City of London Corporation Air Quality Annual Status Report for 2023

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This report provides a detailed overview of air quality in the City of London during 2023. It has been produced to meet the requirements of the London Local Air Quality Management (LLAQM) statutory process[1].

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

Contents

Abbreviations 6
1. Air Quality Monitoring 8
1.1 Locations 8
1.2 Comparison of Monitoring Results with AQOs 16
2. Action to Improve Air Quality 40
2.1 Air Quality Management Areas 40
2.2 Air Quality Action Plan Progress 42
3. Planning Update and Other New Sources of Emissions 62
3.1 New or significantly changed industrial or other sources 62
4. Additional Activities to Improve Air Quality 63
4.1 The City of London Corporation Fleet 63
4.2 NRMM Enforcement Project 63
4.2 Air Quality Alerts 64
Appendix A Details of Monitoring Site Quality QA/QC 65
A.1 Automatic Monitoring Sites 65
A.2 Diffusion Tubes 65
A.3 Adjustments to the Ratified Monitoring Data 68
Appendix B Full Monthly Diffusion Tube Results for 2023 70
Appendix C Maps of Monitoring Locations and AQMAs 73

Tables

Table A. Summary of National Air Quality and International Standards, Objectives and Guidelines 7

Table B. Details of Automatic Monitoring Sites for 2023 8

Table C. Details of Non-Automatic Monitoring Sites for 2023: Long Term Sites 9

Table D. Details of Non-Automatic Monitoring Sites for 2023: Bank Area..... 10

Table E. Details of Non-Automatic Monitoring Sites for 2023: LEN Area 11

Table F. Details of Non-Automatic Monitoring Sites for 2023: City Area 11

Table G. Details of Non-Automatic Monitoring Sites for 2023: Transport Strategy Diffusion Tube Sites 13

Table H. Details of Non-Automatic Monitoring Sites for 2023: Beech Street ZEV Street Project 14

Table I. Details of Non-Automatic Monitoring Sites for 2023: St Martin's Le Grand Regeneration Project..... 15

Table J. Annual Mean NO_2 Monitoring Results: Automatic Monitoring..... 16

Table K. Annual Mean NO_2 Monitoring Results: Long Term Diffusion Tube Sites ... 18

Table L. Annual Mean NO_2 Monitoring Results: Bank Diffusion Tube Sites..... 18

Table M. Annual Mean NO_2 Monitoring Results: LEN Area Diffusion Tube Sites 20

Table N. Annual Mean NO_2 Monitoring Results: City Area Diffusion Tube Sites..... 20

Table O. Annual Mean NO_2 Monitoring Results: Transport Strategy Diffusion Tube Sites 22

Table P. Annual Mean NO_2 Monitoring Results: Beech Street Project Diffusion Tubes 23

Table Q. Annual Mean NO_2 Monitoring Results: St Martin's Le Grand Regeneration Project Diffusion Tubes 23

Table R. NO_2 Automatic Monitoring Results: Comparison with 1-hour Mean AQO, Number of 1-Hour Means > 200 µg m^{-3}..... 32

Table S. Annual Mean PM_{10} Automatic Monitoring Results (µg m^{-3})..... 33

Table T. PM_{10} Automatic Monitoring Results: Comparison with 24-Hour Mean AQO, Number of PM_{10} 24-Hour Means > 50 µg m^{-3} 35

Table U. Annual Mean $PM_{2.5}$ Automatic Monitoring Results (µg m^{-3}) 37

Table V. O_3 Automatic Monitoring Results 39

Table W. Declared Air Quality Management Area 41

Table X. Delivery of Air Quality Action Plan Measures 42

Table Y. Planning requirements met by planning applications in The City of London in 2023 62

Table Z. Local Bias Factor Results 66

Table AA. Bias Adjustment Factor 67

Table BB. Short-Term to Long-Term Monitoring Data Adjustment: Diffusion Tubes 69

Table CC. NO_2 2023 Diffusion Tube Results (µg m^{-3}) 70

Figures

Figure A. Annual Mean NO_2 Automatic Monitoring Results: Automatic Monitoring Sites 17

Figure B. Annual Mean NO_2 Automatic Monitoring Results: Long Term Diffusion Tube Sites 25

Figure C. Annual Mean NO_2 Automatic Monitoring Results: Bank Area Diffusion Tubes 26

Figure D. Annual Mean NO_2 Automatic Monitoring Results: LEN Area Diffusion Tube Sites 27

Figure E. Annual Mean NO_2 Automatic Monitoring Results: City Area Diffusion Tube Sites 28

Figure F. Annual Mean NO_2 Automatic Monitoring Results: Transport Strategy Diffusion Tube Sites 29

Figure G. Annual Mean NO_2 Automatic Monitoring Results: Beech Street Project Diffusion Tube Sites 30

Figure G. Annual Mean NO_2 Automatic Monitoring Results: St Martin's Le Grand Diffusion Tube Sites 31

Figure H. Annual Mean PM_{10} Automatic Monitoring Results 34

Figure I. PM_{10} Automatic Monitoring Results: Comparison with 24-hr Mean AQO, Number of PM_{10} 24-hr Means > 50 µg m^{-3} 36

Figure J. Annual Mean $PM_{2.5}$ Automatic Monitoring Results 38

Figure K. Map of Non-Automatic Monitoring Sites 73

Figure L. Map of Automatic Monitoring Sites 74

Abbreviations

Abbreviation	Description
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQG	Air Quality Guideline
AQN	Air Quality Neutral
AQO	Air Quality Objective
AQP	Air Quality Positive
DTDPT	Diffusion Tube Data Processing Tool
EV	Electric Vehicle
GLA	Greater London Authority
LAEI	London Atmospheric Emissions Inventory
LAQM	Local Air Quality Management
LEN	Low Emission Neighbourhood
LLAQM	London Local Air Quality Management
NRMM	Non-Road Mobile Machinery
PM_{10}	Particulate matter less than 10 micron in diameter
$PM_{2.5}$	Particulate matter less than 2.5 micron in diameter
TfL	Transport for London
WHO	World Health Organisation
ZEV	Zero (tailpipe) Emission Vehicle

Table A. Summary of National Air Quality and International Standards, Objectives and Guidelines

Pollutant	Standard / Objective / Guideline	Averaging Period	Date [1]
Nitrogen dioxide (NO_2)	200 µg m^{-3} not to be exceeded more than 18 times a year	1-hour mean	31 Dec 2005
Nitrogen dioxide (NO_2)	40 µg m^{-3}	Annual mean	31 Dec 2005
Nitrogen dioxide (NO_2)	WHO AQG [2]: 10 µg m^{-3}	Annual mean	-
Particles (PM_{10})	50 µg m^{-3} not to be exceeded more than 35 times a year	24-hour mean	31 Dec 2004
Particles (PM_{10})	WHO AQG [2]: 45 µg m^{-3} not to be exceeded more than 3-4 times a year	24-hour mean	-
Particles (PM_{10})	40 µg m^{-3}	Annual mean	31 Dec 2004
Particles (PM_{10})	WHO AQG [2]: 15 µg m^{-3}	Annual mean	
Particles ($PM_{2.5}$)	20 µg m^{-3}	Annual mean	2020
Particles ($PM_{2.5}$)	London Mayoral Objective [3]: 10 µg m^{-3}	Annual mean	2030
Particles ($PM_{2.5}$)	WHO AQG [2]: 5 µg m^{-3}	Annual mean	-
Particles ($PM_{2.5}$)	Target of 15% reduction in concentration at urban background locations	3-year mean	Between 2010 and 2021
Particles ($PM_{2.5}$)	WHO AQG [2]: 15 µg m^{-3}	24-hour mean	-
Sulphur dioxide (SO_2)	266 µg m^{-3} not to be exceeded more than 35 times a year	15-minute mean	31 Dec 2005
Sulphur dioxide (SO_2)	350 µg m^{-3} not to be exceeded more than 24 times a year	1-hour mean	31 Dec 2004
Sulphur dioxide (SO_2)	125 µg m^{-3} mot to be exceeded more than 3 times a year	24-hour mean	31 Dec 2004
Sulphur dioxide (SO_2)	WHO AQG [2]: 40 µg m^{-3} not to be exceeded more than 3-4 times a year	24-hour mean	-

