputs from the NO₂ fall off with distance tool, the tool can be downloaded from <https://lagm.defra.gov.uk/tools-monitoring-data/no2falloff.html>.

Table N. Non-Automatic Monitoring Data Adjustment

Site ID	Annualisation Factor Dawlish Rd	Annualisation Factor Victoria Park	Annualisation Factor <Site 3 Name>	Annualisation Factor <Site 4 Name>	Average Annualisation Factor	Raw Data Annual Mean ($\mu\text{g m}^{-3}$)	Annualised Annual Mean ($\mu\text{g m}^{-3}$)	Comments
A04	0.9448	0.9477			0.9462	37.3	35.3	
A31	0.9290	0.9163			0.9226	29.4	27.1	
E08	0.9942	0.9965			0.9953	25.7	25.6	

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

Background Site	Annual Data Capture	Annual Mean (A _m)	WL4	
			Period Mean (P _m)	Ratio (A _m /P _m)
Waltham Forest Dawlish Road	98.4	14.9	15.8	0.941
Tower Hamlets Victoria Park	99.4	13.8	14.6	0.945
Site 3 Name	-	-	-	-
Site 4 Name	-	-	-	-
Average (R_a)			0.943	
Raw Data Annual Mean (M)			38.6	
Annualised Annual Mean (M x R_a)			36.4	

Table P. NO₂ 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
A26	0.2	12.2	37.0	16.6	24.3	
E25	0.4	49.4	36.6	17.4	20.9	<i>Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.</i>
E26	0.4	45.4	37.9	17.4	21.4	<i>Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.</i>
WL4	0.5	11.5	36.4	16.8	25.7	Automatic Station

Appendix B Full Monthly Diffusion Tube Results for 2024

Table Q. NO₂ 2024 Diffusion Tube Results (µg/m³)

Diffusion Tube ID	X OS Grid Ref (Easting)	X OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Data	Bias Adjusted (0.81) and Annualised	Distance Corrected to Nearest Exposure
A03	538359	188999	30.1	23.1	21.2	14.7	18.8	16.3	16.6	17.6	17.1	24.5	27.1	22.6	-	-	-
A03_1	538359	188999	28.1	21.4	22.2	14.0	17.4	16.3	15.4	16.0	18.7	24.6	29.5	20.2	20.6	16.7	-
A04	536048	189159	40.5	38.1			35.7	37.1	33.6		39.9	38.8	35.8	33.6	-	-	-
A04_1	536048	189159	38.0	37.7			37.6	37.9			33.9	46.5	42.3	30.7	37.3	28.6	-
A05	537600	188251	35.9	30.6			28.3	18.9	21.0	38.0	27.4	32.6	35.0	27.8	-	-	-
A05_1	537600	188251	36.8	31.8	49.9		27.7	18.4	22.6	38.9	28.0	30.5	39.6	25.2	31.6	25.6	-
A06	537498	188436	44.5	41.5	55.2		28.2	26.0	25.0	23.2	31.7	32.0	36.9	30.3	-	-	-
A06_1	537498	188436	43.0	41.6	53.8		28.2	23.6	25.4	24.8	27.6	33.6	35.3	29.2	33.7	27.3	-
A07	538699	194426	33.0	28.8	25.1	16.8	17.2	16.2		17.8	17.6	24.2	27.7	24.7	-	-	-

A07_1	538699	194426	30.6	31.6	26.4	15.4	17.6	16.7		18.6	18.9	22.2	25.0	25.2	22.6	18.3	-
A09	538400	186734	27.2		31.0		13.9			11.2	13.9		23.7		-	-	-
A09_1	538400	186734	31.5	21.5	29.7		17.2	11.3	11.0	12.2	14.8		22.9	20.9	18.9	15.3	-
A10	536938	189753	30.0	23.4	24.1	17.2	19.9		16.6	16.3	20.8	27.5	29.6	23.4	-	-	-
A10_1	536938	189753	29.4	24.5	22.5	17.2	20.4		16.5	16.2	22.0	27.0	32.5	25.5	22.8	18.5	-
A11	538022	187162	32.5	27.5	24.8	18.4	19.2	16.9			16.6	25.5		23.4	-	-	-
A11_1	538022	187162	33.8	28.4	25.1	17.4	19.1	17.0	17.5		16.1	25.4	30.5	25.3	23.1	18.7	-
A12	537088	187632	35.2	30.5	27.6	21.3	24.0	23.8	22.5	21.9	26.8		32.0	30.4	-	-	-
A12_1	537088	187632	34.6	31.3	27.3	19.3	25.8	23.0	23.1	23.5	25.4		34.7	26.3	26.8	21.7	-
A13	537583	189310	31.9	24.2	24.1	15.2	17.1	15.7		15.6	18.3	25.0	27.6	22.3	-	-	-
A13_1	537583	189310	29.6	24.2	23.4	15.3	16.9	15.3	15.6	15.5	18.0	24.2	30.4	22.8	21.0	17.0	-
A14	539259	187567	30.7	26.2	24.1	17.1	19.1	15.6	17.3	16.8	20.1	26.9	28.7	22.8	-	-	-
A14_1	539259	187567	29.4	25.5	25.0	15.9	19.0	14.9	17.4	19.1	20.9	26.1	30.8	22.8	22.2	18.0	-
A15	535928	186914	30.7	27.0	24.0	14.2	16.8	14.3	17.2	15.6	18.9	23.2	35.3	21.5	-	-	-

A15_1	535928	186914	30.1	23.7	24.0	16.1	17.4	13.7	15.8	15.0	18.4	24.2	36.4	13.8	21.1	17.1	-
A16	536457	187238	33.3		26.0	20.0	22.4		21.7	18.1		31.5	29.8	26.9	-	-	-
A16_1	536457	187238	33.3	27.7	24.8	18.1	23.0	21.0	20.8	20.4	24.1	29.6	32.2	28.7	25.3	20.5	-
A17	538243	186286	46.4	45.5	36.8	33.2	34.4	39.5	35.3	36.3			39.2	31.5	37.8	30.6	-
A18	538022	186126	39.4	35.0	33.2	26.3	30.3	28.6	26.9	27.9	31.2	38.6	41.4	29.1	-	-	-
A18_1	538022	186126	39.9	34.7	33.8	25.6	30.5	27.2	26.4	26.5	30.6		40.8	33.4	32.3	26.2	-
A19	537719	188685	28.2	24.0	24.1	14.8	19.0	17.0	16.6	15.8	19.2	24.4	24.8	22.4	-	-	-
A19_1	537719	188685	28.8	24.6	22.1	15.2	19.4	16.7	15.4	15.0	18.6	23.7	13.3	22.8	20.3	16.4	-
A20	536951	188436	29.9	25.7	22.8	15.0	17.1	14.5	14.0	13.6	16.9	26.1	27.1	23.6	-	-	-
A20_1	536951	188436	29.5	27.0	22.7	15.4	16.9	14.6	15.5		17.3	25.3	28.3	24.2	20.7	16.8	-
A21	537251	187156	43.7	39.9	37.2	31.6	37.1	33.6	32.7	31.5	32.1	35.7	37.5	27.9	-	-	-
A21_1	537251	187156	44.5	38.3	37.0	31.7	37.7	31.6	33.1	28.9	33.7	45.7	40.2	28.3	35.5	28.7	-
A22	537937	186109	33.2	28.7	26.1					19.2	22.2	26.4	33.8	26.6	-	-	-
A22_1	537937	186109	32.4	30.8	28.6	18.3			20.4	20.8	22.5	28.8	30.7	25.9	25.7	20.8	-

A23	537620	187387	27.5	22.1	21.4	13.8	16.3	12.9					28.3	21.8	-	-	-
A23_1	537620	187387	28.0	20.9	21.2	14.1	16.4	12.0		12.6		22.5	27.4	22.3	19.8	16.1	-
A24	536887	189998	25.8	20.2	19.8	12.3	14.7	13.0	13.3		15.2	20.7	25.5	24.7	-	-	-
A24_1	536887	189998	25.9	21.0	19.8	13.3	14.5	12.1	13.5		14.6	21.7	25.7	23.7	18.7	15.1	-
A25	539563	187517	40.5		28.2	26.3	30.5	29.8	26.4	25.0	34.8		39.9	28.9	31.0	25.1	-
A26	537455	191429	50.9	53.5	72.1		38.8	41.0	37.9	41.2	41.4	43.7	42.8	38.9	-	-	-
A26_1	537455	191429	55.9	50.1	71.8		38.0	40.8	39.1	39.6	42.7	45.2	41.3	37.9	45.7	37.0	24.3
A27	538632	191096	30.7	31.6	29.0	24.2		22.6	21.3	20.4	23.8	32.8	35.3	27.7	-	-	-
A27_1	538632	191096	36.4	32.2	29.4	24.6	24.7	22.8	20.6	22.4	26.2		30.7	26.8	27.2	22.1	-
A28	538863	191080	43.5	41.5	38.8	33.3	35.3	32.8	30.7	33.3	36.9		43.2	33.1	36.6	29.6	-
A29	538863	191080		27.5	28.1	22.2	24.3	23.2	26.3	23.6	27.2	29.4	34.4	28.4	-	-	-
A29_1	538863	191080	35.2	32.5	26.9	21.0	25.6	23.5	26.7	23.3	24.9	29.5	36.2	30.2	27.7	22.5	-
A31	539034	188244	36.0	30.0	26.2	20.6	23.8			24.3		32.7	41.0	30.2	29.4	22.0	-
E01	539664	187618	48.7	34.6	30.9	29.3	28.5	32.0	27.5	30.7	32.6		33.6	35.7	33.1	26.8	-

E02	535942	188731	24.5	20.0	18.3	13.2	15.3			16.0	23.4	23.7	19.4	-	-	-	
E02_1	535942	188731	24.3	18.8	20.4	12.0		12.6	11.6	14.2	21.1	27.8	20.0	18.0	14.6	-	
E03	536251	188272	27.0	20.3	20.6	14.1	15.7	11.9	12.8	13.7	16.9	25.1		-	-	-	
E03_1	536251	188272	26.8	20.8	21.9	13.5	15.3	11.6		13.7	16.8	25.8	29.9		19.0	15.4	-
E04	535891	187365	32.2	26.5	25.9	20.1	25.9	20.1	19.9	18.4	23.5	30.2	28.4	25.3	-	-	-
E04_1	535891	187365	34.3	23.9	25.8	21.1	26.0	20.0	20.5	17.0	26.3	31.5	30.7	24.7	24.9	20.2	-
E05	536593	187974	28.0	21.9	21.1	14.1	17.0	13.5	14.4	13.1	17.0	23.7	27.4	22.3	19.5	15.8	-
E06	536644	188089	39.9	36.3	32.6	30.1	34.4	34.6	32.9	30.8	33.2	33.3	36.2	29.9	-	-	-
E06_1	536644	188089	37.0	35.6	34.3	30.2	34.3	34.6	34.0	29.2	31.6	35.9	36.0	29.9	33.6	27.2	-
E07	538954	194512	35.8	33.5	29.9	19.5		20.3	21.8	22.0	24.1	28.7	31.7	26.7	-	-	-
E07_1	538954	194512	36.2	35.0	30.5	18.9	22.0	19.3	22.5	22.5	24.4	29.8	29.6	25.5	26.3	21.3	-
E08	536619	189322	33.7	29.7			24.0	18.6	20.2	18.1	24.1	28.8	35.5		-	-	-
E08_1	536619	189322	35.1	28.9			23.4	18.1	20.6	17.5	25.5	30.0	31.1		25.7	20.7	-
E09	537536	190697	36.4	30.5	41.8		27.2	19.6	20.9	17.6	25.4	31.1	34.0	24.0	-	-	-

E09_1	537536	190697	35.2	29.9	42.7		25.4	20.6	20.0	18.5	26.8	32.4	28.4	25.3	27.9	22.6	-
E10	537431	189784	43.4	39.1	38.9	28.3	33.9	30.5	31.4	33.4	34.7	40.9	43.0	34.7	-	-	-
E10_1	537431	189784	44.2	40.2	39.0	30.4	35.2	30.8	31.7	32.3	34.5	42.0	35.2	35.9	36.0	29.2	-
E11	538295	189964	35.6	32.8	30.9	24.3	28.6	27.4	27.6	25.1	30.0	35.3	39.2	30.1	-	-	-
E11_1	538295	189964	35.4	31.7	29.8	23.0	28.3	29.3	26.6	26.4	30.6	31.8	38.1	27.1	30.2	24.5	-
E12	539129	193377	27.7			15.7	17.1	16.1	16.1	15.0	16.2	23.2	28.5	21.3	-	-	-
E12_1	539129	193377	27.8	22.6	20.9	14.0	17.3	14.8	15.4	16.0	17.2	22.6	26.7	20.9	19.9	16.1	-
E13	538123	190790		27.3	29.0	21.2	22.6	21.3	23.6		23.2	29.3	34.4	25.6	-	-	-
E13_1	538123	190790	34.9	28.7	28.0	21.2	23.2	22.4	22.8	20.4	24.2	30.5	31.6	26.7	26.1	21.2	-
E14	538588	191750	37.9	28.6	27.7		25.0	21.8	22.5	20.6	29.0	31.2	36.1	28.6	-	-	-
E14_1	538588	191750	37.1	30.1	28.2	22.3	25.1	22.6	22.3	20.4	29.4	33.5	37.3	27.5	27.8	22.5	-
E15	538072	186479	34.7	27.1	28.5	23.3	29.1	22.6	21.3		26.4	26.7	34.7	25.4	-	-	-
E15_1	538072	186479	35.0	27.3	29.4	23.7	28.2	23.3	23.2	19.1	27.8	29.0	33.6	24.7	26.8	21.7	-
E16	538386	185800	46.7	45.0	41.8	37.4	41.1	38.2	34.8	31.7	41.1	40.9	42.8	37.0	-	-	-

E16_1	538386	185800	49.2	42.6	42.3	40.0	43.3	37.5	37.0	32.9	40.7	40.4	46.3	37.3	40.3	32.7	-
E17	539227	186335	43.5	45.1	37.3	29.8	34.3	31.5	33.9	37.1	35.4			32.3	-	-	-
E17_1	539227	186335	42.4	39.7	35.5	32.2	35.7	32.1	30.6	32.7	34.6		39.0	33.9	35.8	29.0	-
E18	536547	189641	41.7		50.2		30.4	30.4	29.0	33.4	35.8	36.9	43.0	34.4	-	-	-
E18_1	536547	189641	40.8		49.8		30.3	30.7	30.9	33.0	31.8	36.2	37.5	34.8	36.0	29.2	-
E19	536226	190223	29.9	26.4	25.4	16.3	17.6	16.7	16.4	17.4		27.6		21.6	-	-	-
E19_1	536226	190223	30.0	25.4	23.3	17.7	18.8	16.7	16.8	17.7	18.7	26.9	28.0	20.8	21.8	17.6	-
E20	538627	193361	28.4	23.1	20.6	13.8	15.8		15.9	14.8	16.2		25.4	22.9	-	-	-
E20_1	538627	193361	30.6	22.6	20.0	16.0	15.1	13.7	15.7	14.9	16.9	21.8	26.6	22.2	19.5	15.8	-
E21	537792	188144		45.4	65.7		40.6	39.8	37.4	20.8	44.7	45.0	46.3		-	-	-
E21_1	537792	188144	50.3	44.0	66.4		42.2	40.3	39.4	20.0	40.4	45.0	50.5	41.8	43.6	35.3	-
E23	537660	193854		31.9	29.3				22.4	21.2	26.1	28.8	32.1	31.6	-	-	-
E23_1	537660	193854	36.8	33.4	29.7	19.5	22.1	20.7	22.9	22.5	25.8	29.1	30.5	25.4	26.7	21.6	-
E24	536732	188811	38.6	33.8	33.2	23.3	53.2	21.9	26.5	23.0	26.6	30.0	35.3	25.8	-	-	-

E24_1	536732	188811	33.4	31.9	30.6	22.7	51.5	24.9	26.0	22.8	23.6	31.9	33.9	32.3	30.7	24.9	-
E25	536791	188897	53.8	40.6	46.4	44.7	28.0	50.8	39.8	40.5	45.1	42.3	52.6	43.0	-	-	-
E25_1	536791	188897	50.4	47.4	44.7	44.5	54.3	44.8	41.6	43.0	49.9	41.3	51.1	44.5	45.2	36.6	20.9
E26	536999	188939	54.7	46.4	43.6	44.5	54.8	49.2	47.4	45.6	50.3	48.2	58.0	40.9	-	-	-
E26_1	536999	188939	50.8	45.5	44.4	44.5	29.5	51.4		49.4	47.8	43.1	48.3	41.6	47.0	38.0	21.4
																-	-
																-	-
E28	538321	186872	31.5	26.4	23.5	15.8	17.2	14.7			18.7				-	-	-
E28_1	538321	186872	30.7	27.0	23.1	15.7	17.2	14.4	15.6	13.2	17.9	18.7	28.9		20.3	16.4	-
E29	537786	188946		25.3	24.9	16.0	18.1	15.0	16.7	15.6		23.3	23.0	17.7	-	-	-
E29_1	537786	188946	31.2	23.6	25.4	16.9	18.5	15.3	16.2	15.9	16.7	23.0	26.2	21.3	20.6	16.7	-
E30	539707	187463	31.5	27.6	24.2	17.0		17.6	17.9	17.7	19.9	25.3	42.1	22.7	24.0	19.4	-
E31	538716	188888	35.1	29.9	26.2	21.7	24.4	22.3	21.3	22.7	23.6			42.2	-	-	-
E31_2	538716	188888	37.3	29.4	27.8	21.1		21.3	22.1	22.4	22.4	32.3	45.0	40.9	28.9	23.4	-

A08	539024	186945	27.7	24.0	22.1	14.6		13.5	14.3		17.1		28.8	18.6	-	-	-
A08_1	539024	186945	28.6	22.3	21.7	14.7	17.5	14.2	15.6	14.6	17.5	24.2	29.7	20.8	19.9	16.1	-
E22	537339	192767	45.3	40.3	64.7		35.6	32.5	34.6	32.2	32.6	41.5	45.0	34.8	-	-	-
E22_1	537339	192767	44.9	40.7	63.8		35.1	33.9	33.9	34.9	33.4	40.0	41.1	33.7	39.8	32.2	-

- All erroneous data has been removed from the NO₂ diffusion tube dataset presented in Table
- Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22
- Local bias adjustment factor used
- National bias adjustment factor used
- Where applicable, data has been distance corrected for relevant exposure in the final column
- Waltham Forest confirm that all 2023 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System

Notes:

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **bold and underlined**.

Appendix C Map(s) of Monitoring Locations and AQMAs

Figure C. Map of Non-Automatic Monitoring Sites (Chingford)



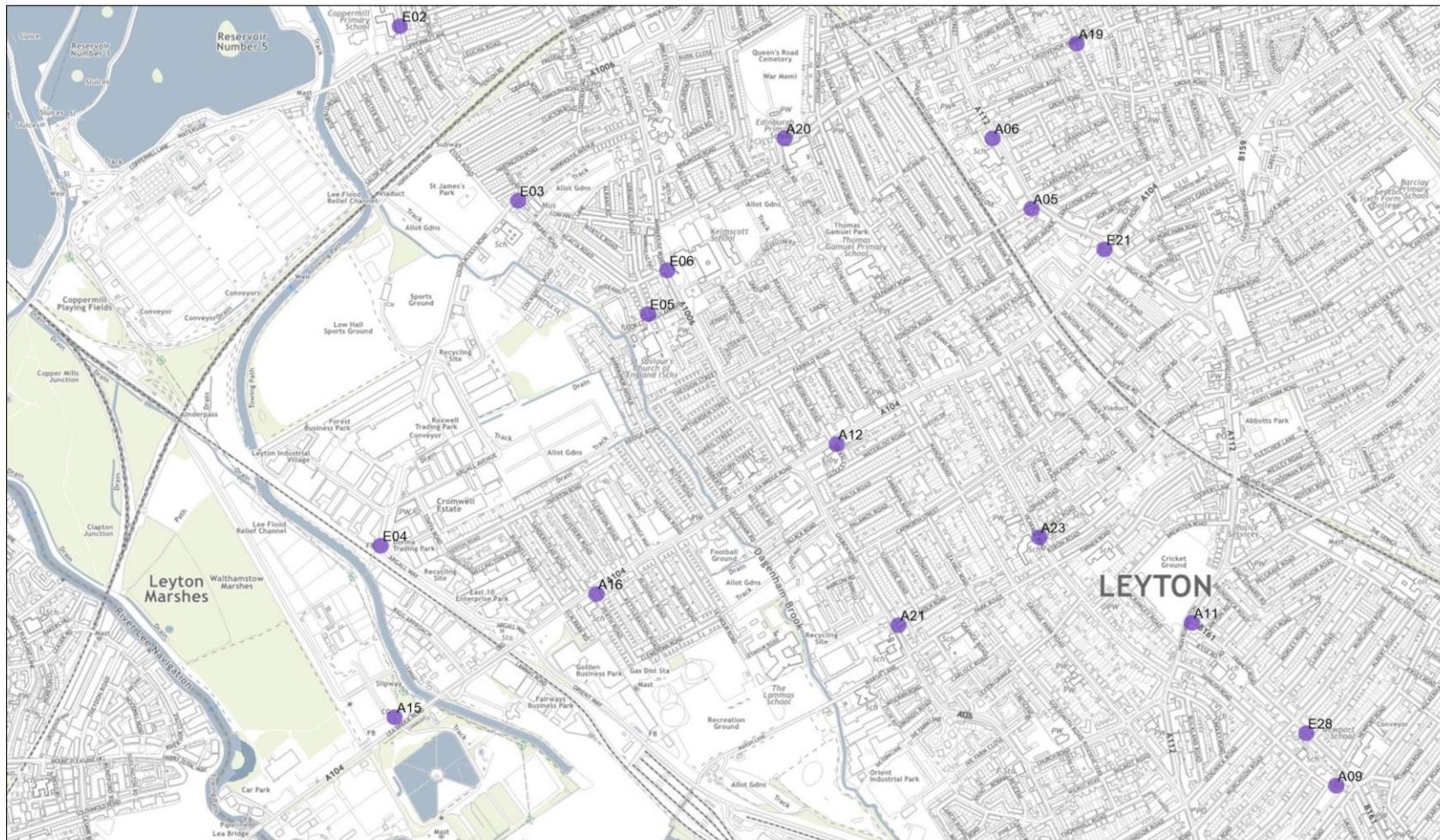
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Figure D. Map of Non-Automatic Monitoring Sites (Walthamstow)



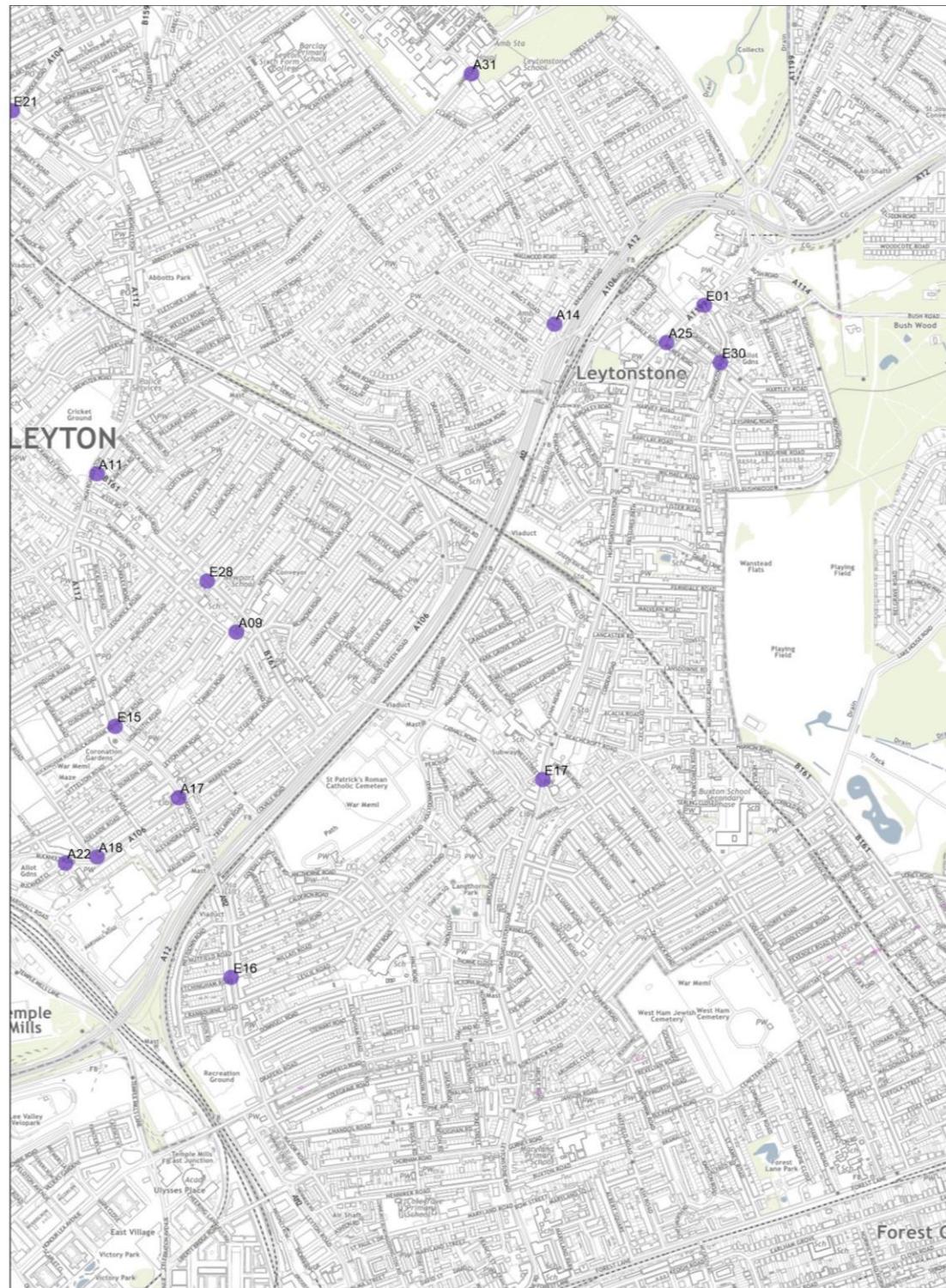
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Figure E. Map of Non-Automatic Monitoring Sites (Walthamstow & Leyton)



