

# London Borough of Lewisham Air Quality Annual Status Report for 2022

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

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<sup>1</sup> LLAQM Policy and Technical Guidance 2019 (LLAQM.TG(19))

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## Abbreviations

Abbreviation	Description
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQO	Air Quality Objective
CCG	Clinical Commissioning Group
COPD	Chronic Obstructive Pulmonary Disease
DFG	Disabled Facilities Grants
DPH	Director of Public Health
DPLN	Deptford Parks Liveable Neighbourhood
EPC	Energy Performance Certificate
ERG	Environmental Research Group
EV	Electric Vehicle
EVCP	Electric Vehicle Charging Points
GLA	Greater London Authority
HMO	Housing in Multiple Occupancy
HSL	Health and Safety Laboratory
JSNA	Joint Strategic Needs Assessment
KPI	Key Performance Indicator
LAEI	London Atmospheric Emissions Inventory
LAQM	Local Air Quality Management
LIP	Local Implementation Plan
LLAQM	London Local Air Quality Management
NRMM	Non-Road Mobile Machinery
NSL	Marston Holdings - parking enforcement service
PM <sub>10</sub>	Particulate matter less than 10 micron in diameter
PM <sub>2.5</sub>	Particulate matter less than 2.5 micron in diameter
STARS	Sustainable Travel: Active, Responsible, Safe
TEA	Triethanolamine
TfL	Transport for London

<b>Abbreviation</b>	<b>Description</b>
ULEZ	Ultra Low Emission Zone

**Table A. Summary of National Air Quality Standards and Objectives**

Pollutant	Standard / Objective (UK)	Averaging Period	Date <sup>(1)</sup>
Nitrogen dioxide (NO <sub>2</sub> )	200 µg m <sup>-3</sup> not to be exceeded more than 18 times a year	1-hour mean	31 Dec 2005
Nitrogen dioxide (NO <sub>2</sub> )	40 µg m <sup>-3</sup>	Annual mean	31 Dec 2005
Particles (PM <sub>10</sub> )	50 µg m <sup>-3</sup> not to be exceeded more than 35 times a year	24-hour mean	31 Dec 2004
Particles (PM <sub>10</sub> )	40 µg m <sup>-3</sup>	Annual mean	31 Dec 2004
Particles (PM <sub>2.5</sub> )	20 µg m <sup>-3</sup>	Annual mean	2020
Particles (PM <sub>2.5</sub> )	Target of 15% reduction in concentration at urban background locations	3-year mean	Between 2010 and 2021
Sulphur dioxide (SO <sub>2</sub> )	266 µg m <sup>-3</sup> not to be exceeded more than 35 times a year	15-minute mean	31 Dec 2005
Sulphur dioxide (SO <sub>2</sub> )	350 µg m <sup>-3</sup> not to be exceeded more than 24 times a year	1-hour mean	31 Dec 2004
Sulphur dioxide (SO <sub>2</sub> )	125 µg m <sup>-3</sup> not to be exceeded more than 3 times a year	24-hour mean	31 Dec 2004

**Notes:**

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

## 1. Air Quality Monitoring

### Continuous monitoring stations

**2023 (Current):** There were five continuous monitoring stations in operation within the London Borough of Lewisham (LBL) during 2022.

**2022:** The previous LW1 Catford site (now LW6) measuring nitrogen dioxide (NO<sub>2</sub>), was relocated in November 2021 to Laurence House, 1 Catford Road.

### Diffusion tubes

**2023 (Current):** There were 141 active diffusion tube sites at the start of 2023.

**2022:** An additional 20 diffusion tubes sites were added in January 2022 (L54 – L73), and then a further 20 sites were added in July 2022 (L74 – L93), bringing the total number of diffusion tube sites up to 141.

**2021:** Monitoring of NO<sub>2</sub> with diffusion tubes was carried out at 101 sites throughout 2021, one of which is a triplicate site co-located with the LW2 continuous monitor at New Cross. Details of all tube diffusion tube sites in 2021 are given in Table C. The location of all diffusion tube sites in 2021 are displayed in Figure A.9 and Figure A.10 within Appendix A.

**2020:** An additional 51 tubes were added to the network in September 2020. The 51 new sites were commissioned as part of some modal filters work being undertaken by LBL's transport department, in order to understand the impact of the works on air quality.

## 1.1 Locations

**Table B. Details of Automatic Monitoring Sites for 2022**

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Monitoring technique
LW6	Lewisham 6 (Laurence House, Catford)	537588	173606	Roadside	Y-Lewisham AQMA	n/a	3.6	1.5	NO <sub>2</sub>	Chemiluminescence
LW2	Lewisham 2 (New Cross)	536241	176932	Roadside	Y-Lewisham AQMA	0	6.0	2.5	NO <sub>2</sub> , PM <sub>10</sub> , PM <sub>2.5</sub>	Chemiluminescence, TEOM-FDMS
LW4	Lewisham 4 (Loampit Vale)	537912	175838	Roadside	Y-Lewisham AQMA	0	7.0	2.5	NO <sub>2</sub> , PM <sub>10</sub>	Chemiluminescence, BAM
LW5	Lewisham Deptford	537228	177471	Urban Background	Y-Lewisham AQMA	24	2.0	2.5	NO <sub>2</sub> , PM <sub>2.5</sub>	Chemiluminescence, TEOM-FDMS
HP1	Honor Oak Park	536473	174128	Urban Background	Y-Crofton Park and Honor Oak Park AQMA	n/a	n/a	n/a	NO <sub>2</sub> , PM <sub>10</sub> , PM <sub>2.5</sub>	Chemiluminescence, TEOM-FDMS



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

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Tube co-located with an automatic monitor. (Y/N)
L1	Chubworthy Street	536109	177580	Roadside	Y-Lewisham AQMA	5.0	2.0	2.5	NO <sub>2</sub>	N
L2	Bronze Street	537540	177439	Urban Background	Y-Lewisham AQMA	0.0	6.0	2.5	NO <sub>2</sub>	N
L3	Grove Street	536561	178471	Urban Background	Y-Lewisham AQMA	N/A	2.0	2.5	NO <sub>2</sub>	N
L4	Plough Way	536534	178926	Urban Background	N	N/A	2.0	2.5	NO <sub>2</sub>	N
L5	Lee High Road	539678	175050	Roadside	Y-Lewisham AQMA	0.0	5.0	2.5	NO <sub>2</sub>	N
L6	Le May Avenue	540615	172337	Urban Background	N	0.0	5.0	2.5	NO <sub>2</sub>	N
L7	Bell Green	536556	171810	Roadside	N	0.0	3.0	2.5	NO <sub>2</sub>	N
L8	Stondon Park	536229	174032	Roadside	Y-Crofton Park and Honor Oak Park AQMA	0.0	5.0	2.5	NO <sub>2</sub>	N
L9	Ladywell Road	537500	174925	Roadside	Y-Lewisham AQMA	0.0	3.0	2.5	NO <sub>2</sub>	N
L10	Whitburn Road	538062	175085	Roadside	Y-Lewisham AQMA	1.0	1.0	2.5	NO <sub>2</sub>	N
L11	Sparta Street	538007	176517	Roadside	Y-Lewisham AQMA	3.0	3.0	2.5	NO <sub>2</sub>	N
L12	Montague Avenue, Hilly Fields	537132	175353	Urban Background	Y-Lewisham AQMA	N/A	60.0	2.5	NO <sub>2</sub>	N
L13	Mayow Road	535804	171567	Urban Background	N	0.0	5.0	2.5	NO <sub>2</sub>	N
L14	Boyne Road	538482	175792	Urban Background	Y-Lewisham AQMA	3.0	1.0	2.5	NO <sub>2</sub>	N
L15	Lewisham Road	538237	176101	Roadside	Y-Lewisham AQMA	0.0	10.0	2.5	NO <sub>2</sub>	N
L16	Loampit Vale	537740	175930	Roadside	Y-Lewisham AQMA	0.0	1.5	2.5	NO <sub>2</sub>	N

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Tube co-located with an automatic monitor. (Y/N)
L17	New Cross Monitoring Station (Triplicate)	536246	176934	Roadside	Y-Lewisham AQMA	0.0	6.0	2.5	NO <sub>2</sub>	Y
L18	New Cross Monitoring Station (Triplicate)	536246	176934	Roadside	Y-Lewisham AQMA	0.0	6.0	2.5	NO <sub>2</sub>	Y
L19	New Cross Monitoring Station (Triplicate)	536246	176934	Roadside	Y-Lewisham AQMA	0.0	6.0	2.5	NO <sub>2</sub>	Y
L20	Hatcham Park Road	535746	176969	Roadside	Y-Lewisham AQMA	1.0	4.0	2.5	NO <sub>2</sub>	N
L21	Brockley Rise	536133	173341	Roadside	Y-Crofton Park and Honor Oak Park AQMA	0.0	3.0	2.5	NO <sub>2</sub>	N
L22	Ringstead Road	538060	173816	Urban Background	Y-Lewisham AQMA	3.0	0.5	2.5	NO <sub>2</sub>	N
L23	Catford Hill	537178	173365	Roadside	N	6.0	0.5	2.5	NO <sub>2</sub>	N
L24	Hazelbank Road	538904	172697	Urban Background	N	4.0	2.0	2.5	NO <sub>2</sub>	N
L26	Shardloes Road	536527	175935	Roadside	Y-Lewisham AQMA	0.0	0.5	2.5	NO <sub>2</sub>	N
L27	Montpelier Vale	539604	176090	Roadside	Y-Lewisham AQMA	3.0	0.5	2.5	NO <sub>2</sub>	N
L28	Baring Road	540051	173769	Roadside	N	2.0	0.5	2.5	NO <sub>2</sub>	N
L29	Holy Cross, Sangley Road	538165	173406	Roadside	N	5.0	5.0	2.5	NO <sub>2</sub>	N

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Tube co-located with an automatic monitor. (Y/N)
L30	Christchurch, Perry Vale	535535	172679	Roadside	N	0.0	5.0	2.5	NO <sub>2</sub>	N
L31	St Mary Magdalen's RC, Howson Road	536399	175150	Urban Background	Y-Crofton Park and Honor Oak Park AQMA	2.0	2.0	2.5	NO <sub>2</sub>	N
L32	Grinling Gibbons, Clyde Street	536944	177665	Urban Background	Y-Lewisham AQMA	0.0	2.0	2.5	NO <sub>2</sub>	N
L33	St Mary's CE, Lewisham High Street	537979	174792	Roadside	Y-Lewisham AQMA	0.0	2.0	2.5	NO <sub>2</sub>	N
L34	Sydenham, Dartmouth Road	535071	172346	Urban Background	N	0.0	5.0	2.5	NO <sub>2</sub>	N
L35	Kender Primary School	535447	176897	Roadside	Y-Lewisham AQMA	N/A	2.0	2.5	NO <sub>2</sub>	N
L36	Deptford Park School	536275	178405	Roadside	Y-Lewisham AQMA	N/A	2.0	2.5	NO <sub>2</sub>	N
L37	St James Hatcham School	536317	176883	Urban Background	Y-Lewisham AQMA	N/A	N/A	2.5	NO <sub>2</sub>	N
L38	Beecroft Primary School	536564	174937	Roadside	Y-Crofton Park and Honor Oak Park AQMA	6.0	2.0	2.6	NO <sub>2</sub>	N
L39	John Stainer Primary School	536308	175721	Roadside	Y-Lewisham AQMA	8.0	1.7	2.6	NO <sub>2</sub>	N
L40	Myatt Garden Primary School	536792	176432	Urban Background	Y-Lewisham AQMA	4.0	1.4	2.6	NO <sub>2</sub>	N

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Tube co-located with an automatic monitor. (Y/N)
L41	Ashmead Primary School	537256	176353	Urban Background	Y-Lewisham AQMA	8.0	0.7	2.3	NO <sub>2</sub>	N
L42	Lucas Vale Primary School	537032	176534	Urban Background	Y-Lewisham AQMA	0.0	2.2	2.7	NO <sub>2</sub>	N
L43	Childeric Primary School	536389	177144	Urban Background	Y-Lewisham AQMA	6.0	2.9	2.7	NO <sub>2</sub>	N
L44	Sir Francis Drake Primary School	536028	178107	Roadside	Y-Lewisham AQMA	1.0	2.0	2.5	NO <sub>2</sub>	N
L45	Tidemill Academy	537228	177284	Roadside	Y-Lewisham AQMA	1.0	2.9	2.7	NO <sub>2</sub>	N
L46	St Margaret Lee Primary School	539416	175315	Urban Background	Y-Lewisham AQMA	1.0	2.3	2.6	NO <sub>2</sub>	N
L47	Rathfern Primary School	536839	173211	Roadside	N	2.0	2.1	2.5	NO <sub>2</sub>	N
L48	Holbeach Primary School	537433	173965	Urban Background	Y-Lewisham AQMA	25.0	0.9	2.6	NO <sub>2</sub>	N
L49	St Saviours RC Primary School	538358	175324	Urban Background	Y-Lewisham AQMA	3.0	2.1	2.4	NO <sub>2</sub>	N
L50	Rushey Green Primary School	537836	173400	Urban Background	N	0.0	4.5	2.5	NO <sub>2</sub>	N
L51	290 Brownhill Rd South Circular	538803	173683	Roadside	Y-Lewisham AQMA	10.0	2.2	2.6	NO <sub>2</sub>	N
L52	St John CofE School	538285	171877	Roadside	N	3.0	3.9	2.4	NO <sub>2</sub>	N
L53	Greenvale School	539319	172362	Urban Background	N	1.0	2.9	2.5	NO <sub>2</sub>	N

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Tube co-located with an automatic monitor. (Y/N)
L54	Baring Road Medical Centre - Healthwatch Lewisham	540485	172665	Roadside	N	10.0	0.5	2.5	NO <sub>2</sub>	N
L55	Addey and Stanhope School	537109	176953	Roadside	Y-Lewisham AQMA	1.8	4.5	2.9	NO <sub>2</sub>	N
L56	Marathon Science School	536015	178631	Roadside	Y-Lewisham AQMA	1.4	0.8	2.2	NO <sub>2</sub>	N
L57	Heath House Preparatory School	539671	176141	Urban Background	Y-Lewisham AQMA	3.5	0.1	2.5	NO <sub>2</sub>	N
L58	THE BLACKHEATH HOSPITAL OUTPATIENT CENTRE	539442	175762	Roadside	Y-Lewisham AQMA	18.0	1.5	2.5	NO <sub>2</sub>	N
L59	TLG Lewisham	537985	175737	Urban Background	Y-Lewisham AQMA	4.0	0.5	2.5	NO <sub>2</sub>	N
L60	FLEMMING HOUSE	536660	178717	Urban Background	Y-Lewisham AQMA	1.8	1.5	2.5	NO <sub>2</sub>	N
L61	UNIVERSITY HOSPITAL LEWISHAM	537926	174633	Roadside	Y-Lewisham AQMA	35.0	0.3	2.5	NO <sub>2</sub>	N
L62	Haberdashers' Aske's Hatcham Temple Grove	536152	176822	Roadside	Y-Lewisham AQMA	3.8	0.7	2.3	NO <sub>2</sub>	N

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Tube co-located with an automatic monitor. (Y/N)
L63	St Dunstan's College	537092	173415	Roadside	Y-Crofton Park and Honor Oak Park AQMA	20.0	4.8	2.5	NO <sub>2</sub>	N
L64	Kings Kids Christian School	536352	177541	Urban Background	Y-Lewisham AQMA	4.0	1.4	2.5	NO <sub>2</sub>	N
L65	St Stephen's CofE Primary School	537319	176485	Urban Background	Y-Lewisham AQMA	10.0	1.3	2	NO <sub>2</sub>	N
L66	Dalmain Primary School	536106	173458	Roadside	Y-Crofton Park and Honor Oak Park AQMA	12.0	1.3	2.5	NO <sub>2</sub>	N
L67	Edmund Waller Primary School	535644	176484	Urban Background	Y-Lewisham AQMA	5.8	0.5	2.4	NO <sub>2</sub>	N
L68	Deptford Green School	536462	177354	Roadside	Y-Lewisham AQMA	15.0	0.2	2.5	NO <sub>2</sub>	N
L69	Chelwood Nursery School	536065	175088	Urban Background	Y-Lewisham AQMA	0.4	50.0	2.5	NO <sub>2</sub>	N
L70	Prendergast Ladywell School	537047	174220	Urban Background	Y-Crofton Park and Honor Oak Park AQMA	4.7	2.4	2.9	NO <sub>2</sub>	N
L71	St Margaret's Lee CofE Primary School	539355	175293	Urban Background	Y-Lewisham AQMA	1.0	1.0	2.5	NO <sub>2</sub>	N
L72	SOUTH LONDON AND MAUDSLEY	538738	174030	Urban Background	Y-Lewisham AQMA	8.5	1.3	2	NO <sub>2</sub>	N
L73	LeSoCo	537258	176212	Roadside	Y-Lewisham AQMA	18.0	0.3	2.4	NO <sub>2</sub>	N

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Tube co-located with an automatic monitor. (Y/N)
L74	Arngask Road	538503	173580	Urban Background	N	6.5	1.2	2.5	NO <sub>2</sub>	N
L75	Eddystone Road	536392	174592	Urban Background	Y-Crofton Park and Honor Oak Park AQMA	0.1	1.1	2.7	NO <sub>2</sub>	N
L76	Verdant Lane	539519	172846	Roadside	N	9.0	0.2	2.5	NO <sub>2</sub>	N
L77	Glenfarg Road	538470	173427	Urban Background	N	4.0	2.0	2.5	NO <sub>2</sub>	N
L78	Torridon Road	538958	173479	Urban Background	N	7.5	0.2	2.5	NO <sub>2</sub>	N
L79	Horncastle Road	540204	173780	Urban Background	N	5.0	4.0	2.9	NO <sub>2</sub>	N
L80	Gellatly Road	535505	176274	Roadside	Y-Lewisham AQMA	3.0	0.0	2.4	NO <sub>2</sub>	N
L81	Lee Road	539815	175122	Roadside	Y-Lewisham AQMA	6.5	0.2	2.5	NO <sub>2</sub>	N
L82	Perry Hill Bus Stop X	536791	172863	Roadside	N	14.0	0.2	2.3	NO <sub>2</sub>	N
L83	Bellingham Road	537967	172366	Roadside	N	6.0	2.4	2.4	NO <sub>2</sub>	N
L84	Perry Rise	536500	172023	Roadside	N	1.0	2.0	2	NO <sub>2</sub>	N
L85	Health Centre bus stop	536527	171882	Roadside	N	6.0	0.3	2	NO <sub>2</sub>	N
L86	Southend Lane Bridge	536870	171718	Roadside	N	5.0	0.2	2	NO <sub>2</sub>	N
L87	Kirkdale/Wells Park Road	534983	171996	Roadside	N	13.0	0.2	2.2	NO <sub>2</sub>	N
L88	Sydenham Library	536309	171594	Roadside	N	5.5	0.1	2.4	NO <sub>2</sub>	N