Notes:

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

(2) 2021 World Health Organisation Air Quality Guidelines

(3) London Mayoral Objective

1. Air Quality Monitoring

1.1 Locations

Table B. Details of Automatic Monitoring Sites for 2023

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Inlet Height (m)
CT2	Farringdon Street	Roadside	531623	181238	$PM_{2.5}$	Yes	BAM	N/A	2.5m	2m
CT3	The Aldgate School	Urban Background	533484	181190	NO_2, PM_{10} $PM_{2.5}$	Yes	Chemiluminescent and BAM	0m	N/A	1.5m
CT4	Beech Street	Roadside	532167	181857	PM_{10}	Yes	BAM	10m	3m	3m
CT4	Beech Street	Roadside	532176	181862	NO_2	Yes	Chemiluminescent	0m	1.5m	2m
CT9	Guildhall	Urban Background	532471	181424	O_3	Yes	UV Absorption	N/A	N/A	25m
CTA	Bell Wharf Lane	Roadside	532495	180791	NO_2, PM_{10}	Yes	Chemiluminescent and BAM	0m (NO_2) N/A (PM_{10})	10.5m	1.5m

Notes:

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

(2) N/A if not applicable

Table C. Details of Non-Automatic Monitoring Sites for 2023: Long Term Sites

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
CL5	St. Bartholomew's Hospital Courtyard	Urban Background	531901	181571	NO_2	Yes	0m	N/A	No	1.5m
CL38	St. Andrew's Church, Queen Victoria Street	Roadside	531851	180962	NO_2	Yes	N/A	2m	No	2.75m
CL39	St. Dunstan's Church, Fleet Street	Roadside	531235	181155	NO_2	Yes	N/A	2m	No	1.5m
CL40	Guinness Trust Estate, Mansell Street	Roadside	533794	181026	NO_2	Yes	0m	5.5m	No	2m
CL55	Speed House, Barbican Centre	Urban Background	532482	181799	NO_2	Yes	4.5m	N/A	No	10m

Notes (applicable to Tables C-H):

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

(2) N/A if not applicable.

Table D. Details of Non-Automatic Monitoring Sites for 2023: Bank Area

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
Bank 1	Cannon Street	Kerbside	532641	180914	NO_2	Yes	N/A	0.3m	No	2m
Bank 2a (3)	Queen Victoria Street	Kerbside	532591	181073	NO_2	Yes	N/A	1m	No	2m
Bank 3	King Street	Kerbside	532465	181171	NO_2	Yes	N/A	0.5m	No	2m
Bank 5	Magistrates Court	Roadside	532647	181092	NO_2	Yes	15m	3.7m	No	2m
Bank 6	King William Street	Kerbside	532791	180986	NO_2	Yes	N/A	0.5m	No	2m
Bank 8	Lombard Street	Kerbside	532853	181019	NO_2	Yes	N/A	1m	No	2m
Bank 11	Cornhill-Royal Exchange	Kerbside	532785	181119	NO_2	Yes	N/A	0.5m	No	2.2m
Bank 12	Threadneedle Street	Kerbside	532804	181164	NO_2	Yes	N/A	0.7m	No	2.2m
Bank 13	31 Old Broad Street	Kerbside	533036	181376	NO_2	Yes	N/A	1m	No	2m
Bank 14	Wormwood Street	Kerbside	533077	181448	NO_2	Yes	N/A	0.5m	No	2m
Bank 15	3 London Wall	Kerbside	532915	181513	NO_2	Yes	N/A	0.5m	No	2m
Bank 16	81 London Wall	Kerbside	532670	181555	NO_2	Yes	2m	0.75m	No	2m
Bank 17	55 Moorgate	Roadside	532684	181442	NO_2	Yes	N/A	2m	No	2m
Bank 18	85 Gresham Street	Kerbside	532503	181304	NO_2	Yes	N/A	0.5m	No	2m
Bank 19	Lothbury	Roadside	532705	181268	NO_2	Yes	N/A	2.2m	No	2m
Bank 20	Princes Street	Kerbside	532659	181215	NO_2	Yes	N/A	0.5m	No	2m
Bank 22	Gracechurch Street Leadenhall	Kerbside	533010	181058	NO_2	Yes	N/A	1m	No	2.2m

Notes:

(3) Monitoring location Bank 2 moved to the opposite side of Queen Victoria Street at beginning of 2023 due to a lamppost being removed.

Table E. Details of Non-Automatic Monitoring Sites for 2023: LEN Area

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
LEN 1	Giltspur Street	Roadside	531872	181621	NO_2	Yes	10m	5.5m	No	2m
LEN 3	Beech Street, Near Barbican Station	Roadside	532117	181840	NO_2	Yes	17m	2.5m	No	2m
LEN 4	Aldersgate	Kerbside	532117	181714	NO_2	Yes	N/A	0.5m	No	2m
LEN 5	Viscount Street	Roadside	532242	181948	NO_2	Yes	10m	1.5m	No	2m
LEN 6	Whitecross Street/Beech Street	Roadside	532443	181966	NO_2	Yes	N/A	1.5m	No	2m
LEN 9	London Wall/ Brewers Hall Gardens	Kerbside	532435	181558	NO_2	Yes	11m	0.5m	No	2m
LEN 15	Fann Street	Kerbside	532144	182013	NO_2	Yes	20m	2m	No	2m

Table F. Details of Non-Automatic Monitoring Sites for 2023: City Area

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
TAS 1/2/3	The Aldgate School NO_x Analyser	Urban Background	533484	181190	NO_2	Yes	0m	N/A	Yes	1.5m
BWL 1/2/3	Bell Wharf Lane NO_x Analyser	Roadside	532495	180791	NO_2	Yes	N/A	10.5m	Yes	1.5m
WW	Walbrook Wharf	Roadside	532540	180786	NO_2	Yes	N/A	2.5m	No	3m
PLA5	Southwark Bridge	Urban Centre	532412	180709	NO_2	Yes	N/A	N/A	No	2m