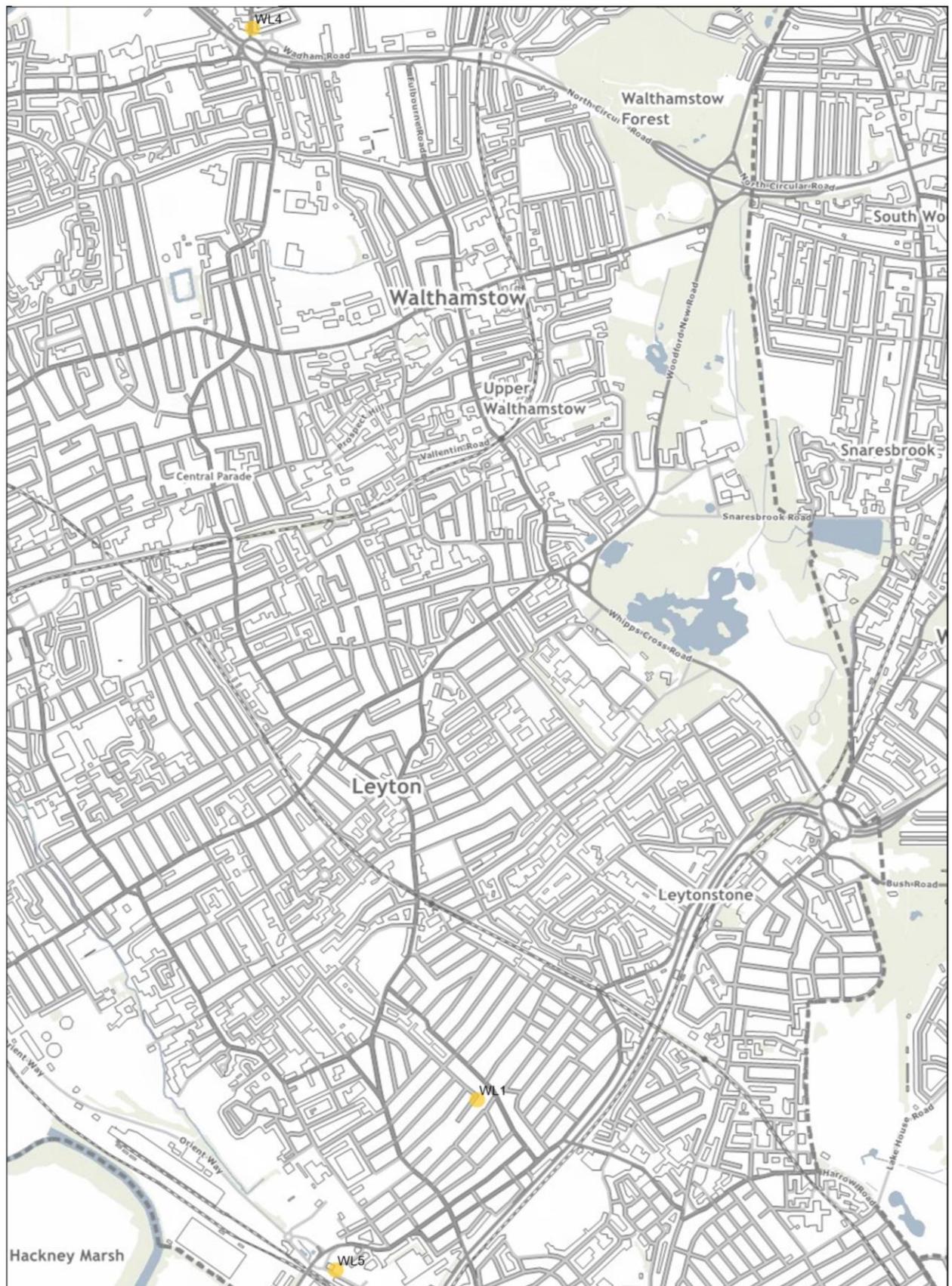
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Figure F. Map of Non-Automatic Monitoring Sites (Leyton & Leytonstone)



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Figure G. Map of Automatic Monitoring Sites



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The London Borough of Wandsworth Air Quality Annual Status Report for 2024

Date of publication: 30th May 2025



This report provides a detailed overview of air quality in in the London Borough of Wandsworth during 2024. It has been produced to meet the requirements of the London Local Air Quality Management (LLAQM) statutory process¹.

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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})	10 µg m ⁻³	Annual mean	2040
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 not 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) Environmental Target Regulations under the Environment Act 2021
- (4) London Mayoral Objective

1. Air Quality Monitoring

Monitoring needs to be carried out over an extended period to show real-world trends. It is affected by temperature, weather, geography/local conditions, and wind direction. It is not necessarily accurate to compare one year's data with the next without considering all the variable factors. However, this does provide an 'indication' of local changes. In September 2023 an updated Air Quality Action Plan (AQAP) was approved by the Wandsworth Environment Committee. The new AQAP adopted the interim World Health Organization (WHO) targets: Nitrogen dioxide (NO₂) at an annual mean of 30 $\mu\text{g m}^{-3}$ and Particulate Matter (PM)_{2.5} at an annual mean of 10 $\mu\text{g m}^{-3}$. The latest monitoring results for 2024 in the London Borough of Wandsworth at 10 sites exceeded the interim WHO targets for nitrogen dioxide (NO₂) and all sites exceeded the WHO guideline targets, which have been set at 10 $\mu\text{g m}^{-3}$. In terms of PM₁₀, all sites except one have exceeded the WHO guideline targets which have been set at an annual mean of 15 $\mu\text{g m}^{-3}$.

Air quality is measured by three principal techniques in the London Borough of Wandsworth:

1. Continuous monitoring

There are five continuous monitoring stations located in Wandsworth, these monitoring stations all analyse NO₂ and PM₁₀ (see table B for details).

The Council previously monitored NO₂ and PM₁₀ at Wandsworth Town Hall (WA2) and Putney High Street facade (WA8) (ceased in early 2024), these are not included in this report. Please see previous Council reports for further information. The five continuous monitoring stations produce accurate, real-time data that feed into the London Air Quality Network (LAQN) and can be viewed on the LondonAir website (www.londonair.org.uk). These stations comprise of equipment which has been superseded by latest improved technology, therefore there have been challenges with maintenance and sourcing technical components and calibration gases.

2. Non-continuous monitoring using nitrogen dioxide (NO₂) diffusion tubes

In 2024 there were a total of 55 static monitoring locations across the borough. Diffusion tubes provide a comprehensive coverage of all hotspots including the borough's five air quality focus areas, the town centres and main roads. All sites are kept under constant review with changes taking effect annually in January. Diffusion tubes offer a relatively inexpensive and certified means of gauging NO₂ concentrations at multiple locations across the borough and are useful for trend analysis over a number of years.

In 2018, diffusion tubes along York Road and the Nine Elms areas were added. Diffusion tube locations were reviewed at the end of 2019, and 10 new locations were included. In 2020, 10 diffusion tubes were added and in 2021 a further 6 diffusion tubes were added. In 2022 an additional 3 diffusion tubes were added with a further 6 locations added to the network in 2023. In 2024, 1 location was added in Wandsworth Town Centre – this was to provide ongoing monitoring of levels of nitrogen dioxide in the area following the decommissioning of the background automatic monitoring site in the area. 4 diffusion tubes locations from the 2023 diffusion tube network were discontinued for the 2024 year. The following are the identification numbers of the discontinued diffusion tubes: W51 (Aldrington Road/North Drive), W53(Smeaton Road/Merton Road), W55(Burntwood Lane) and LR1 (Lower Richmond Road). These diffusion tubes were discontinued after 12 months of no exceedances being recorded.

3. Low-cost sensors using Breathe London Nodes

Most recently, commencing in late 2021, a network of Breathe London Nodes were installed across the borough to measure NO₂ and fine particulate matter (PM_{2.5}). The Breathe London network was run by the Environmental Research Group (ERG) at Imperial College London – the same provider who maintain the London Air Quality Network. The nodes provide a low-cost solution for real-time monitoring; however they are indicative, monitoring ambient PM_{2.5} and for NO₂ across the borough.

Vodafone was awarded the contract going forward and the data from the network will be published in 2025

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) ⁽²⁾	Inlet Height (m)
WA7	Putney High Street	Kerbside	524035	175334	NO ₂ , PM ₁₀	Y	Chemiluminescent; TEOM	1	0.5	1.75
WA9	Felsham Road, Putney	Urban background	524044	175495	NO ₂ , PM ₁₀	Y	Chemiluminescent; TEOM	4.8m from Felsham Road	1	2.75
WAA	Thessaly Road, Battersea	Roadside	529137	177249	NO ₂ , PM ₁₀	Y	Chemiluminescent; TEOM	7.5m from Battersea Park Road	1	1.75
WAB	Tooting High Street	Roadside	527567	171628	NO ₂ , PM ₁₀	Y	Chemiluminescent; TEOM	2	2	1.75
WAC	Lavender Hill, Clapham Junction	Roadside	527430	175454	NO ₂ , PM ₁₀	Y	Chemiluminescent; TEOM	8m from Lavender Hill	1	1.75

Notes:

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

(2) N/A if not applicable

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?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (m)	Tube Co-located with a Continuous Analyser	Height (m)
W23	37 West Hill	Roadside	525111	174619	NO ₂	Yes	2.2	3.0	No	2.52
W24	Putney Sign (MacDonald's)	Roadside	524045	175366	NO ₂	Yes	2.4	2.4	No	2.3
W21	Felsham Road (tube 1)	Urban Background	524044	175495	NO ₂	Yes	4.8	1.0	Yes	3.35
W22	Felsham Road (tube 2)	Urban Background	524044	175495	NO ₂	Yes	4.8	1.0	Yes	3.35
W6	21 Daylesford Avenue	Urban Background	522270	175307	NO ₂	Yes	11.0	2.4	No	2.85
W25	Roehampton Church School	Roadside	522542	173700	NO ₂	Yes	2.5	0.6	No	2.25
W26	Replingham Road	Kerbside	524847	173282	NO ₂	Yes	2.5	0.6	No	2.37
W27	68-70 Sutherland Grove (opposite St. Cecilia's School)	Urban Background	524633	173594	NO ₂	Yes	2.0	0.7	No	2.83
W28	61 Summerley Street	Urban Background	526011	172869	NO ₂	Yes	2.1	0.6	No	2.36
W29	Junction Skelbrook Street / Garratt Lane	Roadside	526099	172833	NO ₂	Yes	0.7	3.3	No	2.27

W4	108 Mitcham Road	Kerbside	527688	171204	NO ₂	Yes	3.0	0.6	No	2.65
W8	50 Bickely Street	Urban Background	527524	171239	NO ₂	Yes	3.0	1.9	No	2.8
W30	11b Elmbourne Road	Urban Background	528900	172431	NO ₂	Yes	4.5	0.5	No	2.56
W31	Junction Hildreth Street/Bedford Hill	Kerbside	528607	173333	NO ₂	Yes	1.4	3.6	No	2.21
W32	2-3 Balham High Road	Kerbside	528436	173133	NO ₂	Yes	4.4	0.7	No	2.30
W34	46 Shelgate Road	Urban Background	527569	174986	NO ₂	Yes	2.1	0.4	No	2.38
W35	47 Northcote Road	Kerbside	527487	174981	NO ₂	Yes	4.2	0.5	No	2.37
W36	208 St Anne's Hill (opposite St Anne's School)	Urban Background	525875	174616	NO ₂	Yes	2.7	0.9	No	2.38
W37	302A Merton Rd (Riversdale School Gate)	Roadside	525278	173483	NO ₂	Yes	17.3	3.4	No	2.33
W38	High View School, Plough Terrace, No Stopping Sign o/s school	Kerbside	526863	175239	NO ₂	Yes	0.5	0.5	No	2.42
NE2	Chesterton School	Roadside	528043	176618	NO ₂	Yes	2.9	2.9	No	2.20
NE3	Queenstown Road	Kerbside	528771	176819	NO ₂	Yes	1.1	1.1	No	2.30

NE4	16 Lockington road	Urban Background	528871	176943	NO ₂	Yes	1.2	0.7	No	2.37
NE5	Kirtling Street	Kerbside	529252	177348	NO ₂	Yes	0.5	0.5	No	2.35
NE6	Nine Elms Lane	Kerbside	529424	177501	NO ₂	Yes	0.5	0.5	No	2.40
NE7	1 Nine Elms, Parry Street	Roadside	530129	177727	NO ₂	Yes	0.5	0.5	No	2.35
NE8	Battersea park (new location)	Urban Background	528023	177176	NO ₂	Yes	420.0	420.0	No	2.37
YR1	Trafalgar House	Kerbside	526201	175340	NO ₂	Yes	0.8	0.8	No	2.30
YR2	Royal Academy of Dance	Kerbside	526581	175731	NO ₂	Yes	14.0	0.7	No	2.26
YR3	Cotton Row	Urban Background	526480	175930	NO ₂	Yes	160.0	160	No	2.34
YR4	YR4 Falcon Road	Kerbside	527086	176119	NO ₂	Yes	0.8	0.8	No	2.25
YR5	256 Battersea Park Road	Kerbside	527109	176022	NO ₂	Yes	0.6	0.6	No	2.32
YR6	31-32 Battersea Square	Kerbside	526817	176686	NO ₂	Yes	0.4	0.4	No	2.35
W39	Carlton Dr/Putney Hill	Kerbside	523898	174717	NO ₂	Yes	18.0	0.5	No	2.2
W40	Roehampton High St/Roehampton Ln	Kerbside	522343	173805	NO ₂	Yes	13.0	0.5	No	2.2
W41	Northcote Rd/Broomwood Rd	Kerbside	527675	174339	NO ₂	Yes	2.0	0.7	No	2.2

W42	Bellevue Rd/Trinity Road	Roadside	527426	173249	NO ₂	Yes	10.0	1.1	No	2.2
W43	Trinity Road (FCCFG)	Roadside	526783	174250	NO ₂	Yes	18.0	2.0	No	2.2
W44	Thessaly Rd (Marsh House)	Roadside	529425	176920	NO ₂	Yes	26.0	1.5	No	2.2
W45	A24 Wimbledon Sewing Machines Lamppost	Roadside	528096	172439	NO ₂	Yes	21.0	2.5	No	2.2
W46	Trinity Road/Outside 128	Kerbside	527639	172882	NO ₂	Yes	11.0	0.8	No	2.2
W47	Westhill School Lamppost West Hill Barber Shop	Kerbside	525243	174643	NO ₂	Yes	5.0	0.7	No	2.2
W48	Rutherford House School Outside School	Kerbside	528263	172735	NO ₂	Yes	22.0	0.5	No	2.2
W49	Garratt Ln/ Earlsfield Rd	Kerbside	525987	173077	NO ₂	Yes	7.0	0.5	No	2.3
W50	Penwith Rd/Garratt Ln	Roadside	525945	173083	NO ₂	Yes	13.0	1.1	No	2.2
W52	Medfield Street	Kerbside	522481	173792	NO ₂	Yes	9.5	0.4	No	2.2
W54	Roehampton Ln/Medfield St	Kerbside	522382	173779	NO ₂	Yes	2.2	1.0	No	2.4
W56	Boundaries Road	Kerbside	528382	173270	NO ₂	Yes	4.1	0.4	No	2.2
SA1	Louiseville Road	Kerbside	528160	172414	NO ₂	Yes	9.5	0.4	No	2.3

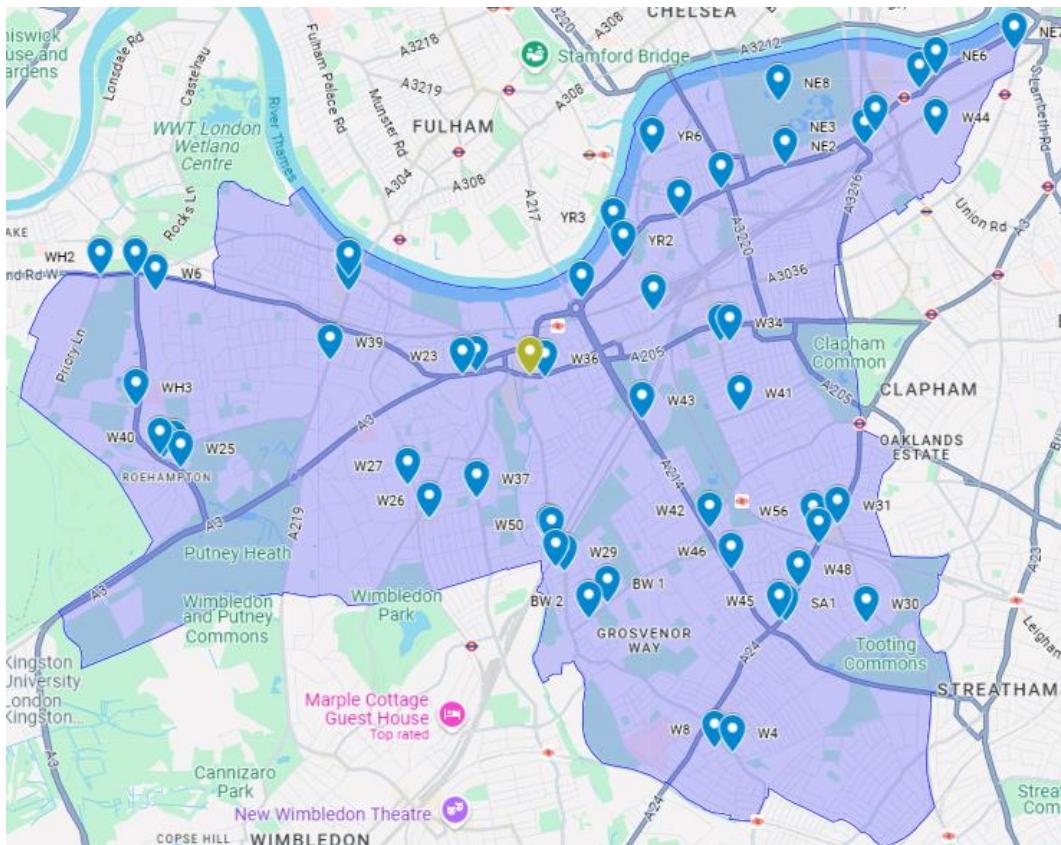
WH 1	Roehampton Lane/Upper Richmond Road	Kerbside	522078	175466	NO ₂	Yes	13.0	1.0	No	2.2
WH 2	Priory Lane/ Upper Richmond Road	Roadside	521752	175435	NO ₂	Yes	13.0	2.5	No	2.1
WH 3	Clarence Ln/Roehampton Ln	Kerbside	522087	174262	NO ₂	Yes	12.0	0.6	No	2.1
BW 1	Burntwood Ln (Tranmere/ Aboyne)	Kerbside	526506	172554	NO ₂	Yes	6.0	0.7	No	2.4
BW 2	Burntwood Ln (Bridgfort / France Court)	Kerbside	526335	172395	NO ₂	Yes	5.2	1.0	No	2.4
New location added since January 2024										
W57	Wandsworth Town Hall	Kerbside	525734	174640	NO ₂	Yes	3.0	0.6	No	2.4

Notes:

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).
 (2) N/A if not applicable.

Figure A below depicts locations of the diffusion tubes in 2024, including the one new location (shown in green). Figure M (Appendix C) has a map of the locations of the automatic monitoring stations.

Figure A: Map of Non-Automatic Monitoring Site(s) (Diffusion Tubes)



Legend:

-  - Existing diffusion tube location.
-  - New diffusion tube location

1.2 Comparison of Monitoring Results with AQOs

Concentration values are those at the location of the monitoring site (bias adjusted and annualised, as required), not those following any fall-off with distance correction.

Table D. Annual Mean NO₂ Monitoring Results: Automatic Monitoring (μg m⁻³)

Site ID/Site Name	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
WA7 (Putney High Street)	524035	175334	Automatic	95	68	68	69	58	62	Insufficient valid data	Insufficient valid data	37
WA9 (Felsham Road)	524044	175495	Automatic	96	85	35	35	26	27	Insufficient valid data	Insufficient valid data	15
WAA (Thessaly Road, Battersea)	529137	177249	Automatic	53	53	33 ^c	32	27	28	27	24	22
WAB (Tooting High Street)	527567	171628	Automatic	95	95	53	50	35c	34c	34 ^c	33c	31
WAC (Lavender Hill, Clapham Junction)	527430	175454	Automatic	76	42	42	37c	31	35	Insufficient valid data	Insufficient valid data	28

Notes:

The annual mean concentrations are presented as $\mu\text{g m}^{-3}$.

Exceedances of the NO_2 annual mean AQO of $40 \mu\text{g m}^{-3}$ are shown in **orange and bold**.

NO_2 annual means in excess of $60 \mu\text{g m}^{-3}$, indicating a potential exceedance of the NO_2 hourly mean AQS objective are shown in **red, 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%).
- (c) Data has been “annualised” in accordance with LLAQM Technical Guidance.

All 2024 data from the automatic monitoring stations have been fully ratified. A data capture rate of above 75% was achieved at 2 of the 5 automatic monitoring stations: WA9 (Felsham Road) and WAB (Tooting High Street). The data capture for the WA7 (Putney High Street), WAA (Thessaly Road, Battersea) and WAC (Lavender Hill, Clapham Junction) automatic monitors is lower than 75% and higher than 25% and so the processing tool was used to annualise in accordance with the LLAQM Technical Guidance. The automatic monitoring data are subject to correction by the Environmental Research Group (ERG) at Imperial College London as part of the London Air Quality Network (LAQN).

Due to the age and failure of the automated infrastructure and a commitment to measuring $\text{PM}_{2.5}$ funding by the Council was agreed and the outdated infrastructure and monitoring equipment was updated with new equipment being installed. Along with the new equipment the enclosures themselves were also replaced throughout the borough as well as new plinths being installed. This should ensure that the monitors in the Borough of Wandsworth continue to accurately and reliable capture and report the concentrations of air pollution across the borough for years to come.