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Tube co-located with an automatic monitor. (Y/N)
L89	Nursery entrance OLSPN	536208	171508	Roadside	N	4.7	2.3	2.3	NO <sub>2</sub>	N
L90	Devonshire Road	535538	173700	Roadside	Y-Crofton Park and Honor Oak Park AQMA	8.0	0.8	2.5	NO <sub>2</sub>	N
L91	Hare and Billet Road/Lewisham Hill	538924	176411	Roadside	Y-Lewisham AQMA	37.0	0.5	2	NO <sub>2</sub>	N
L92	Camplin St at Brocklehurst St junc	535760	177399	Roadside	Y-Lewisham AQMA	1.4	0.4	2.5	NO <sub>2</sub>	N
L93	Landmann Way	535764	178031	Roadside	Y-Lewisham AQMA	0.8	1.9	2.5	NO <sub>2</sub>	N
SSDT_1	25 Grinstead Road	536218	178078	Roadside	Y-Lewisham AQMA	12.0	1.4	2.4	NO <sub>2</sub>	N
SSDT_2	58 Friendly Street	537250	176593	Roadside	Y-Lewisham AQMA	7.0	1.8	2.2	NO <sub>2</sub>	N
SSDT_3	1 Lind Street	537550	176443	Roadside	Y-Lewisham AQMA	23.0	0.8	2.5	NO <sub>2</sub>	N
SSDT_4	Goffers Road	538982	176645	Roadside	Y-Lewisham AQMA	N/A	2.0	2.1	NO <sub>2</sub>	N
SSDT_5	121 Pepys Road	535947	176287	Roadside	Y-Lewisham AQMA	8.0	0.7	2.5	NO <sub>2</sub>	N
SSDT_6	101 Jerningham Road	536197	176514	Roadside	Y-Lewisham AQMA	9.5	0.6	2.4	NO <sub>2</sub>	N
SSDT_7	41 South Row	539761	176431	Roadside	Y-Lewisham AQMA	14.0	0.9	2.5	NO <sub>2</sub>	N
SSDT_8	1 Belmont Park	538795	175291	Roadside	Y-Lewisham AQMA	6.0	0.5	2.4	NO <sub>2</sub>	N
SSDT_9	19 Manor Road	538926	175030	Roadside	Y-Lewisham AQMA	14.0	0.5	2.7	NO <sub>2</sub>	N
SSDT_10	94 Hither Green Lane	538367	174857	Roadside	Y-Lewisham AQMA	11.0	1.4	2.4	NO <sub>2</sub>	N



Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Tube co-located with an automatic monitor. (Y/N)
SSDT_11	1 Woodville Close	540200	174781	Roadside	Y-Lewisham AQMA	14.0	0.5	2.5	NO <sub>2</sub>	N
SSDT_12	4 Burnt Ash Road	539871	174720	Roadside	Y-Lewisham AQMA	20.0	0.5	2.3	NO <sub>2</sub>	N
SSDT_13	101 Manor Lane	539418	174543	Roadside	Y-Lewisham AQMA	9.0	0.9	1.8	NO <sub>2</sub>	N
SSDT_14	160 Leahurst Road	539063	174543	Roadside	Y-Lewisham AQMA	5.0	1.7	2.5	NO <sub>2</sub>	N
SSDT_15	185 Hither Green Lane	538562	174494	Roadside	Y-Lewisham AQMA	5.0	1.4	2.7	NO <sub>2</sub>	N
SSDT_16	140 Chudleigh Road	536975	174537	Roadside	Y-Crofton Park and Honor Oak Park AQMA	14.0	2.3	2.2	NO <sub>2</sub>	N
SSDT_17	112 Crofton Park Road	536666	174206	Roadside	Y-Crofton Park and Honor Oak Park AQMA	2.0	1.9	2.4	NO <sub>2</sub>	N
SSDT_18	George Lane, Holy Trinity Church	538313	174269	Roadside	Y-Lewisham AQMA	6.0	2.2	2.5	NO <sub>2</sub>	N
SSDT_19	193 George Lane	538589	174189	Roadside	Y-Lewisham AQMA	12.0	1.9	2.2	NO <sub>2</sub>	N
SSDT_20	208 Verdant Lane	539498	172969	Roadside	N	15.0	0.5	2.5	NO <sub>2</sub>	N
SSDT_21	Holme Lacey Road	539892	174174	Roadside	Y-Lewisham AQMA	8.0	2.5	2.4	NO <sub>2</sub>	N
SSDT_22	40B Burnt Ash Road	540014	173979	Roadside	Y-Lewisham AQMA	25.0	0.4	2.3	NO <sub>2</sub>	N

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Tube co-located with an automatic monitor. (Y/N)
SSDT_23	75 Leyland Road	540119	174329	Roadside	Y-Lewisham AQMA	7.0	0.8	2.5	NO <sub>2</sub>	N
SSDT_24	131 Woodyates Road	540504	173977	Roadside	N	8.0	2.6	2.6	NO <sub>2</sub>	N
SSDT_25	268 Manor Lane	539559	173929	Roadside	Y-Lewisham AQMA	15.0	0.7	2.6	NO <sub>2</sub>	N
SSDT_26	389 Hither Green Lane	539352	173783	Roadside	Y-Lewisham AQMA	12.0	2.7	2.6	NO <sub>2</sub>	N
SSDT_27	51 Polstead Road	536753	173603	Roadside	Y-Crofton Park and Honor Oak Park AQMA	5.0	3.0	2.3	NO <sub>2</sub>	N
SSDT_28	119 Sandhurst Road	538723	173345	Roadside	N	8.0	1.5	2.4	NO <sub>2</sub>	N
SSDT_29	18 Jevington Way	541019	173231	Roadside	N	13.0	0.8	2.6	NO <sub>2</sub>	N
SSDT_30	7 Fordmill Road	537530	173095	Roadside	N	8.0	0.9	2.5	NO <sub>2</sub>	N
SSDT_31	38 Thorpewood Avenue	534939	172586	Roadside	N	10.0	0.6	2.4	NO <sub>2</sub>	N
SSDT_32	55 Woolstone Road	536494	172794	Roadside	N	8.0	2.2	2.2	NO <sub>2</sub>	N
SSDT_33	3 Brookehowse Road	537436	172596	Roadside	N	17.0	3.3	2.7	NO <sub>2</sub>	N
SSDT_34	136 Thornsbeach Road	538471	172660	Roadside	N	14.0	2.6	2.5	NO <sub>2</sub>	N
SSDT_35	49 Castillion Road	539254	172658	Roadside	N	9.0	2.5	2.4	NO <sub>2</sub>	N

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Tube co-located with an automatic monitor. (Y/N)
SSDT_36	12 Pragnell Road	540601	172744	Roadside	N	23.0	2.7	2.6	NO <sub>2</sub>	N
SSDT_37	147 Perry Hill	536618	172405	Roadside	N	11.0	1.0	2.6	NO <sub>2</sub>	N
SSDT_38	Dacres Road	535533	172340	Roadside	N	3.0	2.5	2.4	NO <sub>2</sub>	N
SSDT_39	Wells Park Road	534309	172044	Roadside	N	15.0	2.8	2.3	NO <sub>2</sub>	N
SSDT_40	22 Mayow Road	535923	172207	Roadside	N	14.0	0.6	2.2	NO <sub>2</sub>	N
SSDT_41	5 Stanton Way	536598	171766	Roadside	Y-Lewisham AQMA	16.0	0.7	2.8	NO <sub>2</sub>	N
SSDT_42	Oakridge Road	538788	171517	Roadside	N	14.0	0.5	2.2	NO <sub>2</sub>	N
SSDT_43	198 Glenbow Road	539170	170869	Roadside	N	13.0	3.4	2.4	NO <sub>2</sub>	N
SSDT_44	Glenbow Road, Playing Fields	539374	171246	Roadside	N	39.0	3.3	2.3	NO <sub>2</sub>	N
SSDT_45	165 Downham Way	539492	171567	Roadside	N	9.0	2.7	2.6	NO <sub>2</sub>	N
SSDT_46	Daneswood Avenue, 90 Passfields	539732	172202	Roadside	N	13.0	0.7	2.5	NO <sub>2</sub>	N
SSDT_47	398 Downham Way	540090	171644	Roadside	N	6.0	3.2	2.4	NO <sub>2</sub>	N
SSDT_48	549 Downham Way	540331	172103	Roadside	N	12.0	0.7	0.2	NO <sub>2</sub>	N
SSDT_49	72 Tyrwhitt Road	537318	175816	Roadside	Y-Lewisham AQMA	11.0	0.6	2.5	NO <sub>2</sub>	N
SSDT_50	53 Tressillian Road	537111	175716	Roadside	Y-Lewisham AQMA	9.0	0.7	2.4	NO <sub>2</sub>	N

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Tube co-located with an automatic monitor. (Y/N)
SSDT_51	110 Drakefell Road	535909	175947	Roadside	Y-Lewisham AQMA	2.0	1.4	2.4	NO <sub>2</sub>	N

## 1.2 Comparison of Monitoring Results with AQOs

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

**Table D. Annual Mean NO<sub>2</sub> Ratified and Bias-adjusted Monitoring Results**

Site ID	Site type	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2022 % <sup>(b)</sup>	2016	2017	2018	2019	2020	2021	2022
LW6	Roadside (Automatic)	91.7	91.7	-	-	-	-	-	n/a	25.5
LW2	Roadside (Automatic)	76.3	76.3	<b>46.0</b>	<b>48.9</b>	<b>42.1</b>	37.9	29.1	32.4	29.6
LW4	Roadside (Automatic)	98.4	98.4	<b>58.0</b>	<b>53.9</b>	<b>46.4</b>	<b>42.8</b>	35.6	35.4	38.4
LW5	Urban Background (Automatic)	97.3	97.3	-	-	-	-	18.7	19.7	19.1
HP1	Urban Background (Automatic)	99.1	99.1	-	-	-	24.1	16.1	17.2	16.0
L1	Roadside	100	100.0	34.3	31.6	29.2	28.2	21.9	21.9	20.7
L2	Urban Background	100	100.0	30.3	29.0	25.2	25.7	20.1	19.0	18.3
L3	Urban Background	59.6	59.6	36.3	32.7	30.6	27.4	20.6	20.8	20.0
L4	Urban Background	80.8	80.8	33.6	31.7	28.8	27.7	21.1	20.8	19.4
L5	Roadside	92.3	92.3	36.1	30.0	29.9	27.7	21.8	22.7	20.7
L6	Urban Background	57.7	57.7	34.8	32.2	30.5	27.2	22.1	22.2	16.4
L7	Roadside	75	75.0	<b>49.2</b>	<b>43.3</b>	38.2	39.6	32.5	31.1	29.7
L8	Roadside	100	100.0	<b>42.4</b>	38.6	33.5	31.5	24.5	24.8	22.4
L9	Roadside	100	100.0	39.6	35.1	36.2	31.9	25.7	25.0	22.2

Site ID	Site type	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2022 % <sup>(b)</sup>	2016	2017	2018	2019	2020	2021	2022
L10	Roadside	100	100.0	<b>41.5</b>	37.3	38.0	31.4	24.7	25.2	22.6
L11	Roadside	100	100.0	37.4	34.8	33.6	31.2	23.6	26.0	25.8
L12	Urban Background	92.3	92.3	27.9	26.4	25.3	23.7	19.4	18.6	16.6
L13	Urban Background	100	100.0	27.3	26.6	23.8	24.4	19.5	17.8	19.2
L14	Urban Background	100	100.0	31.1	29.2	26.3	25.8	21.4	20.0	18.3
L15	Roadside	100	100.0	<b>45.2</b>	36.3	33.9	34.0	26.9	24.1	26.2
L16	Roadside	100	100.0	<b>50.5</b>	<b>44.1</b>	<b>40.4</b>	37.0	29.5	31.6	28.0
L17	Roadside	82.7	82.7	<b>52.1</b>	<b>48.9</b>	<b>42.3</b>	38.6	27.7	30.2	28.0
L18	Roadside	92.3	92.3	<b>50.8</b>	<b>48.9</b>	<b>42.4</b>	37.7	30.1	32.1	28.4
L19	Roadside	92.3	92.3	<b>52.4</b>	<b>48.9</b>	<b>43.0</b>	38.1	28.1	29.1	28.4
L20	Roadside	75	75.0	<b>42.8</b>	38.6	37.7	34.3	25.6	24.3	22.1
L21	Roadside	100	100.0	<b>51.5</b>	<b>49.7</b>	<b>41.2</b>	39.8	30.1	28.0	25.5
L22	Urban Background	82.7	82.7	31.3	31.9	28.1	25.5	22.0	19.8	18.0
L23	Roadside	100	100.0	<b>49.9</b>	<b>44.5</b>	<b>43.1</b>	38.7	29.9	28.4	26.5
L24	Urban Background	100	100.0	34.6	33.3	32.8	29.9	24.1	23.0	22.8
L26	Roadside	100	100.0	<b>46.4</b>	<b>43.5</b>	39.0	36.0	29.8	28.6	24.4
L27	Roadside	100	100.0	<b>55.3</b>	<b>52.4</b>	<b>43.5</b>	39.5	31.2	30.5	28.8
L28	Roadside	100	100.0	<b>58.1</b>	<b>55.5</b>	<b>46.3</b>	<b>41.0</b>	33.4	31.0	26.7
L29	Roadside	100	100.0	30.3	29	28.1	24.4	20.4	19.6	18.1
L30	Roadside	100	100.0	31.3	28.1	28.7	26.3	19.7	18.7	18.2
L31	Urban Background	100	100.0	26.2	24.4	25.9	21.2	17.8	17.4	15.9
L32	Urban Background	100	100.0	33.0	28.4	27.4	25.6	20.7	19.7	19.3
L33	Roadside	76.9	76.9	<b>44.6</b>	<b>40.7</b>	38.2	33.2	28.2	26.9	24.1
L34	Urban Background	100	100.0	27.6	26.4	23.8	24.2	18.3	17.2	15.2

Site ID	Site type	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2022 % <sup>(b)</sup>	2016	2017	2018	2019	2020	2021	2022
L35	Roadside	100	100.0	-	31.3	27.1	25.9	19.9	19.7	17.3
L36	Roadside	100	100.0	-	<b>43.1</b>	39.2	37.0	26.3	25.4	22.6
L37	Urban Background	92.3	92.3	-	29.2	27.4	25.3	19.6	19.7	17.9
L38	Roadside	82.7	82.7	-	-	29.7	30.6	22.5	21.7	21.5
L39	Roadside	92.3	92.3	-	-	30.0	29.0	22.8	21.2	19.8
L40	Urban Background	100	100.0	-	-	23.7	22.7	17.7	17.7	15.5
L41	Urban Background	100	100.0	-	-	24	23.2	17.6	17.2	16.3
L42	Urban Background	100	100.0	-	-	26.8	26.7	20.6	20.1	18.4
L43	Urban Background	100	100.0	-	-	26.6	27.5	20.2	20.2	18.9
L44	Roadside	100	100.0	-	-	35.2	32.8	26.1	26.3	26.2
L45	Roadside	90.4	90.4	-	-	33.4	28.5	20.4	19.8	18.1
L46	Urban Background	100	100.0	-	-	24.9	24.7	18.8	17.9	16.5
L47	Roadside	100	100.0	-	-	27.5	24.8	20.4	17.7	17.4
L48	Urban Background	92.3	92.3	-	-	27.3	25.8	20.4	20.3	19.6
L49	Urban Background	100	100.0	-	-	27.4	24.0	20.3	20.6	17.5
L50	Urban Background	100	100.0	-	-	24.3	21.8	17.8	16.6	14.7
L51	Roadside	76.9	76.9	-	-	<b>53.5</b>	<b>44.9</b>	34.0	33.3	30.4
L52	Roadside	82.7	82.7	-	-	33.2	33.3	27.3	24.2	21.8
L53	Urban Background	92.3	92.3	-	-	22.7	20.9	15.9	16.8	15.3
L54	Roadside	100	100.0	-	-	-	-	-	-	22.4
L55	Roadside	23.1	23.1	-	-	-	-	-	-	33.9
L56	Roadside	90.4	90.4	-	-	-	-	-	-	22.3

Site ID	Site type	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2022 % <sup>(b)</sup>	2016	2017	2018	2019	2020	2021	2022
L57	Urban Background	100	100.0	-	-	-	-	-	-	19.1
L58	Roadside	92.3	92.3	-	-	-	-	-	-	26.4
L59	Urban Background	92.3	92.3	-	-	-	-	-	-	23.3
L60	Urban Background	100	100.0	-	-	-	-	-	-	19.3
L61	Roadside	100	100.0	-	-	-	-	-	-	25.7
L62	Roadside	100	100.0	-	-	-	-	-	-	24.4
L63	Roadside	100	100.0	-	-	-	-	-	-	29.7
L64	Urban Background	100	100.0	-	-	-	-	-	-	18.5
L65	Urban Background	100	100.0	-	-	-	-	-	-	17.5
L66	Roadside	80.8	80.8	-	-	-	-	-	-	16.8
L67	Urban Background	92.3	92.3	-	-	-	-	-	-	17.6
L68	Roadside	100	100.0	-	-	-	-	-	-	28.7
L69	Urban Background	82.7	82.7	-	-	-	-	-	-	16.5
L70	Urban Background	90.4	90.4	-	-	-	-	-	-	16.4
L71	Urban Background	100	100.0	-	-	-	-	-	-	16.5
L72	Urban Background	65.4	65.4	-	-	-	-	-	-	14.5
L73	Roadside	100	100.0	-	-	-	-	-	-	30.3
L74	Urban Background	100	50.0	-	-	-	-	-	-	18.3
L75	Urban Background	100	50.0	-	-	-	-	-	-	19.3
L76	Roadside	100	50.0	-	-	-	-	-	-	26.4



Site ID	Site type	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2022 % <sup>(b)</sup>	2016	2017	2018	2019	2020	2021	2022
L77	Urban Background	100	50.0	-	-	-	-	-	-	17.3
L78	Urban Background	84.6	42.3	-	-	-	-	-	-	20.2
L79	Urban Background	100	50.0	-	-	-	-	-	-	20.5
L80	Roadside	100	50.0	-	-	-	-	-	-	24.3
L81	Roadside	100	50.0	-	-	-	-	-	-	23.1
L82	Roadside	30.8	15.4	-	-	-	-	-	-	-
L83	Roadside	100	50.0	-	-	-	-	-	-	21.3
L84	Roadside	84.6	42.3	-	-	-	-	-	-	30.8
L85	Roadside	100	50.0	-	-	-	-	-	-	35.3
L86	Roadside	100	50.0	-	-	-	-	-	-	30.5
L87	Roadside	100	50.0	-	-	-	-	-	-	26.0
L88	Roadside	80.8	40.4	-	-	-	-	-	-	35.3
L89	Roadside	100	50.0	-	-	-	-	-	-	21.2
L90	Roadside	100	50.0	-	-	-	-	-	-	19.4
L91	Roadside	100	50.0	-	-	-	-	-	-	21.2
L92	Roadside	100	50.0	-	-	-	-	-	-	21.8
L93	Roadside	100	50.0	-	-	-	-	-	-	27.0
SSDT_1	Roadside	84.6	84.6	-	-	-	-	22.5	23.3	25.2
SSDT_2	Roadside	80.8	80.8	-	-	-	-	-	20.0	18.9
SSDT_3	Roadside	100	100.0	-	-	-	-	21.5	22.6	20.8
SSDT_4	Roadside	100	100.0	-	-	-	-	24.4	25.5	23.8
SSDT_5	Roadside	100	100.0	-	-	-	-	19.6	21.1	18.1
SSDT_6	Roadside	92.3	92.3	-	-	-	-	22.6	21.3	19.5
SSDT_7	Roadside	100	100.0	-	-	-	-	24.6	24.5	23.9
SSDT_8	Roadside	100	100.0	-	-	-	-	25.5	24.5	23.6
SSDT_9	Roadside	100	100.0	-	-	-	-	19.2	18.8	17.6
SSDT_10	Roadside	100	100.0	-	-	-	-	27.5	27.3	24.5
SSDT_11	Roadside	100	100.0	-	-	-	-	17.7	17.4	15.7
SSDT_12	Roadside	100	100.0	-	-	-	-	26.4	25.3	23.9