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube Co-located with a Continuous Analyser?	Tube Height (m)
LS	Liverpool Street	Urban Centre	533147	181574	NO_2	Yes	N/A	0.5m	No	2m
FA	Fenchurch Avenue	Urban Centre	533236	181040	NO_2	Yes	N/A	1.1m	No	2m
FL	Fetter Lane	Roadside	531276	181261	NO_2	Yes	N/A	1.5m	No	2m
OS3	St Pauls	Urban Centre	532132	181108	NO_2	Yes	15m	35m	No	2m
OS6	Finsbury Circus	Roadside	532939	181609	NO_2	Yes	N/A	0.5m	No	2m
OS7	Christchurch Greyfriars Church Garden	Urban Background	531974	181382	NO_2	Yes	N/A	38m	No	2m
GY	Goodmans Yard	Roadside	533703	180913	NO_2	Yes	N/A	6m	No	2m
CT	Citigen	Roadside	531634	181692	NO_2	Yes	N/A	2m	No	2m
N1	Hatching Dragons	Urban Background	532164	181641	NO_2	Yes	0m	N/A	No	2m
N2	Bright Horizons	Urban Background	532210	181975	NO_2	Yes	0m	1.5m	No	2.1m
SPS2	St Pauls School Front Railings	Roadside	532175	181150	NO_2	Yes	9m	3.5m	No	2m
CLS2	Boys School Sports Access Ramp	Urban Background	532051	180900	NO_2	Yes	0m	40m	No	2m
CHS1	Charterhouse Square School	Roadside	531988	181881	NO_2	Yes	0m	3m	No	2m
CSG	Cheapside Sunken Garden	Roadside	532174	181214	NO_2	Yes	N/A	10m	No	2m
TC	Temple Church Courtyard	Urban Background	531254	181044	NO_2	Yes	N/A	N/A	No	2m

Table G. Details of Non-Automatic Monitoring Sites for 2023: Transport Strategy Diffusion Tube Sites

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
T2	Byward Street	Roadside	533294	180688	NO_2	Y	6.5m	3.5m	No	2m
T3	Seething Lane	Roadside	533385	180722	NO_2	Y	N/A	3.2m	No	2m
T4	Crosswall	Kerbside	533513	180939	NO_2	Y	N/A	1m	No	2m
T5	Minories	Kerbside	533600	181165	NO_2	Y	N/A	0.5m	No	2m
T6	Stoney Lane	Roadside	533549	181345	NO_2	Y	12m	2.5m	No	2m
T7	Heneage Lane	Urban Centre	533418	181257	NO_2	Y	N/A	12m	No	2m
T10	St Mary Axe	Kerbside	533239	181152	NO_2	Y	N/A	1m	No	2m
T13	Blackfriars Bridge	Kerbside	531644	180857	NO_2	Y	N/A	0.5m	No	2m
T14	Victoria Embankment	Kerbside	531197	180826	NO_2	Y	N/A	0.5m	No	2m
T15	Fleet Street	Kerbside	531419	181166	NO_2	Y	N/A	0.5m	No	2m
T16	Ludgate Hill	Kerbside	531769	181167	NO_2	Y	N/A	0.5m	No	2m
T17	Museum of London	Kerbside	532156	181528	NO_2	Y	N/A	0.5m	No	2m
T18	London Wall	Kerbside	532240	181559	NO_2	Y	N/A	0.5m	No	2m
T20	The Fable	Kerbside	531592	181563	NO_2	Y	N/A	0.5m	No	2m
T21	North Old Bailey	Kerbside	531804	181395	NO_2	Y	N/A	0.5m	No	2m
T23	The Gherkin	Roadside	533263	181248	NO_2	Y	N/A	2m	No	2m

Table H. Details of Non-Automatic Monitoring Sites for 2023: Beech Street ZEV Street Project

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
BS1	Aldersgate Street	Kerbside	532105	181967	NO_2	Yes	25m	0.5m	No	2m
BS14	Bunhill Row/Chiswell Street	Kerbside	532631	181924	NO_2	Yes	N/A	1m	No	2m
BS16	Moore Lane/Ropemaker Street	Kerbside	532615	181856	NO_2	Yes	N/A	0.5m	No	2m
BS17	Moorgate	Kerbside	532756	181723	NO_2	Yes	N/A	0.5m	No	2m
BS18	London Wall/ Moorgate	Kerbside	532706	181571	NO_2	Yes	16m	1m	No	2m
BS19	London Wall	Kerbside	532612	181576	NO_2	Yes	N/A	1m	No	2m
BS20	Wood Street	Roadside	532412	181685	NO_2	Yes	15m	2.2m	No	2m
BS21	Goswell Road	Kerbside	532101	182074	NO_2	Yes	2m	0.5m	No	2.1m

The diffusion tubes listed in Table H above were deployed to gather data for monitoring the impacts of the Beech Street ZEV Street project. Some of the sites monitored lie outside of the CoL's boundary to assess the impact in neighbouring Boroughs, these have not been included within Table H.

Table I. Details of Non-Automatic Monitoring Sites for 2023: St Martin's Le Grand Regeneration Project

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
SM1	Wood Street	Kerbside	532312	181270	NO_2	Yes	N/A	0.5m	No	1.95m
SM2	Cheapside East	Kerbside	532210	181217	NO_2	Yes	N/A	0.9m	No	2.1m
SM3	Cheapside West	Kerbside	532154	181260	NO_2	Yes	N/A	0.5m	No	2m
SM4	Cheapside/ Newgate Street	Kerbside	532095	181285	NO_2	Yes	N/A	0.8m	No	2m
SM5	Newgate Street East	Kerbside	531980	181331	NO_2	Yes	N/A	0.6m	No	2m
SM6	Newgate Street West	Kerbside	531898	181353	NO_2	Yes	N/A	1m	No	2m
SM7	King Edward Street	Kerbside	532025	181371	NO_2	Yes	N/A	0.9m	No	2m
SM8	Postman's Park West	Roadside	532041	181468	NO_2	Yes	10m	4.7m	No	2m
SM9	Little Britain	Kerbside	532038	181534	NO_2	Yes	N/A	0.7m	No	1.9m
SM10	Montague Street	Kerbside	532082	181578	NO_2	Yes	N/A	0.8m	No	2.1m
SM11	Postman's Park East	Kerbside	532143	181492	NO_2	Yes	N/A	0.5m	No	2m
SM12	St Martin's Le Grand North	Kerbside	532138	181425	NO_2	Yes	N/A	0.5m	No	2m
SM13	St Martin's Le Grand South	Kerbside	532143	181371	NO_2	Yes	N/A	0.7m	No	2m
SM14	St Martin's Le Grand/ Cheapside	Kerbside	532137	181316	NO_2	Yes	N/A	0.7m	No	2m

1.2 Comparison of Monitoring Results with AQOs

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

Table J. Annual Mean NO_2 Monitoring Results: Automatic Monitoring

Site ID	Valid data capture for monitoring period % (1)	Valid data capture 2023 % (2)	2017	2018	2019	2020	2021	2022	2023
CT3	91.9	91.9	38	32	33	22	23	22.8	21.5
CT4	99.2	99.2	**80**	**69**	**62**	29	31	**40.6**	36.1
CTA	96.9	96.9	-	-	-	-	-	-	31.6

Notes:

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

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

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

Means for diffusion tubes have been corrected for bias.