Automatic monitoring took place over the full 12-month period in 2024. Three of the continuous monitors had low capture rates for the year 2024. Monitor WAA (Thessaly Road) had a capture rate of 53%, monitor WA7 (Putney High Street) with 68% valid capture

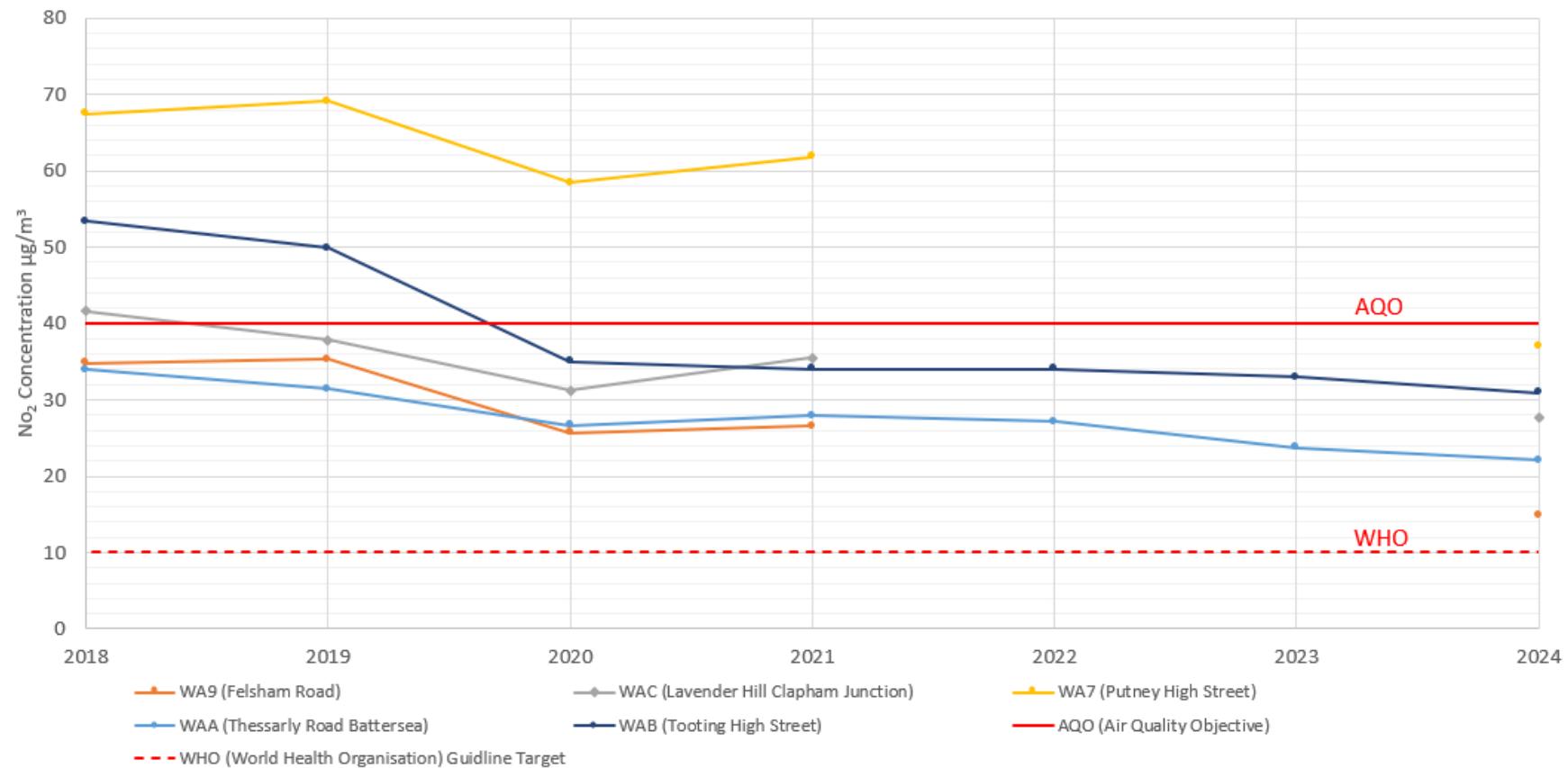
and monitor WAC (Lavender Hill Clapham Junction) had a capture rate of 52%. All three monitoring locations had periods of the year where technical issues were faced due to outdated infrastructure leading to the loss of data capture. There was also a loss of data capture during the installation of the new equipment due flow faults and loss of power.

The monitors had enough data for data to be annualised in accordance with LLAQM Technical Guidance as the valid data capture for the calendar year was less than 75% and greater than 25%.

Annual mean NO₂ concentrations measured at all the automatic monitoring stations have decreased since 2018, and more generally over the 7-year period (2018-2024) for which data have been reported. Data comparison for 2022 and 2023 shows a decrease in levels of NO₂ concentrations recorded at two of the automatic monitoring stations: WAA (Thessaly Road, Battersea) and WAB (Tooting High Street) for which data was available. WAA (Thessaly Road, Battersea) and WAB (Tooting High Street) have both shown a reduction of 2 $\mu\text{g m}^{-3}$.

Figure B depicts the trend of nitrogen dioxide recorded at the monitoring stations against the National Air Quality Objective and the WHO guideline target. The figure shows that levels of nitrogen dioxide of all the monitoring stations were below the national air quality objective and that all the continuous monitors exceeded the WHO guideline target.

Figure B: Automatic monitoring stations annual mean nitrogen dioxide (NO₂) trend chart 2018 - 2024



Notes

The annual mean concentrations are presented as $\mu\text{g m}^{-3}$.

WHO interim target adopted by Wandsworth in September 2023 and incorporated in the AQAP: Ambient (outdoor) air pollution (who.int)

Table E. Annual Mean NO₂ Monitoring Results: Non-Automatic Monitoring (µg m⁻³)

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%)	Valid Data Capture 2024 (%)	NO ₂ Annual Mean Concentration (µg/m ³)						
							2018	2019	2020	2021	2022	2023	2024
W23	37 West Hill	525111	174619	Roadside	83	83	55	49	39	45	38	33	31
W24	Putney Sign (MacDonald's)	524045	175366	Roadside	93	93	55	59	49	47	43	38	34
W21	Felsham Road (tube 1)	524044	175495	Urban Background	100	100	33	30	23	24	21	19	17
W22	Felsham Road (tube 2)	524044	175495	Urban Background	100	100	30	31	23	24	23	19	18
W6	21 Daylesford Avenue	522270	175307	Urban Background	75	75	23	23	16	16	15	13	13
W25	Roehampton Church School (on corner of Roehampton Lane)	522542	173700	Roadside	93	93	29	27	20	21	19	18	16
W26	Replingham Road (corner of Heythrope street)	524847	173282	Kerbside	100	100	30	31c	21	19	17	16	14

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%)	Valid Data Capture 2024 (%)	NO ₂ Annual Mean Concentration (µg/m ³)						
							2018	2019	2020	2021	2022	2023	2024
W27	68-70 Sutherland Grove	524633	173594	Urban Background	100	100	25	23	16	19	15	14	13
W28	61 Summerley Street	526011	172869	Urban Background	93	93	28	27	20	21	17	15	13
W29	Junction Skelbrook Street / Garratt Lane	526099	172833	Roadside	100	100	32	31	21	22	19	17	15
W4	108 Mitcham Road	527688	171204	Kerbside	83	83	64	62	51	50	46	42	34
W8	50 Bickely Street	527524	171239	Urban Background	91	91	31	28	22	24	21	20	19
W30	11b Elmbourne Road	528900	172431	Urban Background	100	100	31	29	21	23	19	17	16
W31	Junction Hildreth Street / Bedford Hill	528607	173333	Kerbside	100	100	39	36	26	29	25	23	22
W32	2-3 Balham High Road	528436	173133	Kerbside	91	91	44	39	31	31	28	24	23

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%)	Valid Data Capture 2024 (%)	NO ₂ Annual Mean Concentration (µg/m ³)						
							2018	2019	2020	2021	2022	2023	2024
W34	46 Shelgate Road	527569	174986	Urban Background	100	100	30	31	21	22	19	17	16
W35	47 Northcote Road	527487	174981	Kerbside	100	100	35	32	24	25	21	19	19
W36	208 St Anne's Hill	525875	174616	Urban Background	100	100	33	31	23	23	20	19	19
W37	302A Merton Road	525278	173483	Roadside	100	100	37	37	27	25	22	19	18
W38	High View School, Plough Terrace	526863	175239	Kerbside	100	100	32	29	22	23	20	18	17
NE2	Chesterton School	528043	176618	Roadside	91	91	35	34	24	25	22	20	18
NE3	Queenstown Road	528771	176819	Kerbside	100	100	63	59	42	40	35	32	31
NE4	16 Lockington Road	528871	176943	Urban Background	100	100	34	31	24	25	22	19	18

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%)	Valid Data Capture 2024 (%)	NO ₂ Annual Mean Concentration (µg/m ³)						
							2018	2019	2020	2021	2022	2023	2024
NE5	Kirtling Street	529252	177348	Kerbside	93	93	46	39	29	31	26	26	25
NE6	Nine Elms Lane	529424	177501	Kerbside	100	100	54	48	40	40	34	30	29
NE7	1 Nine Elms, Parry Street	530129	177727	Roadside	100	100	49	47	34	34	28	25	23
NE8	Battersea Park (new location)	528023	177176	Urban Background	93	93	24c	20	15	16	14	12	12
YR1	Trafalgar House	526201	175340	Kerbside	91	91	53	44	34	31	28	24	23
YR2	Royal Academy of Dance	526581	175731	Kerbside	93	93	75	57	37	36	36	35	32
YR3	Cotton Row	526480	175930	Urban Background	91	91	31	29	24	24	20	19	18
YR4	Falcon Road	527086	176119	Kerbside	100	100	49	49	38	38	31	28	25

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%)	Valid Data Capture 2024 (%)	NO ₂ Annual Mean Concentration (µg/m ³)						
							2018	2019	2020	2021	2022	2023	2024
YR5	256 Battersea Park Road	527109	176022	Kerbside	100	100	73	70	52	55	43	42	37
YR6	31-32 Battersea Square	526817	176686	Kerbside	100	100	44	43	32	30	27	26	23
W39	Carlton Dr/Putney Hill	523898	174717	Kerbside	100	100	<u>Not Open</u>	<u>Not Open</u>	29	32	28	24	22
W40	Roehampton High St/Roehampton Ln	522343	173805	Kerbside	100	100	<u>Not Open</u>	<u>Not Open</u>	25	26	24	21	20
W41	Northcote Rd/Broomwood Rd	527675	174339	Kerbside	83	83	<u>Not Open</u>	<u>Not Open</u>	25	26	20	18	17
W42	Bellevue Rd/Trinity Road	527426	173249	Roadside	93	93	<u>Not Open</u>	<u>Not Open</u>	48	45	38	33	33
W43	Trinity Road (FCCFG)	526783	174250	Roadside	100	100	<u>Not Open</u>	<u>Not Open</u>	28	28	25	22	22
W44	Thessaly Rd (Marsh House)	529425	176920	Roadside	100	100	<u>Not Open</u>	<u>Not Open</u>	21	22	19	18	18

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%)	Valid Data Capture 2024 (%)	NO ₂ Annual Mean Concentration (µg/m ³)						
							2018	2019	2020	2021	2022	2023	2024
W45	A24 Wimbledon Sewing Machine	528096	172439	Roadside	100	100	<u>Not Open</u>	<u>Not Open</u>	31	31	27	26	23
W46	Trinity Road	527639	172882	Kerbside	100	100	<u>Not Open</u>	<u>Not Open</u>	38	37	30	26	27
W47	Westhill School Lamppost West Hill Barber Shop	525243	174643	Kerbside	85	85	<u>Not Open</u>	<u>Not Open</u>	58	<u>64</u>	<u>60</u>	53	48
W48	Rutherford House School Outside School	528263	172735	Kerbside	100	100	<u>Not Open</u>	<u>Not Open</u>	27	27	23	21	19
W49	Garratt Ln/ Earlsfield Rd	525987	173077	Kerbside	75	75	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	32	29	27	22
W50	Penwith Rd/Garratt Ln	525945	173083	Roadside	93	93	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	32	26	22c	20
W52	Medfield Street	522481	173792	Kerbside	100	100	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	25	25

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%)	Valid Data Capture 2024 (%)	NO ₂ Annual Mean Concentration (µg/m ³)						
							2018	2019	2020	2021	2022	2023	2024
W54	Roehampton Ln/Medfield St	522382	173779	Kerbside	85	85	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	30	28
W56	Boundaries Road	528382	173270	Kerbside	100	100	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	17	15
SA1	Louiseville Road	528160	172414	Kerbside	100	100	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	22	19	18	17
WH 1	Roehampton Lane/ Upper Richmond road	522078	175466	Kerbside	75	75	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	32	27	27	26
WH 2	Priory Lane/ Upper Richmond Road	521752	175435	Roadside	42	42	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	27	23	20	18c
WH 3	Clarence Ln/Roehampton Ln	522087	174262	Kerbside	100	100	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	34	29	25	21
BW 1	Burntwood Ln (Tranmere/ Aboyne)	526506	172554	Kerbside	100	100	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	35	24	23
BW 2	Burntwood Ln (Bridgford / France Court)	526335	172395	Kerbside	93	93	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	22	20	18

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%)	Valid Data Capture 2024 (%)	NO ₂ Annual Mean Concentration (µg/m ³)						
							2018	2019	2020	2021	2022	2023	2024
New location added since 2024													
W57	Wandsworth Town Hall	525734	174640	Kerbside	83	83	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	<u>Not Open</u>	29

- 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 NO₂ annual mean objective of 40µg m⁻³ are shown in **orange and bold**.

NO₂ annual means exceeding 60µg m⁻³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **red, 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%. This applied to WH2 (Priory Lane/ Upper Richmond Road).

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%).

(c) Data has been “annualised” in accordance with LLAQM Technical Guidance

The average data capture rate for 2024 was satisfactory (94%). Only one of the diffusion tube locations, WH2 (Priory Lane/Upper Richmond Road), had a data capture rate less than 75% and required annualising. The results from this tube were annualised in line with DEFRA guidance LAQM TG(19).

The diffusion tube results from the 2024 monitoring (Table E) show that the national air quality objective (NAQO) of $40 \mu\text{g m}^{-3}$ was exceeded at 1 monitoring location out of the total 55 locations that were being monitored; this has decreased from 3 exceedances from the previous year in 2023. The $40 \mu\text{g m}^{-3}$ annual mean objective was exceeded at:

- **W47 - West Hill = $48 \mu\text{g m}^{-3}$**

The W47 location also exceeded the $40 \mu\text{g m}^{-3}$ threshold in 2023 with a value of $53 \mu\text{g m}^{-3}$. The concentration value recorded in 2024 ($48 \mu\text{g m}^{-3}$) is a $5 \mu\text{g m}^{-3}$ reduction which equates to a 9% decrease from the 2023 value.

The overall monitoring results for the borough in 2023 show significant improvements toward borough wide compliance with the annual mean National Air Quality Objective for NO_2 . To recap, 98% of monitoring locations achieved compliance at the point of monitoring, up from 95% in 2023. This then rises to 100% compliance following distance correction to relevant exposure of the exceeding diffusion tube site W47(West Hill) shown in Table O.

It should be noted that no sites exceeded the annual mean of $60 \mu\text{g m}^{-3}$ which indicates that the 1-hour mean objective was likely met at all sites for the second year in a row. Both 2023 and 2024 show a reduction from 2022 where one site exceeded this target. Data from the borough’s diffusion tube network between 2018 and 2024 have been charted in Figures C to H across six charts, the locations have been grouped in exceedances and air quality focus areas to aid comparison.

The impact of COVID-19 resulted in a drop in annual mean NO_2 concentrations at all monitoring locations in 2020. In 2019, 11 monitoring locations exceeded the annual mean NO_2 national air quality objective (NAQO) of $40 \mu\text{g m}^{-3}$, compared to 6 in 2020, a significant improvement. While NO_2 concentrations did rebound slightly in 2021, the downward trend continued in 2022 with NO_2 concentrations reducing across the borough as compared to 2021. The number of locations exceeding the NO_2 annual mean NAQO reduced to 4.

In 2023, the number of locations exceeding the annual mean NO_2 NAQO reduced to 3, equating to a compliance rate of 95% with the annual mean NO_2 NAQO. This reduced even further in 2024, to just the one location exceeding the annual mean NO_2 NAQO. This marks the continuous improvement in air quality across Wandsworth.

The lowest concentrations of NO₂ recorded in 2024 was at site NE8 (Battersea Park) with 12 µg m⁻³. This matches the concentration recorded for 2023 and means that currently, despite the improvements in air quality, no location monitored in Wandsworth has met the annual mean WHO guideline value of 10 µg m⁻³ set to protect the public from the health effects of gaseous nitrogen dioxide.

In 2023 Wandsworth Council refreshed its AQAP, adopting the interim WHO target levels – the interim targets provide a stepping stone to achieving compliance with the WHO guideline target.

The interim WHO target levels of 30 µg m⁻³ was exceeded at 8 monitoring locations in 2024, which is 15% of the total monitoring sites. The 30 µg m⁻³ annual mean objective was exceeded at:

Table F. Locations of 2024 interim 30 µg m⁻³ WHO target levels exceedances and the % change from 2023

Site ID	2023 NO ₂ Concentrations (µg/m ³)	2024 NO ₂ Concentrations (µg/m ³)	% decrease in NO ₂ from 2023 to 2024
W4 (Mitcham Road)	42	34	19
YR5 (Battersea Park Road)	42	37	12
W47 (West Hill)	53	48	9
W42 (Bellevue Road)	33	33	0
YR2 (Royal Academy of Dance, York Road)	35	32	8
W23 (West Hill)	33	31	6
W24 (Putney McDonalds)	38	34	11
NE3 (Queenstown Road)	32	31	3

The 8 locations that exceeded the boroughs interim WHO target levels in 2024 were the same locations that exceeded in 2023. The values for the year 2023 and 2024 are given above with the % change also provided.

The number of sites exceeding this new objective remained consistent to the previous year at 8 sites, this equates to a compliance rate of 85% with the interim WHO target levels.

Of the 54 previously monitored locations 72% of the diffusion tubes had reductions of 1-3 $\mu\text{g m}^{-3}$ from 2023 to 2024 (39 locations). 5 monitoring locations (9.3%) had a reduction of 4 - 5 $\mu\text{g m}^{-3}$. These were sites YR5, W24, W47, W49 and WH3, all these sites are roadside locations and are situated on busy main roads. W4 had a reduction of 8 $\mu\text{g m}^{-3}$ from 2023 to 2024, this was the greatest reduction to be recorded in 2024. 8 locations (15%) saw no change in value from 2023 to 2024, these were W6, W35, W36, NE8, W42, W43, W44 and W52. One location (W46) recorded a concentration in 2024 that was 1 $\mu\text{g m}^{-3}$ higher than in 2023. In 2024, 83% (45) of the locations monitored across the borough recorded a concentration lower than in 2023. 14.8% (8) locations had no change in concentration recorded and 1.9% (1) locations recorded a higher concentration in 2024 compared to 2023.

The London Borough of Wandsworth is classified as an inner London Borough and borders outer London boroughs to the south and west. It is in close proximity to central London with it being to the northeast of the borough. In 2021 the Ultra Low Emission Zone was extended to the south circular, incorporating part of the borough. Monitoring sites W21 and W22 (Felsham Road), W23 (West Hill), W24 (Putney McDonalds), YR1 (Trafalgar House), YR2 (Royal Academy of Dance), YR3 (Cotton Row), YR4 (York Road), YR5 (Battersea Park Road), YR6 (Battersea Square), NE2 (Chesterton School), NE3 (Queenstown Road), NE4 (Lockington Road), NE5 (Kirtling Street), NE6 (Nine Elms Lane), NE7 (1 Nine Elms), NE8 (Battersea Park), and W44 (Thessaly Road) all sit within this zone.

Putney High Street focus Area:

Focussing on site location W24 (Putney High Street), there has been a significant reduction in the levels of NO_2 since monitoring began in 2017. The most significant decrease occurred in 2020 when vehicle movements were drastically reduced due to the COVID-19 pandemic. The second largest reduction was in 2018 when low emission buses were introduced on Putney High Street – complying with the hourly mean objective for the first time. The impact of low emission vehicles on the levels of NO_2 can be further witnessed in the subsequent years of 2022, 2023 and finally 2024. 2022 was the first full year of the extended ultra-low emission zone. A reduction of 4 $\mu\text{g m}^{-3}$ in 2022, 5 $\mu\text{g m}^{-3}$ reduction in 2023 and then another 4 $\mu\text{g m}^{-3}$ decrease was witnessed from the year 2023 to 2024. Since 2018 this site has seen a reduction of 21 $\mu\text{g m}^{-3}$ a 38.2% reduction in NO_2 .

Site location W42 had a 7 $\mu\text{g m}^{-3}$ reduction in levels of nitrogen dioxide between 2021 and 2022. Whilst the site was not within the first extension of the ULEZ, it was within 2000 metres and around a 10-minute drive, therefore it could be speculated that many people in and around this area had switched to low or zero emission vehicles; there was a further reduction of 5 $\mu\text{g m}^{-3}$ recorded in 2023. In 2024 there has been no further reduction, a concentration of 33 $\mu\text{g m}^{-3}$ being recorded for the second year in the row.

The continual fall in pollution in the Putney can be partly contributed to Wandsworth's continued work with TfL on exploring all avenues to improve capacity and smooth traffic flow. Despite the concerns over congestion and pollution the AQ monitoring shows a downward trend in pollution and the scheme has introduced significant improvements for walking and cycling in the area. With the introduction of the northbound bus lane on Putney bridge there was an improvement in bus journey times and reduction in stationary time. The extension of bus lane hours to 7am-7pm on Putney Bridge Road improves bus journey times also provides additional facility for pedal cycles supporting active travel, modal shift and therefore leading to less pollution.

The public improvement scheme on Putney High Street took place from September to December 2024 with these changes:

- The design reduces the bottle neck at the start of Putney Bridge (northbound) by relocating the bus stops northwards and marking two lanes
- As part of resurfacing fine tuning of the lining was carried out to increase the length of the 2 lanes section on Putney High Street northbound by Weimar Street and to maximise the space for eastbound traffic on Lower Richmond Road
- Existing yellow box junction by the Embankment was shortened to maximise traffic lanes.
- TfL have completed the initial validation and set up of sensors. They are now optimising the scoot system and will be fine tuning until mid/late June
- Officer site observations have been fed back to TfL for consideration within the optimisation exercise
- Increased enforcement to reduce delays caused by illegal loading
- Correction of a Loading Bay. General loading restrictions limit activity to 7pm-7am. This bay had incorrect signage permitting loading in the daytime which had a negative effect on southbound flows.

Following the completion of phase 1 and 2, levels of air quality concentrations will continue to be monitored to assess the impact of the scheme.

The main source of pollution in the borough remains road traffic. The updated London Atmospheric Inventory (LAEI 2019) released in 2022, estimates 60% of nitrogen oxide emissions originate from road transport, followed by industrial/commercial heat and power 20%, and domestic heat and power 12%.

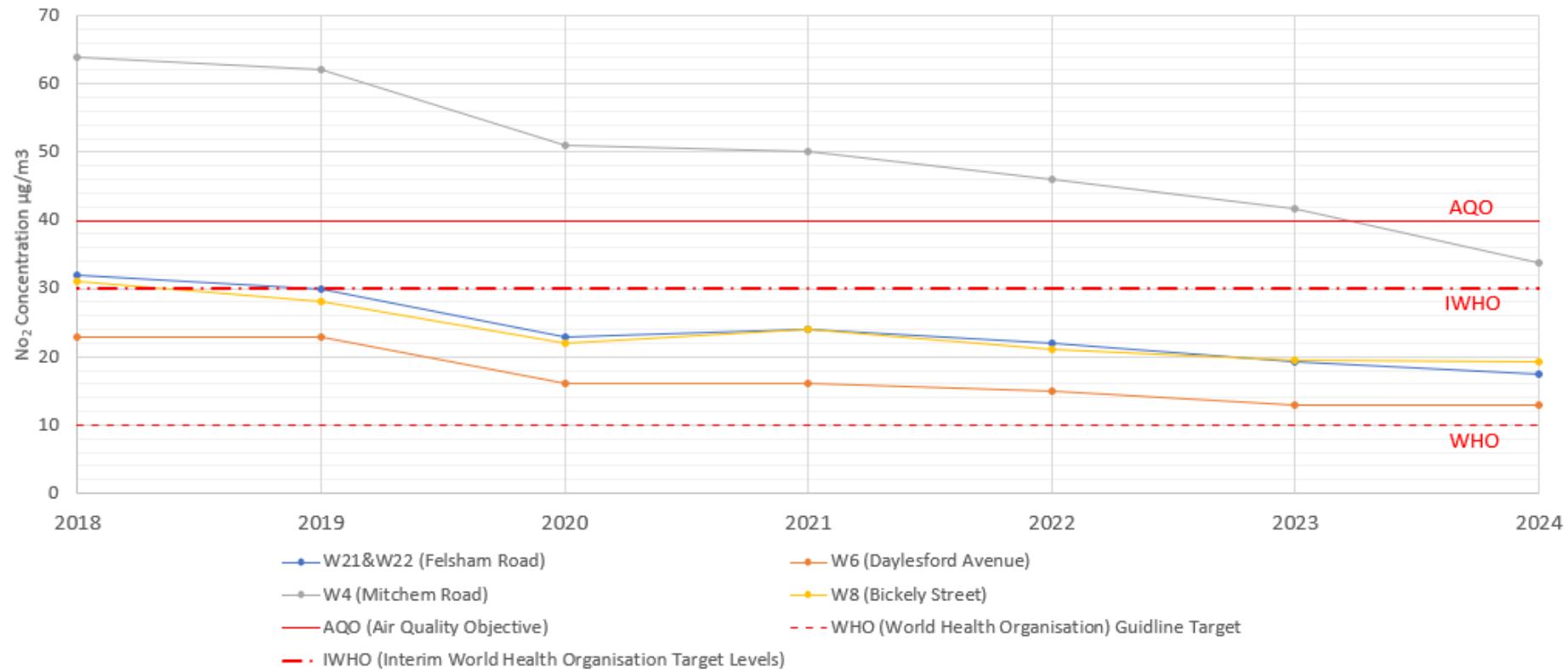
As road transport is the largest contributor to NO2 emissions, many factors at all levels of central and local government have contributed to the reduction in emissions that we are observing.