Site ID	Site type	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2022 % <sup>(b)</sup>	2016	2017	2018	2019	2020	2021	2022
SSDT_13	Roadside	100	100.0	-	-	-	-	20.9	19.7	18.8
SSDT_14	Roadside	92.3	92.3	-	-	-	-	17.6	20.7	19.3
SSDT_15	Roadside	100	100.0	-	-	-	-	22.2	22.7	20.0
SSDT_16	Roadside	100	100.0	-	-	-	-	21.9	20.7	18.8
SSDT_17	Roadside	100	100.0	-	-	-	-	18.5	18.1	17.1
SSDT_18	Roadside	100	100.0	-	-	-	-	20.3	20.0	18.8
SSDT_19	Roadside	100	100.0	-	-	-	-	16.7	18.5	17.3
SSDT_20	Roadside	100	100.0	-	-	-	-	23.4	22.5	20.6
SSDT_21	Roadside	92.3	92.3	-	-	-	-	20.9	18.6	17.3
SSDT_22	Roadside	100	100.0	-	-	-	-	24.9	25.6	23.0
SSDT_23	Roadside	100	100.0	-	-	-	-	19.3	18.5	17.0
SSDT_24	Roadside	100	100.0	-	-	-	-	22.1	23.0	20.0
SSDT_25	Roadside	100	100.0	-	-	-	-	21.3	22.8	20.7
SSDT_26	Roadside	100	100.0	-	-	-	-	26.3	24.3	22.6
SSDT_27	Roadside	100	100.0	-	-	-	-	19.1	18.5	17.6
SSDT_28	Roadside	100	100.0	-	-	-	-	25.5	25.3	22.5
SSDT_29	Roadside	100	100.0	-	-	-	-	17.8	18.2	16.6
SSDT_30	Roadside	92.3	92.3	-	-	-	-	20.9	20.2	18.8
SSDT_31	Roadside	100	100.0	-	-	-	-	17.6	17.0	15.3
SSDT_32	Roadside	82.7	82.7	-	-	-	-	20.5	18.2	17.7
SSDT_33	Roadside	100	100.0	-	-	-	-	19.8	19.8	17.0
SSDT_34	Roadside	92.3	92.3	-	-	-	-	19.1	18.2	16.6
SSDT_35	Roadside	100	100.0	-	-	-	-	17.8	18.1	16.7
SSDT_36	Roadside	82.7	82.7	-	-	-	-	17.4	15.3	13.5
SSDT_37	Roadside	100	100.0	-	-	-	-	29.5	28.7	26.6
SSDT_38	Roadside	100	100.0	-	-	-	-	17.4	15.8	14.9
SSDT_39	Roadside	82.7	82.7	-	-	-	-	19.3	18.3	17.9
SSDT_40	Roadside	92.3	92.3	-	-	-	-	25.1	22.5	19.6
SSDT_41	Roadside	100	100.0	-	-	-	-	29.9	30.9	28.4
SSDT_42	Roadside	65.4	65.4	-	-	-	-	25.3	24.3	23.0
SSDT_43	Roadside	100	100.0	-	-	-	-	17.8	16.9	16.3
SSDT_44	Roadside	82.7	82.7	-	-	-	-	16.6	14.5	15.0

Site ID	Site type	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2022 % <sup>(b)</sup>	2016	2017	2018	2019	2020	2021	2022
SSDT_45	Roadside	100	100.0	-	-	-	-	17.6	17.5	15.6
SSDT_46	Roadside	90.4	90.4	-	-	-	-	21.4	20.5	18.9
SSDT_47	Roadside	100	100.0	-	-	-	-	25.2	24.4	21.1
SSDT_48	Roadside	100	100.0	-	-	-	-	20.1	20.7	18.9
SSDT_49	Roadside	100	100.0	-	-	-	-	19.0	17.4	16.5
SSDT_50	Roadside	100	100.0	-	-	-	-	-	17.9	16.0
SSDT_51	Roadside	100	100.0	-	-	-	-	28.0	28.2	24.8

**Notes:**

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

Exceedances of the NO<sub>2</sub> annual mean AQO of 40  $\mu\text{g m}^{-3}$  are shown in **bold**.

NO<sub>2</sub> annual means in excess of 60  $\mu\text{g m}^{-3}$ , indicating a potential exceedance of the NO<sub>2</sub> hourly mean AQS objective are shown in **bold and underlined**.

Means for diffusion tubes have been corrected for bias.

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

Results have been distance corrected where applicable.

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

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

## Automatic Monitoring Results

The 2022 annual mean NO<sub>2</sub> concentrations at automatic monitoring sites overall exhibited a continuation of the decreasing trend observed over the seven-year period between 2016 to 2022. For the sites LW2 and LW4, the average decrease was 35% for the seven-year period. Monitoring site LW4 recorded the highest annual mean concentration in 2022 (38.4 µg m<sup>-3</sup>) which was higher than in 2021. However, LW2, LW5 and HP1 recorded lower annual mean concentrations in 2022, in comparison to 2021. LW6 became operational during the tail end of 2021, and thus had no historical data to demonstrate a temporal pattern; however, it had an annual mean concentration for 2022 below the annual mean NO<sub>2</sub> AQO of 40 µg m<sup>-3</sup> (25.5 µg m<sup>-3</sup>). In 2022, all monitoring sites measured annual mean concentrations below the AQO.

## Diffusion Tube Results

No diffusion tube locations exceeded the annual mean NO<sub>2</sub> AQO of 40 µg m<sup>-3</sup> during 2022. L86 (Southend Lane Bridge) measured the highest annual mean concentration at 39.4 µg m<sup>-3</sup> (not shown in table), although when distance corrected for relevant exposure as shown in the table, the concentration decreased to 30.5 µg m<sup>-3</sup>. This site was added as part of the 40 new diffusion tubes in 2022. The highest recorded value at the pre-existing tubes was at L55 (Addey and Stanhope School) at 33.9 µg m<sup>-3</sup>. 68% of the pre-existing diffusion tube locations recorded lower annual mean NO<sub>2</sub> concentrations in 2022 than 2021. All monitoring locations measured an overall decreasing trend in annual mean NO<sub>2</sub> concentrations since 2016. On average, the decrease between 2016 and 2022 at diffusion tube sites was 43% for the seven-year period. The triplicate tubes L17, L18, and L19, co-located with automatic monitoring station LW2 (New Cross), measured an overall decreasing NO<sub>2</sub> trend over the seven-year period (45%), albeit with some yearly variations. Over the last seven years, annual mean NO<sub>2</sub> concentrations at all diffusion tube urban

background sites have remained below the annual mean NO<sub>2</sub> AQO of 40 µg m<sup>-3</sup> and there have been no exceedances at roadside locations since 2019.

**Table E. NO<sub>2</sub> Automatic Monitoring Results: Comparison with 1-hour Mean Objective, Number of 1-Hour Means > 200 µg m<sup>-3</sup>**

Site ID	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2022 % <sup>(b)</sup>	2016	2017	2018	2019	2020	2021	2022
LW6	91.7	91.7	-	-	-	-	-	n/a	0
LW2	76.3	76.3	0	0	0	0	0	0 (82)	0 (90)
LW4	98.4	98.4	9 (184)	4	0	0	0	0	0
LW5	97.3	97.3	-	-	-	-	0	0	0
HP1	99.1	99.1	-	-	-	0	0	0	0

**Notes**

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

Exceedance of the NO<sub>2</sub> short term AQO of 200 µg m<sup>-3</sup> 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%)

In 2022, there were no exceedances of the hourly mean NO<sub>2</sub> AQO of 200 µg m<sup>3</sup> at any of the five automatic monitoring locations. In the past seven years, there was no discernible trend, although all monitoring locations have met the AQO of 200 µg m<sup>-3</sup> fewer than 18 times per year since 2016, and there have been no hours with concentrations greater than 200 µg m<sup>-3</sup> in the last five years. LW4 has not seen any hourly means exceeding 200 µg m<sup>-3</sup> since 2018. As they are recently commissioned sites, HP1, LW5 and LW6 have no temporal trend; however, neither site recorded an hourly mean over 200 µg m<sup>-3</sup> in 2022.

**Table F. Annual Mean PM<sub>10</sub> Automatic Monitoring Results (µg m<sup>-3</sup>)**

Site ID	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2022 % <sup>(b)</sup>	2016	2017	2018	2019	2020	2021	2022
LW2	42.5	42.5	24.0	22.8	21.2	19.8	19.0	21.2	24.1
LW4	94.2	94.2	26.0	20.9	18.6	20.3	18.5	19.0	19.7
HP1	99.2	99.2	-	-	-	14.7	13.8	13.6	13.1

**Notes**

The annual mean concentrations are presented as µg m<sup>-3</sup>.

Exceedances of the PM<sub>10</sub> annual mean AQO of 40 µg m<sup>-3</sup> are shown in **bold**.

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

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

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

In 2022, all three monitoring sites measured annual mean PM<sub>10</sub> concentrations well below the AQO of 40 µg m<sup>-3</sup>. In 2022, the highest annual mean concentration was measured at LW2, with a concentration of 24.1 µg m<sup>-3</sup>. Due to low data capture at LW2, annualisation has been carried out. Nevertheless, over the entire seven-year period between 2016 and 2021, all three monitoring stations measured an overall downward trend with some fluctuations around this trendline. These variations around the trend are more notable at LW4.

**Table G. PM<sub>10</sub> Automatic Monitoring Results: Comparison with 24-Hour Mean Objective, Number of PM<sub>10</sub> 24-Hour Means > 50 µg m<sup>-3</sup>**

Site ID	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2022 % <sup>(b)</sup>	2016	2017	2018	2019	2020	2021	2022
LW2	42.5	42.5	9	11	4	9	5 (30)	2 (71)	1 (33)
LW4	94.2	94.2	18 (47)	7	1	9	8	3	3
HP1	99.2	99.2	-	-	-	7	4	0	3

**Notes**

Exceedances of the PM<sub>10</sub> 24-hour mean objective (50 µg m<sup>-3</sup> 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%).

In 2022, LW4 and HP1 each measured 3 instances where the 24-hour mean was greater than the AQO value of 50 µg m<sup>-3</sup>, whereas LW2 had 1 instance above this value during the year. However, these are well below the 35 permitted, meaning all monitoring stations achieved compliance with the 24-hour mean AQO. There has been a decrease in the number of 24-hour means greater than the AQO threshold value compared to 2020 at LW2, and an increase at HP1. The highest recorded number of days where the monitored concentration was greater than the AQO objective value was 18 days at LW4 in 2016.



**Table H. Annual Mean PM<sub>2.5</sub> Automatic Monitoring Results (µg m<sup>-3</sup>)**

Site ID	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2022 % <sup>(b)</sup>	2016	2017	2018	2019	2020	2021	2022
LW2	65.1	65.1	18.9	15.5	15.0	15.0	12.6	13.9	12.6
HP1	99.2	99.2	-	-	-	9.9	8.7	8.8	8.1
LW5	97.8	97.8	-	-	-	-	8.8	10.1	10.4

**Notes**

The annual mean concentrations are presented as µg m<sup>-3</sup>.

Exceedances of the PM<sub>2.5</sub> annual mean AQO of 20 µg m<sup>-3</sup> 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%).

PM<sub>2.5</sub> concentrations are monitored at LW2, HP1 & LW5. In 2022, all sites measured annual mean concentrations below the annual mean PM<sub>2.5</sub> AQO value of 20 µg m<sup>-3</sup>. LW2 measured the highest annual mean concentration in 2022 at 12.6 µg m<sup>-3</sup>.

## 2. Action to Improve Air Quality

### 2.1 Air Quality Action Plan Progress

Table J provides a brief summary of the London Borough of Lewisham progress against the Air Quality Action Plan, showing progress made this year. New projects which commenced in 2022 are shown at the bottom of the table.

**Table J. Delivery of Air Quality Action Plan Measures**

Measure	LLAQM Action Matrix Theme	Action	<b>Progress</b> <ul style="list-style-type: none"> <li>• Emissions/Concentration data                             <ul style="list-style-type: none"> <li>• Benefits</li> </ul> </li> <li>• Negative impacts / Complaints</li> </ul>
1.A	Air Quality (AQ) Monitoring	Maintaining and where possible expanding monitoring networks. Combined with other LA statutory duties, maintaining monitoring networks is critical for understanding where pollution is most acute, and what measures are effective to reduce pollution	Please see updates provided below.
1.A.1	AQ Monitoring	NO <sub>2</sub> diffusion tubes	In 2018, the diffusion tube network was expanded to include 50 additional sites. In September 2020, a further 51 diffusion tubes were installed across Lewisham as part of the Low Traffic Neighbourhood (LTN) project. In 2022, 40 additional diffusion tubes were deployed around schools, care homes and in areas of significant traffic in the borough. There are a total of 141 diffusion tubes located (excluding the 2 duplicates) across the borough. The continuity of the later monitoring regime will depend on funding.
1.A.2	AQ Monitoring	Borough's automatic monitors	The Council will continue to monitor air quality via 4 automatic monitoring stations and assist with the Imperial College London supersite located at Honor Oak Park. The addition of further PM <sub>2.5</sub> automatic monitors will depend on available funding.

Measure	LLAQM Action Matrix Theme	Action	<b>Progress</b> <ul style="list-style-type: none"> <li>• Emissions/Concentration data               <ul style="list-style-type: none"> <li>• Benefits</li> </ul> </li> <li>• Negative impacts / Complaints</li> </ul>
1.A.3	AQ Monitoring	Real time trialling monitoring using Sensors	Lewisham receive quarterly reports for 18 Breathe London sensors /nodes installed across the borough and a further 1 is planned to be installed in 2023. These sensors also monitor PM <sub>2.5</sub> concentrations. The data and locations of the nodes can be viewed online at <a href="https://www.breathelondon.org">https://www.breathelondon.org</a>
1.A.4	AQ Monitoring	At a minimum, working towards meeting interim WHO targets for PM <sub>2.5</sub> by 2030	This action is ongoing. The Environmental Protection and Public Health teams are working closely to take forward the campaign to adopt the World Health Organisation targets for air quality in Lewisham.
1.B.1	Core statutory duties	Annual Status Report (ASR)	The 2022 ASR report was compiled and submitted as planned to DEFRA and the GLA.
1.B.2	Core statutory duties	Update AQAP every five years at a minimum and follow LLAQM guidance	The review of the AQAP will follow the prescribed GLA/DEFRA guidance available.
2	Emissions from developments and buildings	Ensuring emissions from construction are minimised	<p>Lewisham Council will adopt air quality mitigation measures for all developments across the borough. The Local Plan is being compiled which will address all the issues relevant to sustainable development. Register of NRMM are secured in planning conditions with Construction Environmental Management Plans. An overall reduction of the current LAEI construction related PM<sub>10</sub> &amp; PM<sub>2.5</sub> emissions is anticipated.</p> <p>Lewisham Council consulted on a new Local Plan in April 2021 and a revised version was submitted to the Mayor and Cabinet in September 2022 as part of the approval process.</p> <p>The Highways Maintenance Contract, specifications, include a number of environmental mitigation measures, including emissions from equipment and materials used. The successful tenderer, scored the highest for all of the environmental quality indicators.</p>

Measure	LLAQM Action Matrix Theme	Action	<p style="text-align: center;"><b>Progress</b></p> <ul style="list-style-type: none"> <li>• Emissions/Concentration data</li> <li>• Benefits</li> <li>• Negative impacts / Complaints</li> </ul>
3	Emissions from developments and buildings	Ensuring enforcement of non-road mobile machinery (NRMM) air quality policies	The Planning department are monitoring the NRMM conditions.
4	Emissions from developments and buildings	Reducing emissions from CHP and enforcing CHP air quality policy. Ensure smaller developments use ultra-low NOx Boilers or other zero carbon low emission options.	All planning policy requirements are considered as part of the development management process.
5	Emissions from developments and buildings	Enforce Air Quality Neutral policy	100% of relevant applications confirmed as Air Quality Neutral in compliance with planning policy.
6	Emissions from developments and buildings	Ensuring adequate, appropriate, and well-located green space and infrastructure is included in new and existing developments	Green space mapping has been reviewed through the Regulation 19 Local Plan process informed by the Open Space Review evidence base. All Major applications are being assessed through the Development Management process to ensure they achieve an Urban Greening Factor of 0.4. Improvements to existing open spaces through developer contributions are monitored within the Infrastructure Funding Statement.
7	Emissions from developments and buildings	Ensuring that Smoke Control Zones are appropriately identified and fully promoted and enforced.	This action has not yet started, this will be supported by the Air Quality New Burdens grant.
8	Emissions from developments and buildings	Promoting and delivering energy efficiency and zero carbon retrofitting projects in workplaces and homes, including through using the GLA RE:NEW and RE:FIT programmes, where appropriate, to replace old boilers /top-up loft insulation in combination with other energy conservation measures.	Lewisham Council has used the RE:FIT / Retrofit Accelerator Workplaces framework to deliver works funded through the Public Sector Decarbonisation Scheme. A retrofitting webpage has been created to provide advice to residents about improving the energy efficiency of their home. The retrofitting webpage has been promoted through social media and digital channels.
8.1	Emissions from developments and buildings	Develop and implement strategies for decentralised energy that convert gas heating to low and zero carbon alternatives including heat networks, and upgrade existing large combined heat and power	In 2020 the Council published the outcome of energy master planning work <a href="https://lewisham.gov.uk/-/media/files/imported/accessible-lewisham-energy-masterplan.ashx?la=en">https://lewisham.gov.uk/-/media/files/imported/accessible-lewisham-energy-masterplan.ashx?la=en</a> that shows the potential role heat networks could play in Catford, Lewisham and

Measure	LLAQM Action Matrix Theme	Action	<p style="text-align: center;"><b>Progress</b></p> <ul style="list-style-type: none"> <li>• Emissions/Concentration data               <ul style="list-style-type: none"> <li>• Benefits</li> </ul> </li> <li>• Negative impacts / Complaints</li> </ul>
		communal heating to cleaner technology alternatives.	the north of the borough. A further £67k funding was secured from the Government's Heat Network Delivery Unit to undertake techno economic studies of those three areas which were completed in May 2022. The outputs from this work are now part of the evidence base in relation to planned and future developments in those areas and supporting information to access further grant funding to upgrade social housing in North Lewisham.
8.2	Emissions from developments and buildings	<p>Introduce a requirement for a minimum EPC rating for privately rented sector HMOs covered by both the mandatory and additional licensing schemes.</p> <p>Introduce a requirement for any works covered by the Disabled Facilities Grant or discretionary housing improvement grants to meet level D EPC rating in privately owned accommodation.</p>	<p>Lewisham's Housing Retrofit Task &amp; Finish Scrutiny Group set out a range of recommendations aimed at improving the thermal performance of housing in the borough across all tenures. Officers are working on a new Housing Retrofit Strategy that will deliver the assessment of actions and investment needed to get all domestic buildings in the borough to the standard needed to meet the net zero ambition. This strategy is expected to be published in 2023. Much of the Council's work to date has focused on the worst performing properties through raising awareness of enforcement, supporting qualifying residents to access grants and through licensing private rental properties. In relation to licensing just over 1,000 mandatory and additional HMO licenses have been issued by the council. All of these properties will have been inspected for hazards prior to licensing and issued with a schedule of works where necessary.</p> <p>Where landlords are not complying with the conditions of the license the Private Sector Licensing team issue fines and or prosecutions, if informal action to resolve issues does not succeed. In April 2022 a new borough-wide additional licensing scheme was launched meaning that all HMOs in the</p>