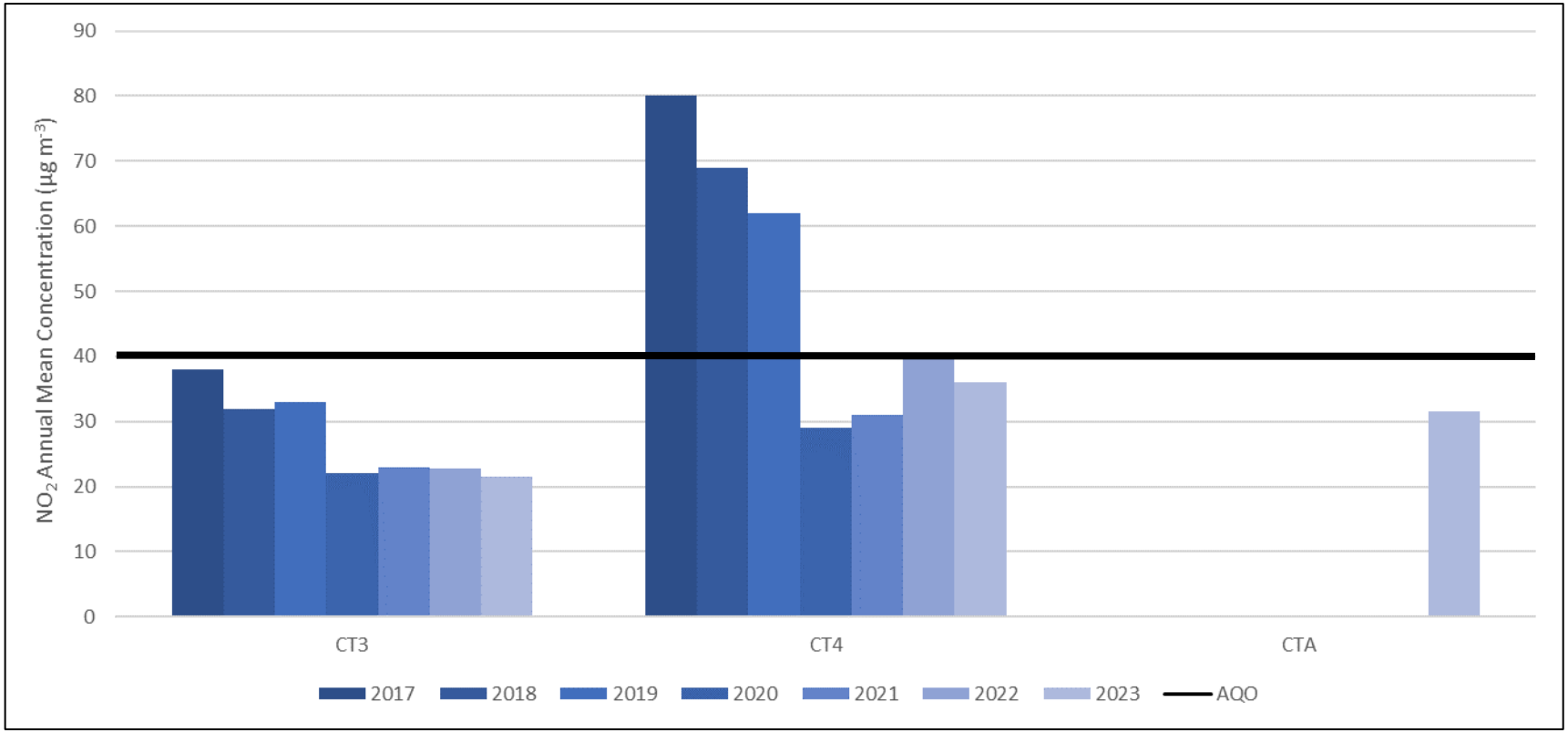
All means have been "annualised" in accordance with LLAQM Technical Guidance if valid data capture for the calendar year is less than 75% and greater than 25%.

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

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

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

Figure A. Annual Mean NO_2 Automatic Monitoring Results: Automatic Monitoring Sites



All three automatic monitoring stations were compliant with the annual mean AQO in 2023. The urban background site CT3 has been compliant with the AQO for each of the seven years presented, and since 2020 has shown consistent results, with a range of 1.5 µg m^{-3}. The roadside site CT4 shows a significant reduction in annual mean NO_2 concentration in the seven-year period. The reduction experienced in 2020 coincides with Covid-19 restrictions and an 18-month period of traffic restrictions. There has been a rebound in concentrations since 2020, but not to the level of pre-2020 concentrations. 2023 was the first year where NO_2 monitoring was completed at CTA.

Table K. Annual Mean NO_2 Monitoring Results: Long Term Diffusion Tube Sites

Site ID	Valid data capture for monitoring period % (1)	Valid data capture 2023 % (2)	2017	2018	2019	2020	2021	2022	2023
CL5	100.0	100.0	**63**	**50**	**42**	33	31	32.2	33.9
CL38	100.0	100.0	**52**	**50**	**41**	28	28	30.0	27.5
CL39	100.0	100.0	**82**	**70**	**57**	31	36	37.4	38.4
CL40	100.0	100.0	**48**	**46**	39	33	27	27.0	26.0
CL55	90.4	90.4	32	31	28	19	19	19.5	18.9

Table L. Annual Mean NO_2 Monitoring Results: Bank Diffusion Tube Sites

Site ID	Valid data capture for monitoring period % (1)	Valid data capture 2023 % (2)	2017	2018	2019	2020	2021	2022	2023
Bank 1	48.1	48.1	**65**	**50**	**40**	38	37	38.0	38.1
Bank 2a	92.3	92.3	-	-	-	-	-	-	27.5
Bank 3	100.0	100.0	**52**	**52**	**47**	30	30	28.1	29.1
Bank 5	92.3	92.3	**63**	**53**	**56**	36	32	33.4	28.6
Bank 6	100.0	100.0	**70**	**61**	**61**	**42**	35	36.2	32.8
Bank 8	92.3	92.3	**56**	**56**	**45**	30	28	28.1	26.8
Bank 11	75.0	75.0	**57**	**62**	**41**	26	27	28.7	26.1
Bank 12	65.4	65.4	**69**	**62**	**42**	31	28	28.7	25.9

Bank 13	90.4	90.4	**57**	**53**	**45**	28	26	26.8	25.4
Bank 14	67.3	67.3	**61**	**57**	**49**	32	32	35.5	31.6
Bank 15	82.7	82.7	**54**	**65**	**53**	33	38	37.1	37.7
Bank 16	100.0	100.0	**59**	**62**	**53**	36	**41**	39.9	37.0
Bank 17	100.0	100.0	**66**	**66**	**52**	36	36	34.4	33.5
Bank 18	92.3	92.3	**54**	**52**	**46**	30	30	27.1	29.3
Bank 19	55.8	55.8	**44**	**45**	39	24	24	23.5	25.8
Bank 20	40.4	40.4	**74**	**69**	**49**	36	34	34.0	32.7
Bank 22	57.7	57.7	**66**	**62**	**51**	33	36	**41.8**	34.4