According to the SMMT (Society of Motor manufacturers and Traders) 2024 witnessed a 2.6% overall increase in car sales in 2024 compared to 2023 up to nearly 2,000,000. Despite the fact that EV sales reached new record numbers, they failed to reach the mandated target of 22%, achieving 19.6% of all new car sales. (Manufacturers can shift EV sales to later years when demand is expected to be stronger). Increases were reported in EV, (electric vehicle), HEV (Hybrid Electric Vehicle) and PHEV (Plug-in Hybrid Electric Vehicle) whilst decreases were reported in petrol and diesel. Petrol still accounted for more than half of all car sales, more than 1,000,000 (56%), diesels dropped to around 120,000 (7.5% - now the smallest market share by fuel type) and combined EV, PHEV and HEV rose to over 810,000 (36.5%). The ZEV mandate appears to be working but some manufacturers think more government incentives are needed.

There are a number of Air Quality Action Plan measures that are directly linked to reducing road transport emissions and progress against these are reported in Table M In summary:

- There are 29 operational School Streets in the borough.
- Encouragement for modal shift away from private car onto bicycles, cargo bikes, walking, and public transport.
- Wider cycle accessibility has been improved in Putney, Roehampton, Clapham Junction, Tooting and Town Centres
- Pedestrian accessibility and improvements have been increased in different part of the boroughs
- The expansion of the Our Bike Scheme, with new locations in Earlsfield and Roehampton.
- Planning applications are assessed to encouraged car free development in accordance with the London Plan.
- Electric vehicle charge points (EVCP's) are conditioned in all possible planning applications and are being rolled out borough wide.
- Idling is still a priority in Wandsworth. Idling action events are delivered by the Air Quality Team which are attempting to increase driver awareness and behaviour change away from engine idling.

Figure C: Long term NO₂ concentration trends in Wandsworth 2018-2024 from non-automatic monitoring (diffusion tubes)



Notes

The annual mean concentrations are presented as $\mu\text{g m}^{-3}$.

WHO interim target adopted by Wandsworth in September 2023 and incorporated in the AQAP: [Ambient \(outdoor\) air pollution \(who.int\)](#)

Figure D: Long term NO₂ concentration trends in Wandsworth 2018-2024 from non-automatic monitoring (diffusion tubes) in Putney High Street/Putney Bridge Road/Richmond Road focus area.



Notes The annual mean concentrations are presented as $\mu\text{g}/\text{m}^3$ WHO interim target adopted by Wandsworth in September 2023 and incorporated in the AQAP: [Ambient \(outdoor\) air pollution \(who.int\)](https://www.who.int)

**Figure E: Long term NO₂ concentration trends in Wandsworth 2018-2024 from non-automatic monitoring (diffusion tubes)
Wandsworth Gyratory/Wandsworth High Street/ Armoury Way.**

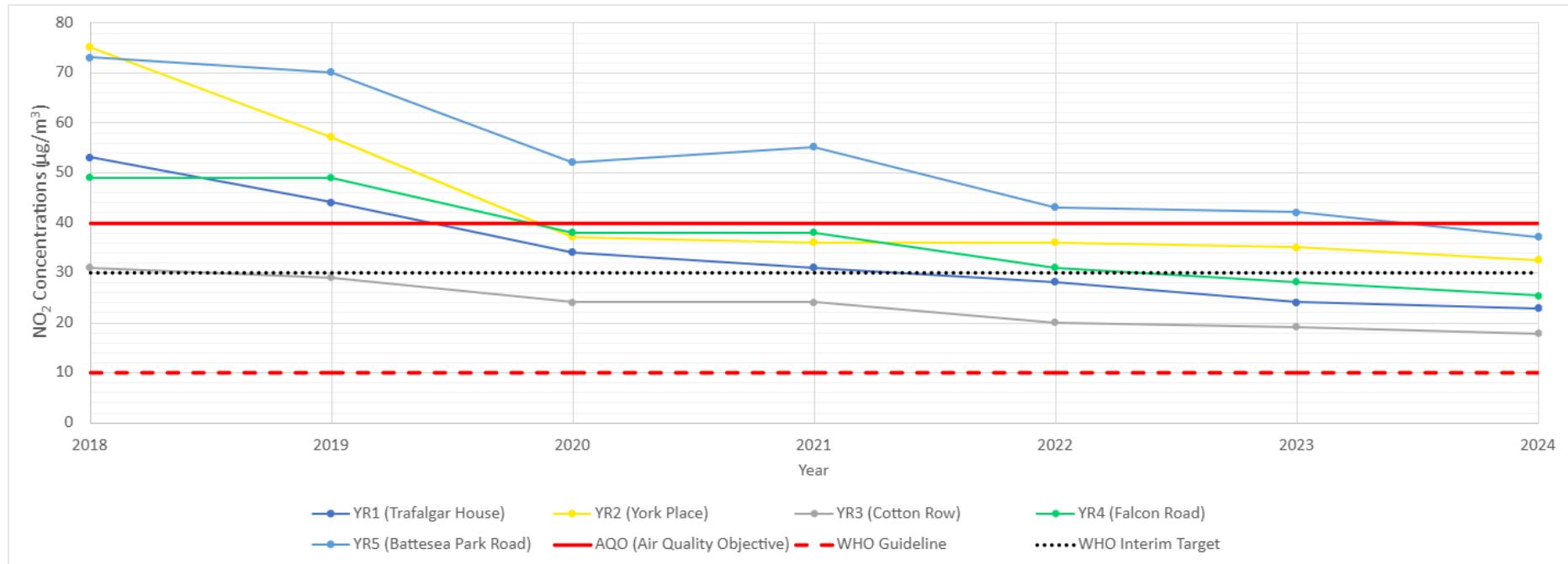


Notes

The annual mean concentrations are presented as $\mu\text{g m}^{-3}$.

WHO interim target adopted by Wandsworth in September 2023 and incorporated in the AQAP: [Ambient \(outdoor\) air pollution \(who.int\)](https://www.who.int)

**Figure F: Long term NO₂ concentration trends in Wandsworth 2018-2024 from non-automatic monitoring (diffusion tubes)
York Road (A3205) from Wandsworth Bridge to Latchmere Road**



Notes

The annual mean concentrations are presented as $\mu\text{g m}^{-3}$.

WHO interim target adopted by Wandsworth in September 2023 and incorporated in the AQAP: [Ambient \(outdoor\) air pollution \(who.int\)](#)

Figure G: Long term NO₂ concentration trends in Wandsworth 2018-2024 from non-automatic monitoring (diffusion tubes)
Clapham Junction Falcon Road/Northcote Road/ Battersea Rise/ Lavender Hill

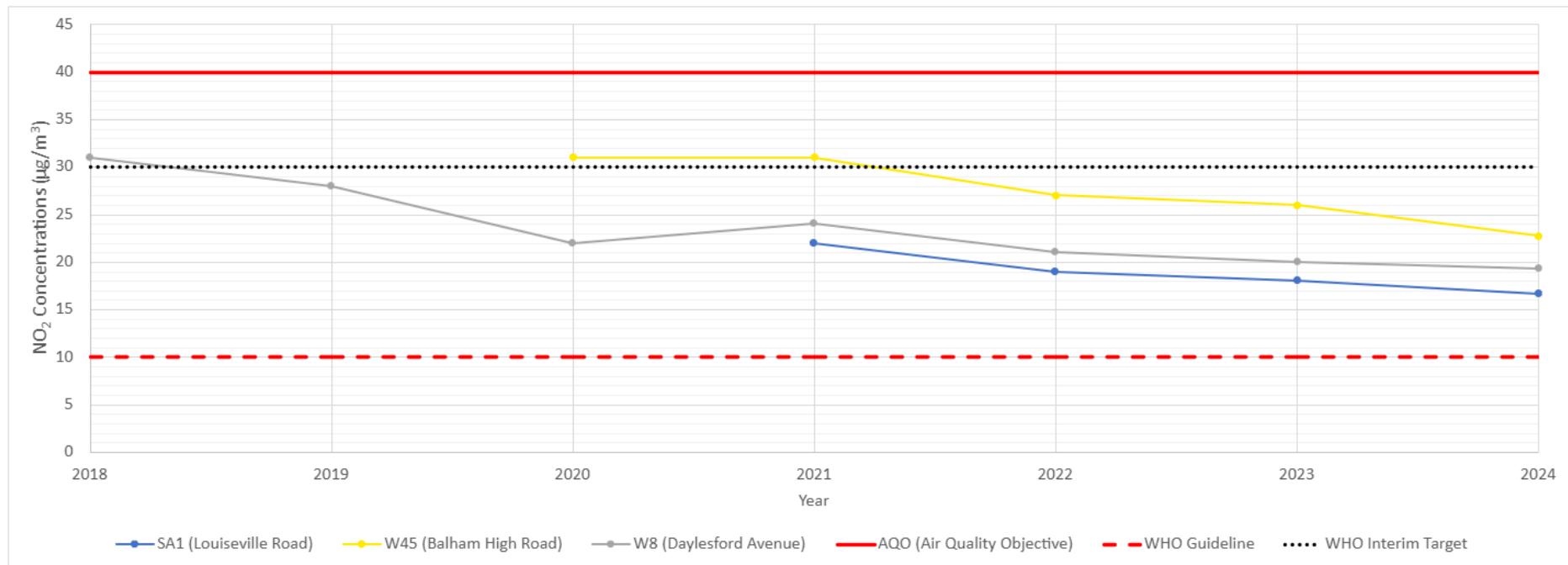


Notes

The annual mean concentrations are presented as $\mu\text{g m}^{-3}$.

WHO interim target adopted by Wandsworth in September 2023 and incorporated in the AQAP: [Ambient \(outdoor\) air pollution \(who.int\)](https://www.who.int)

**Figure H: Long term NO₂ concentration trends in Wandsworth 2018-2024 from non-automatic monitoring (diffusion tubes)
Tooting High Street and Upper Tooting Road**



Notes

The annual mean concentrations are presented as $\mu\text{g m}^{-3}$.

WHO interim target adopted by Wandsworth in September 2023 and incorporated in the AQAP: [Ambient \(outdoor\) air pollution \(who.int\)](https://www.who.int)

Table G. NO₂ Automatic Monitoring Results: Comparison with 1-hour Mean Objective, Number of 1-Hour Means > 200 µg m⁻³

Site ID/Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Valid data capture 2024 % ^(b)	2018	2019	2020	2021	2022	2023	2024
WA7 Putney High Street	524035	175334	68	26	11	4	1	Insufficient valid data	Insufficient valid data	0 (98)
WA9 Felsham Rd; Putney	524044	175495	85	0	0	0	0	Insufficient valid data	Insufficient valid data	0 (58)
WAA Thessaly Rd, Battersea	529137	177249	53	0 (97)	0	8	0	0	0 (95)	0(83)
WAB Tooting High Street	527567	171628	95	2	3	0 (104)	0 (98)	0 (120)	0 (99)	0
WAC Lavender Hill, Clapham Junction	527430	175454	42	0	0	0	0	Insufficient valid data	Insufficient valid data	0(71)

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 NO₂ 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%)

Table G provides the results from the automatic monitoring stations for NO₂ for the 1-hour mean objective of 200 µg m⁻³. In 2024 there was no exceedances of the 1-hour mean objective for NO₂. This is the 4th year in a row for the WAA and WAB monitoring stations. This is also the 7th year in a row that the two monitor stations have been below the permitted 18 hours per year AQO of 200 µg m⁻³.

Table H. Annual Mean PM₁₀ Automatic Monitoring Results (µg m⁻³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Valid data capture for monitoring period % ^(a)	Valid data capture 2024 % ^(b)	2018	2019	2020	2021	2022	2023	2024
WA7 Putney High Street	524035	175334	84	84	25	22	19	20	20	18	16
WA9 Felsham Road (Putney)	524044	175495	95	95	17	18	16	16	15	13	14
WAA Thessaly Road (Battersea)	529137	177249	80	80	25	23	25	23	20	16c	17
WAB Tooting High Street	527567	171628	93	90	23	23	21	23	21c	19	20

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Valid data capture for monitoring period % ^(a)	Valid data capture 2024 % ^(b)	2018	2019	2020	2021	2022	2023	2024
WAC Lavender Hill (Clapham Junction)	527430	175454	89	89	21	20 c	19	19	20	18	18

Notes

The annual mean concentrations are presented as $\mu\text{g m}^{-3}$.

Exceedances of the PM_{10} annual mean AQO of $40 \mu\text{g m}^{-3}$ 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%).

(c) Data has been “annualised” in accordance with LLAQM Technical Guidance.

All 2024 data from the automatic monitoring stations have been fully ratified. Data capture rate above 75% was achieved at all monitoring stations. Over the 7-year period from 2018–2024 PM_{10} concentrations have been relatively consistent with minor fluctuations. Although there has been a clear downward trend from 2021, there has been a slight increase in the PM_{10} values recorded at WAB, WAA and WA9 from 2023 to 2024. All these monitoring locations recorded an increase of $1 \mu\text{g m}^{-3}$. Even with this

slight increase, the National Air Quality annual mean objective of $40 \mu\text{g m}^{-3}$ was still comfortably achieved in 2024. With these measured concentrations at WA7 (Putney High Street), WAA (Thessaly Road), WAB (Tooting High Street) and WAC (Lavender Hill, Clapham Junction) the locations do still exceed the recommended World Health Organisation (WHO) guideline of $15 \mu\text{g m}^{-3}$. So to summarise. Whilst all five sites do meet the NAQO limit value ($40 \mu\text{g m}^{-3}$) only one site WA9 (Felsham Road) meets the new, stricter WHO guidelines ($15 \mu\text{g m}^{-3}$) for PM_{10} .

There was a $2 \mu\text{g m}^{-3}$ decrease in the levels of annual mean PM_{10} concentrations recorded at WA7 (Putney High Street). The only monitoring location where the value recorded showed a decrease from 2023. The concentration at WAC (Lavender Hill, Clapham Junction) remained the same at a value of $18 \mu\text{g m}^{-3}$. As mentioned previously WAA (Thessaly Road), WAB (Tooting High Street) and WA9 (Felsham Road) all recorded concentrations that had increased $1 \mu\text{g m}^{-3}$. The annual mean PM_{10} results are further illustrated by Figure I. The red line indicates the air quality objective of no more than $40 \mu\text{g m}^{-3}$. The inclusion of the red dashed line indicates the World Health Organisation target of $15 \mu\text{g m}^{-3}$. The data capture rates for the automatic monitoring stations all achieved above 75%.

Around half of UK concentrations of all PMs comes from anthropogenic sources in the UK, such as wood burning and tyre and brake wear from vehicles. In Wandsworth, where wood burning fires are still popular, specific efforts are being made to reduce PMs from burning, (Table K). In Winter 2024 Wandsworth ran a wood burning campaign and continued to investigate complaints regarding unauthorised burning and non-compliant appliances. An added complication is the range of PM_{10} pollution, it is not confined to localised sources but can travel large distances. Often PM_{10} pollution episodes (periods of higher-than-normal particulate concentrations) often originate from agriculture and industry in continental Europe.

It will be a challenge to drive down particulate matter concentrations to these levels in Wandsworth based on borough monitoring data to date. The same can be said for all London Boroughs.

Figure I: Automatic monitoring stations annual mean particulate matter (PM₁₀) trend chart 2018-2024

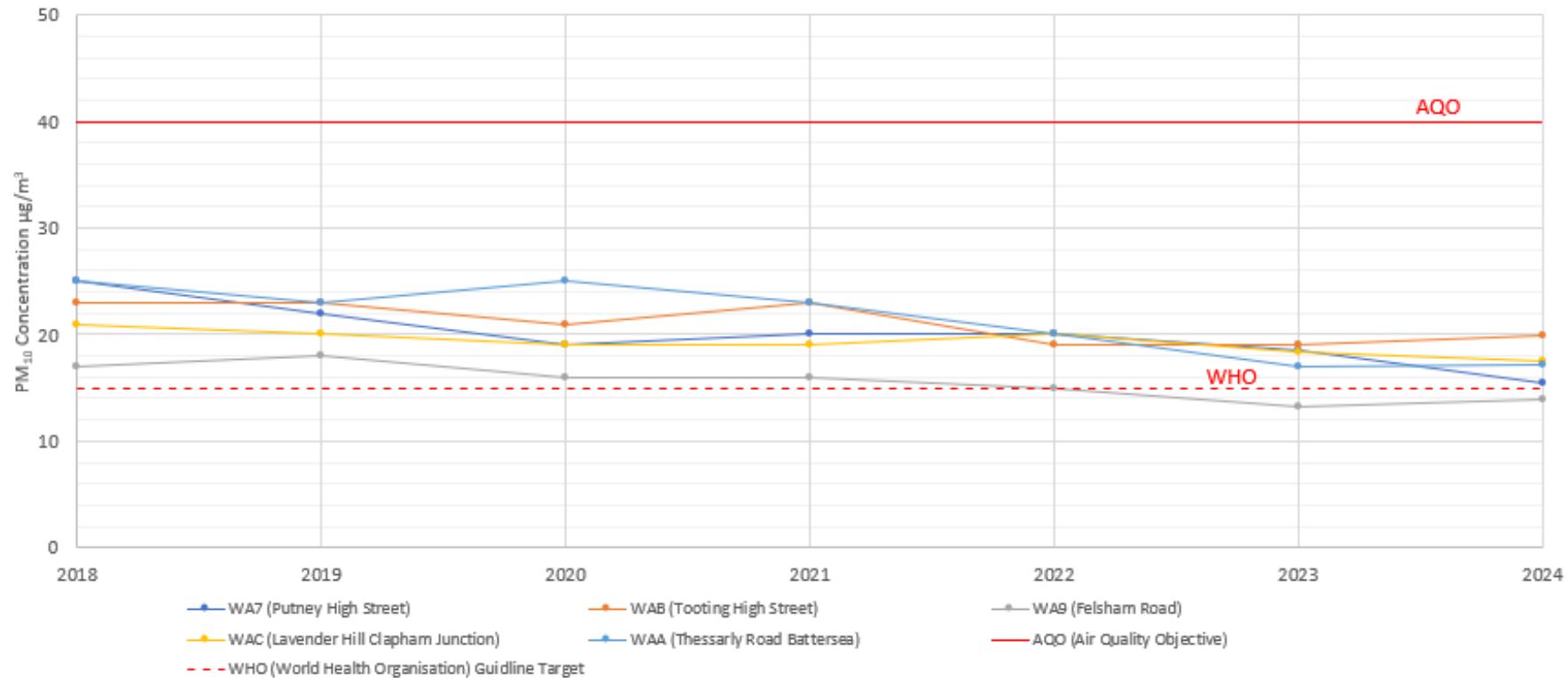


Table I. PM₁₀ Automatic Monitoring Results: Comparison with 24-Hour Mean Objective, Number of PM₁₀ 24-Hour Means > 50 µg m⁻³

Site ID/Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Valid data capture for monitoring period % ^(a)	Valid data capture 2024 % ^(b)	2018	2019	2020	2021	2022	2023	2024
WA7 Putney High Street	524035	175334	84	84	3	9	2	3 (30)	2	4	0(26)
WA9 Felsham Road (Putney)	524044	175495	95	95	1	5	2	0 (23)	1	1	0
WAA Thessaly Road (Battersea)	529137	177249	80	80	10	14	23	9	7	2 (31)	0(30)
WAB Tooting High Street	527567	171628	93	90	3	9	4	4 (33)	0 (36)	3	2
WAC Lavender Hill (Clapham Junction)	527430	175454	89	89	3	2	5	0	1	3	0

Notes

Exceedances of the PM₁₀ 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%).

Table I provides the comparison with the 24-hour mean objective for PM₁₀. The objective of no more than 35 days exceeding 50 µg m⁻³ was met at each site for all years since 2017. All the five sites exceeded the 24-hour mean objective at least once for the years reported. Overall, 2024 reported the lowest number of exceedances of the 24-hour mean objective at all sites and complies with the PM₁₀ 24-hour mean objective (50 µg m⁻³ over the permitted 35 days per year) for the year 2024. In previous years WAA (Thessaly Road) in Battersea has recorded elevated levels, for both long term and short-term objectives, in comparison to the other monitoring station in the borough. Last year the levels have reduced further and for the first time in at least 7 years no exceedance was recorded at the site. This is down from the 2 days that were recorded exceeding the 50 µg m⁻³ in 2023 and the 7 days that were recorded for the year before in 2022. This continued reduction is likely to coincide with the decrease in localised construction site activity. Many of the active sites have now completed the stages where there is a high degree of risk for dust generation. Even with decreasing levels, vigilance is required. Construction sites are still active and many new developments within the local plan are yet to commence.

Funding has been agreed and the installation of new PM₁₀ and PM_{2.5} monitors across the borough has taken place, including 3 monitors in the Air Quality Focus Areas. This data will be included in the 2025 ASR documentation.

The Council, together with many other local authorities in London, did not have an automatic PM_{2.5} monitor in 2024 but five were installed at the end of 2024, so reliable Council monitoring results should be available for future reports.

Breathe London measurement network (PM_{2.5} and NO₂)

In addition to our statutory monitoring network, since 2021 LB Wandsworth has operated a network of indicative monitors using Breathe London monitoring devices (known as “nodes”), In 2024 there were 19 nodes across the London Borough of Wandsworth. 15 of these nodes were deactivated in November/December 2024 as a new phase of the Breathe London project was due to start in early 2025.

While these instruments measure both hourly PM_{2.5} and NO₂, the measurements of NO₂ are considered less reliable due to interference from temperature and humidity, and these NO₂ measurements are not discussed further. In 2024, one was located at an Urban Background site, and the remainder at Roadside (6) and Kerbside (8) sites (see Table J. Wandsworth Annual PM_{2.5}, where > 80% Breathe London data, by site type. Errors shown are based on the standard deviation. Table J).

We have used the 80% cut off as a quality control measure for annual averages. In 2021, no nodes achieved this. In 2022, 6 nodes achieved 80% or better valid hourly measurements for PM_{2.5}, in 2023 12, in 2024 15.

Analysis and Observations

The annual mean was calculated for each site for each year where there were 80% or greater measurements. To estimate uncertainty in the mean, we use the standard deviation of the mean annual values at each group of sites, though the small number of nodes in the sample means this is only indicative.

This analysis suggests that:

- While in 2022, average PM_{2.5} exceeded the Mayor of London's target of 10 $\mu\text{g}/\text{m}^3$, in 2023 were within this, and everywhere in 2024. In 2023 and 2024 the average was well inside this limit. And in 2024 some locations showed values approaching the WHO safe level of 5 $\mu\text{g}/\text{m}^3$.
- There was a consistent pattern of decrease in measured PM_{2.5} across the years.
- Measured PM_{2.5} has decreased by an average of 4 $\mu\text{g}/\text{m}^3$ between the years 2022 and 2024 averaged across all site.
- The most pronounced reduction was at Roadside sites, 7 $\mu\text{g}/\text{m}^3$.
- The reduction at kerbside locations was 3 $\mu\text{g}/\text{m}^3$.
- The concentration at the urban background site was already the lowest in 2022, but also did not change significantly over the year.

Mapping of the data also shows significant changes, comparing Figure J: LB Wandsworth Breathe London network in 2024 and Figure K below. For clarity, we have provided [zoomable maps online](#).^[11]

Table J. Wandsworth Annual PM_{2.5}, where > 80% Breathe London data, by site type. Errors shown are based on the standard deviation.