Measure	LLAQM Action Matrix Theme	Action	<p style="text-align: center;"><b>Progress</b></p> <ul style="list-style-type: none"> <li>• Emissions/Concentration data               <ul style="list-style-type: none"> <li>• Benefits</li> </ul> </li> <li>• Negative impacts / Complaints</li> </ul>
			<p>borough are now licensable. The Private Sector Housing team regularly inspect non-HMO properties in response to complaints from residents about hazards and disrepair. Though powers to enforce in these properties are more limited, the team can also issue non-HMO landlords with statutory notices, fines and prosecutions.</p> <p>The Housing Assistance &amp; Improvement Team are working closely with the Climate Resilience Team to ensure that all DFG and other grant applicants' homes are as energy efficient as possible, on completion of grant adaptation and repair works. Although the team are currently, not able to measure how effective their efforts have been, due to the time and cost implications of procuring an EPC assessor, to undertake this work, the team are working towards training it's Surveyor's in EPC assessments and are aiming to undertake such assessments in all grant applicants' properties by Financial Year 24/25.</p>
9	Emissions from developments and buildings	Master planning and redevelopment areas aligned with Air Quality Positive and Healthy Streets approaches.	Deptford Church street cycleway is being developed, the design is underway and construction is programmed to start later in the year. This is part of the Council's Local Implementation Plan (LIP) submission for 23/24. The Council is working with key partners to help shape the final proposals, including Lewisham Cyclists.
9.1	Emissions from developments and buildings	Installation of residential electric charge points on new developments	Planning is securing electrical vehicle charging points as part of the development management process in accordance with planning policy requirements.
10	Public health and awareness raising	Public Health department taking shared responsibility for borough air quality issues and implementation of Air Quality Action Plans/ we will ensure that Directors of Public Health (DsPHs)	The Health Protection Forum (renamed from Committee) signs off the ASR which is chaired by the Director of Public Health or her deputy. The Director of Public Health also chairs the Air Quality Strategy

Measure	LLAQM Action Matrix Theme	Action	<p style="text-align: center;"><b>Progress</b></p> <ul style="list-style-type: none"> <li>• Emissions/Concentration data               <ul style="list-style-type: none"> <li>• Benefits</li> </ul> </li> <li>• Negative impacts / Complaints</li> </ul>
		have been fully briefed on the scale of the problem in our local authority area; what is being done, and what is needed.	and Air Quality Working Group which led the preparation and signing off the 2022-2027 Air Quality Action Plan which was later signed off by the GLA and the Mayoral cabinet.
10.1	Public health and awareness raising	The Council's political leadership will champion the issue of air quality inside and outside of the borough. Our previous Air Quality Champion, Cllr Louise Krupski was appointed in May 2018, and has actively been engaging with the community, schools, and construction companies to promote actions to help reduce air pollution across the borough. Our new Air Quality Champion Cllr Yemesi Anifowose will continue this work.	Cllr Louise Krupski has six weekly meetings with the Head of Environmental Health and the Director of Public Realm to receive regular updates on progress and actions being taken in respect to air quality across the borough.
11	Public health and awareness raising	Engagement with businesses/Public Health Teams will be supporting engagement with local stakeholders (businesses, schools, community groups and healthcare providers). The support will be via the DsPHs when projects are being developed.	The Environmental Protection and Public Health Team are working with schools to raise awareness about the health impacts of air quality not only through the school super zone work but also a set of communication materials have been developed to use with all schools in the borough, and monitor the health impacts more closely.
11.1	Public health and awareness raising	Director of Public Health to have responsibility for ensuring their Joint Strategic Needs Assessment (JSNA) has up to date information on air quality impacts on the population Strengthening coordination with Public Health by ensuring that at least one Consultant grade public health specialist within the borough has air quality responsibilities outlined in their job profile. Director of Public Health to sign off Statutory Annual Status Reports and all new Air Quality Action Plans	The Director of Public Health (DPH) signs off the Statutory ASR and the AQAP (2022-27) through the Air Quality Strategy and Working Groups as both the groups are chaired by the DPH. The ASRs are signed off formally by the Health Protection Forum (Committee) which is also chaired by the DPH. The Air Quality Joint Strategic Needs Assessment (JSNA) is being updated with current information on air quality impacts on the population.
11.2	Public health and awareness raising	Engagement with businesses – Delivery and Servicing Plans (DSP) delivered through Planning process	Four Cleaner Air Villages projects have been successfully implemented with neighbouring borough partners. Local businesses were engaged as part of

Measure	LLAQM Action Matrix Theme	Action	<p style="text-align: center;"><b>Progress</b></p> <ul style="list-style-type: none"> <li>• Emissions/Concentration data               <ul style="list-style-type: none"> <li>• Benefits</li> </ul> </li> <li>• Negative impacts / Complaints</li> </ul>
			<p>the project, which included cargo bikes being promoted to the local businesses. Lewisham Council Wearside depot is also using cargo bikes which were provided as part of the project.</p>
11.3	Public health and awareness raising	Raise awareness on the impact of indoor air quality on human health	<p>An information pack and leaflets are being compiled and will be made available on our webpage to raise awareness on indoor air quality and how to make improvement. The council will also be promoting the communication messages from the London Wood Burning Group this Autumn.</p>
12	Public health and awareness raising	Supporting a direct alerts service such as Lewisham App or AirText, and promotion and dissemination of high pollution alert services	<p>Work is ongoing to raise awareness for using the Lewisham App and leaflets to engage residents, schools and other businesses including pharmacies and GPs to improve health and wellbeing of local population to help reduce inequalities in the borough. This area of work will also be reviewed and integrated into the Climate Emergency Communications Forward Plan.</p>
12.1	Public health and awareness raising	Engaging with communities through the work of the Borough of Culture 2022 (BoC) and monitoring number of bids for: a call to action on climate change/working together to deliver change.	<p>The Director of Public Health signs off the Statutory ASR and AQAPs. Engagement with communities including vulnerable communities are ongoing to raise awareness of pollution using the Lewisham App and so that they are alerted to pollution levels via the app as well as social media leading to reduced ailments and reduced hospital admissions.</p>
13	Public health and awareness raising (School)	Encourage schools to join the TfL STARS accredited travel planning programme by providing information on the benefits to schools and supporting the implementation of such a programme	<p>The Public Health team have worked closely with the transport team to promote the TfL STARS scheme which will create activities to promote a sustainable and safe approach to travel. The Public Health team have supported the Transport Team to work with schools to encourage schools to engage with the TfL STARS scheme and gain accreditation.</p>



Measure	LLAQM Action Matrix Theme	Action	<b>Progress</b> <ul style="list-style-type: none"> <li>• Emissions/Concentration data <ul style="list-style-type: none"> <li>• Benefits</li> </ul> </li> <li>• Negative impacts / Complaints</li> </ul>
14	Public health and awareness raising (schools)	Complete and adopt the draft LBL Air Quality School Action Plan School-specific actions are included in the draft LBL action plan.	<p>The LBL Air Quality School Action Plan has been completed and adopted together with the Air Quality Action Plan. The Council have been supporting and encouraging schools to compile their own Air Quality Action Plans using the School Super Zone Project to initiate the development of the plans for each school following the prescribed guidance / template. The Public Health and Environmental Protection teams have worked closely together to monitor air pollution using diffusion tubes around prioritised schools in / around GLA focus areas. A set of communication materials are being developed to raise awareness to school children about air pollution and improving air quality. A School Super Zone project was funded by the GLA and implemented within 400m around the Haseltine Primary School. Improvements are going to be made to the school back garden and a water fountain will be installed at Home Park using these funds as well as developing a set of communication materials to raise awareness to pupils. The Public Health team have submitted another request for funding for two more School Super Zone projects at Kender and Edmund Waller Primary schools.</p> <p>Anti-idling signage was put up at 75 locations near schools around the borough in 2022. In 2019 the Council introduced an £80 fine for engine idling. Officers are working with local head teachers and parents to reduce air pollution around schools with workshops on air quality and idling planned, working with Air Quality Champions. These volunteers are promoting the key message of anti-idling and helping run anti-idling events at schools. Works have been</p>

Measure	LLAQM Action Matrix Theme	Action	<p style="text-align: center;"><b>Progress</b></p> <ul style="list-style-type: none"> <li>• Emissions/Concentration data               <ul style="list-style-type: none"> <li>• Benefits</li> </ul> </li> <li>• Negative impacts / Complaints</li> </ul>
			<p>completed at Dalmain, Donderry and Myatt Garden Primary Schools replacing gas heating systems with heat pumps and wider fabric measures including ventilation that will improve indoor air quality and the working and learning environment. A further application to the Public Sector Decarbonisation Scheme has been made with the outcome expected shortly. Costed heat decarbonisation plans will be delivered for 4 schools by the end of March 23 (Haseltine, Baring, Stillness and Sydenham). Since July 2022, two Pupils Climate Network events have been held in July and December. The July event engaged with 7 schools (12 adults, 34 pupils) and the December event engaged with 6 schools (14 adults, 28 pupils). The Schools Climate Network was held in October 2022, which 9 staff attended. The feedback surveys from the events was very positive, and comments such as the following were received 'this was a great opportunity to be able to celebrate what we are achieving in school'. The Public Health and Environmental Protection team have worked together to carry out air quality audits around 10 schools in Lewisham. The air quality audits were undertaken by WSP and reports are currently being finalised. The schools were: Adamsrill Primary School, Ashmead Primary School, Baring Primary School, Edmund Waller Primary School, Fairlawn Primary School, Good Shepherd Primary School, Kender Primary School, Our Lady &amp; St Philip Neri, Stillness Junior School, &amp; Torridon Primary School. The Air Quality Schools Audits will identify relevant greening schemes. Lewisham Council has commissioned MP Smarter Travels to design and deliver a clean air</p>

Measure	LLAQM Action Matrix Theme	Action	<p style="text-align: center;"><b>Progress</b></p> <ul style="list-style-type: none"> <li>• Emissions/Concentration data</li> <li>• Benefits</li> <li>• Negative impacts / Complaints</li> </ul>
			<p>communications campaign to raise awareness of the harm caused by poor air quality and how individuals can take action to reduce their emissions. An electronic pack will be made available for use by schools to educate children and parents about air quality issues. This project was funded through the School Super Zone project. In 2022 there were 44 schools within the borough which had School Streets. Cycle training was limited due to less funding from TfL following the Covid restrictions – 1324 children being trained at level 1 and / or 2 bikeability. School Travel plans are now being worked on again, a decline was seen due to other pressures on schools and the team. A review of all fleet vehicles is scheduled in for 2023/2024. The feasibility of changing all council vehicles to either electric or hydrogen will be included in the fleet review.</p>
15	Delivery servicing and freight	Update local authority procurement policies to include a requirement for suppliers with large fleets to have attained silver Fleet Operator Recognition Scheme (FORS) accreditation and incorporate the use of the Social Value tool kit for the delivery of additional economic, social and environmental benefits that can be created from the 4 objectives and associated KPIs.	All bidders are obliged to follow the Sustainable Procurement Code of Practice for Contractors 2022. In addition, when Lewisham tender there is a 10% allocation against social value (as appropriate) for projects above £50k. The most suitable KPIs are selected by the lead stakeholder and in addition this is then measured in the contract.
16	Delivery servicing and freight	Reducing emissions from deliveries to local businesses and residents	All bidders are obliged to follow the Sustainable Procurement Code of Practice for Contractors 2022. In addition, when Lewisham tender there is a 10% allocation against social value (as appropriate) for projects above 50k. The most suitable KPIs are selected by the lead stakeholder and in addition this is then measured in the contract.

Measure	LLAQM Action Matrix Theme	Action	<p style="text-align: center;"><b>Progress</b></p> <ul style="list-style-type: none"> <li>• Emissions/Concentration data               <ul style="list-style-type: none"> <li>• Benefits</li> </ul> </li> <li>• Negative impacts / Complaints</li> </ul>
16.1	Delivery servicing and freight (Borough)	Feasibility study of borough-wide freight to support consolidation (or microconsolidation) of deliveries, by setting up or participating in new logistics facilities, and/ or encourage businesses to participate in these.	The CALL project is ongoing. Delivering London Parcel Lockers are being investigated as part of the project.
17	Borough fleet actions	Increasing the number of hydrogen, electric, hybrid, biomethane and cleaner vehicles in the boroughs' fleet. Accelerate uptake of new Euro VI vehicles in borough fleet.	<p>All vehicles are Euro VI and the fleet is 100% compliant with ULEZ. A fleet review is due to commence this year, once undertaken all new fleet will be zero emissions.</p> <p>A travel survey is planned for 23/24 to establish a staff travel baseline, consultants have been commissioned to undertake this work which will commence in March. This has only become possible now that staff have started returning to the office. Use of team oyster cards has not yet been extended as it is dependent on the results of the travel survey. The electric pool cars remain in use across the council. There is currently no new strategy for low carbon vehicles - decision pending.</p>
17.1	Borough fleet actions	Reducing emissions from Council fleets by Smarter Driver Training, or equivalent, for drivers of vehicles in borough fleet i.e. through training of fuel efficient driving and providing regular re-training of staff.	Smarter Driver Training is ongoing as part of the continuous professional development of staff.
18	Localised solutions	Expanding and improving green Infrastructure across the borough and in localised areas with high level of pollution (e.g. around the south circular for example)	Between June 2021 and June 2022. 790 whips and 174 standard trees have been planted in Parks. 294 standard street trees have been planted in partnership with Street Trees for Living. This partnership means the Council's street trees have an excellent survival rate of 98%, significantly higher than the industry standard of 70%. 57 linear meters of hedgerows were planted at Brookmill, Ladywell, Horniman Triangle and River Pool Linear Park. During the autumn/winter planting season (Q3/Q4 of

Measure	LLAQM Action Matrix Theme	Action	<p style="text-align: center;"><b>Progress</b></p> <ul style="list-style-type: none"> <li>• Emissions/Concentration data</li> <li>• Benefits</li> <li>• Negative impacts / Complaints</li> </ul>
			<p>the financial year 2022/23) 558 Street Trees were planted.</p> <p>The number of trees planted versus those lost as a ratio was 4:1. 4 planted to every 1 lost.</p> <p>The Parks and Open Space Strategy 2020-2025 was adopted in June 2020.</p> <p>A project identifying vacant tree pits where new street trees can be planted is ongoing.</p>
19	Localised solutions	Low Emission Neighbourhoods (LENs) or/and Business Low Emission Neighbourhood (BLEN)	Applications for new EN/BLEN has not been launched as yet.
19.1	Localised solutions	Work with all the relevant organisations to improve air quality on strategic roads such as the South Circular and other major roads around.	ULEZ going ahead. Continuing to work with TfL on A205 rerouting as part of the Catford regeneration project.
20	Cleaner transport: Policy	Ensuring that transport and Air Quality policies and projects are integrated. Ensure that the Head of Transport has been fully briefed on the Public Health duties and the fact that all directors (not just Director of Public Health) are responsible for delivering them, as well as on air quality opportunities and risks related to transport in the borough.	The Transport, Fleet and Environmental Health teams all report to the Director of Public Realm which ensures that all related policies and projects are integrated and joined up. The Director of Public Realm also signs off the AQAPs/ASRs.
20.1	Cleaner transport: Zoning	Lobbying/working with TfL on: Speed control measures on more Strategic roads, and Low Emission Zones. E.g. lowering the legal speed limit to 20mph in built up residential areas.	Anti-idling signage has been put up at 75 locations near schools across the borough in 2022. NSL enforcement staff have given advice and warnings to drivers.
21	Cleaner transport: Programme	Discouraging unnecessary idling by taxis and other vehicles and carry out a Council wide anti-idling campaign discouraging unnecessary idling around all vulnerable receptors. Idling Action Events/workshops and enforcement around schools	<p>The Lewisham Schools Air Quality / Idling workshops started in November 2022 and the programme is ongoing.</p> <p>Idling signage has been installed in key locations and banners have been produced for schools. This work will be reviewed and integrated into the Climate Emergency Communications Forward Plan.</p>

Measure	LLAQM Action Matrix Theme	Action	<p style="text-align: center;"><b>Progress</b></p> <ul style="list-style-type: none"> <li>• Emissions/Concentration data               <ul style="list-style-type: none"> <li>• Benefits</li> </ul> </li> <li>• Negative impacts / Complaints</li> </ul>
21.1	Cleaner transport: Programme	Increasing the proportion of electric, hydrogen and ultra-low emission vehicles in Car Clubs.	Officers continue to work with car club operators across the borough to increase the number of residents using car clubs instead of private vehicles. As part of the Sustainable Streets programme, more car club bays will be delivered to support an uptake in car clubs. Car club requirements as part of active travel plans are being captured through the Development Management process for new development.
21.2	Cleaner transport: Programme	Working with TFL to promote car scrappage schemes or other retrofit technologies and lobbying government to provide funding for car scrappage schemes.	The Mayor of London has launched a new £110m scrappage scheme providing financial assistance to help eligible Londoners scrap their highest polluting vehicles to prepare for the expansion of the ULEZ across all London boroughs from 29 August 2023. The scheme will be promoted by the council.
22	Cleaner transport: Programme	Pedestrianisation: Temporary car free days and pedestrian Days (e.g. no vehicles on certain roads on a Sunday) and similar initiatives.	New pedestrian areas planned for Deptford High Street and Lewisham Market. 44 schools streets are now operational.
22.1	Cleaner Transport: Infrastructure	Pedestrianisation / Traffic calming measures/Road system redesign.	The Council remains committed to supporting the Vision Zero principles and are actively working on 20mph speed compliance monitoring and implementation of small schemes to address the areas of non compliance, working in tandem with the Police and Road Safety Partnership. Speeding remains a criminal offence and consequently is enforced by the Police.
22.2	Cleaner transport: Infrastructure	Pedestrianisation/ Lee Green Low Traffic Neighbourhood (LTN)	Mitigation such as new trees have been planted in and around the LTN.
23	Cleaner transport: Policy	Using parking policy to reduce pollution emissions and adoption of low charges at existing parking meters for zero emission cars. There will be emissions based parking for Short Stay Parking and for motorcycles.	Parking Policy is in place and is being enforced.