Table M. Annual Mean NO_2 Monitoring Results: LEN Area Diffusion Tube Sites

Site ID	Valid data capture for monitoring period % (1)	Valid data capture 2023 % (2)	2017	2018	2019	2020	2021	2022	2023
LEN 1	100.0	100.0	**53**	**43**	38	28	27	28.5	28.2
LEN 3	92.5	92.5	**69**	**62**	**50**	33	30	36.7	36.8
LEN 4	82.7	82.7	**62**	**57**	**47**	**41**	35	**43.0**	35.3
LEN 5	82.5	82.5	**40**	37	-	24	22	23.2	23.2
LEN 6	91.9	91.9	**46**	**42**	**40**	23	25	26.2	26.0
LEN 9	92.2	92.2	**48**	**49**	**42**	29	36	31.7	33.0
LEN 15	100.0	100.0	-	**41**	36	23	23	24.6	22.9

Table N. Annual Mean NO_2 Monitoring Results: City Area Diffusion Tube Sites

Site ID	Valid data capture for monitoring period % (1)	Valid data capture 2023 % (2)	2017	2018	2019	2020	2021	2022	2023
TAS 1/2/3 (3)	100.0	100.0	**40**	39	33	22	24	22.9	22.5
BWL 1/2/3 (3)	92.3	92.3							29.8
WW (4)	100.0	100.0	**82**	**77**	**64**	**41**	**44**	**49.8**	**48.9**
PLA5	92.3	92.3	-	**41**	35	29	31	33.9	31.4
LS	100.0	100.0	-	**71**	**52**	35	35	30.9	34.8
FA	75.0	75.0	**46**	36	35	26	25	24.4	20.6

FL	92.3	92.3	-	**56**	**44**	29	30	31.3	28.2
OS3	63.5	63.5	-	**41**	39	24	24	26.3	25.9
OS6	92.3	92.3	-	-	-	-	25	24.9	23.3
OS7	100.0	100.0	-	-	-	-	27	27.2	26.9
GY	100.0	100.0	-	-	**44**	25	28	28.3	27.7
CT	90.4	90.4	-	-	-	30	30	30.0	31.6
N1	100.0	100.0	-	-	-	22	22	22.8	23.1
N2	100.0	100.0	-	-	-	24	21	20.6	19.8
SPS2	92.3	92.3	-	-	**42**	31	28	30.3	31.6
CLS2	100.0	100.0	-	-	-	21	23	24.0	21.4
CHS	75.0	75.0	-	-	-	-	25	24.7	23.4
CSG	100.0	100.0	-	-	-	-	-	27.4	28.7
TC	92.3	92.3	-	-	-	-	-	21.4	22.8

Table O. Annual Mean NO_2 Monitoring Results: Transport Strategy Diffusion Tube Sites

Site ID	Valid data capture for monitoring period % (1)	Valid data capture 2023 % (2)	2017	2018	2019	2020	2021	2022	2023
T2	90.4	90.4	-	**67**	**51**	**33**	**40**	38.3	36.8
T3	100.0	100.0	-	**71**	**57**	**41**	**46**	**45.1**	**46.1**
T4	65.4	65.4	-	**50**	**44**	26	27	30.0	27.3
T5	100.0	100.0	-	**62**	**49**	36	37	39.5	37.6
T6	82.7	82.7	-	**40**	39	25	25	27.4	23.8
T7	82.7	82.7	-	**42**	33	25	25	26.0	24.1
T10	90.4	90.4	-	**50**	**42**	24	25	23.7	24.7
T13	100.0	100.0	-	**62**	**56**	**41**	38	37.3	38.1
T14	92.3	92.3	-	**68**	**57**	36	38	39.9	38.2
T15	92.3	92.3	-	**62**	**47**	33	30	35.1	33.3
T16	84.6	84.6	-	**61**	**50**	31	31	34.2	31.1
T17	100.0	100.0	-	**66**	**55**	36	35	36.7	38.1
T18	100.0	100.0	-	**65**	**52**	36	36	36.8	32.0
T20	90.4	90.4	-	**58**	**51**	35	30	35.7	32.8
T21	100.0	100.0	-	**73**	**56**	36	**43**	**44.4**	**42.3**
T23	76.9	76.9	-	-	-	-	27	26.0	22.1

Table P. Annual Mean NO_2 Monitoring Results: Beech Street Project Diffusion Tubes

Site ID	Valid data capture for monitoring period % (1)	Valid data capture 2023 % (2)	2017	2018	2019	2020	2021	2022	2023
BS1	90.4	90.4	-	-	**47**	37	39	**43.5**	37.0
BS14	50.0	50.0	-	-	**40**	25	25	27.9	25.1
BS16	100.0	100.0	-	-	34	27	26	25.1	24.3
BS17	100.0	100.0	-	-	**52**	30	34	31.2	37.2
BS18	100.0	100.0	-	-	**52**	34	37	36.1	34.3
BS19	100.0	100.0	-	-	**49**	34	35	34.6	33.4
BS20	73.1	73.1	-	-	29	23	24	20.7	22.0
BS21	90.4	90.4	-	-	-	31	36	34.7	34.2

Table Q. Annual Mean NO_2 Monitoring Results: St Martin's Le Grand Regeneration Project Diffusion Tubes

Site ID	Valid data capture for monitoring period % (1)	Valid data capture 2023 % (2)	2017	2018	2019	2020	2021	2022	2023
SM 1	82.7	82.7	-	-	-	-	-	-	24.0
SM 2	92.3	92.3	-	-	-	-	-	-	32.7
SM 3	67.3	67.3	-	-	-	-	-	-	34.4
SM 4	50.0	50.0	-	-	-	-	-	-	38.3
SM 5	100.0	100.0	-	-	-	-	-	-	**40.2**

SM 6	100.0	100.0	-	-	-	-	-	-	34.1
SM 7	90.4	90.4	-	-	-	-	-	-	37.0
SM 8	100.0	100.0	-	-	-	-	-	-	32.5
SM 9	90.4	90.4	-	-	-	-	-	-	34.2
SM 10	92.3	92.3	-	-	-	-	-	-	39.8
SM 11	100.0	100.0	-	-	-	-	-	-	39.7
SM 12	100.0	100.0	-	-	-	-	-	-	**42.4**
SM 13	82.7	82.7	-	-	-	-	-	-	38.8
SM 14	75.0	75.0	-	-	-	-	-	-	38.1

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

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

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

Notes:

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

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

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

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

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

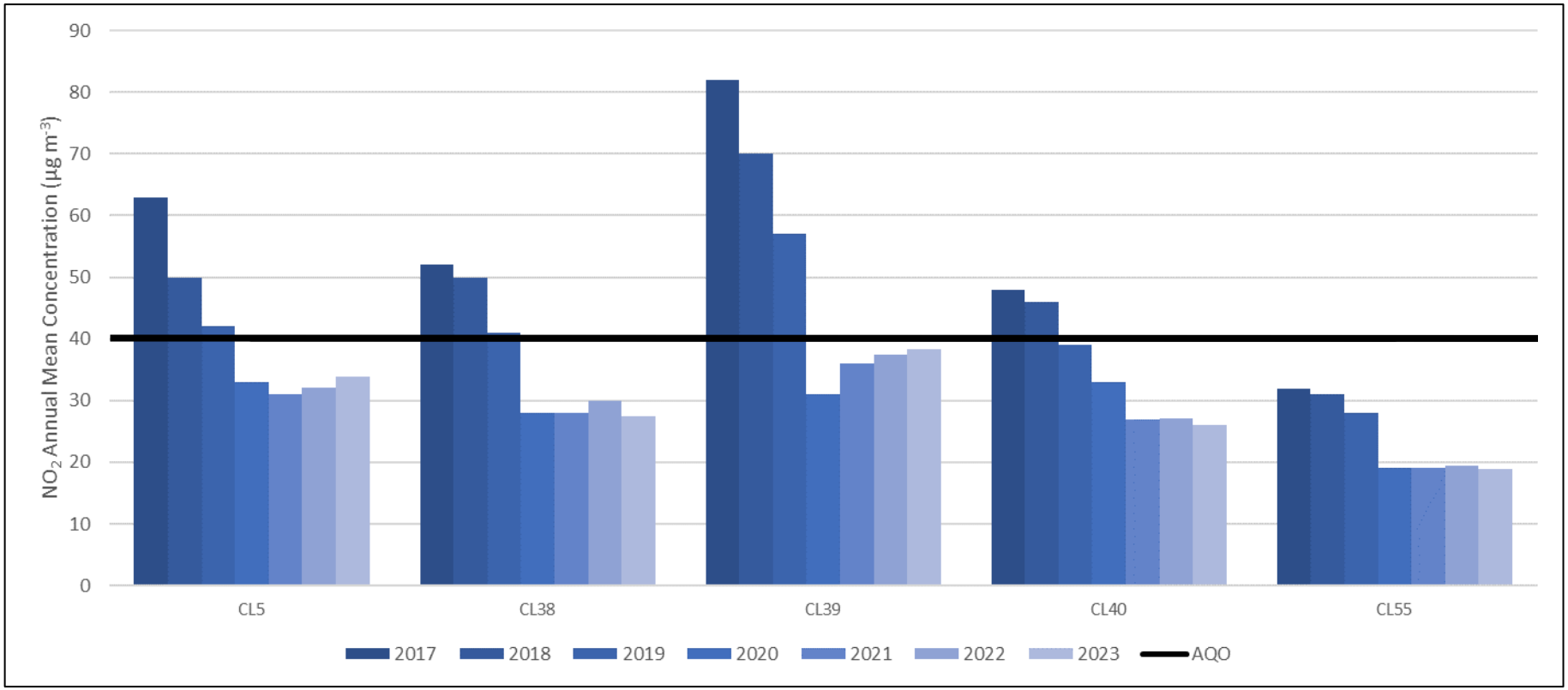
(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

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

(3) TAS and BWL are sites of triplicate diffusion tubes co-located at CT3 and CTA. The results presented are an average of the triplicate tubes at each site.

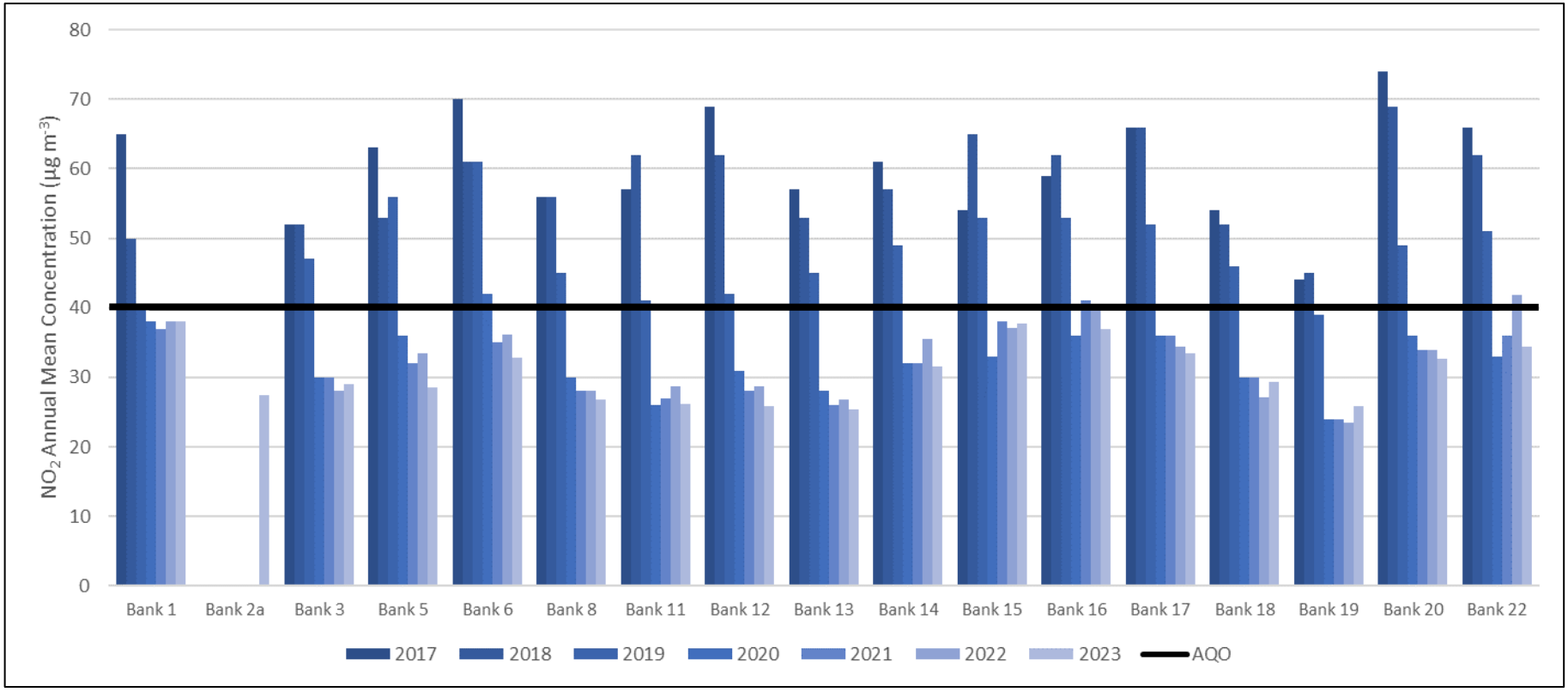
(4) Prior to 2023 WW was also a triplicate co-location site. Since February 2023 only a single tube has been exposed per monitoring period.

Figure B. Annual Mean NO_2 Automatic Monitoring Results: Long Term Diffusion Tube Sites