Site type	n 2022	n 2023	n 2024	Mean 2022	Mean 2023	Mean 2024
All	6	12	15	12.47 ± 2.04	8.83 ± 1.53	8.11 ± 1.04
Kerbside	3	6	8	11.76 ± 1.16	8.58 ± 1.14	8.26 ± 1.08
Roadside	2	5	6	14.34 ± 2.66	8.89 ± 2.08	7.63 ± 0.75
Urban background	1	1	1	10.86	9.99	9.71

Table K. Wandsworth Annual mean PM_{2.5}, where > 80% Breathe London data

Site	Lon	Lat	% data	% data	% data	Mean 2022	Mean 2023	Mean 2024
			2022	2023	2024			
CLDP0103	-0.139	51.5	97.2	94.1	87.8	10.5	8.4	7.61
CLDP0123	-0.151	51.4	99.7	97.4	91.9	12	9.81	8.93
CLDP0172	-0.158	51.5	99.9	96.4	91.3	10.9	9.99	9.71
CLDP0236	-0.237	51.5	99.5	100	83.3	12.8	10.2	8.58
CLDP0271	-0.1	51.4	96.3	85.1		16.2	12.5	
CLDP0272	-0.0957	51.4	86.5	70.6		12.5		
CLDP0319	-0.218	51.5	63.1	90.6	95		8.22	6.71
CLDP0333	-0.102	51.4	53.2	86.8			8.68	
CLDP0334	-0.102	51.4	53.3	87			8.0	
CLDP0336	-0.0947	51.4	53.3	87			7.34	
CLDP0337	-0.0936	51.4	53.3	85.3			7.44	
CLDP0339	-0.0968	51.4	14.3	76.9				
CLDP0344	-0.204	51.5	24.7	98.9	98.7		7.71	6.84
CLDP0393	-0.146	51.5		85.6	82.3		7.68	6.24
CLDP0458	-0.194	51.5		64.2	81.5			9.01
CLDP0459	-0.239	51.4		65.4	82.4			7.86
CLDP0460	-0.186	51.5		65.4	82.6			7.85
CLDP0462	-0.138	51.5		65.2	82			7.43

CLDP0463	-0.148	51.5		66.1	78.8			
CLDP0464	-0.168	51.4		65.5	82.8			7.79
CLDP0465	-0.15	51.5		60.8	48.5			
CLDP0471	-0.216	51.5		60	91.3			8.75
CLDP0472	-0.215	51.5		61.2	93.1			9.57
CLDP0473	-0.217	51.5		62.7	82.5			8.7

¹¹ https://swlonrsp.github.io/LBW_Map_PM25_BL.html.

Figure J: LB Wandsworth Breathe London network in 2024

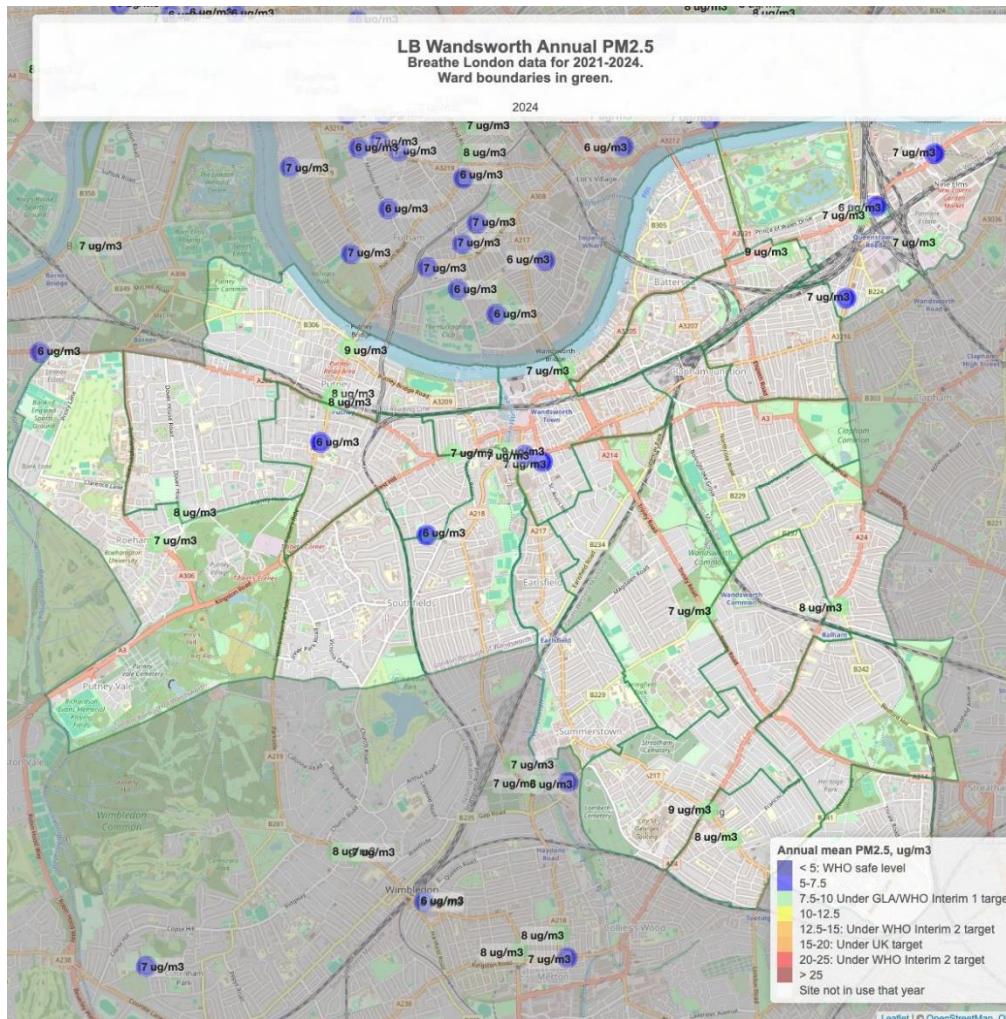
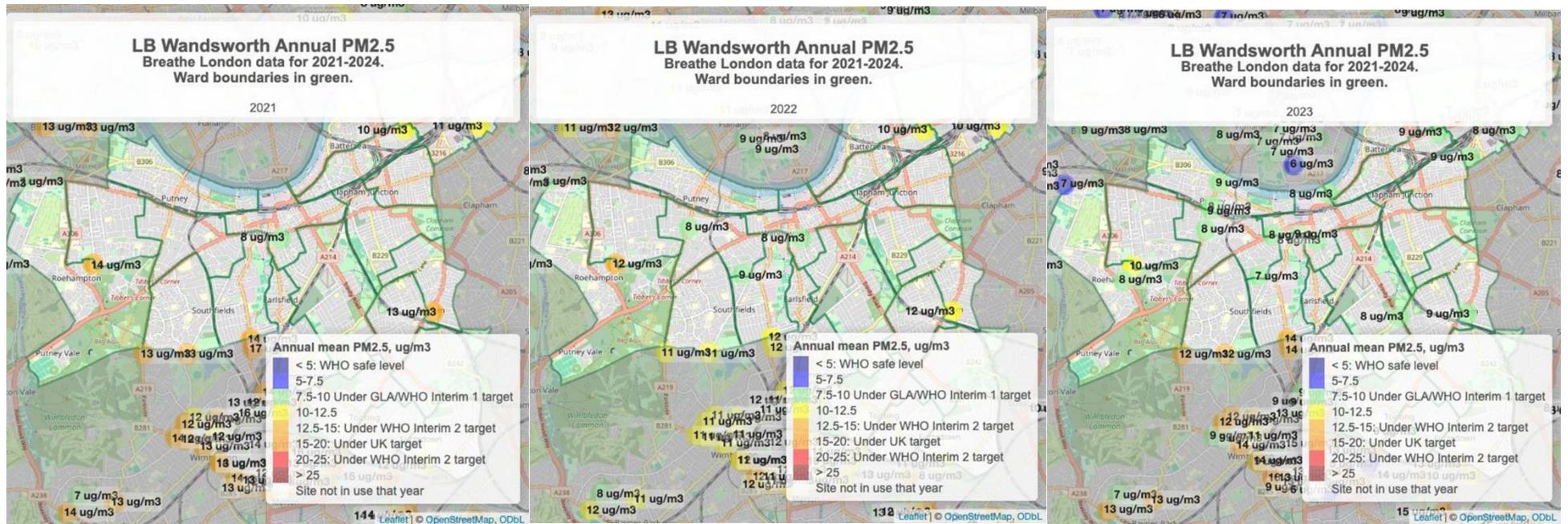


Figure K: LB Wandsworth Breathe London network in 2021, 2022 and 2023 colour coded by annual mean



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 the London Borough of Wandsworth can be found in Table L. The table presents a description of the AQMA that is currently designated within the London Borough of Wandsworth. 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:

- NO₂ annual mean
- PM₁₀ 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
<u>Wandsworth AQMA</u>	Declared 01/01/2001	Nitrogen dioxide NO ₂ – Annual mean Particulate Matter PM ₁₀ – 24 hour mean	The whole borough	NO	Information not available	NO ₂ annual mean-48 µg m ⁻³ measured at West Hill (W47) non-automatic site. PM ₁₀ 24 hour mean compliant 8 years	Not compliant	Wandsworth Council AQAP, September 2023	<u>Wandsworth AQAP</u>

- The London Borough of Wandsworth confirm the information on UK-Air regarding their AQMA(s) is up to date.
- The London Borough of Wandsworth confirm that all current AQAPs have been submitted to GLA.

2.2 Air Quality Action Plan Progress

A new Air Quality Action Plan was approved by Environment Committee in September 2023. The Air Quality Action Plan used the recommendations of the Wandsworth Air Quality Citizens' Assembly as the basis for creating the new Action Plan.

The Citizens' Assembly produced a recommendation report with 53 recommendations, which was presented by members of the Citizens' Assembly to the Environment Committee in June 2023, alongside a launch event featuring members of the Citizens' Assembly in July 2023.

The new Air Quality Action Plan established a new target for air quality that is aligned to WHO standards as well as increased engagement and communication on the risks of poor air quality and what residents, communities and businesses can do to improve it. The Air Quality Action Plan also includes actions around improving transport, walking and cycling, supporting businesses, parks and green space, protecting children and the most vulnerable as well as reducing air pollution from homes and buildings.

Ongoing engagement with members of the Citizens' Assembly is in place with the development of the Air Quality Ambassadors programme and an annual meeting.

Table M provides a brief summary of the London Borough of Wandsworth's progress against the Air Quality Action Plan, showing progress made this year. New projects which commenced in 2024 are shown at the bottom of the table.

Table M. Delivery of Air Quality Action Plan Measures

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
50	Protecting Our Children and The Most Vulnerable	Establish a programme of Air Quality Ambassadors to be led by the Council's Air Quality Champion. Launch an engagement and communication programme for schools to increase awareness and activity regarding air quality and climate change.	2024	Local Authority Environmental Health, Local Authority Transport Dept, County Council. Community groups	Ongoing
25	Air Quality Monitoring	Update all automated sites to include the monitoring of PM2.5	2025	Regulatory Services Partnership	Complete
2	Leading by example	Adopt WHO Guidelines on Air Quality, with interim PM _{2.5} target of 10 µg m ⁻³ , and interim NO ₂ target of 30 µg m ⁻³ .	2023	<Local Authority Environmental Health, Local Authority Transport Dept. >	In September 2023 the AQAP 2023-2028 was approved by Environment Committee. The AQAP established a new target for air quality that is aligned to WHO standards.
1	Leading by example	Support extension of London's Ultra-Low Emission Zone, with Wandsworth's £1million sustainable transport fund	April 2025	Local Authority Transport Dept.	The Council has to date assisted 129 households to replace their vehicles with £1,000 grants over and above the TfL scrappage scheme
2	Leading by example	Adopt WHO Guidelines on Air Quality, with interim PM _{2.5} target of 10 µg m ⁻³ , and interim NO ₂ target of 30 µg m ⁻³ .	2023	<Local Authority Environmental Health, Local Authority Transport Dept. >	In September 2023 the AQAP 2023-2028 was approved by Environment Committee. The AQAP established a new target for air quality that is aligned to WHO standards.

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
3	Leading by example	Roll out an Air Quality Ambassadors programme, building on the outcomes of the Citizens Assembly.	2024	Regulatory Services/ Environmental Health	The Council has implemented two teams of Air Quality Ambassadors. The first focusses on schools aiming to deliver a range of engagement, education and awareness. The second group deliver a variety of independent projects within the local community, benefiting from enthusiasm and knowledge of local ambassadors with ongoing technical and other support from the Council's air quality officers.
4	Leading by example	Campaign against the Heathrow 3rd Runway expansion plan.	Ongoing	<Local Authority Environmental Health, Local Authority Transport Dept. >	The Council remains opposed to any plans to expand operations at Heathrow. On the 18th of April 2024, officers attended the annual forum hosted by the Council for the Independent Scrutiny of Heathrow Airport which included a discussion on night flight restrictions and airspace modernisation
5	Leading by example	Deliver our Decarbonisation Strategy to reduce emissions from Council Buildings, extending it beyond GHGs to include unhealthy air pollutants.	Ongoing	Property Services	Work on the Decarbonisation Strategy for operational buildings has been progressed throughout the year, with Heat Decarbonisation Plans developed for top-consuming council sites to inform the development of the strategy. A draft is developed and will

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<p>be taken to Finance Committee in 2025.</p> <p>The asset review process is ongoing and is being coordinated with the Decarbonisation Strategy.</p> <p>For the current reporting year, the council has overseen a reduction of 17% in total gross emissions (including location-based emissions) from buildings from the baseline year (18/19). The change in emissions can be attributed to:</p> <ul style="list-style-type: none"> • A 13% decrease in Scope 1 emissions from natural gas consumption • A 24% decrease in Scope 2 emissions (including location-based) resulting from electricity usage in communal areas of our social housing stock and other corporate assets. <p>25% of emissions is from the operational buildings (excluding landlord supply and streetlights)</p> <ul style="list-style-type: none"> • 24% of emissions within the section is from the top 35 consuming sites <p>The completed works for 2024 are as below:</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints <ul style="list-style-type: none"> • Roehampton Leisure Centre has had an Air Source Heat Pump (ASHP) installed within 2024 • Yvonne Carr centre has had works completed (ASHP) • Balham Leisure Centre has reached the tendering stage for a new Building Management System and ventilation • Three schools (Riversdale Primary, Smallwood Primary and Garratt Park Primary) have had works completed as part of the LED pilot programme • Monks residence works have completed, installing a full electric heating system and insulation.
6	Leading by example	Perform our statutory and regulatory duties to ensure smoke control zones are identified and enforced, permitting of Part B emissions sources, and management of air quality relating to construction and construction sites.	Ongoing	Regulatory Services	The Council remains committed to raise awareness about the smoke control order in the whole borough and that the use of some solid fuel is prohibited. All complaints investigated by Environment Health officers on unauthorised burning and appliances.

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<p>All permitted processes inspected and compliant.</p> <p>CSCO working with developers to ensure best practice and GLA compliance. Non-road mobile machinery (NRMM) working across boroughs.</p> <p>18 construction sites were audited in 2024 and all were compliant in regards to NRMM regulations.</p>
7	Leading by example	Reduce the health impact of high ozone episodes, including them in our plan to treat the Climate Emergency as a Health Emergency.	Ongoing	Public Health / Regulatory Services/ Environmental Health	<p>Climate Change and Air Quality Make Every Contact Count (MECC) Training Modules have been developed for all Adult Social Care and Public Health (ASCPH) staff to complete via the MECC Training Platform, the uptake is being monitored. Currently there have been 47 completions across the Climate Change Module and Air Pollution modules by ASCPH from April to December. Carbon Literacy training sessions were delivered in June by the Climate Change team to help raise climate change awareness.</p> <p>An interactive Climate Change and Air Quality workshop was delivered at the Senior Leadership team in March on the format of 'Stories, Hurdles and</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<p>Ideas' theme which informed the new ASCPH Climate Change Action plan. Further work is in progress to implement the action plan.</p> <p>A behavioural insights project in July involved vulnerable groups in the borough as well as GPs to help gather information on their perceptions of climate change and its impact on health. This project targeted information to vulnerable groups to highlight health impacts and measures that they could undertake to adapt and mitigate. The project was completed at the end of November, after which a report based on the findings from the project is being produced. This report will act as a guide for the Council and NHS SWL ICB to help better tailor communications on the health impacts of climate change for vulnerable groups.</p>
8	Leading by example	Construction Low Emissions Zone and London Council's Non-Road Mobile Machinery programme.	Ongoing	Regulatory Services/ Environmental Health	18 construction sites were audited in 2024, and all were made compliant in regard to NRMM regulations.
9	Leading by example	Lead on local events to promote the Council's climate and air quality work.	Ongoing	Regulatory Services/ Environmental	For Clean Air Day in June 2024 air quality events took place in

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<p>Wandsworth High Street and Tooting High Street which included air quality information, police bike marking, and a free cargo bike taxi service.</p> <p>Air quality officers were joined by air quality ambassadors, and members of the climate change team. Advice to members of the public on how to reduce their exposure to and their impact on air pollution, whilst linking the effects of climate change and air pollution.</p> <p>Termly online Schools Sustainability Forums were run promoting the council and partner organisation programmes supporting schools.</p> <p>The council launched the Wandsworth Climate Action Microgrant programme with 60 applications received and 35 projects funded.</p> <p>In September a 'Sustainable September' programme of events promoting council and local organisation activities and ways for residents to get involved was held.</p> <p>Public Health have developed an air pollution engagement strategy, which will be rolled out from 2024.</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
10	Leading by example	Develop and deliver local climate & air quality newsletter	Ongoing	Assistant Chief Exec	<p>A quarterly air quality newsletter is distributed to stakeholders. The newsletters give an update on project work throughout the borough.</p> <p>A monthly climate newsletter has been sent out to our subscriber list throughout the year, with our subscriber list increasing to over 3,000.</p>
11	Leading by example	Establish an expert network to connect local sustainability experts with local businesses and community groups	2023	Assistant Chief Exec	<p>The climate change team lead a Wandsworth Net Zero Summit in March 2024 promoting the Council's commitment towards Net Zero and reducing emissions across the borough, with key stakeholders and partners.</p> <p>There were 3 Wandsworth Sustainability Network (formerly Partnership) events in 2024.</p>
12	Leading by example	Help our staff to travel sustainably for work by walking, cycling or public transport	Ongoing	Assistant Chief Executive / Corporate	Information on sustainable travel options is available on the internal staff website including staff benefits, the seasonal ticket loan and EV leasing scheme. It includes links to the TfL Journey Planner page promoting public transport, cycling and walking routes.

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
13	Leading by example	Improve collaboration and partnership on climate change across health and social care.	2030	Regulatory Services/ Environmental	<p>There has been continued involvement with the SWL ICS including attendance of meetings and workshops linked to the Green Plan. This has included highlighting the work undertaken by the council including the climate change risk map to help review impact on NHS estate, the climate change behavioural insights project, raising awareness of the Make Every Contact Count (MECC) training module on climate change and air pollution for NHS staff, and contributing ideas for the development of the NHS Green Plan.</p>
14	Leading by example	Improve the sustainability of parks contractors by upgrading their fleet to zero tailpipe emissions and use of electric tools	Ongoing	Contracts and Leisure (Enable)	<p>Continental Landscapes has and will continue to use cargo bikes for litter picking on Wandsworth Common and Tooting Common whilst Enable will use them to support the delivery of volunteering sessions. The use of EVs will continue for Continental Landscapes supervisors. A “watching brief” will continue the developments of commercial EV (Electric Vehicle) – currently there are no viable options that meet the required capacity and / or towing needs for Continental Landscapes and tree maintenance and planting contractors.</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
15	Leading by example	Increase the number of contracts that are commissioned and procured sustainably, also minimising unhealthy air pollutant emissions.	2025	Procurement and Finance dept.	Following the completion of the fleet transition plan by consultants Cenex, a vehicle decarbonisation strategy was developed in collaboration with Procurement and Finance. The strategy formalises the process for decarbonisation the fleet, including the centralisation of all vehicle procurement through the Procurement team, scrutinising the need for vehicles, and ensuring new vehicles are electric vehicles. The strategy was approved at Directors Board in October 2024. The centralisation of vehicle procurement will enable the monitoring of the decarbonisation of the fleet.
16	Leading by example	Maintain and build on Wandsworth Sustainability Partnership for public sector partners, businesses and community groups to facilitate knowledge sharing, networking and increased.	2023	Assistant Chief Executive	The council's climate change team has continued to deliver partnership events via the Wandsworth Sustainability Network, with meetings hosted in the community aimed at community groups and climate active residents. The July meeting focused on retrofit and energy while the October meeting was focused on climate adaptation and resilience. "Climate chats" were launched to explore a more accessible monthly format for connection with local interested parties.

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
17	Leading by example	Procure new waste fleet which will be lower emission than the previous waste fleet and establish infrastructure needs for an EV heavy waste fleet.	2024	Waste	<p>Wandsworth has delivered the rollout of a new, modern fleet reducing that runs on HVO fuel, which will reduce carbon emissions from the fleet by 90% as well as reducing air pollutants.</p> <p>A waste fleet decarbonisation analysis is underway which will look at options for further reductions in carbon emissions from the fleet, including options for electrification.</p>
18	Leading by example	Promote energy efficiency and decarbonisation of buildings for schools, considering air quality.	2026	Property Services	<p>10 schools have had LED lighting upgrades to date. Work began in December 2024 at three schools (has been undertaken at 3 schools (Granard Primary School, Swaffield Primary School and Alderbrook Primary School) to upgrade them before Christmas</p> <p>The council's climate change team have successfully applied for over £170,000 from the government funded Low Carbon Skills Fund (LCSF) to undertake the development of Heat Decarbonisation Plans (HDP) for twenty-two schools in the borough. These HDPs will identify how each school can</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<p>become zero carbon through the installation of energy efficiency and renewable energy technologies, along with indicative costs for implementation along with high-level financial and carbon benefits.</p> <p>The Public Sector Decarbonisation Scheme (PSDS) opened in November 2024. The HDPs are being used to aid in applying for this money for eligible schools.</p>
19	Leading by example	Roll out a programme of energy efficiency, GHG and air quality emissions improvements across our estates, buildings and homes.	Ongoing	Property Services	<p>A new Housing Asset Management Strategy was presented to the environment committee in July 2024.</p> <p>The costs from a pilot property were very high, which had an impact on the ability to realistically replicate the scheme across the housing stock.</p> <p>Funding was secured from the Social Housing Decarbonisation Fund, enabling whole streets to be targeted and an archetype approach to retrofit developed.</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
20	Leading by example	Transition the Council's vehicle fleet to low and zero emission vehicles	Ongoing	Financial Services/ Assistant Chief	<p>The first phase of the Cleaner Borough Plan has been delivered. This guaranteed weekly waste collections, saw the rollout of a new, modern fleet which has reduced emissions by 90% and will see a reduction in costs of over £1m per year which will be reinvested into services.</p> <p>A vehicle decarbonisation strategy was developed in 2024. The strategy formalises the process for decarbonisation of the fleet, including the centralisation of all vehicle procurement through the Procurement team, scrutinising the need for vehicles, and ensuring new vehicles are electric vehicles. The strategy was approved at Directors Board in October 2024. The centralisation of vehicle procurement will enable the monitoring of the decarbonisation of the fleet.</p>
21	Raising awareness, enabling protection	Widely share the data collected by the Council to help residents understand air quality in their neighbourhoods, for example through Citizen Science projects and outside schools.	Ongoing	Regulatory Services in Partnership with the AQ Ambassadors	Data from the Annual Status report is shared with the general public at awareness raising community events.

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
22	Raising awareness, enabling protection	Deliver a unified anti-idling campaign across the borough.	Ongoing	Regulatory Services/ Environmental	<p>An Anti-Idling Action Plan (AIAP) was created in 2021, the plan covers internal and external partner engagement, communications, signage, and events. The plan aims to deliver one event each month of the year (excluding July and August). Events are primarily delivered by Air Quality Officers and focus on idling hotspots such as town centres and schools but also in response to complaints. The officers are also supported by students at school idling action events, who approach drivers and encourage them to switch off. 11 anti-idling events were delivered during 2024, five of which took place around school sites.</p> <p>The civil enforcement officers in the London Borough of Wandsworth conducted 4547 engagements with drivers of idling vehicles.</p>
23	Raising awareness, enabling protection	Roll out a programme of awareness raising on air pollution and climate, promoting other information sources such as airTEXT	Ongoing	Regulatory Services/ Environmental Health / Climate Change & Sustainability	The council continues to support airTEXT
24	Raising awareness, enabling protection	Work with health professionals so they have the right information to provide to those most vulnerable to air pollution including how people can protect themselves, including within their homes and workspaces.	2026	Regulatory Services/ Environmental	The Air Quality and Health project started in 2024. This project links air quality team, the council's public health team and NHS employees.