Measure	LLAQM Action Matrix Theme	Action	<p style="text-align: center;"><b>Progress</b></p> <ul style="list-style-type: none"> <li>• Emissions/Concentration data               <ul style="list-style-type: none"> <li>• Benefits</li> </ul> </li> <li>• Negative impacts / Complaints</li> </ul>
23.1	Cleaner transport: Traffic management	Emissions based parking for Short Stay Parking and for motorcycles.	Parking Policy is in place and is being enforced.
23.2	Cleaner transport: Traffic management	Controlled Parking Zone Extension for Climate Change Emergency.	This is currently in the process of being adopted by the Council but may need to be reviewed once the extended ULEZ has been adopted.
23.4	Cleaner transport: Traffic management	Enhanced parking enforcement for Safer Lewisham and to improve walking and cycling	The Transport and Highways team is reviewing the borough's cycling strategy, which will seek to support commitments to promote cycling as a preferred mode of travel for shorter journeys and development of a network of cycle routes connecting our town centres and other places of interest. The strategy will help better support bids for future funding including a submission for LIP funding for 23/24 to improve the cycle network within the borough in line with our transport strategy.
24	Cleaner transport: Infrastructure	Installation of Ultra-Low Emission Vehicle (ULEV) infrastructure. The installation of rapid chargers to help enable the take up of electric taxis, cabs and commercial vehicles (in partnership with TfL and/or OLEV). This action is not related to new development	Planning is securing electrical vehicle charging points as part of the development management process in accordance with planning policy requirements.
24.1	Cleaner transport: Programme	Continue campaigns to promote the use of electric charge points within the borough.	This work will be integrated into the Climate Emergency Communications Forward Plan.
25	Cleaner transport: Infrastructure	Provision of infrastructure to support walking and cycling	Cycleway 4 opened in September 2022. A number of temporary modal filters were introduced across the borough to prioritise cycling during the pandemic. Subject to the outcome of consultation these may be made permanent. There is a temporary TfL scheme on the A21 which, as part of the London Street Space Programme, provided cycle facilities between Catford and Lewisham on the A21. It was introduced under a Temporary Traffic Order and in January 2022 was transitioned to an ETO. The Council continues to roll

Measure	LLAQM Action Matrix Theme	Action	<p style="text-align: center;"><b>Progress</b></p> <ul style="list-style-type: none"> <li>• Emissions/Concentration data               <ul style="list-style-type: none"> <li>• Benefits</li> </ul> </li> <li>• Negative impacts / Complaints</li> </ul>
			<p>out cycle hangars across the borough, with plans for an e-bike trial across the borough in 2023. Deptford Church street cycleway is being developed, the council are continuing to implement cycling contra flow measures along a number of one-way streets and measures to link a number of green spaces are being developed. 75 cycle hangars have been installed as part of the LIP funding and there are plans to install a further 75 cycle hangars in 23/24.</p>
25.1	Cleaner transport: Policy	Update of Cycling Strategy and policies for the borough.	<p>The Transport and Highways team is reviewing the borough's cycling strategy, which will seek to support commitments to promote cycling as a preferred mode of travel for shorter journeys and development of a network of cycle routes connecting our town centres and other places of interest. The strategy will help better support bids for future funding including a submission for LIP funding for 23/24 to improve the cycle network within the borough in line with our transport strategy.</p>
25.2	Cleaner transport: Infrastructure	Increasing cycle parking on street and in new developments in line with London Plan Standards.	<p>Planning is securing cycle parking on street and in new developments as part of the development management process in accordance with planning policy requirements. It is important to be aware that some of these installations won't require planning permission and could be done directly by Highways.</p>



### 3. Planning Update and Other New Sources of Emissions

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

Condition	Number
Number of planning applications where an air quality impact assessment was reviewed for air quality impacts	10
Number of planning applications required to monitor for construction dust	34
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 NO <sub>x</sub> boilers	13
Number of developments where an AQ Neutral building and/or transport assessments undertaken	13
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	<u>5</u>
Number of planning applications with CIL payments that include a contribution to improve air quality	0
<p><b>NRMM: Central Activity Zone, Canary Wharf and Opportunity Areas</b></p> <p>Number of conditions related to NRMM included.</p> <p>Number of developments registered and compliant.</p> <p>Number of audits</p> <p>% of sites unregistered prior to audit</p> <p>Please include confirmation that you have checked that the development has been registered with the GLA through the relevant <a href="#">NRMM website</a> and that all NRMM used on-site is compliant with Stage Stage IV of the Directive and/or exemptions to the policy.</p>	N/A
<p><b>NRMM: Greater London (excluding Central Activity Zone, Canary Wharf and Opportunity Areas)</b></p> <p>Number of conditions related to NRMM included.</p> <p>Number of developments registered and compliant.</p> <p>Number of audits</p> <p>% of sites unregistered prior to audit</p> <p>Please include confirmation that you have checked that the development has been registered at <a href="http://www.nrmm.london">www.nrmm.london</a> and that all NRMM used on-site is compliant with Stage IIIB of the Directive and/or exemptions to the policy.</p>	<p>24 conditions included</p> <p>15 registered and compliant</p> <p>2 unregistered/uncompliant and being chased.</p> <p>18 audits</p> <p>28% sites unregistered prior to audit.</p>

Lewisham is part of the Pan London NRMM project which aims to reduce emissions from construction sites and almost all major planning applications are now subject to NRMM, air quality and dust conditions. We continue to regulate and help manage and reduce emissions from developments and buildings by using planning powers to enforce air quality measures, reducing emissions, increase energy efficiency and adoption of Planning Policy that is encouraging car-free developments.

### **3.1 New or significantly changed industrial or other sources**

No new or changed industrial or other sources were identified in 2022.

## **4. Additional Activities to Improve Air Quality**

### **4.1 London Borough of Lewisham Fleet**

Currently, there is one fully electric chassis/compaction body Dennis dustcart, and one Renault Kangoo electric van, on hire by LBL, and used as part of their fleet.

### **4.2 NRMM Enforcement Project**

Lewisham will continue to support the Pan London NRMM project.

### **4.3 Air Quality Alerts**

Lewisham will continue to support airTEXT (<https://www.airtext.info/>) and similar resources. As before, Public Health is also promoting the Lewisham Air App through the Lewisham Clinical Commissioning Group (CCG) to raise awareness, so that GPs can promote the app to Chronic obstructive pulmonary disease (COPD) and Asthma patients and their carers. The App is also promoted to the respiratory nurses to raise awareness amongst COPD & Asthma patients.

This was launched in March 2018. Since then there has been an update to the app to include information in relation to Tranquil Space. This is an exposure reduction initiative, as opposed to targeting emissions. Early warning via text message to vulnerable people, especially those who may be digitally excluded. This enables people to take steps to protect their health.

## **Appendix A      Details of Monitoring Site Quality QA/QC**

### **A.1    Automatic Monitoring Sites**

Calibrations of continuous monitors are carried out with certified calibration gases for each analyser. Routine calibrations are undertaken manually every 2 weeks by at all sites: LW2, LW4, LW5 and LW6. This is carried out by ERG (part of Imperial College London). The calibration results are processed by ERG, who are responsible for data management, data validation and ratification. Site audits are carried out annually and includes UKAS accredited on-site gas cylinder certification and on-site testing of sampling system efficiency.

### **A.2    Diffusion Tubes**

Diffusion tubes for NO<sub>2</sub> in Lewisham are provided by Gradko International Ltd, using a preparation method of 50% Triethanolamine (TEA) in acetone.

Gradko participates in the AIR-PT scheme. AIR is an independent analytical proficiency-testing (PT) scheme, operated by LGC Standards and supported by the Health and Safety Laboratory (HSL). The Air-PT scheme started in April 2014, combining two long running PT schemes: LGC Standards STACKS PT scheme and HSL WASP PT scheme.

AIR NO<sub>2</sub> PT forms an integral part of the UK NO<sub>2</sub> Network's QA/QC and is a useful tool in assessing the analytical performance of those laboratories supplying diffusion tubes to Local Authorities for use in the context of Local Air Quality Management (LAQM). Defra and the Devolved Administrations advise that diffusion tubes used for LAQM should be obtained from laboratories that have demonstrated satisfactory performance in the AIR-PT scheme.

The percentage of results submitted by Gradko International Ltd that were subsequently deemed to be satisfactory was 100% in AIR-PT Round AR049 (January – February 2022) and 100% in AIR-PT Round AR050 (May – June 2022).

#### **National Bias Adjustment Factor**

The national bias adjustment factor for 2022 is available from the Defra website<sup>2</sup>. The results of multiple co-location studies are collated, and the average bias adjustment

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<sup>2</sup> Defra, Diffusion Tube Bias Adjustment Factors Spreadsheet, April 2022

factor is taken for studies using the 50% TEA/acetone preparation method, analysed by Gradko. The national bias adjustment factor for 2022 is 0.82, based on 14 studies. Details are shown in Figure A. 1 below.

Figure A. 1 National bias adjustment factor

National Diffusion Tube Bias Adjustment Factor Spreadsheet								Spreadsheet Version Number: 03/23		
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 2023		
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods								LQM Helpdesk Website		
Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet								Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.		
This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.										
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.										
Step 1: Select the Laboratory that Analyses Your Tubes from the Drop-Down List		Step 2: Select a Preparation Method from the Drop-Down List		Step 3: Select a Year from the Drop-Down List		Step 4: 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 <sup>3</sup> shown in blue at the foot of the final column. If you have your own co-location study then see footnote <sup>1</sup> . If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMhelpdesk@bureauveritas.com or 0800 0327953				
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.						
Analysed By <sup>1</sup>	Method <sup>2</sup> <small>To use your own co-location, choose (All) from the pop-up list</small>	Year <sup>3</sup> <small>To use your own co-location, choose (All)</small>	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m <sup>3</sup> )	Automatic Monitor Mean Conc. (Cm) (µg/m <sup>3</sup> )	Bias (B)	Tube Precision <sup>4</sup>	Bias Adjustment Factor (A) (Cm/Dm)
Gradko	50% TEA in acetone	2022	KS	Manylebone Road Intercomparison	12	52	42	23.0%	G	0.81
Gradko	50% TEA in acetone	2022	R	City Of London	11	60	54	11.6%	G	0.90
Gradko	50% TEA in acetone	2022	UB	City Of London	12	28	23	23.7%	G	0.81
Gradko	50% TEA in Acetone	2022	KS	London Borough Of Croydon	12	41	37	11.1%	G	0.90
Gradko	50% TEA in Acetone	2022	R	Royal Borough Of Windsor And Maidenhead	12	30	26	13.3%	G	0.88
Gradko	50% TEA in Acetone	2022	R	Royal Borough Of Windsor And Maidenhead	12	27	27	-1.0%	G	1.01
Gradko	50% TEA in Acetone	2022	R	Sandwell Mbc	12	34	27	27.1%	G	0.79
Gradko	50% TEA in Acetone	2022	UB	Sandwell Mbc	12	21	19	11.9%	G	0.89
Gradko	50% TEA in acetone	2022	<b>Overall Factor<sup>3</sup> (14 studies)</b>						<b>Use</b>	<b>0.82</b>


Factor from Local Co-location Studies

Figure A.2 Local bias adjustment factor

### Checking Precision and Accuracy of Triplicate Tubes

Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Diffusion Tubes Measurements			Triplet Mean	Standard Deviation	Coefficient of Variation (CV)	95% CI of mean
			Tube 1 µg m <sup>-3</sup>	Tube 2 µg m <sup>-3</sup>	Tube 3 µg m <sup>-3</sup>				
1	05/01/2022	02/02/2022	42.3	40.3	41.7	41	1.0	2	2.5
2	02/02/2022	02/03/2022	31.6		33.1	32	1.1	3	9.5
3	02/03/2022	30/03/2022		40.6	37.7	39	2.0	5	18.3
4	30/03/2022	04/05/2022		36.5	38.2	37	1.1	3	10.2
5	04/05/2022	08/06/2022	32.6	31.2	32.9	32	0.9	3	2.3
6	08/06/2022	06/07/2022	29.6	29.2	29.4	29	0.2	1	0.5
7	06/07/2022	03/08/2022	32.7	33.1	32.9	33	0.2	1	0.4
8	03/08/2022	31/08/2022	35.9	35.6	32.3	35	2.0	6	5.0
9	31/08/2022	28/09/2022	32.9	32.7		33	0.1	0	1.2
10	28/09/2022	02/11/2022	31.9	29.8	32.2	31	1.3	4	3.3
11	02/11/2022	30/11/2022	34.9	35.7	33.1	35	1.3	4	3.2
12	30/11/2022	04/01/2023	37.3	36.3	37.9	37	0.8	2	2.0
13									

It is necessary to have results for at least two tubes in order to calculate the precision of the measurements



From the AEA group

Automatic Method		Data Quality Check	
Period Mean	Data Capture (% DC)	Tubes Precision Check	Automatic Monitor Data
	0	Good	or Data Capture
	0	Good	or Data Capture
46.119	40.32738095	Good	or Data Capture
27.7319	91.42857143	Good	Good
25	99.76190476	Good	Good
23	99.85119048	Good	Good
25	99.70238095	Good	Good
26	99.10714286	Good	Good
25	99.70238095	Good	Good
25	99.64285714	Good	Good
26.25022	99.85119048	Good	Good
32.19712	99.28571429	Good	Good

Overall survey -> **Good precision** **Good Overall DC**  
(Check average CV & DC from Accuracy calculations)

Site Name/ ID:

**Accuracy (with 95% confidence interval) without periods with CV larger than 20%**

Bias calculated using 9 periods of data

Bias factor A **0.78 (0.76 - 0.81)**

Bias B **28% (23% - 32%)**

Diffusion Tubes Mean: **34 µg m<sup>-3</sup>**

Mean CV (Precision): **3**

Automatic Mean: **26 µg m<sup>-3</sup>**

Data Capture for periods used: **99%**

Adjusted Tubes Mean: **26 (26 - 27) µg m<sup>-3</sup>**

**Accuracy (with 95% confidence interval) WITH ALL DATA**

Bias calculated using 9 periods of data

Bias factor A **0.78 (0.76 - 0.81)**

Bias B **28% (23% - 32%)**

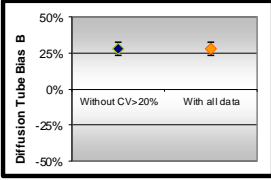
Diffusion Tubes Mean: **34 µg m<sup>-3</sup>**

Mean CV (Precision): **3**

Automatic Mean: **26 µg m<sup>-3</sup>**

Data Capture for periods used: **99%**

Adjusted Tubes Mean: **26 (26 - 27) µg m<sup>-3</sup>**



Jaume Targa, for AEA  
Version 04 - February 2011

LBL has one co-location site at New Cross (LW2), where triplicate diffusion tubes are co-located adjacent to the inlet of the continuous monitor, so that diffusion tube concentrations can be adjusted for bias by comparing to the more accurate continuous monitoring dataset. A spreadsheet tool for calculating the locally derived bias adjustment factor for triplicate tubes co-located at a continuous monitor is available from the Defra website, and has been used to calculate the local factor in Figure A.2, which was calculated to be 0.78.

### Discussion of Choice of Factor to Use

The national bias adjustment factor was chosen in this ASR. The data capture at New Cross (LW2) was inadequate in 2022, with only 76.3% valid data capture for the whole year. Due to low data capture, the local bias adjustment factor was calculated for completeness but not used, and the national bias adjustment factor was used instead.

In the past seven years, a mixture of the national bias and local bias adjustment factor have been used depending on the most appropriate for the year. Table L details both the local and national bias adjustment factors for this and previous years in LBL and includes the choice of factor used.

**Table L. Bias Adjustment Factor**

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2022	National	03/23	0.82
2021	National	03/22	0.83
2020	National	03/21	0.82
2019	Local	-	0.91
2018	National	03/18	0.92
2017	Local	-	1.00
2016	National	03/18	1.03
2015	Local	-	1.02

### **A.3 Adjustments to the Ratified Monitoring Data**

#### **Short-term to Long-term Data Adjustment**

Where data capture is less than 75% of a full calendar year (less than 9 months), the mean should be “annualised” – i.e. adjusted using the methodology outlined in LAQM.TG(16) before being compared to annual mean objectives. Annualisation was required at the following sites due to low data capture.

- LW2
- L3
- L6
- L55
- L72
- L74
- L75
- L76
- L77
- L78
- L79
- L80
- L81
- L83
- L84
- L85
- L86
- L87
- L88
- L89
- L90
- L91
- L92
- L93
- SSDT\_42

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

Site ID	Annualisation Factor Honour Oak Park	Annualisation Factor Deptford	Annualisation Factor London Bexley	Average Annualisation Factor	Raw Data Annual Mean ( $\mu\text{g m}^{-3}$ )	Annualised Annual Mean ( $\mu\text{g m}^{-3}$ )
L3	0.8736	0.8613	0.8382	0.8577	28.5	24.4
L6	1.0141	1.0506	0.9950	1.0199	19.6	20.0
L55	0.7266	0.7508	0.7185	0.7319	56.5	41.3
L72	0.8727	0.8624	0.8690	0.8680	20.4	17.7
L74	1.0800	1.0325	1.0784	1.0637	21.0	22.3
L75	1.0800	1.0325	1.0784	1.0637	22.1	23.5
L76	1.0800	1.0325	1.0784	1.0637	30.3	32.2
L77	1.0800	1.0325	1.0784	1.0637	19.8	21.1
L78	1.0143	0.9649	1.0225	1.0006	24.6	24.6
L79	1.0800	1.0325	1.0784	1.0637	23.5	25.0
L80	1.0800	1.0325	1.0784	1.0637	27.8	29.6
L81	1.0800	1.0325	1.0784	1.0637	26.5	28.2
L83	1.0800	1.0325	1.0784	1.0637	24.5	26.0
L84	1.0987	1.0439	1.0745	1.0724	35.0	37.5
L85	1.0800	1.0325	1.0784	1.0637	40.5	43.1
L86	1.0800	1.0325	1.0784	1.0637	45.2	48.1
L87	1.0800	1.0325	1.0784	1.0637	29.8	31.7
L88	1.0970	1.0417	1.0547	1.0645	40.4	43.0
L89	1.0800	1.0325	1.0784	1.0637	24.3	25.8
L90	1.0800	1.0325	1.0784	1.0637	22.2	23.7
L91	1.0800	1.0325	1.0784	1.0637	24.3	25.8
L92	1.0800	1.0325	1.0784	1.0637	25.0	26.6
L93	1.0800	1.0325	1.0784	1.0637	30.9	32.9
SSDT_42	1.0224	1.0534	1.0183	1.0314	27.3	28.1



### Distance Adjustment

A small number of diffusion tubes are not located at relevant public exposure, such as on kerbside lampposts opposed to building facades. Distance correction should only be completed for monitoring sites where the concentration is greater than  $36 \mu\text{g m}^{-3}$ .

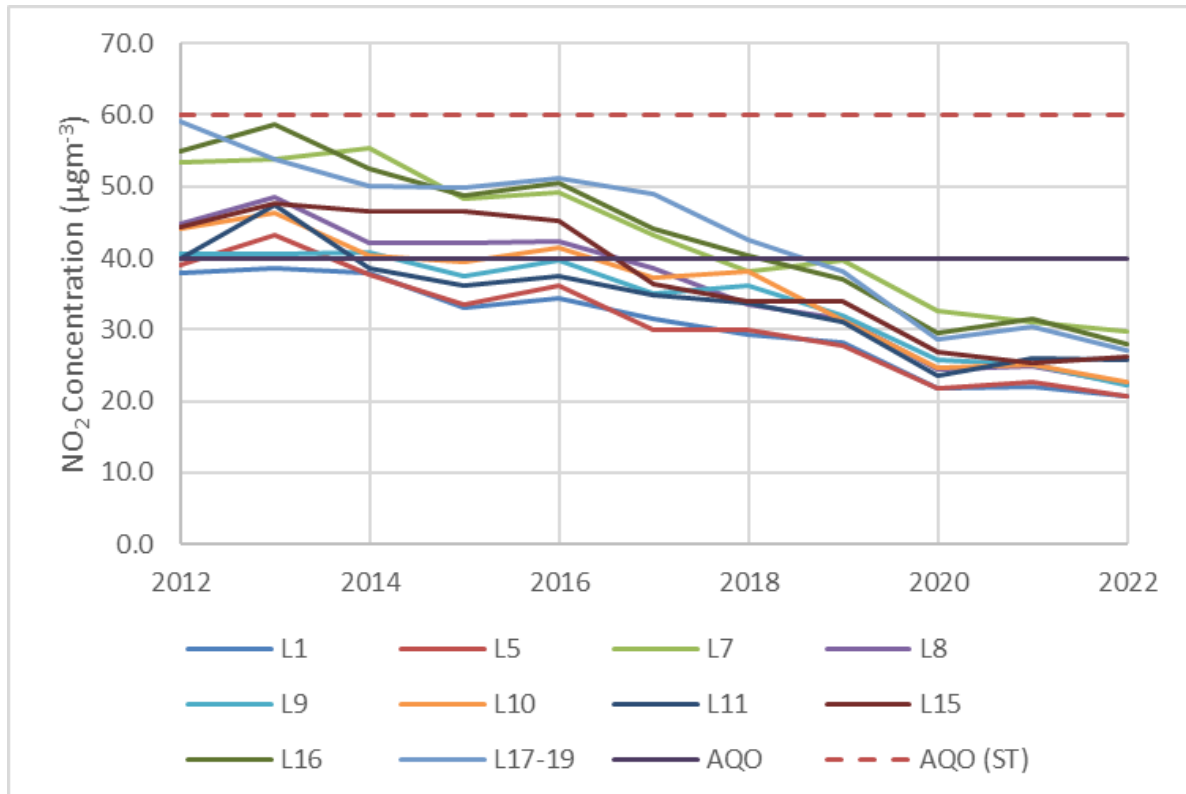
Distance correction was completed at one site in 2022, L86. NO<sub>2</sub> Fall off With Distance Calculations are presented in Table N.