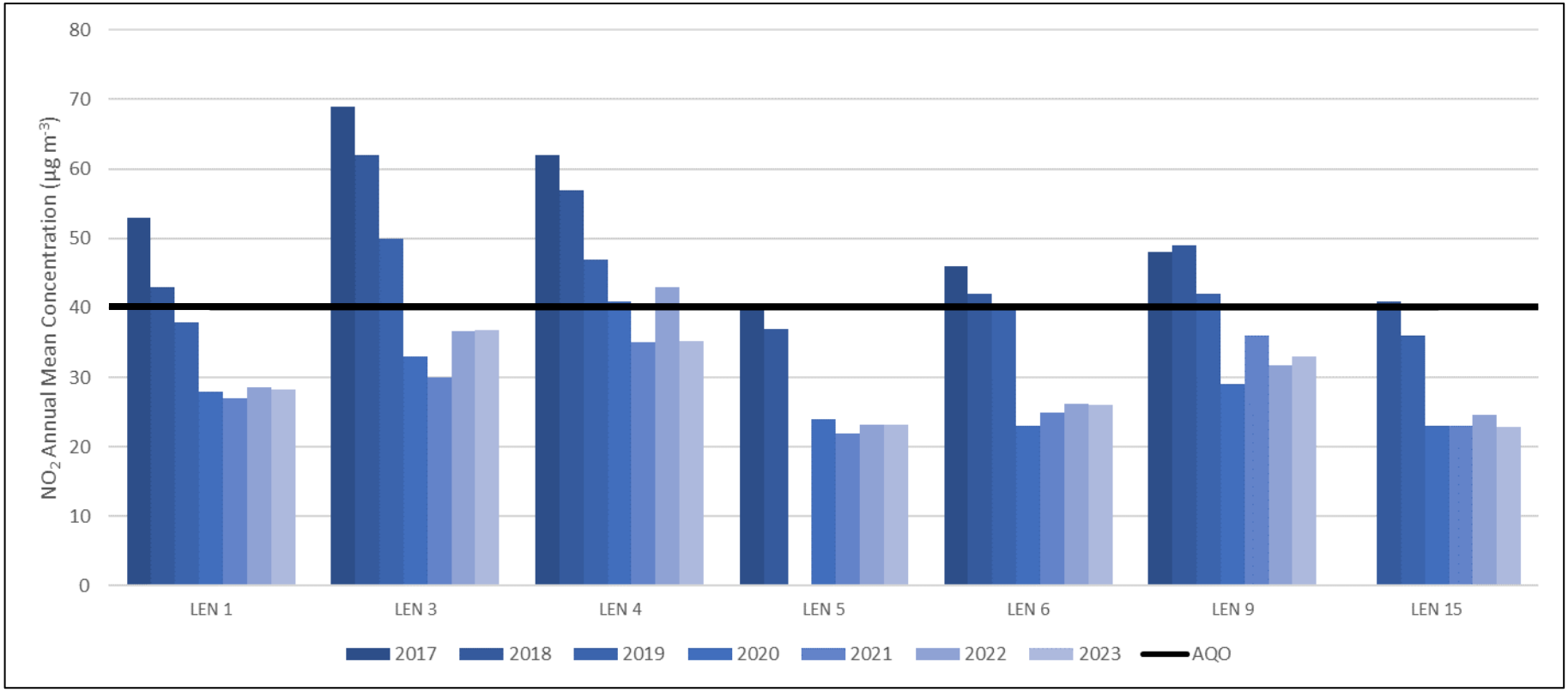
All long-term monitoring sites remain compliant with the annual mean AQO, with the last exceedances experienced in 2019.Whilst CL38, CL40 and CL55 have remained consistent for the past 3-4 years, CL5 and more significantly CL39 have experienced a gradual increase in annual mean concentrations.

Figure C. Annual Mean NO_2 Automatic Monitoring Results: Bank Area Diffusion Tubes



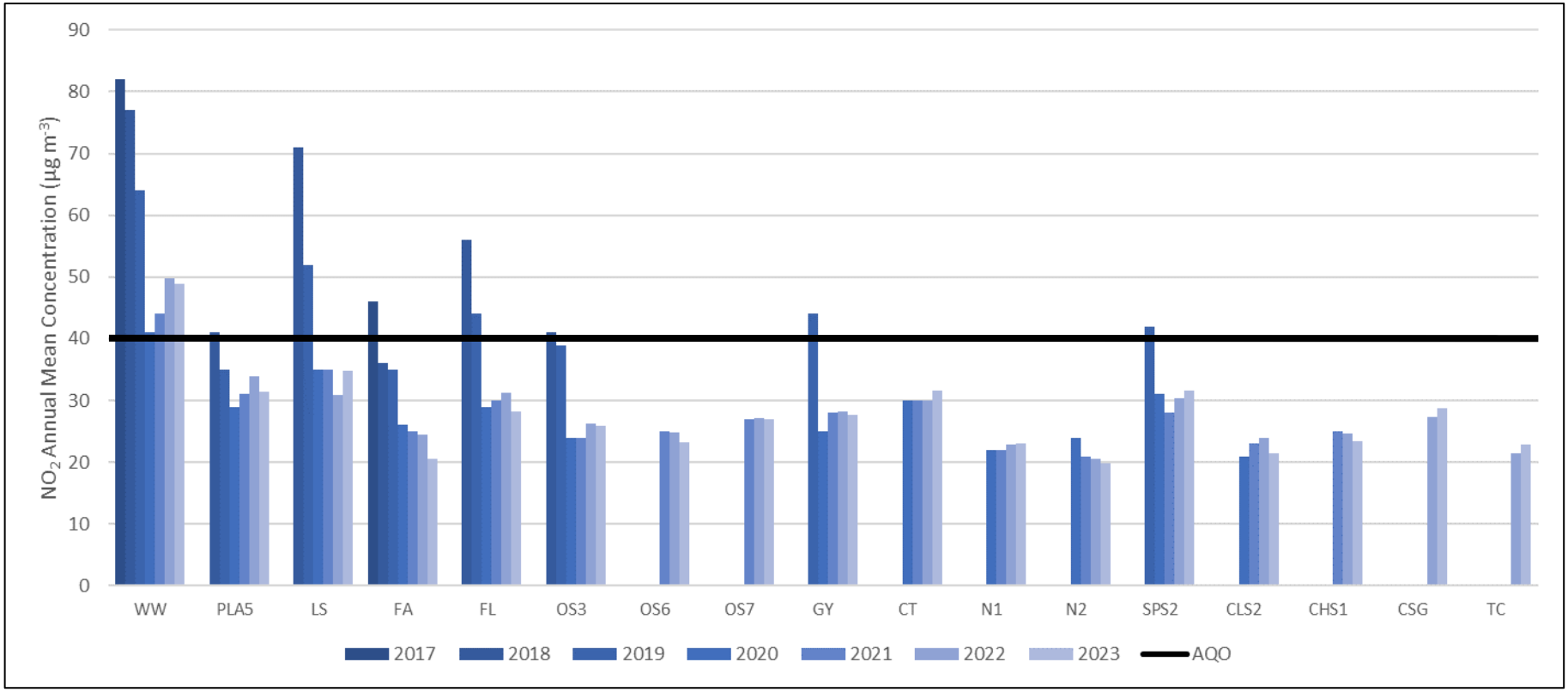
2023 is the first year since NO_2 monitoring began across the Bank area (2016) where all active monitoring sites have achieved compliance with the annual mean AQO. Within the monitoring period presented, reductions of between 16.3 and 43.1 µg m^{-3} have been experienced.