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
25	Raising awareness, enabling protection	Continue our air quality monitoring at 89 locations and extend this where it's practical to do so. This monitoring network includes regulatory standard automatic sensors, low cost, lower accuracy automatic sensors and diffusion tube monitors.	Ongoing	Regulatory Services/ Environmental	Ongoing Automatic monitoring stations upgraded to include new equipment and PM _{2.5} analysers.
26	Improving Transport	We will work with the Mayor, other boroughs and London Councils to campaign for the protection and improvement of public transport services.	2024	Assistant Chief Executive	The Council has started conversations with TfL and Boroughs to improve public transport services across the borough following the inclusion of action 26 in the new AQAP.
27	Improving Transport	We will work with the Mayor to improve and electrify the bus fleet and add our support to his voice at Government level for more improvements.	Ongoing	Public Transport Policy and Access	The Council regularly responds to consultations on changes to buses in the borough and objected on proposed cuts while consistently advocating for bus electrification in the borough and actively supporting many station improvement schemes across the borough.
28	Improving Transport	We will install 525 more EV charging points in Wandsworth in 2023 to enable greater use of electric and hybrid electric vehicles, and a total of 2000 more by 2033.	2025	Planning and Transport	In 2024 a total of 1470 EV chargers installed across the borough; 1155 lamp column 5kW; 156 Source London 7kW; 128 Believ 22kW; 20 fast charges (7/22kW) on housing estates; and 11 TfL rapid 50kW.
29	Improving Transport	Continue our work to improve connections between TfL, Network Rail and walking and cycling facilities,	Ongoing	Planning and Transport	A consultation on 13 proposed quiet cycle routes, including 3 routes from Roehampton and routes through

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
		so they are more accessible and attractive			<p>Tooting Common and Wandsworth Common, ran from 6 August to 22 September 2024 with 7 routes prioritised, including a route through Tooting Common in the first phase.</p> <p>Phase 1 and phase 2 of the Putney High Street Improvement Project were completed. The council worked with TfL to implement pedestrian areas, cycle paths and parking spaces in a bid to improve traffic flow and, in turn, reduce levels of pollutants.</p>
30	Walking and Cycling	Action to improve accessibility on foot	Ongoing	Planning and Transport	<p>Pedestrian improvements have included:</p> <ul style="list-style-type: none"> Battersea Riverwalk: The following measures were installed in May 2024, improved eye level pedestrian priority signage, new footway pedestrian priority paving slabs, planters in key locations to narrow widths to reduce cycle speeds, rumble strips added in key locations to reduce cycle speeds, a go slow zone implemented for the hire e-bikes, convex mirrors to help with blind corners and cobble stones to

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints <p>move people to a more central position for better visibility.</p> <ul style="list-style-type: none"> • Chestnut Grove: Both zebra crossings have been delivered with snagging and remedial works pending. Expected completion by end of November. • Falcon Road: Design competition in partnership with the London Festival of Architecture has progressed well and shortlisted entries have submitted concept designs which are currently being exhibited to the community. Successful party will be appointed end of November, to commence detailed design. Construction still forecast for summer/autumn 2025. Paper No. 24-321 provides a full project update. <p>Recently completed controlled crossings include a zebra crossing outside Heathmere Primary School on Alton Road in May 24, a zebra crossing outside Hurlingham School on Putney Bridge Road in August 24. Upcoming zebra crossing projects</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
					include Princes Way, Augustus Road and Blackshaw Road.
31	Walking and Cycling	Action to improve all active travel methods	Ongoing	Planning and Transport	An update of the Council's walking and cycling was considered in February 2024. Designs for quiet cycle routes have been produced for consultation in 2024
32	Walking and Cycling	Support rollout of dockless e-bikes and cargo bikes, monitor their use and expand availability based on usage.	2025	Planning and Transport	<p>11 designated parking bays were installed in phase 1 in Summer 2024. A further 65 bays are due to be installed by early 2025 as phase 2. Phase 3 will be taken forward in 2025. From 30 September new mandatory parking zones were introduced for e-bikes.</p> <p>E-scooter trial expected to be launched in early 2025. 1400 cycle training sessions have been completed so far in 2024.</p>
33	Walking and Cycling	Use our Healthy Street Forums to explore whether Liveable Neighbourhoods can work for Wandsworth residents	Ongoing	Planning and Transport	A meeting of the Healthy Streets Forum was held in October and November
34	Walking and Cycling	Annual Car Free Sunday	Ongoing	Planning and Transport / Regulatory Services / Regulatory Services/ Environmental Health	Car free day saw 19 streets closed across the borough over Saturday 23rd September and Sunday 24th September. This enabled families to come together and enjoy a range of outdoor community celebrations with the focus on play and neighbourhood

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
					get-togethers. Small grants of £50 were offered to the first 30 streets to apply to go towards equipment and non-alcoholic refreshments. With London Play encouraging people to take part by running its Swap your Car for a Spacehopper campaign – providing free play equipment like spacehoppers, toys and games to the first 100 streets that get in touch
35	Walking and Cycling	Provide new and improve existing quiet routes for walking and cycling, through action to improve local connections, signage, traffic calming and maintenance of roads and footpaths	2025/6	Planning and Transport	A consultation on 13 proposed quiet cycle routes, including 3 routes from Roehampton and routes through Tooting Common and Wandsworth Common, ran from 6 August to 22 September 2024 with 7 routes prioritised, including a route through Tooting Common in the first phase
. 36	Walking and Cycling	Promote our free cycle training offer to adults and primary school children and seek opportunities to grow the council's bike stock for these training sessions.	Ongoing	Planning and Transport	Approximately 447 children received level 2 bikeability training, across 41 schools and 423 adults/families received 1-2-1 training in 2024-25 (April to March).
37	Supporting Our Businesses	Support our businesses to improve their sustainability across all domains, including air quality, with a pilot programme providing sustainability audits for businesses. This will include use of an Environmental Management System to enable them	Ongoing	Climate Change & Sustainability	During 2024, the Enterprise and Business Growth Team within the economic development section of Wandsworth Council, commissioned Carbon Architecture to deliver a Greening Your Business Programme in

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
		show their credentials to their retail and business customers.			LB Wandsworth. This programme has been delivering support to 35 businesses in Wandsworth, helping them to become more sustainable, to reduce their carbon emissions and to help them to achieve Level 1 accreditation of the Green Mark. In parallel with this programme, we are also encouraging our local businesses to adopt more sustainable business practices through our main business support programmes and to engage with the newly formed Wandsworth Sustainability Network
38	Supporting Our Businesses	To help improve air pollution in workplaces, we will purchase indoor air quality monitors so employers can test the air quality in workplaces and take action if needed.	Ongoing	Climate change and sustainability	Tooting Indoor Markets have been identified as a public space that is subject to very high levels of PM _{2.5} . Although the council is limited in its powers we are currently working with the Businesses and local groups to improve air quality in workplaces. Air quality sensors have been deployed, and audits have been commissioned. See paragraph 3.1 for more details.
39	Supporting Our Businesses	Support and grow Wandsworth's cargo bike delivery projects, including new hub at Southside Shopping Centre	Ongoing	Regulatory Services/ Environmental Health with Cross River Partnership	The Our Bike community cargo bike scheme added a bike in Earlsfield in July 2024 and in Roehampton in October 2024, expanding to its fourth and fifth locations in the borough. The e-cargo delivery hub trial was

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
40	Supporting Our Businesses	Work with other councils to identify cost effective ways to reduce PM _{2.5} emissions from commercial kitchens, and lobby Government to improve standards and legislation.	2024	Regulatory Services/ Environmental Health	An indoor LA's working group has been established and we are sharing best practice with colleagues on a regular basis.
41	Supporting Our Businesses	Work to eliminate high pollution pockets through transport emissions management and improvements from point source emissions such commercial kitchens, as well as the Low Emissions Logistics Project, Tooting Town Centre projects, Clapham Junction projects, and by applying lessons learned from Putney High Street to Clapham Junction and Tooting High Street.	Ongoing	Regulatory Services / Planning & Transport	Please refer to page 45 and paragraph 3.1.
42	Protecting and Improving Our Parks and Green Spaces	Every year plant 300 new trees on streets prioritising areas with the fewest trees.	ongoing	Contracts and Leisure (Enable)	1,000 trees were ordered and plans were developed to plant them in the planting season over winter 2024/25.
43	Protecting and Improving Our Parks and Green Spaces	Plant 700 trees across the borough in 2023/24, including replacements and new trees.	2023	Contracts and Leisure (Enable)	Achieved – 800 planted overall this year Framework delivered and available here Together on nature - Wandsworth Borough Council
44	Protecting and Improving Our Parks and Green Spaces	Protect and improve our green spaces during planning, using the Neighbourhood Community	Ongoing	Housing Horticultural Services	7 sites achieved green Flag status. And new green spaces have been progressed for the following locations:

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
		Infrastructure Levy to improve local neighbourhoods.			<ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
		Infrastructure Levy to improve local neighbourhoods.			<ul style="list-style-type: none"> • Swaffield Pocket Park: Following the consultation exercise the preferred option has been further amended and has been submitted for planning approval. • Thessaly Road Open Space – an engagement report has been produced following engagement exercises in the summer. Next steps to be determined. The project is planned to be delivered in the early part of 2026
45	Protecting and Improving Our Parks and Green Spaces	Collaborate with community groups to trial community orchards, empowering them and others to cultivate their fruit. Enhance collaboration with council teams and community groups on biodiversity projects.	Ongoing	Contracts and Leisure (Enable)	Discussions underway with one group for a possible orchard on a council greenspace
46	Protecting and Improving Our Parks and Green Spaces	Promote the Wandsworth Local Fund and Wandsworth Grant Fund to bolster the number of local environment projects and support the grant application process	Ongoing	Contracts and Leisure (Enable)	One bid submitted for improved interpretation of biodiversity on a greenspace.
47	Protecting and Improving Our Parks and Green Spaces	Provide more information to residents about conserving and enhancing biodiversity throughout the borough.	Ongoing	Contracts and Leisure (Enable)	A full citizens science programme was implemented across 2024 to support volunteer biological recorders.

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
48	Protecting and Improving Our Parks and Green Spaces	Develop action and project plans to implement our Biodiversity Strategy that protects our local wildlife species and habitats	2025	Environment and Community Services	Biodiversity Action Plan development underway.
49	Protecting and Improving Our Parks and Green Spaces	Increase information available to residents on how they can protect and improve biodiversity across the borough.	Ongoing	Contracts and Leisure (Enable)	A resident survey was undertaken to understand existing provision for wildlife in residential gardens. There were over 700 responses with a report to be published in early 2025. This will determine the detail of information to be provided to residents to support biodiversity.
50	Protecting Our Children and The Most Vulnerable	Establish a programme of Air Quality Ambassadors to be led by the Council's Air Quality Champion. Launch an engagement and communication programme for schools to increase awareness and activity regarding air quality and climate change.	2024	Regulatory Services/ Environmental Health	<p>The Council has implemented two teams of Air Quality Ambassadors. The first focusses on schools aiming to deliver a range of engagement, education and awareness. The second group deliver a variety of independent projects within the local community, benefiting from enthusiasm and knowledge of local ambassadors with ongoing technical and other support from the Council's air quality officers.</p> <p>The Wandsworth School Air Quality Ambassadors are a group of residents and individuals that work in the borough of Wandsworth who are keen to help clean up Wandsworth air</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<p>and specifically work around schools, nurseries, and children's centres. The ambassadors raise awareness with teachers, parents, and pupils of actions they can take to improve air quality. The ambassadors engage, inform, and share information with community groups, schools, and youth centres so people can understand and relate to the issues.</p> <p>The ambassadors promote the council-run air quality assessments, pollution workshops and idling events through their networks and this has led to the air quality team connecting with schools and delivering the free air quality package on offer.</p> <p>Ambassadors also join and support at council air quality events as well as creating their own.</p> <p>All schools have been offered assessments and AQ engagements and the Ambassadors have now started an accreditation scheme for schools ranked on Air Quality.</p> <p>32 air pollution workshops were delivered in 2024 – 3 of these were attended by air quality ambassadors.</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
51	Protecting Our Children and The Most Vulnerable	Make school air quality information available, including through variable message signage outside schools, and through school events with the Air Quality Ambassadors.	2026	Regulatory Services/ Environmental	Explored in 2024 again. Technology has now become available. Will be going through procurement in 2025 for Interactive screens.
52	Protecting Our Children and The Most Vulnerable	School Streets.	Ongoing	Planning and Transport	<p>There are 29 schemes serving 31 schools that are already in operation and were completed under the first 5 phases.</p> <p>Phase 5 has been delivered with trials for three school streets launched in June 2024 (Heathmere Belleville Webbs Site, and Brandlehow) and trials for an additional two school streets started in October 2024 (Belleville Meteor Site and All Saints). Engagement with Phase 6 schools started in September 2024 and is ongoing. Enhancements to existing school streets remain ongoing.</p>
53	Protecting Our Children and The Most Vulnerable	Conduct air quality and climate audits at every school and at other key locations such as care homes, sharing the information directly and through the Air Quality Ambassadors, and acting on recommendations.	Ongoing	Regulatory Services/ Environmental	In 2024 the air quality team conducted an additional 9 air quality audits. These included 2 schools, 5 children's centres, 1 hospital and 1 church. All schools were offered an air pollution workshop and 5 schools had an idling action event. The air quality ambassadors attended 1 air quality audit and 3 workshops

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
54	Protecting Our Children and The Most Vulnerable	Work with TfL so that bus routes passing schools are prioritised for electrification.	Ongoing	Planning & Transport	The Council regularly responds to consultations on changes to buses in the borough and objecting on proposed cuts while consistently advocating for bus electrification in the borough and actively supporting many station improvement schemes across the borough.
55	Improving Our Homes and Buildings	Provide advice and support for energy efficiency improvements, including solar and other renewable energy, insulation and retrofit to homes able to fund it installation themselves	Ongoing	Assistant Chief Executive	<p>The retrofit advice tool work progressed throughout late 2023 and into 2024 in the form of user research being conducted on behalf of the South London Partnership, being shared with SLP Growth Directors and Net Zero Officers from across the South London Partnership in Spring 2024. The insights and recommendations from this research are currently being explored within the Net Zero Officers group, with consideration for how to align this work with insights and software available at a pan-London level.</p> <p>A South London retrofit taskforce in partnership with South London Partnerships was launched to support the work across the sub-region.</p> <p>Increased information on retrofit and information for residents forms part of</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					the updated information on the Council website on climate change.
56	Improving Our Homes and Buildings	Provide energy efficiency advice and help for residents to address the Cost-of-Living crisis.	Ongoing	Housing Services	<p>There have been 1129 Warm Home Packs distributed, going beyond the initial target set out. An additional 760 Warm Home Packs are on the Alton Estate area, with 760 additional Warm Home Packs distributed in the area. All residents receiving the Warm Home Packs have been given energy efficiency advice. The Cost of Living recommendations have informed the development of the Retrofit Strategy.</p>
57	Improving Our Homes and Buildings	Replacing heating systems with renewable, low-emission alternatives.	Ongoing	Housing Services	<p>Reports have been completed on three of the largest networks (Doddington, Arndale Main, Arndale Sudbury) through the Heat Network Optimisation Opportunities (HNOO) programme with funding yet to be released to the partnering consultant for the remaining assessments. Information from the pilot properties is still being evaluated to see whether this is a technology that we would wish to extend across the stock. As appropriate updates on progress will be reported to Committee.</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
58	Improving Our Homes and Buildings	Apply Air Quality Neutral, Air Quality Positive, CHP and biomass air quality policies for new construction, as appropriate, and require strict standards on dust and other emissions during building demolition, and during construction of new buildings	2023	Regulatory Services/ Environmental Health	<p>Air Quality Neutral Assessments in line with the Sustainable Design and Construction SDP being undertaken.</p> <p>In 2024, within the Environmental Protection Team, officers reviewed planning applications in terms of air quality for both minor and major developments. The Air Quality Team reviewed air quality assessments, air quality neutral reports, dust management plans, construction environmental management plans, schemes for monitoring dust on construction sites, method statements for the reduction of emissions from construction vehicles in compliance with the London Low Emission Zone, schemes of air pollution mitigation measures to protect future occupiers from air pollution exposure.</p>
59	Improving Our Homes and Buildings	Implement the Future Homes Standards when these come into force.	2025	Housing Services	<p>Fossil fuel powered heating system at Holmleigh court is to be replaced by an ASHP lead system supported by solar panels, part funded by the Heat Network Efficiency Scheme (HNES). Further work is continuing improving the efficiency of the heat networks</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints
					<p>serving the Arndale estate and Doddington Estate through the Heat Network Efficiency Opportunities fund (HNOO). The council is also in communication with district heat network operators to examine the role of large heat networks in the Council's decarbonisation plans.</p>
60	Improving Our Homes and Buildings	Improve the energy efficiency of our social housing stock	Ongoing	Housing Services	<p>A new Housing Asset Management Strategy was presented to the Environment committee in July</p> <p>An initial pilot property had very high costs, impacting on the realistic prospect of delivery being replicated across the housing stock.</p> <p>The Social Housing Decarbonisation Fund (SHDF) 3.0 has been secured and has been utilised to capture more properties. This has allowed whole streets to be targeted and an archetype approach to retrofit developed.</p>
61	Improving Our Homes and Buildings	Discourage use of wood burning stoves with a targeted information campaign, while we lobby Government for powers to eliminate wood burning in Wandsworth.	Ongoing	Regulatory Services/ Environmental	<p>The council are part of the GLA's wood burning steering group and lobby central government to eliminate wood burning in Wandsworth.</p>

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
62	Improving Our Homes and Buildings	Link together the air quality and climate change agendas.	2023	Climate Change & Sustainability, Assistant Chief Exec	<p>The climate change and air quality teams worked closely on the air quality citizens' assembly and development of the new Wandsworth Air Quality Action Plan. One of the outcomes of this new plan was the recruitment of a Partnership and Engagement Officer (Climate Change and Air Quality) who works across both teams, increasing the collaborative work across the climate change and air quality teams. Funding for retrofit and energy efficiency has been delivered via the Council's Cost of Living Programme. Over 2,800 eligible residents received a Warm Homes Pack. A further 169 homes received home visits with associated installations of small measures and 96 residents receiving telephone advice. In addition, SW Leap have continued their programme of energy advice events. Thinking Works funding has been extended to provide a handyman service and additional fuel vouchers to 100 homes in Wandsworth via</p>

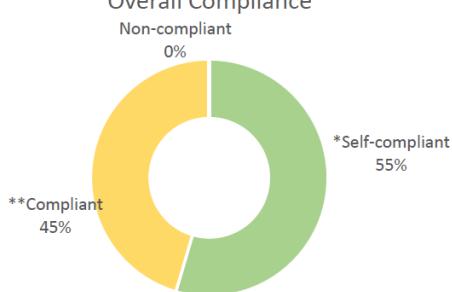
Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress
					<p>the WRAP service to have more impactful interventions, with a focus on securing warmth for homes.</p> <p>A bid has been put in for the MCS Foundation's Local Authority Retrofit Accelerator project, and there is a commitment to develop a Retrofit Strategy for Wandsworth over the coming year.</p>

New Projects for 2024	Project description and updates
<i>Indoor Air Quality Project – Training for Professionals</i>	<p>Indoor Air Quality – A Guide for Professionals Visiting Residents at Home</p> <p>The Air Quality Team developed a comprehensive training package aimed at professionals who conduct home visits, to raise awareness of indoor air pollution and its health impacts. The package included six webinars and supporting printed and digital materials, delivered across London.</p> <p>The target audience included Adult Social Care staff, asthma nurses, Primary Care Trust (PCT) and NHS personnel, care workers, MASCOT, the London Fire Brigade, Metropolitan Police Safer Neighbourhood Teams, Environmental Health Officers, and Occupational Health Officers.</p> <p>The webinars were delivered in 2025, and the associated materials will be hosted on the Love Clean Air website upon the completion of Phase 1 of the project in Summer 2025.</p> <p>The training has been well received, with participants expressing gratitude for the increased awareness it provides around indoor air pollution. Positive feedback has been abundant, highlighting the value of the sessions.</p>
<i>Beyond Construction Project</i>	<p>The Mayor's Air Quality Fund Round 4 enabled commencement of the Beyond Construction project, led by the London Borough of Wandsworth, with activities planned to continue through 2026/27. The project focuses on establishing baseline fleet profiles for Waste Transfer, Events, and Street Works across London.</p>
<i>Healthy Waterways</i>	<p>The Mayor's Air Quality Fund Round 4 enabled 11 borough partners to collaborate to encourage the boating community to make positive changes to reduce CO₂ emissions and exposure and contribution to air pollution by transitioning to electricity for heating and cooking</p>

3. Planning Update and Other New Sources of Emissions

Table N. Planning requirements met by planning applications in the London Borough of Wandsworth in 2024

Condition	Number
Number of planning applications where an air quality impact assessment was reviewed for air quality impacts	42
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)	24 Exceedances are reported via a pro forma within 24 hours. High risk sites submit monthly reports with QA and QC
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	4 The majority of developments install Air Source Heat Pumps
Number of developments where an AQ Neutral building and/or transport assessments undertaken	37
Number of developments where the AQ Neutral building and/or transport assessments not meeting the benchmark and so required to include additional mitigation	4
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 programme) % of sites unregistered prior to audit % of sites compliant with Stage IV of the Directive and/or exemptions to the policy.	17

Condition	Number																										
<p>NRMM: Greater London (excluding Central Activity Zone, Canary Wharf and Opportunity Areas)</p> <p>Number of planning applications with conditions related to NRMM included.</p> <p>Number of developments registered at www.nrmm.london.</p> <p>Number of audits (based on the pan-London project report and / or inhouse auditing programme)% of sites unregistered prior to audit</p> <p>% of sites compliant with</p> <p>Stage IIIB of the Directive and/or exemptions to the policy.</p>	<p>7 conditions included</p> <table border="1"> <thead> <tr> <th colspan="2">Compliance Information</th> </tr> </thead> <tbody> <tr> <td>Total Audits</td> <td>18</td> </tr> <tr> <td>*Self-compliant</td> <td>6</td> </tr> <tr> <td>**Compliant</td> <td>5</td> </tr> <tr> <td>Non-compliant</td> <td>0</td> </tr> <tr> <td>No NRMM</td> <td>7</td> </tr> <tr> <td>Site Complete</td> <td>0</td> </tr> <tr> <td>Pending</td> <td>0</td> </tr> </tbody> </table>  <table border="1"> <thead> <tr> <th colspan="2">Zonal Distribution of Sites</th> </tr> </thead> <tbody> <tr> <td>Canary Wharf (CW)</td> <td>0</td> </tr> <tr> <td>Central Activity Zone (CAZ)</td> <td>1</td> </tr> <tr> <td>Greater London (GL)</td> <td>12</td> </tr> <tr> <td>Opportunity Areas (OA)</td> <td>5</td> </tr> </tbody> </table>	Compliance Information		Total Audits	18	*Self-compliant	6	**Compliant	5	Non-compliant	0	No NRMM	7	Site Complete	0	Pending	0	Zonal Distribution of Sites		Canary Wharf (CW)	0	Central Activity Zone (CAZ)	1	Greater London (GL)	12	Opportunity Areas (OA)	5
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3.1 New or significantly changed industrial or other sources

Tooting Indoor Markets have been identified as a public space that is subject to very high levels of PM_{2.5}. Although the council is limited in its powers we are currently working with the Markets and local groups to tackle the issue at source, it is thought that the cause of the problem is lack of ventilation from cooking activities.

The project will increase knowledge of air quality in indoor environments where commercial cooking occurs. We will implement a range of mitigation measures, with monitoring undertaken before and after to enable the benefits of different measures to be assessed. The knowledge derived will be transferable to other indoor markets and communicated to local authorities and industry bodies.

Engaging with the market operators and stall holders on the impacts of PM_{2.5} on health, sources within the market, and mitigation measures is a key part of the project. The food outlets are generally micro businesses, with few resources to mitigate their impacts.

Initial monitoring undertaken by the council in 2024 has demonstrated very high levels of PM_{2.5} in the two indoor markets. The project will include continuous static to understand the levels in the markets and the audits of the cooking units. A range of mitigation measures will be implemented and assessed. More details and the outcomes will be included in the Annual Status Report.

4. Additional Activities to Improve Air Quality

4.1 London Borough of Wandsworth Fleet

All details have been taken from the London Borough of Wandsworth's Commissioned Fleet List 2025 (April/May 2025).