**Table N. NO<sub>2</sub> 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 ( $\mu\text{g m}^{-3}$ )	Comments
L86	0.2	5.2	39.4	21.5	30.5	

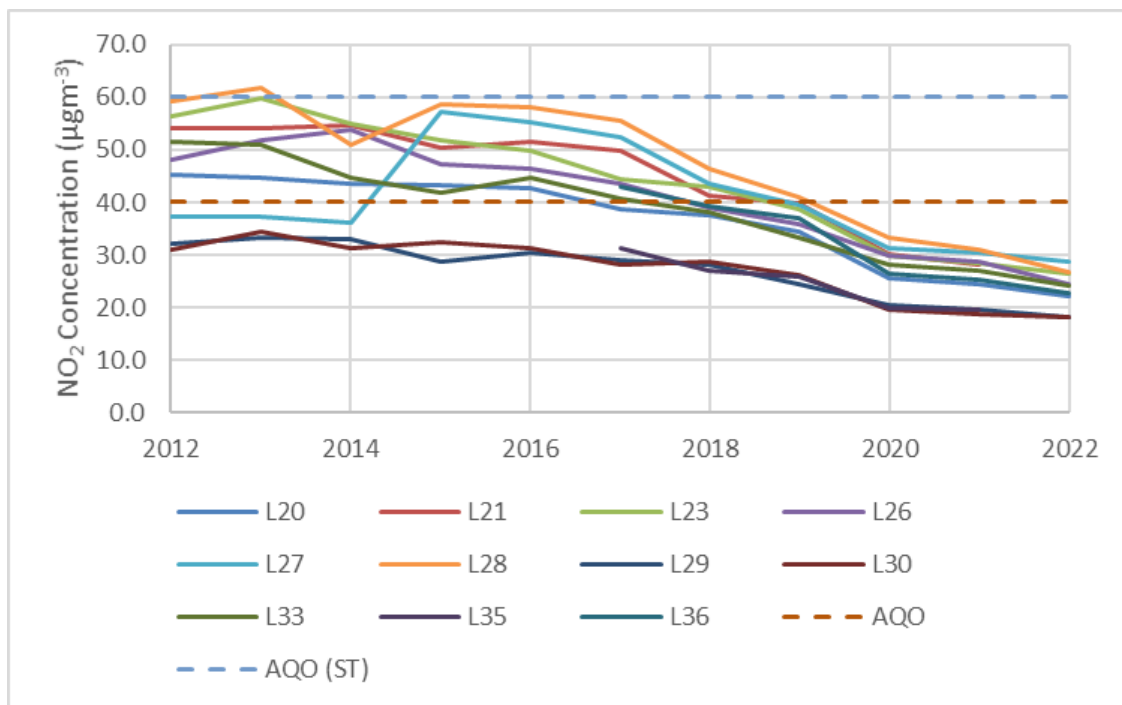
To better understand and visualise temporal trends, annual mean concentrations recorded at all NO<sub>2</sub> monitoring locations have been plotted over time and are displayed below in Figure A.3 to Figure A.8, where AQO is the annual mean Air Quality Objective (40 µg/m<sup>3</sup>) and AQO (ST) is the short-term Air Quality Objective (60 µg/m<sup>3</sup>).

**Figure A.3 Trend in NO<sub>2</sub> concentration at roadside diffusion tube locations (1)**



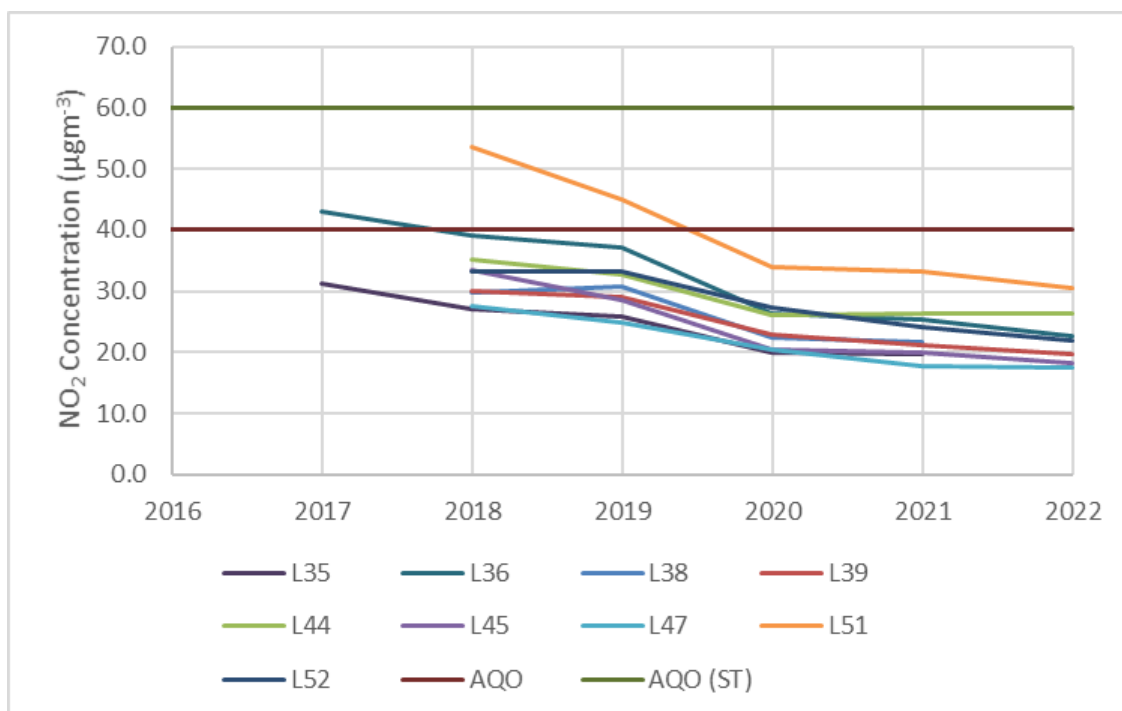
Note: AQO (ST) = 60 µg m<sup>-3</sup>. Diffusion tubes cannot be used to directly compare against the 1-hour mean NO<sub>2</sub> objective. However, LLAQM.TG19 states that at locations where annual mean NO<sub>2</sub> concentrations of greater than 60 µg m<sup>-3</sup> are monitored the 1-hour mean NO<sub>2</sub> objective is likely to be exceeded.

**Figure A.4 Trend in NO<sub>2</sub> Concentration at roadside diffusion tube locations (2)**



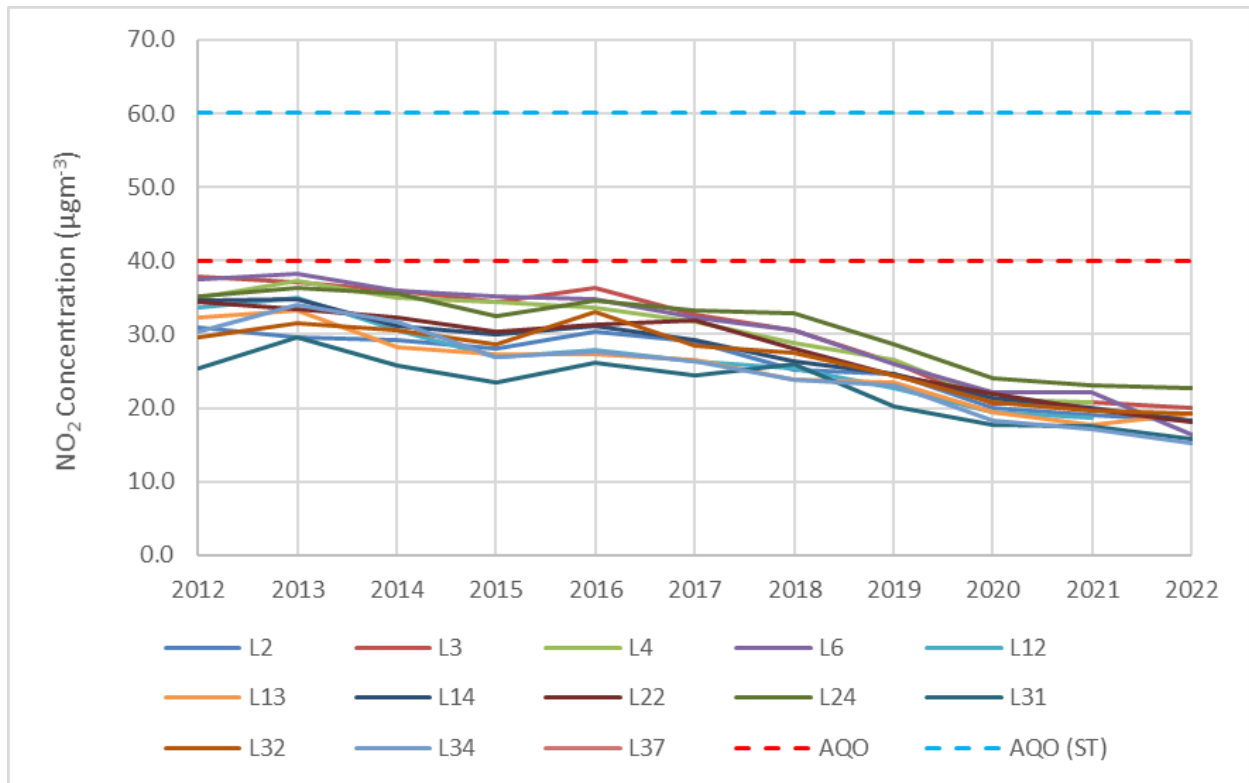
Note: AQO (ST) = 60 µg m<sup>-3</sup>. Diffusion tubes cannot be used to directly compare against the 1-hour mean NO<sub>2</sub> objective. However, LLAQM.TG19 states that at locations where annual mean NO<sub>2</sub> concentrations of greater than 60 µg m<sup>-3</sup> are monitored the 1-hour mean NO<sub>2</sub> objective is likely to be exceeded.

**Figure A.5 Trend in NO<sub>2</sub> concentration at roadside diffusion tube locations (3)**



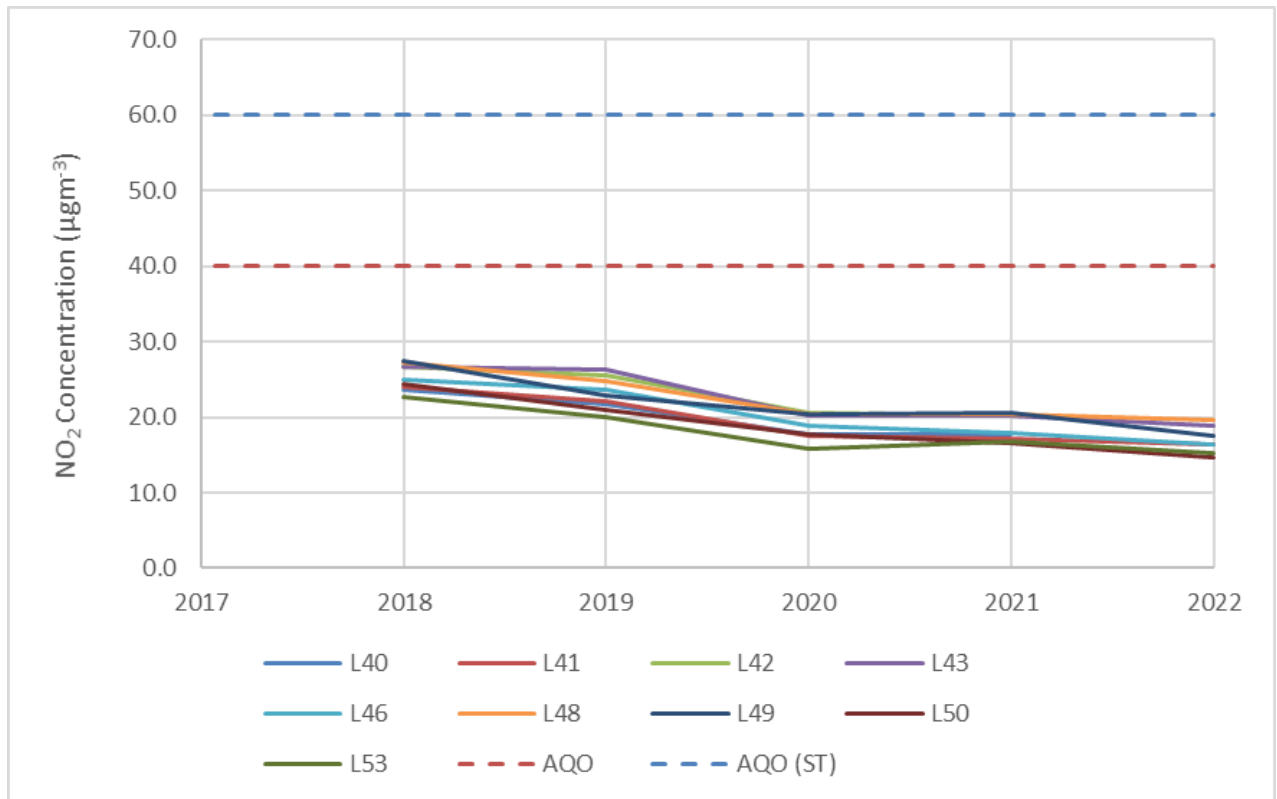
Note: AQO (ST) = 60 µg m<sup>-3</sup>. Diffusion tubes cannot be used to directly compare against the 1-hour mean NO<sub>2</sub> objective. However, LLAQM.TG19 states that at locations where annual mean NO<sub>2</sub> concentrations of greater than 60 µg m<sup>-3</sup> are monitored the 1-hour mean NO<sub>2</sub> objective is likely to be exceeded.

**Figure A.6 Trend in NO<sub>2</sub> concentration at urban background diffusion tube locations (1)**



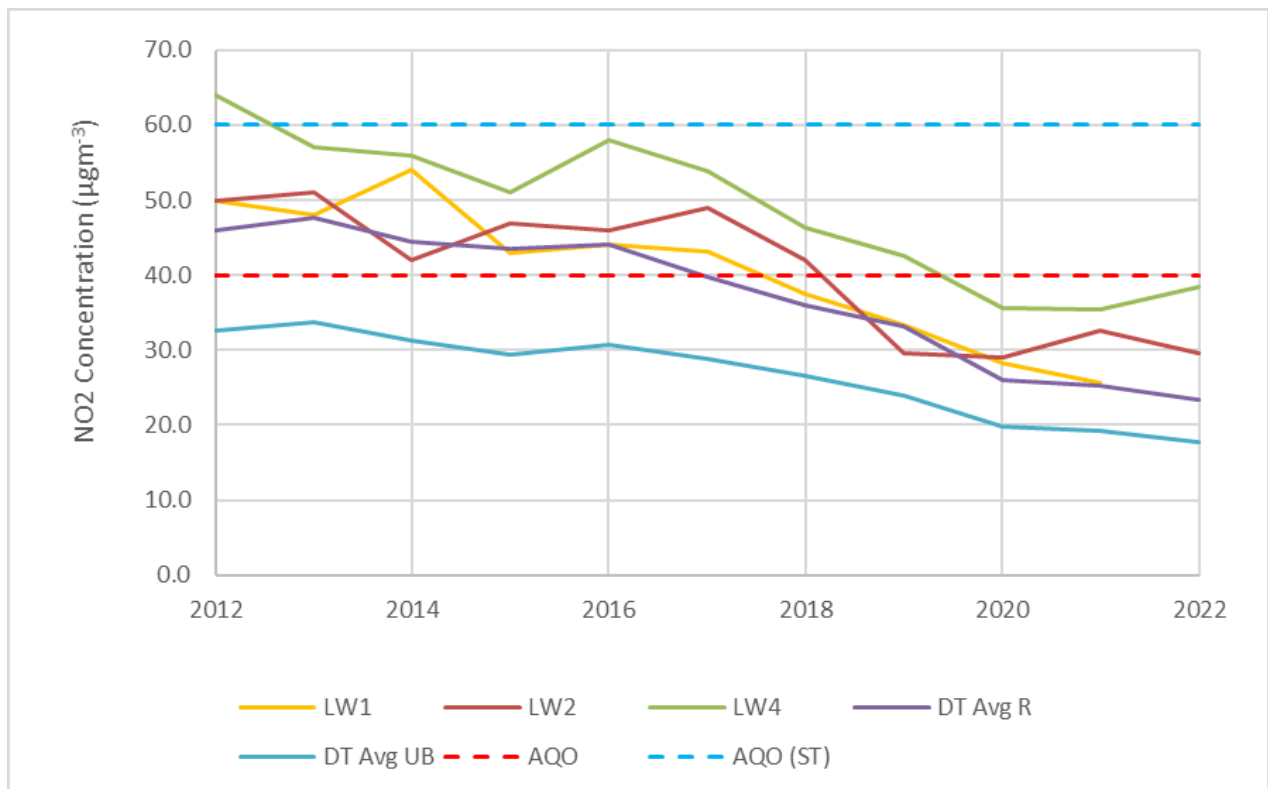
Note: AQO (ST) = 60 µg m<sup>-3</sup>. Diffusion tubes cannot be used to directly compare against the 1-hour mean NO<sub>2</sub> objective. However, LLAQM.TG19 states that at locations where annual mean NO<sub>2</sub> concentrations of greater than 60 µg m<sup>-3</sup> are monitored the 1-hour mean NO<sub>2</sub> objective is likely to be exceeded.

**Figure A.7 Trend in NO<sub>2</sub> concentrations at urban background diffusion tube locations (2)**



Note: AQO (ST) = 60  $\mu\text{g m}^{-3}$ . Diffusion tubes cannot be used to directly compare against the 1-hour mean NO<sub>2</sub> objective. However, LLAQM.TG19 states that at locations where annual mean NO<sub>2</sub> concentrations of greater than 60  $\mu\text{g m}^{-3}$  are monitored the 1-hour mean NO<sub>2</sub> objective is likely to be exceeded.

**Figure A.8 Trend in NO<sub>2</sub> concentrations at automatic monitoring stations, roadside and urban background diffusion tube locations (averaged)**



Note: AQO (ST) = 60 µg m<sup>-3</sup>. Diffusion tubes cannot be used to directly compare against the 1-hour mean NO<sub>2</sub> objective. However, LLAQM.TG19 states that at locations where annual mean NO<sub>2</sub> concentrations of greater than 60 µg m<sup>-3</sup> are monitored the 1-hour mean NO<sub>2</sub> objective is likely to be exceeded.