The fleet compiles of the following

- 12 Full electric vehicles (a)
- 15 Hybrid Vehicles (b)
- 168 Fleet vehicles

This makes up a **Fleet** of 64 Owned, 36 Hired and 68 Leased Vehicles if relevant

Hybrid Vehicles - are 1 Leased, 12 Owned and 2 Hired

Electric Vehicles - are 3 Leased, 6 Owned and 3 Hired

This is a percentage of just under 20% Electric/Hybrid vehicles of the whole fleet (Owned, Leased, Hired)

There is a reported reduction of electric vehicles from 2023 – this could be due to a transition of new vehicle deliveries against older ones to be disposed/returned.

A vehicle decarbonisation strategy was developed in 2024. The strategy formalises the process for decarbonisation of the fleet, including the centralisation of all vehicle procurement through the Procurement team, scrutinising the need for vehicles, and ensuring new vehicles are electric vehicles. The strategy was approved at Directors Board in October 2024. The centralisation of vehicle procurement will enable the monitoring of the decarbonisation of the fleet.

4.2 Planning Enforcement

All major developments, and developments where there is likely to be an increase in emissions or receptors, are passed to the Air Quality Officers in the Pollution Team for comment. All major developments are required to submit an Air Quality Assessment. All relevant national, Mayoral and Wandsworth local policies are applied by the Pollution Team to all relevant planning consultations. Sites are considered for construction dust on a case-by-case basis, particulate matter (PM₁₀) monitoring required, and locations agreed, where a moderate or high risk to receptors are identified. CHP/biomass are not recommended and actively discouraged, developers are urged to select non-combustion or at least ultra-low NOx heating systems. We are observing over time that more developments are proposing non-combustion, maximum insulation and renewables to increase BREEAM ratings. The largest contribution to emissions from development coming from transport and not buildings.

Air Quality Neutral Assessments are required as part of the planning process to assess the building and transport nitrogen dioxide and fine particulate matter (PM_{2.5})

emissions from a proposed development. Where emissions exceed the benchmark, mitigation is required to reduce the excess emissions. Where emissions cannot be reduced a Section 106 agreement may be considered to offset emissions.

NRMM condition recommended to be attached to all planning applications where construction and demolition is proposed. NRMM is a standard planning condition applied to all major developments.

4.3 Pan-London NRMM Auditing Project

The London Borough of Wandsworth has committed to supporting the NRMM Enforcement project until March 2028. The London Borough of Wandsworth has also committed in supporting the Beyond Construction – a project funded by the Mayors Air Quality Fund. Beyond construction looks at regulating emissions from Non-Road Mobile Machinery for highways, waste sites and events.

Standard NRMM planning condition:

“All Non-Road Mobile Machinery (NRMM) used during the course of the development that is within the scope of the Greater London Authority ‘Control of Dust and Emissions during Construction and Demolition’ Supplementary Planning Guidance (SPG) dated July 2014, or any subsequent amendment or guidance, shall comply with the emission requirements therein.”

The NRMM wording is applied in the Decision Notice. The NRMM planning condition is applied to all major planning applications and any planning applications where the air quality officer requests it i.e. schools.

4.4 Air Quality Alerts

We continue to support airTEXT and its expansion in the borough. It is however clear from pilot work carried out by the Regulatory Services Partnership that there is a clear gap in information about local and internal air quality and the impact on the vulnerable. We coordinated a DEFRA bid on behalf of 15 London Boroughs, but this was not successful. It is anticipated that this work will be picked up locally by the borough in mid-2024 and coordinated through Public Health and comms.

4.5 Air Quality Positive

The London Borough of Wandsworth has no innovative mitigation measures committed as part of a submitted Air Quality Positive Matrix which aligns with the Air Quality Positive London Plan Guidance.

5. Appendix A Details of Monitoring Site Quality QA/QC

A.1 Automatic Monitoring Sites

All data undergo rigorous quality assurance and quality control (QA/QC) procedures to ensure the highest standards of accuracy and reliability. Continuous automatic monitoring was conducted throughout the entire 12-month period in 2024.

NO₂ Monitoring

The NO₂ chemiluminescent continuous analyser is checked regularly online by Imperial College London and calibrated by the newly appointed contractor, We Care 4 Air (WC4A), (appointed on 1st April 2024) by the London Borough of Wandsworth for Local Support Officer (LSO) and Service and Maintenance visits during 2024. Regular 4 weekly calibration visits were maintained throughout 2024. There is a need for frequent calibration adjustments as the gradual build-up of dirt within the analyser reduces the response rate. This fall off in response needs appropriate correction, to ensure the recording of the true concentrations.

Calibration involves comparing the analyser's readings against a known concentration of span gas. The span gas used is nitric oxide, certified to an accuracy of $\pm 5\%$. This avoids the less precise permeation tube method.

Additionally, the NO₂ continuous analyser is serviced biannually by WC4A and audited every six months by the Ricardo. These activities are part of the London Air Quality Network (LAQN) quality assurance and quality control (QA/QC) procedures, managed by the Environmental Research Group (ERG) at Imperial College London, to maintain high data quality standards.

The data capture for WA7 (Putney High Street), WA9 (Felsham Road) and WAC (Lavender Hill, Clapham Junction) was low due to multiple failures in the equipment. These include low converter efficiencies, valve leaks, pump repairs and replacements, the fitting of new filters and loss of power to the unit found upon audits. The monitors also experienced over-heating issues, sampling problems and poor record-keeping by the LSO.

Wandsworth Council completed the procurement process to refresh the monitoring network, and the installation 4 new monitoring stations has taken place

PM₁₀ Monitoring Adjustment

PM₁₀ particulates are measured using Tapered Element Oscillating Microbalance (TEOM) analysers, with the data reported as gravimetric equivalents. These instruments are not subject to automatic or fortnightly calibrations; instead, calibration occurs during routine servicing and through regular independent audits.

The ongoing performance of each monitor is remotely assessed by the Duty Officer at the Environmental Research Group (ERG), Imperial College London. During

fortnightly visits, the Local Support Officer (LSO) conducts more detailed performance checks and is also available on standby to replace the TEOM's monitoring filter as needed, based on filter loading.

Since 2009, TEOM data have been routinely adjusted using the Volatile Correction Method (VCM), which compensates for the loss of volatile compounds driven off by the heat in the instrument's inlet column. These corrections are applied by Imperial College London before data dissemination.

The TEOM analysers are serviced every six months by WC4A and audited biannually by Ricardo as part of the London Air Quality Network (LAQN) quality assurance and control procedures managed by Imperial. Both monitoring sites are part of the LAQN, with Imperial responsible for the daily data collection, storage, validation, and publication via the LAQN website (www.londonair.org.uk). Data are periodically ratified by Imperial, using long-term data reviews alongside results from LSO checks, servicing, and audits to ensure data integrity and accuracy.

For the monitoring data collected from the monitoring stations located in Putney High Street (WA7), Thessaly Road (WAA), Tooting High Street (WAB) and Lavender Hill (WAC), the Volatile Correction Method (VCM) has been used to correct the data. An FDMS was installed at the Felsham Road (WA9) monitoring station until 21 January 2015. This has now been converted to a TEOM, and therefore from 2019 the Volatile Correction Method (VCM) was used to correct the data.

During the annual data ratification process due to ongoing issues with the monitoring equipment, a portion of the data was void reducing the valid data capture for WAA (Thessaly Road, Battersea) to 53% for 2024.

As part of a network refresh of the monitoring stations across the borough the installation of new PM_{2.5} BAM (1020) analysers at Putney High Street (WA7), Battersea (WAA), Tooting High Street (WAB), Lavender Clapham Junction (WAC).

A.2 Diffusion Tubes

Directive 2008/50/EC of the European Parliament and Council on ambient air quality and cleaner air for Europe (EC, 2008) establishes air quality standards for NO₂, along with other pollutants. Under this directive, annual mean NO₂ concentration data obtained from diffusion tube measurements must meet an accuracy requirement of ±25% to be comparable with the NO₂ air quality objectives.

To ensure high-quality NO₂ concentration data, it is essential to meet stringent performance criteria through comprehensive quality assurance (QA) and quality control (QC) procedures. Several factors influence the performance of NO₂ diffusion tubes, including the laboratory conducting the analysis and the method used to prepare the tubes (AEA, 2008). As such, QA and QC procedures are a fundamental part of any monitoring programme, minimizing data uncertainties and ensuring the most accurate estimate of true concentrations.

Our NO₂ diffusion tubes are analysed by Gradko, using the 50% TEA in acetone preparation method. Gradko actively contributes to the development of rigorous QA and QC procedures to maintain the highest level of confidence in their laboratory measurements. They played a key role in the creation of the Harmonisation Practical Guidance for NO₂ diffusion tubes (AEA, 2008) and have adhered to these guidelines since January 2009. Additionally, since April 2014, Gradko has participated in the AIR-PT scheme, which combines two long-established proficiency testing schemes: the LGC Standards STACKS PT scheme and the HSL WASP PT scheme.

This section contains details of Gradko International Ltd.'s Results of laboratory precision.

- Performance in Air NO₂ PT Scheme (February 2023 to February 2025)
- Summary of Precision Scores for 2023-2025
- United Kingdom Accreditation Service (UKAS) schedule of accreditation (December 2024)

Gradko International Ltd is a UKAS-accredited laboratory that actively participates in laboratory performance and proficiency testing schemes. These schemes establish rigorous performance standards for participating laboratories, ensuring that the reported NO₂ concentrations are of the highest quality.

Summary of Laboratory Performance in AIR NO₂ Proficiency Testing Scheme (February 2023 to February 2025)

Gradko participates in the AIR-PT scheme for NO₂ diffusion tube analysis, which involves the quarterly testing of laboratory performance using artificially spiked diffusion tubes. This scheme is designed to help laboratories meet the requirements of the European Standard. In 2024, Gradko demonstrated satisfactory performance for the 50% TEA in acetone preparation method.

The laboratory adheres to the procedures outlined in the *Harmonisation Practical Guidance* and is an active participant in the AIR-PT proficiency testing scheme. Prior to AIR-PT, Gradko took part in the Workplace Analysis Scheme for Proficiency (WASP) for NO₂ diffusion tube analysis. DEFRA and the Devolved Administrations recommend that diffusion tubes used for Local Air Quality Management (LAQM) should be sourced from laboratories that have shown consistent, satisfactory performance in the AIR-PT scheme.

Gradko's laboratory performance is further evaluated by the National Physical Laboratory (NPL), which assesses results from the AIR-PT scheme in conjunction with data from the monthly NPL Field Inter-Comparison Exercise, conducted at Marylebone Road in central London. Laboratories are assigned a 'z' score, where a score of ± 2 or less indicates satisfactory performance. Gradko International Ltd.'s performance in 2024 is covered under AIR-PT rounds AR062 to AR068.

Based on the latest available data, the five-round performance window used to evaluate Gradko's laboratory quality spans AIR-PT rounds AR055 to AR068.

Table 1: Laboratory summary performance for AIR NO₂ PT rounds AR055, 56, 58, 59, 62, 63, 65, 66 and 68

The following table lists those UK laboratories undertaking LAQM activities that have participated in recent AIR NO₂ PT rounds and the percentage (%) of results submitted which were subsequently determined to be **satisfactory** based upon a z-score of $\leq \pm 2$ as defined above.

AIR PT Round	AIR PT AR055	AIR PT AR056	AIR PT AR058	AIR PT AR059	AIR PT AR062	AIR PT AR063	AIR PT AR065	AIR PT AR066	AIR PT AR068
Round conducted in the period	January – February 2023	May – June 2023	July – August 2023	September – October 2023	January – February 2024	April – June 2024	July – August 2024	September – October 2024	January – February 2025
Aberdeen Scientific Services	0 %	100 %	100 %	75 %	100 %	100 %	100 %	100 %	100 %
Cardiff Scientific Services	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Edinburgh Scientific Services	100 %	75 %	100 %	50 %	100 %	100 %	100 %	100 %	100 %
SOCOTEC	100 % [1]	100 % [1]	100 % [1]	100 % [1]	100 % [1]	100 % [1]	100 % [1]	100 % [1]	87.5 % [1]
Exova (formerly Clyde Analytical)	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Glasgow Scientific Services	100 %	100 %	100 %	100 %	75 %	100 %	100 %	100 %	100 %
Gradko International	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	50 %
Kent Scientific Services	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Kirklees MBC	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Lambeth Scientific Services	0 %	75 %	50 %	0 %	50 %	50 %	50 %	50 %	100 %
Milton Keynes Council	50 %	75 %	100 %	100 %	100 %	NR [2]	50 %	100 %	100 %
Northampton Borough Council	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Somerset Scientific Services	100 %	75 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
South Yorkshire Air Quality Samplers	NR [2]	NR [2]	NR [2]	NR [2]	NR [2]	NR [2]	NR [2]	NR [2]	NR [2]
Staffordshire County Council, Scientific Services	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Tayside Scientific Services (formerly Dundee CC)	NR [2]	100 %	NR [2]	NR [2]	NR [2]	NR [2]	100 %	NR [2]	NR [2]
West Yorkshire Analytical Services	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]

[1] Participant subscribed to two sets of test results (2 x 4 test samples) in each AIR PT round.

[2] NR, No results reported.

[3] Cardiff Scientific Services, Exova (formerly Clyde Analytical), Kent Scientific Services, Kirklees MBC, Northampton Borough Council and West Yorkshire Analytical Services; no longer carry out NO₂ diffusion tube monitoring and therefore did not submit results.

During this time, 100% of the results submitted by Gradko were determined to be satisfactory other than the results for Jan-Feb 2025

Precision Summary Results

The summary of diffusion tube precision results is provided below, outlining the total number of good and bad precision results over the past three years for laboratories currently conducting diffusion tube analysis.

2022 - 2024 Summary of Precision Results for Nitrogen Dioxide Diffusion Tube Collocation Studies UK Laboratories including for Gradko Laboratory 50% TEA in Acetone

Precision Summary Table

Diffusion Tube Preparation Method	2022 Good	2022 Bad	2023 Good	2023 Bad	2024 Good	2024 Bad
Gradko, 50% TEA in Acetone	16	0	16	0	11	0
Gradko, 20% TEA in Water	33	0	25	0	26	0
ESG Didcot / SOCOTEC, 50% TEA in Acetone	29	0	33	2	30	3
ESG Didcot / SOCOTEC, 20% TEA in Water	11	0	8	0	1	0
Staffordshire Scientific Services	13	0	12	0	16	0
Glasgow Scientific Services	3	3	1	0	1	0
Edinburgh Scientific Services	1	0	4	2	1	1
Milton Keynes Council	1	0	1	0	1	0
Tayside Scientific Services	1	0	1	0	1	0
Lambeth Scientific Services	6	4	10	1	2	0
Aberdeen Scientific Services	7	0	7	0	6	0
ESG Glasgow, 50% TEA in Acetone	1	0	1	0	1	0
ESG Glasgow, 20% TEA in Water	1	0	1	0	1	0
Somerset County Council	14	0	12	0	4	0

Numerical results for this data are contained in the National Bias Adjustment Spreadsheet version 04/25

Numerical results for this data are contained in the National Bias Adjustment Spreadsheet version 04/25. In 2024, the tube precision for NO₂ Annual Field Inter-Comparison for Gradko International using the 50% TEA in acetone method was 'good' for the results of 11/12 participating local authorities, no participating local authorities were deemed to be 'bad'.

Analysed By	Method	Year	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (mg/m³)	Automatic Monitor Mean Conc. (Cm) (mg/m³)	Bias (B)	Tube Precision	Bias Adjustment Factor (A) (Cm/Dm)
Gradko	50% TEA in Acetone	2024	UB	City Of London Corporation	10	26	21	26.8 %	G	0.79
Gradko	50% TEA in Acetone	2024	R	City Of London Corporation	12	34	30	12.1 %	G	0.89
Gradko	50% TEA in Acetone	2024	UB	Falkirk Council	11	13	13	- 1.6 %	G	1.02
Gradko	50% TEA in acetone	2024	SU	Redcar And Cleveland Borough Council	12	12	9	35.4 %	G	0.74
Gradko	50% TEA in acetone	2024	KS	Marylebone Road Intercomparison	11	43	36	20.8 %	G	0.83
Gradko	50% TEA in acetone	2024	R	Sandwell Mbc	12	30	25	24.2 %	G	0.81
Gradko	50% TEA in acetone	2024	UB	Sandwell Mbc	12	19	17	8.0 %	G	0.93
Gradko	50% TEA in acetone	2024	R	Sandwell Mbc	12	20	20	- 2.6 %	S	1.03
Gradko	50% TEA in Acetone	2024	R	London Borough Of Merton	12	27	22	25.7 %	G	0.80
Gradko	50% TEA in acetone	2024	UB	London Borough Of Wandsworth	10	19	14	31.7 %	G	0.76
Gradko	50% TEA in acetone	2024	R	London Borough Of Richmond Upon Thames	12	18	19	- 9.1 %	G	1.10
Gradko	50% TEA in acetone	2024	B	London Borough Of Richmond Upon Thames	12	13	13	5.0 %	G	0.95
Gradko	50% TEA in acetone	2024		Overall Factor³ (12 studies)				Use		0.88

Schedule of Accreditation issued by United Kingdom Accreditation Service (UKAS)

Gradko is UKAS-accredited for the analysis of NO₂ diffusion tubes, utilising ultra-violet spectrophotometry for the analysis of exposed tubes. The relevant test is outlined in the UKAS Schedule of Accreditation, issued on 23 December 2024 which is provided on the next page.

Schedule of Accreditation issued by United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

 2187 Accredited to ISO/IEC 17025:2017	Gradko International Ltd (Trading as Gradko Environmental) Issue No: 027 Issue date: 23 December 2024 St Martins House 77 Wales Street Winchester Hampshire SO23 0RH Contact: Mr A Poole Tel: +44 (0)1962 860331 Fax: +44 (0)1962 841339 E-Mail: diffusion@gradko.co.uk Website: www.gradko.co.uk
Testing performed at the above address only	

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/Equipment/Techniques used
ATMOSPHERIC POLLUTANTS Collected on diffusion (sorbent) tubes and monitors	<u>Chemical Tests</u> Ammonia as ammonium (NH ₄ ⁺) Benzene Toluene Ethyl benzene Xylene Hydrogen chloride as chloride (Cl ⁻) Nitrogen dioxide as nitrite (NO ₂ ⁻) Sulphur dioxide as sulphate (SO ₄ ²⁻) Hydrogen fluoride as fluoride (F ⁻) Hydrogen sulphide Ozone as nitrate (NO ₃ ⁻) Nitrogen Dioxide as nitrite (NO ₂ ⁻) Sulphur dioxide as sulphate (SO ₄ ²⁻) Formaldehyde as formaldehyde-DNPH Volatile Organic Compounds including: Benzene Toluene Ethylbenzene p-Xylene o-Xylene	Documented In-House Methods GLM 8 by Ion Chromatography GLM 4 by Thermal Desorption/ FID Gas Chromatography GLM 3 by Ion Chromatography GLM 5 by Colorimetric determination (UV Spectrophotometry) GLM 2 by Ion Chromatography GLM 7 by Colorimetric determination (UV Spectrophotometry) GLM 1 by Ion Chromatography GLM 18 by HPLC GLM 13 by Thermal Desorption GC-Mass Spectrometry

 2187 <small>Accredited to ISO/IEC 17025:2017</small>	<p style="text-align: center;">Schedule of Accreditation issued by United Kingdom Accreditation Service 2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK</p> <p style="text-align: center;">Gradko International Ltd (Trading as Gradko Environmental) Issue No: 027 Issue date: 23 December 2024</p>	
Testing performed at main address only		
Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/Equipment/Techniques used
ATMOSPHERIC POLLUTANTS Collected on diffusion (sorbent) tubes and monitors (cont'd)	<p>Chemical Tests (cont'd)</p> <p>Qualitative Analysis and Estimation of Volatile Organic Compounds on diffusion (sorbent) tubes and monitors</p> <p>Naphthalene Tetrachloroethylene Trichloroethylene Styrene 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Chlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene</p> <p>1,3-Butadiene</p> <p>Carbon Disulphide</p> <p>Flexible scope for quantitative analysis of Volatile Organic Compounds on diffusion (sorbent) tubes and monitors in accordance with methods developed and validated by in-house procedure LWI 47</p>	<p>GLM 13 by Thermal Desorption GC-Mass Spectrometry with estimations in accordance with ISO standard 16000-6</p> <p>GLM 13-1 by Thermal Desorption GC-Mass Spectrometry</p> <p>GLM 13-6 by Thermal Desorption GC-Mass Spectrometry</p> <p>GLM 13-7 by Thermal Desorption GC-Mass Spectrometry</p> <p>LWI 47 by Thermal Desorption GC-Mass Spectrometry</p>
END		

NO₂ diffusion tube analysis method

NO₂ diffusion tubes are passive monitoring devices composed of a Perspex cylinder, two stainless steel mesh discs, and a polythene cap sealed onto one end of the tube. The discs are coated with a triethanolamine (TEA) absorbent. These tubes operate on the principle of molecular diffusion, where gas molecules move from an area of higher concentration (the open end of the tube) to an area of lower concentration (the absorbent end of the tube) (AEA, 2008). NO₂ diffuses into the tube due to the concentration gradient and is absorbed by the TEA coating on the discs at the sealed end of the tube.

All the London Borough of Wandsworth's NO₂ diffusion tubes are prepared by Gradko using a 50% v/v solution of TEA in acetone as the absorbent. To prevent premature absorption, an opaque polythene cap is placed over the end of the diffusion tube opposite the TEA-coated discs before and after sampling. The tubes are labelled and stored in plastic bags, refrigerated, both prior to and after exposure.

In the laboratory, the steel mesh is removed and washed with distilled water, which is then analysed. The concentration of nitrogen dioxide is determined by passing ultraviolet (UV) light through the water sample. The amount of light absorbed correlates to the concentration of nitrogen dioxide present in the air during the monitoring period.

Factor from Local Co-location Studies

A co-location study using 2 nitrogen dioxide diffusion tubes has been carried out at the Felsham Road, Putney (automatic monitoring site ID: WA9; non- automatic monitoring site IDs: W21 and W22).

Discussion of Choice of Factor to Use

In 2024, the London Borough of Wandsworth conducted a co-location study at one continuous NO₂ monitoring site, using Duplicate NO₂ diffusion tubes at the following location: Felsham Road, Putney, an urban background site. The annual mean for the Felsham Road diffusion tubes (sites W21, W22) was 17.5 µg/m³, while the mean for the continuous monitoring station (WA9) was 15 µg/m³. The national bias adjustment factor (0.88) was selected to adjust the data.

All data from the London Borough of Wandsworth was submitted on time for the co-location questionnaire and is included in the database of bias adjustment factors (version 04/25).

Discussion of Choice of Factor to Use

The choice of bias adjustment factor was carefully considered. Both local and national bias adjustment factors were available for 2024. The national bias adjustment factor of 0.88 was chosen to correct the diffusion tube data, as it is

considered more representative, being based on a larger number of studies (12). Additionally, the national factor is more conservative than the local factor of 0.76.

Table O below shows a history of adjustment factors used in the London borough of Wandsworth from 2017-2024.

The local bias adjustment factor at the Felsham Road automatic monitoring station was calculated to a value of 0.76. The overall continuous monitor data capture was rated at 'poor overall data capture'. As a result, we have used the nationally derived bias adjustment factor of 0.88 as per diffusion Tube Bias Factor s/s 04/2025 for consistency as has been applied in the previous 6 years. As the guidance states, the use of nationally derived bias adjustment factor will provide the best estimate of the true annual mean concentration as it is based on more studies than a locally derived one.

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	03/24	0.83
2022	National	03/23	0.82
2021	National	03/22	0.83
2020	National	03/21	0.82
2019	National	03/20	0.93
2018	National	03/19	0.93
2017	National	03/18	0.89

A.3 Adjustments to the Ratified Monitoring Data

Short-term to Long-term Data Adjustment

For monitoring sites where data capture is less than 75% of a full calendar year (less than 9 months), the mean of the 'raw' concentrations should be "annualised" in accordance with Box 7.10 of the LLAQM Technical Guidance (TG19) before being compared to annual mean objectives.

It is not always possible to collect data for an entire year to calculate an annual mean for a pollutant. Instrument malfunctions or data quality issues can sometimes result in missing data, preventing the completion of a full year of measurements. For monitoring sites with data capture between 25% and 75% of a full calendar year (i.e., between 3 and 9 months), the mean of the 'raw' concentrations is "annualised" in accordance with Box 4.3 of the LLAQM Technical Guidance (TG19) before being compared to annual mean objectives. This was only necessary for one of the London Borough of Wandsworth's non-automatic (diffusion tube) site in 2024, WH2 (Priory Lane/ Upper Richmond Road) as data capture was only 42% for the year. Details of the annulisation are below.