Figure A.9 London Borough of Lewisham 2022 Diffusion Tube Network (North)

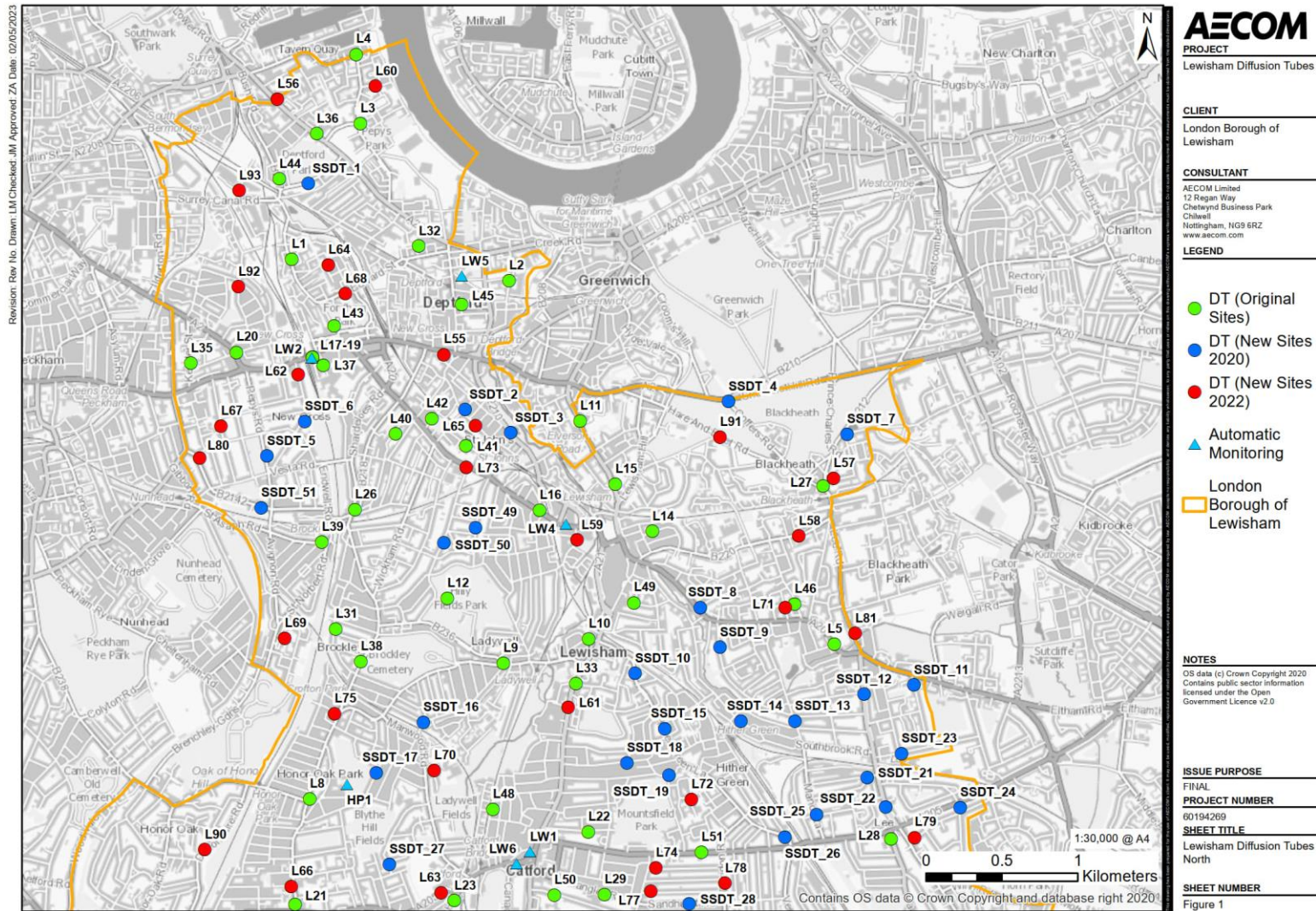


Figure A.10 London Borough of Lewisham 2022 Diffusion Tube Network (South)

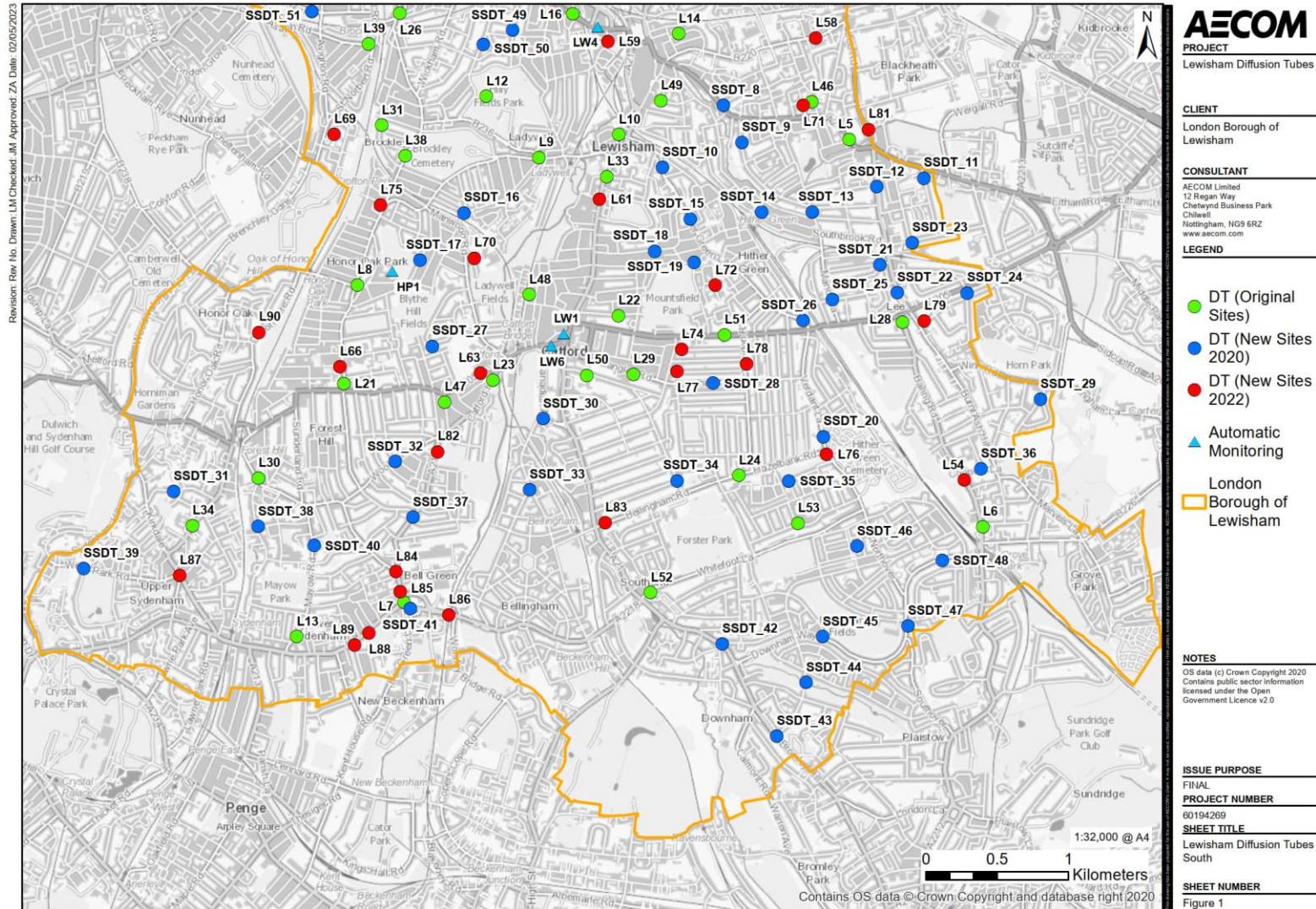
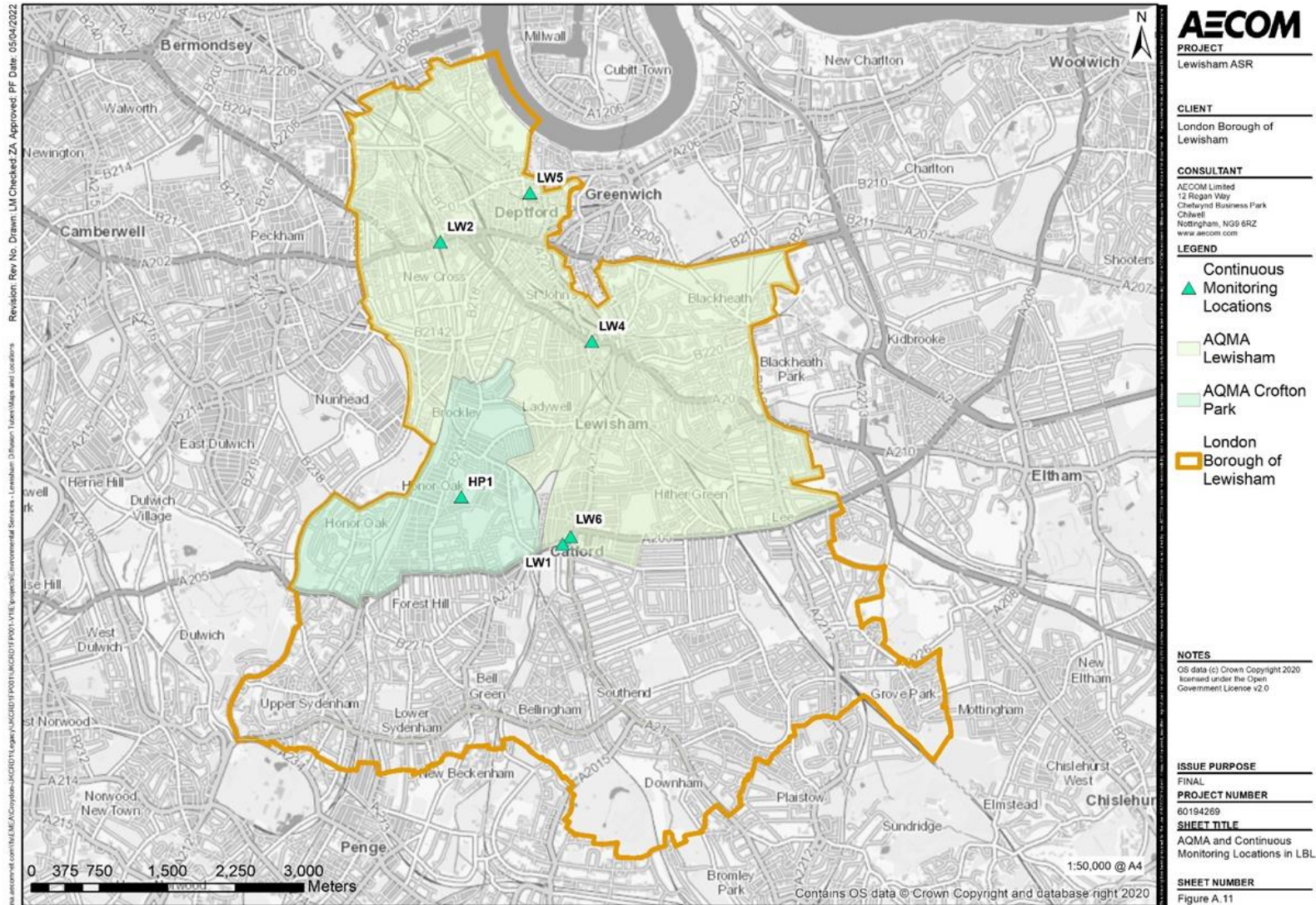




Figure A.11 Air Quality Management Areas and Continuous Monitoring Locations in London Borough of Lewisham



## Appendix B Full Monthly Diffusion Tube Results for 2022

Table O. NO<sub>2</sub> Diffusion Tube Results

Site ID	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2022 % <sup>(b)</sup>	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Annual mean – raw data	Annual mean – bias adjusted
L1	100.0	100.0	36.0	20.5	32.3	20.6	20.4	18.7	19.7	22.7	26.8	25.8	27.8	31.0	25.2	20.7
L2	100.0	100.0	32.6	21.2	31.1	20.9	17.3	14.6	15.7	18.7	23.0	25.3	20.1	28.1	22.4	18.3
L3	59.6	59.6	38.8		32.3	24.7	18.9				26.1		26.1	32.5	28.5	20.0
L4	80.8	80.8	35.3	25.1	33.1	22.6	21.5	16.9	17.5	18.5	23.6		22.5		23.7	19.4
L5	92.3	92.3	33.1	17.0	35.7	28.7	18.2	17.8	22.2		26.1	22.1	24.8	31.9	25.2	20.7
L6	57.7	57.7	33.3		27.4	22.8	12.5	7.0	20.8	13.6					19.6	16.4
L7	75.0	75.0	40.9				33.1	27.7	35.5	37.6	39.1	33.9	37.3	40.4	36.2	29.7
L8	100.0	100.0	37.1	23.5	32.9	28.2	22.9	19.1	24.0	26.3	26.7	24.4	27.3	34.7	27.3	22.4
L9	100.0	100.0	36.6	21.6	35.4	31.2	21.0	18.5	21.5	29.0	27.5	21.9	27.6	32.7	27.0	22.2
L10	100.0	100.0	39.0	21.4	33.5	28.7	19.7	18.4	23.5	28.0	28.7	27.5	25.0	37.6	27.6	22.6
L11	100.0	100.0	40.1	20.9	34.6	24.6	23.2	25.4	26.7	32.2	36.0	34.8	37.3	41.6	31.5	25.8
L12	92.3	92.3	36.2	17.7	27.3	19.4	13.1	9.8	12.8	16.6	19.3	16.6		33.7	20.2	16.6
L13	100.0	100.0	36.7	23.1	28.2	21.8	18.3	16.6	16.0	19.1	21.7	21.2	27.0	31.7	23.4	19.2
L14	100.0	100.0	34.8	23.4	23.5	20.7	16.3	14.5	13.9	17.7	20.1	24.0	26.8	32.3	22.3	18.3
L15	100.0	100.0	39.4	26.7	35.1	26.5	26.6	23.4	27.0	32.9	32.7	35.4	37.5	41.0	32.0	26.2
L16	100.0	100.0	41.5	27.2	44.0	36.9	27.7	24.6	30.8	37.2	36.9	32.6	34.8	35.5	34.1	28.0
L17	82.7	82.7	42.3	31.6			32.6	29.6	32.7	35.9	32.9	31.9	34.9	37.3	34.2	28.0
L18	92.3	92.3	40.3		40.6	36.5	31.2	29.2	33.1	35.6	32.7	29.8	35.7	36.3	34.6	28.4
L19	92.3	92.3	41.7	33.1	37.7	38.2	32.9	29.4	32.9	32.3		32.2	33.1	37.9	34.7	28.4
L20	75.0	75.0		27.4	34.8	27.4	22.4	20.4	22.6		27.6	28.0	32.4		27.0	22.1
L21	100.0	100.0	42.8	29.9	31.4	28.0	28.0	26.1	26.1	29.6	32.8	31.4	32.5	34.4	31.1	25.5
L22	82.7	82.7	31.6	22.9	27.4	16.7	15.6	14.0	26.5		20.4	21.8	22.7		22.0	18.0
L23	100.0	100.0	38.7	28.3	43.0	31.4	26.7	22.2	28.5	29.9	32.5	30.6	35.6	40.2	32.3	26.5
L24	100.0	100.0	37.3	28.4	33.5	26.2	22.7	18.9	23.0	24.8	24.3	28.0	29.2	36.8	27.8	22.8
L26	100.0	100.0	37.1	27.3	35.5	29.2	21.9	23.0	25.2	27.6	31.0	28.4	35.4	35.2	29.7	24.4

Site ID	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2022 % <sup>(b)</sup>	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Annual mean – raw data	Annual mean – bias adjusted
L27	100.0	100.0	52.2	35.3	36.8	29.5	31.8	27.4	27.4	30.8	33.4	35.5	37.9	44.0	35.2	28.8
L28	100.0	100.0	48.7	33.5	35.0	32.1	24.7	26.5	28.5	29.4	32.3	29.2	29.9	40.5	32.5	26.7
L29	100.0	100.0	34.1	22.8	27.7	21.1	15.6	13.0	16.2	18.4	20.4	19.9	22.7	33.1	22.1	18.1
L30	100.0	100.0	34.0	19.8	29.1	20.1	16.4	14.6	16.8	19.3	20.5	21.0	23.1	31.8	22.2	18.2
L31	100.0	100.0	30.4	16.6	24.5	18.9	13.7	12.0	12.7	16.2	19.9	19.1	23.5	24.9	19.4	15.9
L32	100.0	100.0	35.2	19.4	30.1	22.6	17.4	15.6	15.7	20.1	23.4	24.5	27.0	31.7	23.6	19.3
L33	76.9	76.9	38.2		31.8	28.2	22.1	21.0		25.9		26.0	31.4	40.3	29.4	24.1
L34	100.0	100.0	30.9	16.9	26.0	17.5	13.5	10.3	12.2	14.7	17.3	16.8	19.3	27.2	18.6	15.2
L35	100.0	100.0	35.1	20.4	27.7	21.2	14.6	13.4	14.9	17.0	20.4	19.3	20.5	29.3	21.1	17.3
L36	100.0	100.0	37.8	26.3	37.0	25.7	20.9	19.2	21.5	25.5	24.1	29.2	27.8	35.5	27.5	22.6
L37	92.3	92.3	32.3	20.7	28.7	22.5	16.8	13.4	15.9	19.4	22.7	19.5		28.5	21.8	17.9
L38	82.7	82.7	33.7	19.6	34.3	27.3			18.7	22.7	25.9	22.7	25.0	31.9	26.2	21.5
L39	92.3	92.3	33.2	23.3	28.4	25.9	16.8	14.4		21.1	22.5	21.5	25.6	32.7	24.1	19.8
L40	100.0	100.0	26.9	16.5	27.9	18.2	13.2	11.3	13.3	17.0	16.6	18.3	21.1	27.2	18.9	15.5
L41	100.0	100.0	31.1	18.3	25.7	19.0	13.7	12.2	13.8	16.5	19.5	19.7	22.7	27.1	19.9	16.3
L42	100.0	100.0	32.1	20.8	27.5	22.0	16.7	14.7	15.5	19.3	22.1	21.6	26.7	30.4	22.4	18.4
L43	100.0	100.0	37.4	21.4	30.0	22.0	16.9	15.3	16.1	18.0	20.7	23.8	24.4	30.7	23.0	18.9
L44	100.0	100.0	44.1	33.3	37.6	26.8	25.1	24.0	25.5	27.1	31.2	34.0	36.3	38.6	32.0	26.2
L45	90.4	90.4	34.1	22.1	29.6	21.7	16.9	13.5	15.8	19.7	21.5	22.8	25.7		22.1	18.1
L46	100.0	100.0	31.1	20.1	26.9	17.5	13.2	12.5	13.0	16.5	18.4	20.2	21.4	30.4	20.1	16.5
L47	100.0	100.0	33.1	21.1	26.7	16.7	15.0	13.1	14.0	17.3	19.7	21.1	24.4	32.8	21.2	17.4
L48	92.3	92.3	34.0	21.4	30.2	20.8	16.7	13.4	16.2		21.1	27.3	25.4	37.0	24.0	19.6
L49	100.0	100.0	34.6	16.9	23.2	21.4	13.6	15.0	15.3	19.7	22.5	21.6	21.6	30.3	21.3	17.5
L50	100.0	100.0	31.6	16.7	23.4	17.2	12.8	10.7	12.3	14.2	15.8	15.7	20.2	24.4	17.9	14.7
L51	76.9	76.9	46.1			37.1	35.8	33.4	37.4	31.4	36.3	33.4		42.9	37.1	30.4
L52	82.7	82.7	34.4	27.9	26.6	24.5	23.5	22.8	21.9	21.3			29.0	34.4	26.6	21.8
L53	92.3	92.3	30.7	16.9	25.0	17.5	13.2	10.3	12.5	14.3	17.5	18.5		28.3	18.6	15.3
L54	100.0	100.0	41.6	21.0	32.0	27.1	21.6	19.5	23.0	27.2	27.4	24.9	28.9	33.0	27.3	22.4
L55	23.1	23.1	54.0		65.8					49.7					56.5	33.9
L56	90.4	90.4	40.9	21.9	34.4	24.6	23.3	19.5	21.7	22.0	27.4		27.5	36.3	27.2	22.3
L57	100.0	100.0	33.1	22.0	26.6	25.4	17.8	13.8	16.8	22.0	20.0	22.9	25.7	32.8	23.2	19.1
L58	92.3	92.3	43.1		32.2	30.3	26.9	24.6	23.3	30.1	33.9	29.2	35.7	45.2	32.2	26.4
L59	92.3	92.3	37.9		35.2	28.9	18.7	19.3	20.5	26.2	30.2	27.8	30.3	37.1	28.4	23.3

Site ID	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2022 % <sup>(b)</sup>	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Annual mean – raw data	Annual mean – bias adjusted
L60	100.0	100.0	39.4	25.7	28.2	20.9	18.5	15.0	16.6	17.9	21.8	23.3	27.2	28.5	23.6	19.3
L61	100.0	100.0	39.4	26.4	37.7	30.0	24.9	23.8	25.3	29.5	32.2	28.0	34.0	44.6	31.3	25.7
L62	100.0	100.0	43.9	23.6	36.1	34.5	23.4	22.5	25.1	30.7	32.6	25.4	26.1	33.1	29.8	24.4
L63	100.0	100.0	46.7	33.5	47.1	38.0	32.6	28.0	32.6	36.5	35.2	30.6	31.7	42.2	36.2	29.7
L64	100.0	100.0	35.1	21.9	29.8	21.6	16.2	13.3	13.8	18.1	20.9	23.3	25.7	30.4	22.5	18.5
L65	100.0	100.0	29.1	20.3	28.8	20.9	15.0	13.3	13.8	18.4	22.8	22.4	23.0	28.1	21.3	17.5
L66	80.8	80.8	32.4	18.9	25.8		13.3	12.5	14.1	15.1	19.2		22.2	31.3	20.5	16.8
L67	92.3	92.3	33.8	22.0	27.4	21.2	14.5	12.4	12.8		19.5	19.0	23.3	30.2	21.5	17.6
L68	100.0	100.0	40.1	31.8	41.5	34.0	28.4	27.1	28.4	34.5	36.8	40.4	40.2	37.4	35.0	28.7
L69	82.7	82.7	34.4	18.0	26.5		13.0	7.4		15.2	18.3	19.5	20.1	28.7	20.1	16.5
L70	90.4	90.4	35.8	18.5	24.1		13.5	12.0	13.2	16.7	17.4	18.9	23.3	26.1	20.0	16.4
L71	100.0	100.0	33.4	21.6	25.7	17.1	13.1	13.1	14.4	15.8	19.4	18.7	20.2	28.8	20.1	16.5
L72	65.4	65.4	29.8	16.0	23.1					15.3	15.8	16.3	19.2	27.7	20.4	14.5
L73	100.0	100.0	49.0	33.2	35.1	38.7	33.6	28.5	37.0	42.2	40.7	32.1	33.0	39.7	36.9	30.3
L74	100.0	50.0	-	-	-	-	-	-	15.3	17.5	20.7	20.3	21.5	30.7	21.0	18.3
L75	100.0	50.0	-	-	-	-	-	-	13.7	18.9	22.3	19.6	24.9	33.3	22.1	19.3
L76	100.0	50.0	-	-	-	-	-	-	24.9	29.4	31.0	29.8	28.3	38.6	30.3	26.4
L77	100.0	50.0	-	-	-	-	-	-	13.7	16.3	18.6	20.0	19.8	30.8	19.8	17.3
L78	84.6	42.3	-	-	-	-	-	-		20.9	22.4	23.0	22.9	33.8	24.6	20.2
L79	100.0	50.0	-	-	-	-	-	-	18.6	21.7	25.9	23.5	19.8	31.6	23.5	20.5
L80	100.0	50.0	-	-	-	-	-	-	20.2	26.4	30.1	26.7	27.2	36.4	27.8	24.3
L81	100.0	50.0	-	-	-	-	-	-	20.0	23.2	26.3	26.2	29.2	34.2	26.5	23.1
L82	30.8	15.4	-	-	-	-	-	-		23.4	27.9				-	-
L83	100.0	50.0	-	-	-	-	-	-	19.9	21.2	24.5	19.9	27.0	34.2	24.5	21.3
L84	84.6	42.3	-	-	-	-	-	-	31.9	34.9	35.5	35.3		37.2	35.0	30.8
L85	100.0	50.0	-	-	-	-	-	-	38.0	39.4	42.6	39.0	36.8	47.0	40.5	35.3
L86	100.0	50.0	-	-	-	-	-	-	47.0	49.6	46.8	38.5	45.4	44.1	45.2	39.4
L87	100.0	50.0	-	-	-	-	-	-	24.0	26.6	31.6	29.7	28.2	38.8	29.8	26.0
L88	80.8	40.4	-	-	-	-	-	-	33.7	39.1	38.6		43.9	46.9	40.4	35.3
L89	100.0	50.0	-	-	-	-	-	-	21.8	22.4	23.7	21.1	26.0	30.7	24.3	21.2
L90	100.0	50.0	-	-	-	-	-	-	14.7	21.6	22.1	19.8	22.0	33.3	22.2	19.4
L91	100.0	50.0	-	-	-	-	-	-	17.4	20.7	21.3	24.8	26.7	34.8	24.3	21.2
L92	100.0	50.0	-	-	-	-	-	-	18.2	22.1	23.8	24.3	28.0	33.6	25.0	21.8

Site ID	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2022 % <sup>(b)</sup>	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Annual mean – raw data	Annual mean – bias adjusted
L93	100.0	50.0	-	-	-	-	-	-	26.9	30.6	31.9	28.1	31.2	36.8	30.9	27.0
SSDT_1	84.6	84.6	39.5	29.7	36.7	25.5	24.6	23.9			28.2	31.9	33.4	34.0	30.7	25.2
SSDT_2	80.8	80.8	30.8	21.6	31.5		15.1	15.4	16.3	20.7	22.7		25.4	31.2	23.1	18.9
SSDT_3	100.0	100.0	36.7	24.9	33.1	23.6	18.2	16.7	17.3	18.8	27.2	25.1	27.6	34.6	25.3	20.8
SSDT_4	100.0	100.0	41.3	24.2	34.8	28.9	24.1	20.8	23.2	32.0	28.0	27.8	26.4	37.2	29.1	23.8
SSDT_5	100.0	100.0	34.7	19.1	28.9	23.5	15.0	13.6	16.4	19.3	20.4	20.8	21.3	31.3	22.0	18.1
SSDT_6	92.3	92.3	37.0	19.6	26.4	23.2	17.7		17.7	20.3	26.1	21.0	25.0	27.6	23.8	19.5
SSDT_7	100.0	100.0	47.6	29.9	35.3	26.3	24.6	20.3	20.4	24.7	25.9	26.6	29.0	38.5	29.1	23.9
SSDT_8	100.0	100.0	41.2	27.8	38.2	24.4	22.8	22.1	22.7	24.4	28.6	30.5	30.5	32.9	28.8	23.6
SSDT_9	100.0	100.0	35.3	19.8	29.7	18.9	14.1	12.3	14.2	17.6	21.2	21.3	22.9	30.9	21.5	17.6
SSDT_10	100.0	100.0	45.1	26.9	33.9	27.8	24.2	20.0	23.8	26.2	30.1	31.8	31.8	36.2	29.8	24.5
SSDT_11	100.0	100.0	29.6	18.5	28.9	17.1	13.8	11.2	14.0	17.7	19.3	18.1	14.0	26.9	19.1	15.7
SSDT_12	100.0	100.0	42.9	26.8	36.5	26.3	21.4	19.5	23.3	27.0	30.2	27.4	29.0	39.9	29.2	23.9
SSDT_13	100.0	100.0	35.8	22.1	30.3	18.2	16.8	13.2	14.7	18.0	22.0	21.9	25.7	35.9	22.9	18.8
SSDT_14	92.3	92.3	43.4		28.6	22.9	17.6	14.3	14.5	20.2	22.1	22.3	23.5	29.1	23.5	19.3
SSDT_15	100.0	100.0	34.3	19.2	31.9	26.0	17.5	15.9	18.2	24.4	24.0	22.7	24.5	34.1	24.4	20.0
SSDT_16	100.0	100.0	36.6	21.7	28.0	21.4	17.1	14.2	17.4	20.1	23.1	22.7	24.9	27.8	22.9	18.8
SSDT_17	100.0	100.0	32.6	19.0	26.8	20.9	13.0	12.4	13.8	17.6	20.2	20.1	23.8	29.8	20.8	17.1
SSDT_18	100.0	100.0	36.1	22.0	28.2	20.6	16.2	14.7	16.0	18.8	22.9	23.8	26.5	28.6	22.9	18.8
SSDT_19	100.0	100.0	31.3	17.6	27.0	20.6	15.8	13.6	16.0	18.2	20.8	20.8	20.7	30.1	21.0	17.3
SSDT_20	100.0	100.0	35.6	21.1	30.4	21.1	20.7	16.9	23.5	26.1	28.1	24.2	24.7	29.6	25.2	20.6
SSDT_21	92.3	92.3	35.0	21.1	28.6	19.2	14.3	13.7		7.6	20.7	19.9	23.2	29.5	21.1	17.3
SSDT_22	100.0	100.0	41.7	23.4	36.4	25.7	21.8	20.0	21.4	23.5	29.6	27.9	28.6	37.0	28.1	23.0
SSDT_23	100.0	100.0	34.8	17.5	25.7	18.6	16.0	13.4	13.9	17.5	19.4	20.1	23.4	28.6	20.7	17.0
SSDT_24	100.0	100.0	37.8	19.8	30.2	24.9	21.2	16.0	19.6	22.9	23.4	21.4	22.2	32.9	24.4	20.0
SSDT_25	100.0	100.0	37.9	24.1	29.9	21.4	19.0	18.5	19.8	21.9	24.5	24.9	27.1	34.6	25.3	20.7
SSDT_26	100.0	100.0	41.0	27.6	30.9	24.2	21.3	21.5	22.0	22.1	26.0	26.8	30.6	36.4	27.5	22.6
SSDT_27	100.0	100.0	33.7	19.1	29.8	19.5	14.7	12.0	14.6	17.2	18.1	21.4	24.1	34.0	21.5	17.6
SSDT_28	100.0	100.0	42.8	26.3	34.4	28.5	20.8	17.1	21.3	23.0	27.4	24.6	28.0	35.8	27.5	22.5
SSDT_29	100.0	100.0	32.4	18.9	26.7	19.5	13.0	12.0	12.9	17.6	19.9	19.3	20.9	29.9	20.2	16.6
SSDT_30	92.3	92.3	34.2		28.5	20.8	17.0	13.4	18.8	20.5	21.8	22.3	25.6	30.0	23.0	18.8
SSDT_31	100.0	100.0	28.9	18.1	27.2	17.5	13.3	11.0	12.9	14.7	17.0	17.0	19.6	26.6	18.6	15.3
SSDT_32	82.7	82.7	34.5	21.1	29.3	20.1	14.2	12.6	15.6		21.2	21.7	25.2		21.5	17.7

Site ID	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2022 % <sup>(b)</sup>	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Annual mean – raw data	Annual mean – bias adjusted
SSDT_33	100.0	100.0	33.2	16.2	25.7	21.5	14.8	12.7	15.6	18.6	18.3	20.5	21.3	29.9	20.7	17.0
SSDT_34	92.3	92.3	31.2	19.4	24.6	16.5	14.2	11.7	13.8		19.1	19.6	20.8	32.3	20.3	16.6
SSDT_35	100.0	100.0	34.6	17.4	26.2	19.3	14.6	12.0	14.7	16.6	18.9	19.7	19.5	31.2	20.4	16.7
SSDT_36	82.7	82.7	27.3		20.3	15.1	11.8	9.5	12.4	14.3	15.2		16.3	22.2	16.4	13.5
SSDT_37	100.0	100.0	45.1	26.0	40.3	29.6	24.6	24.3	27.6	29.0	34.1	32.6	36.0	40.2	32.5	26.6
SSDT_38	100.0	100.0	27.8	16.9	22.0	16.4	11.9	10.4	13.0	15.0	17.5	18.9	21.3	27.1	18.2	14.9
SSDT_39	82.7	82.7	35.6	19.3	28.2		15.6		15.4	18.1	19.8	19.3	18.9	28.0	21.8	17.9
SSDT_40	92.3	92.3	35.3	21.5	28.4	22.0	18.0	16.6	21.0	20.2		22.6	24.1	33.9	23.9	19.6
SSDT_41	100.0	100.0	49.3	32.6	41.3	34.6	28.2	24.9	30.3	35.2	35.4	31.6	36.0	36.7	34.7	28.4
SSDT_42	65.4	65.4	40.2		31.7	23.8	23.1	22.2	22.6	24.4	30.1				27.3	23.0
SSDT_43	100.0	100.0	31.7	18.4	25.7	18.8	14.7	12.5	14.9	16.3	18.5	19.1	18.9	29.4	19.9	16.3
SSDT_44	82.7	82.7	29.7	18.3	23.8	16.8			10.0	13.9	16.8	16.4	14.7	22.9	18.3	15.0
SSDT_45	100.0	100.0	31.4	18.5	26.0	17.5	13.6	11.3	12.9	15.5	17.0	16.5	19.9	29.0	19.1	15.6
SSDT_46	90.4	90.4	36.8	22.0	29.0	18.7	15.1	14.4	15.6	18.9	21.7		26.8	34.0	23.0	18.9
SSDT_47	100.0	100.0	37.3	26.0	34.2	26.7	18.7	17.9	20.2	22.9	24.0	23.0	24.2	33.0	25.7	21.1
SSDT_48	100.0	100.0	36.6	21.6	30.8	22.1	17.3	14.3	18.1	20.5	22.1	20.2	23.2	30.5	23.1	18.9
SSDT_49	100.0	100.0	33.1	16.4	22.8	19.6	13.7	12.2	14.4	18.8	20.0	19.9	21.7	29.4	20.2	16.5
SSDT_50	100.0	100.0	31.3	18.5	26.7	20.7	13.4	11.6	13.7	17.2	19.5	19.4	15.2	27.3	19.5	16.0
SSDT_51	100.0	100.0	40.9	30.6	37.6	30.1	24.8	22.2	22.5	27.4	31.4	28.4	33.2	34.6	30.3	24.8

## Notes

Concentrations are presented as  $\mu\text{g m}^{-3}$ .

Exceedances of the NO<sub>2</sub> annual mean AQO of 40  $\mu\text{g m}^{-3}$  are shown in **bold**.

NO<sub>2</sub> annual means in excess of 60  $\mu\text{g m}^{-3}$ , indicating a potential exceedance of the NO<sub>2</sub> hourly mean AQS objective are shown in **bold and underlined**.

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

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

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

**Table P. Local Implementation Plan Projects in Air Quality Focus Areas in 2022 and Ongoing**

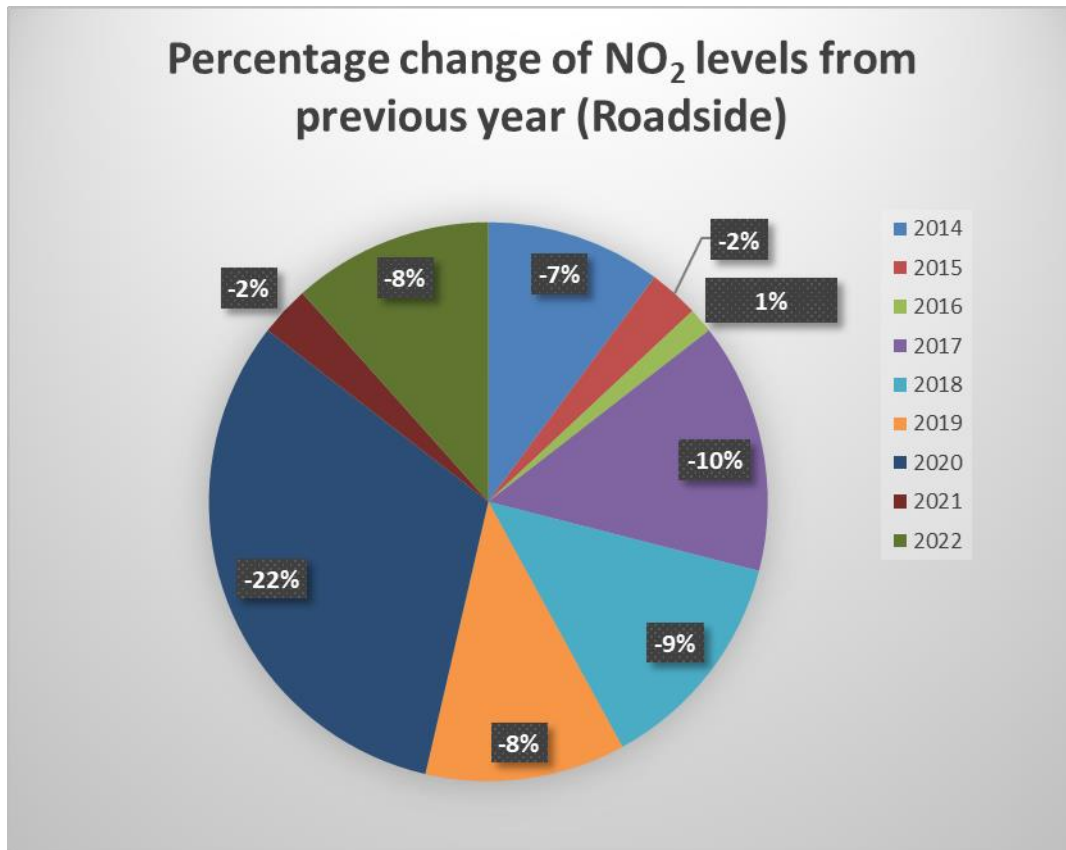
No.	GLA ref.	Focus Area	Local Implementation Plan Projects					
1	125	Deptford Church Street	Quietway 1 (Implemented)	Cycle Superhighway 4 (in design)	Quietway 2 (in design)	S106 New Bus Services	New Electric Vehicle CP Sites	<a href="#">New 20mph limits[1]</a>
2	126	New Cross	Bakerloo Line Extension (Consultation)	A2 Corridor Study – TfL	Old Kent Road OA work with LB Southwark & GLA	S106 New Bus Services	New Electric Vehicle CP Sites	New 20mph limits
								Deptford Parks Liveable Neighbourhood (DPLN) Project
								Woodpecker Walk improvements that come into New Cross Ward.
3	127	Brockley Cross	Rail Strategy including Overground proposals	B218 Corridor Study	New EVCP Sites	New 20mph limits		
4	128	Honor Oak Park	New speed camera at Stondon Park Junction (implemented)	B218 Corridor Study	New EVCP Sites	New 20mph limits		
5	129	Loampit Vale & L. High St	Bakerloo Line Extension (Consultation)		New EVCP Sites	New 20mph limits		

No.	GLA ref.	Focus Area	Local Implementation Plan Projects					
6	130	Catford Road	Major regeneration programme, including A205 alignment (feasibility)	Quietway 2 (in design)	New EVCP Sites	New 20mph limits		
7	131	A205 Brownhill Road	A205 Brownhill Road Corridor improvements	New EVCP Sites	New 20mph limits	TFL road		
			(in design)					
8	132	Forest Hill	A205 Devonshire Rd minor junction improvement (implemented)	Dartmouth Road streetscape improvements (including 20mph measures)	New EVCP Sites	New 20mph limits	Air Quality Assessment commissioned with recommendations in 2017	
9	133	Deptford Parks	Copenhagen crossings	Prince Street and Scawen Rd modal filters		Streets in North Deptford will see reduced traffic owing to new restrictions.	Improvements to Woodpecker Walk and Rolt Street are due to be implemented	Liveability Neighbourhoods- Streets in North Deptford will see reduced traffic owing to new restrictions. The funding picture and the scope of work for this action remain unclear



## Appendix C Changes in NO<sub>2</sub> average annual mean concentrations (2014-2022)

Figure C.1 Percentage change of NO<sub>2</sub> average annual mean concentrations from previous year (Roadside Sites)



**Figure C.2 Percentage change of NO<sub>2</sub> average annual mean concentrations from previous year (UB Sites)**