NO₂ Adjustment (Diffusion tube Site ID WH2)

Data adjustment (annualisation) was required for one diffusion tube monitoring location, as the data capture rate was 42% in 2024. Annualisation is required when data capture falls below 75%. The LAQM annualisation tool was used to ensure the correct methodology for the annualisation off diffusion tubes. An annualisation summary is provided in the screenshot of the Defra's Diffusion Tube Data Processing Tool below in Table P.

NO₂ Adjustment (Automatic Monitoring Site ID WA7, WAA and WAC)

Short-Term to Long-Term Monitoring NO₂ Data Adjustment for the continuous monitoring station WA7 (Putney Highstreet), WAA (Thessaly Road) and WAC (Lavender Hill)

NO₂ data at the continuous monitoring stations WA7 (Putney Highstreet), WAA (Thessaly Road) and WAC (Lavender Hill) had data capture rate of 68%, 53% and 42%, respectively, for the calendar year. Therefore, NO₂ data have been "annualised" using the methodology outlined in LLAQM.TG(19) before being compared to annual mean objectives.

The workings for this can be found in Table Q below.

WA7 Original Annual Mean : 36.4

WA7 Annualised Mean: 37.0

WAA Original Annual Mean : 24.3

WAA Annualised Mean: 22.1

WAC Original Annual Mean : 24.6

WAC Annualised Mean: 27.7

PM₁₀ Automatic Site Adjustment

No sites required PM₁₀ annualisation as all had a capture rate above 75%

Short-Term to Long-Term Monitoring PM₁₀ Data Adjustment for the continuous monitoring station

PM₁₀ data at the continuous monitoring stations had a data capture rate greater than 75% for the calendar year. Therefore, PM₁₀ data did not have to be “annualised” using the methodology outlined in LLAQM.TG(19) before being compared to annual mean objectives.

The recorded values for 2024 for PM₁₀ for the monitors were as follows WA9 = 13.9 $\mu\text{g m}^{-3}$, WA7 = 15.5 $\mu\text{g m}^{-3}$, WAA = 17.1 $\mu\text{g m}^{-3}$, WAB = 19.9 $\mu\text{g m}^{-3}$ and WAC = 17.5 $\mu\text{g m}^{-3}$.

Distance Adjustment

The results presented in the Table E have been adjusted to represent exposure at the nearest façade. To estimate the concentration at the nearest receptor, the procedure specified in LLAQM.TG(19) has been applied to all monitoring locations that record an annual mean concentration above the NO₂ annual objective of 40 $\mu\text{g m}^{-3}$. The calculation has been applied also to monitoring locations that recorded an annual mean concentration within 10% of the NO₂ annual objective of 40 $\mu\text{g m}^{-3}$ (i.e. above 36 $\mu\text{g m}^{-3}$), to account for the inherent uncertainty in diffusion tube monitoring concentration data.

The methodology consists of comparing the monitored annual mean NO₂ concentrations at a given point against known relationships between NO₂ concentrations and the distance from a road source.

The monitored annual mean values used in the calculation are derived from the background site diffusion tube NE8 (Battersea Park). The results for this can be seen in Table R below.

Table P. Non-Automatic Monitoring Data Adjustment

Diffusion Tube ID	Annualisation Factor Site 1: Merton - Morden Civic Centre 2	Annualisation Factor Site 2: Richmond Upon Thames - Castelnau	Annualisation Factor Site 3: Lambeth - Brixton Road	Annualisation Factor Site 4: Westminster - Elizabeth Bridge	Average Annualisation Factor	Raw Data Simple Annual Mean ($\mu\text{g}/\text{m}^3$)	Annualised Data Simple Annual Mean ($\mu\text{g}/\text{m}^3$)	Comments
WH 2	0.9897	0.9723	0.9722	0.9971	0.9828	20.2	19.9	

Table Q. Automatic NO₂ Monitoring Data Adjustment

Background Site	Annual Data Capture	Annual Mean (A_m)	WA7		WAA		WAC	
			Period Mean (P_m)	Ratio (A_m/P_m)	Period Mean (P_m)	Ratio (A_m/P_m)	Period Mean (P_m)	Ratio (A_m/P_m)
Site 1: Tower Hamlets - Jubilee Park	98.0	15.9	16.2	0.978	16.4	0.965	15.0	1.058
Site 2: Bexley - Belvedere	94.2	14.9	14.7	1.015	16.7	0.894	13.1	1.136
Site 3: Lambeth - Streatham Green	99.5	17.2	16.8	1.026	19.0	0.905	15.8	1.089
Site 4: Islington - Arsenal	99.4	15.0	14.2	1.054	16.9	0.885	12.3	1.218
Average (R_a)			1.018		0.912		1.125	
Raw Data Annual Mean (M)			36.4		24.3		24.6	
Annualised Annual Mean (M x R_a)			37.0		22.1		27.7	

Table R. NO₂ Fall off With Distance Calculations

Diffusion Tube ID	Distance (m)		NO ₂ Annual Mean Concentration (µg/m ³)			Comment
	Monitoring Site to Kerb	Receptor to Kerb	Bias Adjusted and Annualised	Background	Predicted at Receptor	
YR5	0.6	1.2	37.1	11.8	33.9	
W47	0.7	5.7	47.5	11.8	33.4	

Appendix B Full Monthly Diffusion Tube Results for 2024

Table S. NO₂ 2024 Diffusion Tube Results (µg m⁻³)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	NO ₂ Mean Concentrations (µg/m ³)												Raw Data	Simple Annual Mean (µg/m ³)			Comment
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		Bias Adjusted (0.88) and Annualised	Distance Corrected to Nearest Exposure		
W23	525111	174619	39.5	30.7	33.5		33.6	33.3	35.4	33.2	41.4	36.2	39.1		35.6	31.3	-		
W24	524045	175366	42.6	43.4	38.5	33.9	37.0	44.5	40.2	38.1		35.9	40.0	28.0	38.4	33.8	-		
W21	524044	175495	26.5	22.4	22.3	15.3	18.4	14.3	17.3	14.1	20.4	24.8	26.8	15.1	19.8	17.4	-		
W22	524044	175495	25.9	20.8	22.0	17.4	17.4	14.4	17.7	14.3	20.8	26.0	26.0	16.7	19.9	17.6	-		
W6	522270	175307	20.9				11.5	10.5	9.4	10.5	15.0	17.6	22.8	13.5	14.6	12.9	-		
W25	522542	173700	21.6	17.7	17.7	14.9	16.8		14.1	13.8	17.9	18.4	24.4	16.3	17.6	15.5	-		
W26	524847	173282	23.5	17.7	16.2	12.8	16.2	12.7	12.8	11.6	16.0	20.8	25.4	10.7	16.4	14.4	-		
W27	524633	173594	23.0	16.0	14.2	11.3	13.3	10.1	9.8	10.1	14.9	16.9	25.4	16.6	15.1	13.3	-		
W28	526011	172869		16.0	14.2	12.5	14.1	11.4	11.1	10.3	17.0	19.0	26.4	15.8	15.3	13.4	-		
W29	526099	172833	21.1	18.4	19.6	15.5	3.8	13.5	13.0	12.3	19.6	20.8	28.3	18.3	17.0	15.0	-		
W4	527688	171204	43.4	43.6	36.7	17.9	39.4	40.9		41.5	41.0	44.9	35.2		38.4	33.8	-		
W8	527524	171239	27.5		21.6	37.5	16.8	16.0	13.5	15.1	21.7	23.9	29.0	18.3	21.9	19.3	-		
W30	528900	172431	24.8	21.3	17.6	11.9	15.0	12.9	12.7	13.7	19.4	21.7	27.8	18.0	18.1	15.9	-		
W31	528607	173333	32.5	26.3	23.5	16.9	24.4	22.7	20.5	21.9	23.3	26.6	32.6	24.9	24.7	21.7	-		
W32	528436	173133	32.5	28.0	27.3	20.2		21.2	21.0	19.3	27.5	29.4	37.0	27.1	26.4	23.2	-		
W34	527569	174986	21.9	20.1	19.2	14.3	18.0	14.2	13.1	12.8	19.5	21.8	28.2	20.6	18.6	16.4	-		
W35	527487	174981	28.6	17.7	19.5	17.8	22.4	17.5	16.6	15.0	22.8	25.2	31.2	19.9	21.2	18.6	-		
W36	525875	174616	30.2	19.6	20.8	17.6	20.1	17.2	16.5	16.1	22.0	23.6	33.1	17.7	21.2	18.7	-		

W37	525278	173483	26.5	22.4	21.0	14.4	20.0	17.3	16.9	14.8	23.6	24.6	31.2	18.8	21.0	18.4	-	
W38	526863	175239	23.0	17.2	20.5	14.2	18.6	14.0	15.9	14.3	21.2	24.5	31.6	17.0	19.3	17.0	-	
NE2	528043	176618	26.1		19.8	17.7	20.0	17.7	17.4	17.6	20.6	22.9	27.1	19.0	20.5	18.1	-	
NE3	528771	176819	34.5	31.4	34.7	33.4	36.9	33.4	32.5	28.6	40.6	38.1	41.7	31.0	34.7	30.6	-	
NE4	528871	176943	21.0	18.9	21.1	15.6	18.8	15.4	16.4	16.3	20.2	26.0	29.2	20.2	19.9	17.6	-	
NE5	529252	177348	30.4	27.7	25.0		25.2	22.1	26.0	25.8	31.3	34.7	36.4	25.3	28.2	24.8	-	
NE6	529424	177501	27.2	27.5	28.2	26.1	32.7	34.1	31.1	33.9	41.7	37.2	40.0	28.4	32.3	28.5	-	
NE7	530129	177727	28.6	25.6	24.0	20.1	25.7	19.6	22.6	22.4	29.4	28.3	40.5	25.6	26.0	22.9	-	
NE8	528023	177176	18.7	12.5	13.0	9.3	11.9	10.2		11.1	14.9	14.9	18.5	12.4	13.4	11.8	-	
YR1	526201	175340	28.3	22.0	22.2	24.0	28.6	27.7	24.4	22.4	28.1		37.0	21.0	26.0	22.9	-	
YR2	526581	175731		34.5	35.5	34.9	36.1	41.6	34.9	35.8	39.8	38.2	42.9	30.8	36.8	32.4	-	
YR3	526480	175930	25.9	22.7	18.2	14.4	17.0	15.6	15.1	15.8	21.0	23.6	31.5		20.1	17.7	-	
YR4	527086	176119	30.5	32.0	28.1	24.3	26.4	25.0	26.4	26.0	29.8	32.4	38.5	25.6	28.7	25.3	-	
YR5	527109	176022	43.7	38.3	36.5	36.7	46.2	46.4	41.4	40.5	48.1	42.8	51.9	33.3	42.1	37.1	33.9	
YR6	526817	176686	30.5	27.0	29.8	24.0	28.3	25.7	27.9	25.0	14.2	31.4	33.8	21.4	26.6	23.4	-	
W39	523898	174717	31.3	25.9	27.3	19.6	24.1	23.0	23.6	18.0	22.9	35.4	29.7	21.3	25.2	22.1	-	
W40	522343	173805	21.7	25.7	24.0	18.3	22.6	20.6	19.5	18.3	22.5	25.8	27.2	21.8	22.3	19.6	-	
W41	527675	174339	24.8			14.2	17.9	14.4	14.2	14.1	20.2	22.8	30.2	20.4	19.3	17.0	-	
W42	527426	173249		49.1	37.2	30.2	37.7	39.8	37.4	23.4	39.6	42.7	40.2	31.1	37.1	32.7	-	
W43	526783	174250	29.7	25.3	22.8	22.8	26.4	22.2	20.3	20.0	25.4	27.0	33.3	23.4	24.9	21.9	-	
W44	529425	176920	27.5	19.7	20.1	14.7	20.8	14.9	16.4	15.6	21.7	24.4	25.9	21.9	20.3	17.9	-	
W45	528096	172439	30.1	31.2	26.7	19.1	24.1	20.5	20.1	24.7	25.5	25.7	36.7	25.2	25.8	22.7	-	

W46	527639	172882	31.1	28.3	27.6	23.1	26.6	26.7	25.4	38.8	29.9	31.4	38.2	33.7	30.1	26.5	-	
W47	525243	174643	53.3	58.5		52.3	55.3	59.0	62.0	65.9	57.3	36.4		39.9	54.0	47.5	33.4	
W48	528263	172735	27.1	22.3	23.7	17.4	21.1	18.7	17.5	16.1	24.8	22.7	29.1	20.6	21.8	19.1	-	
W49	525987	173077	32.1	29.1	22.7	24.4	30.5	23.0	21.8	22.1				20.7	25.1	22.1	-	
W50	525945	173083	30.8	21.5	23.8	17.3	24.7	22.6	18.5	17.8		23.9	27.6	16.7	22.3	19.6	-	
W52	522481	173792	30.8	24.7	26.7	25.1	30.2	29.5	25.6	28.3	32.7	25.9	34.5	26.6	28.4	25.0	-	
W54	522382	173779	38.6	26.9	33.3	28.2	35.0	33.0	29.2	27.9		36.6		23.4	31.2	27.5	-	
W56	528382	173270	19.8	17.6	19.2	12.2	16.1	11.9	12.8	12.3	17.7	20.5	26.7	16.5	16.9	14.9	-	
W57	525734	174640			24.4	29.3	36.4	32.1	29.0	25.3	39.7	53.1	38.5	26.9	33.5	29.4	-	
SA1	528160	172414	23.9	20.8	19.3	15.6	15.8	14.5	13.2	15.3	20.0	20.3	28.5	19.9	18.9	16.7	-	
WH 1	522078	175466	34.6	29.8	33.4	28.0			24.9	24.5	31.5		34.1	23.3	29.3	25.8	-	
WH 2	521752	175435	27.1			9.4				17.6	23.2	23.6			20.2	17.5	-	
WH 3	522087	174262	27.7	24.1	23.9	17.8	25.1	21.9	20.8	20.0	29.2	26.0	24.3	19.1	23.3	20.5	-	
BW 1	526506	172554	26.3	22.9	19.6	22.4	29.5	24.7	24.1	21.6	29.1	29.7	35.9	23.1	25.7	22.6	-	
BW 2	526335	172395	26.1	16.5		16.2	18.8	16.5	16.7	17.7	23.5	25.6	30.1	19.3	20.6	18.2	-	

- All erroneous data has been removed from the NO₂ diffusion tube dataset presented in Table S.
- Annualisation has been conducted where data capture is <75% and >25% in line with LLAQM.TG19.
- Local bias adjustment factor used.
- National bias adjustment factor used.
- Where applicable, data has been distance corrected for relevant exposure in the final column.
- London borough of Wandsworth confirm that all 2024 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.

Notes:

Exceedances of the NO₂ annual mean objective of 40µg m⁻³ are shown in **bold**.

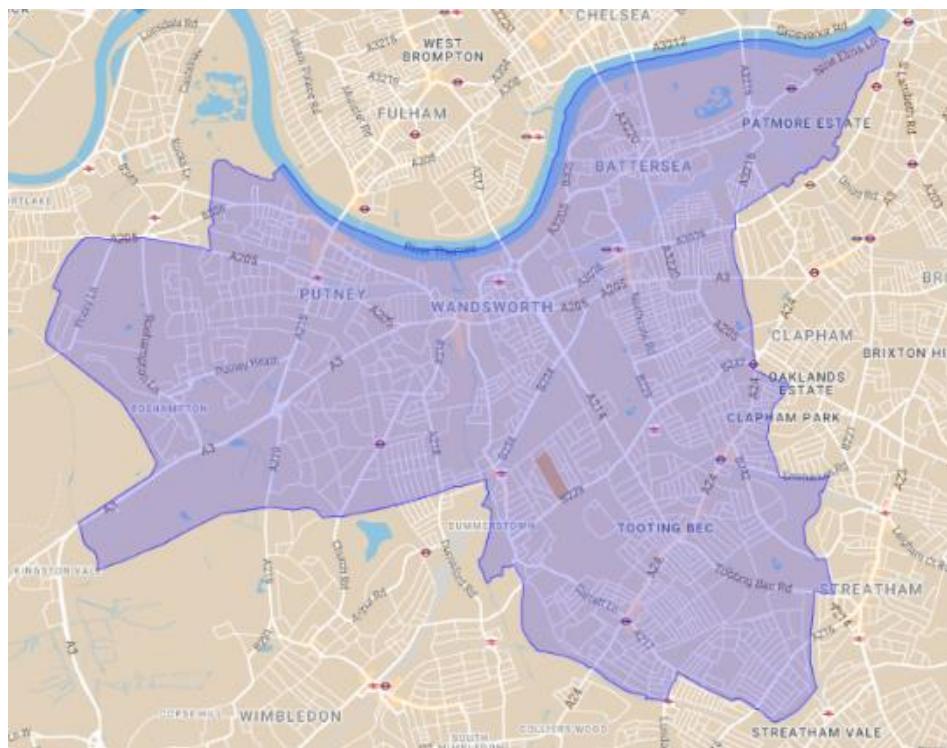
NO₂ annual means exceeding 60µg m⁻³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **bold and underlined**.

See Appendix C for details on bias adjustment and annualisation.

Appendix C Map(s) of Monitoring Locations and AQMAs

An Air Quality Management Area covers the whole of the borough therefore all monitoring sites, both non-automatic and automatic, sit within an AQMA this can be seen in Figure L below.

Figure L: Map of Air Quality Management area

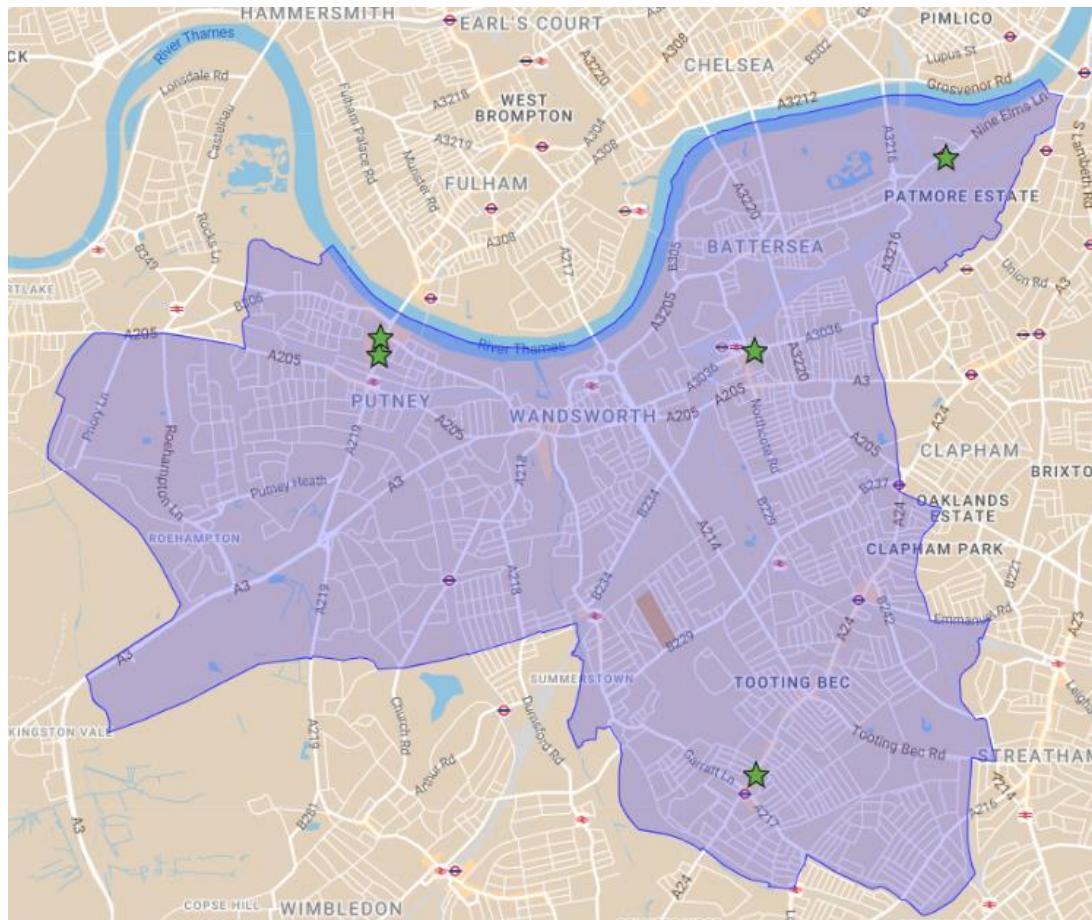


Legend:

The Air Quality management area in Wandsworth highlighted.

Figure M and Figure N depicts the locations of the automatic monitoring stations.

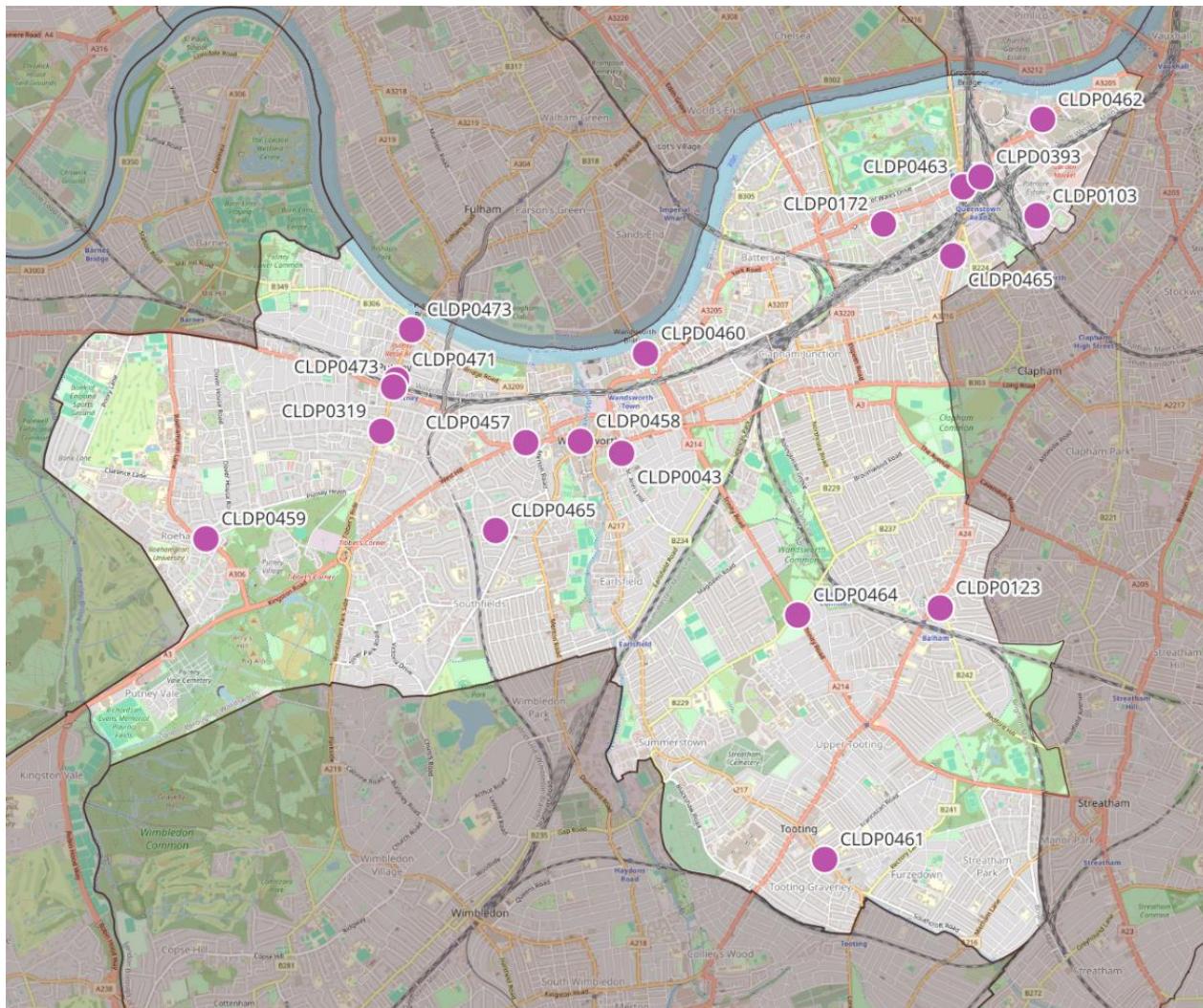
Figure M: Map of Automatic Monitoring Sites: Reference monitors



Legend:

- ★ - The location of an automatic reference monitor

Figure N: Map of Automatic Monitoring Sites: Breathe London sensors.



Legend:

- - The location of an automatic Breathe London sensor

Figure O: Map of Non - Automatic Monitoring Sites: Diffusion Tubes' NO₂ concentrations