Figure D. Annual Mean NO_2 Automatic Monitoring Results: LEN Area Diffusion Tube Sites



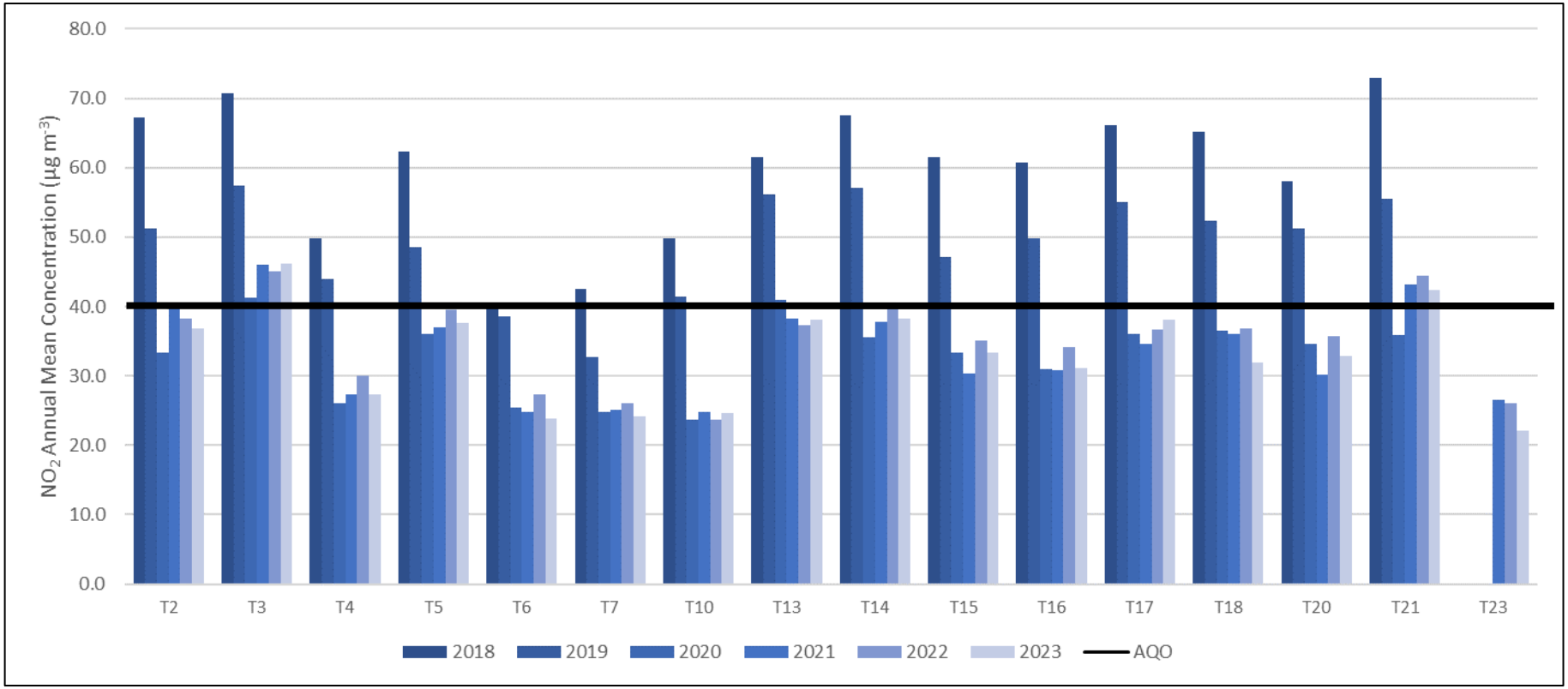
Monitoring commenced in the CoL Low Emission Neighbourhood (LEN) area around the Barbican at the end of 2017 to measure the impact of the project during its delivery, and in the years after its completion in 2019. NO_2 concentrations in the area vary, however all sites in the LEN area have recorded a reduction in NO_2 concentrations since their inception. 2023 was the first year where all active sites achieved compliance with the annual mean AQO.

Figure E. Annual Mean NO_2 Automatic Monitoring Results: City Area Diffusion Tube Sites



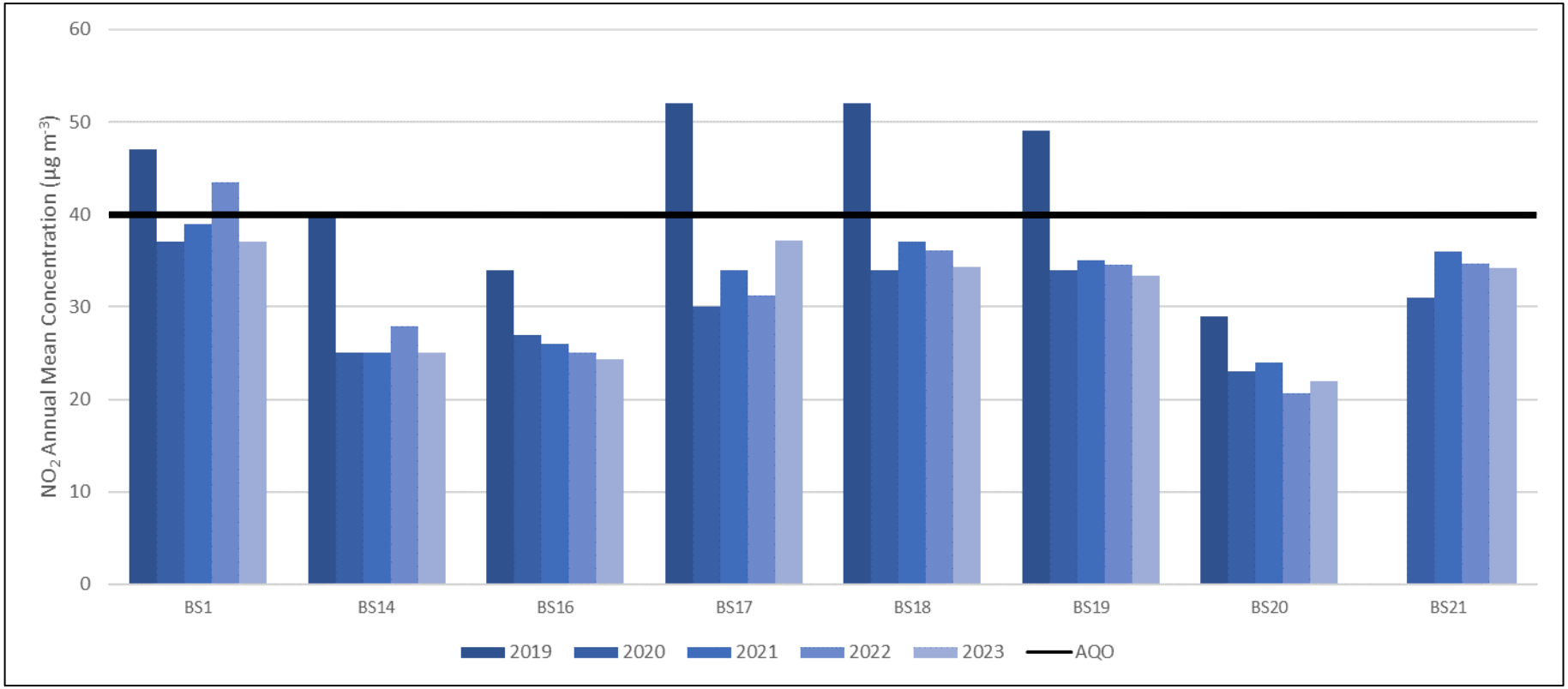
Exceedances of the annual mean AQO have not been recorded at any site since 2019 except for WW. WW is located where the decommissioned CT6 automatic monitoring site was located, and this location has consistently recorded the highest annual mean concentration in the Square Mile. The triplicate sites of TAS and BWL have not been presented in Figure E due to being co-located with automatic analysers which are a more accurate method of monitoring.

Figure F. Annual Mean NO_2 Automatic Monitoring Results: Transport Strategy Diffusion Tube Sites



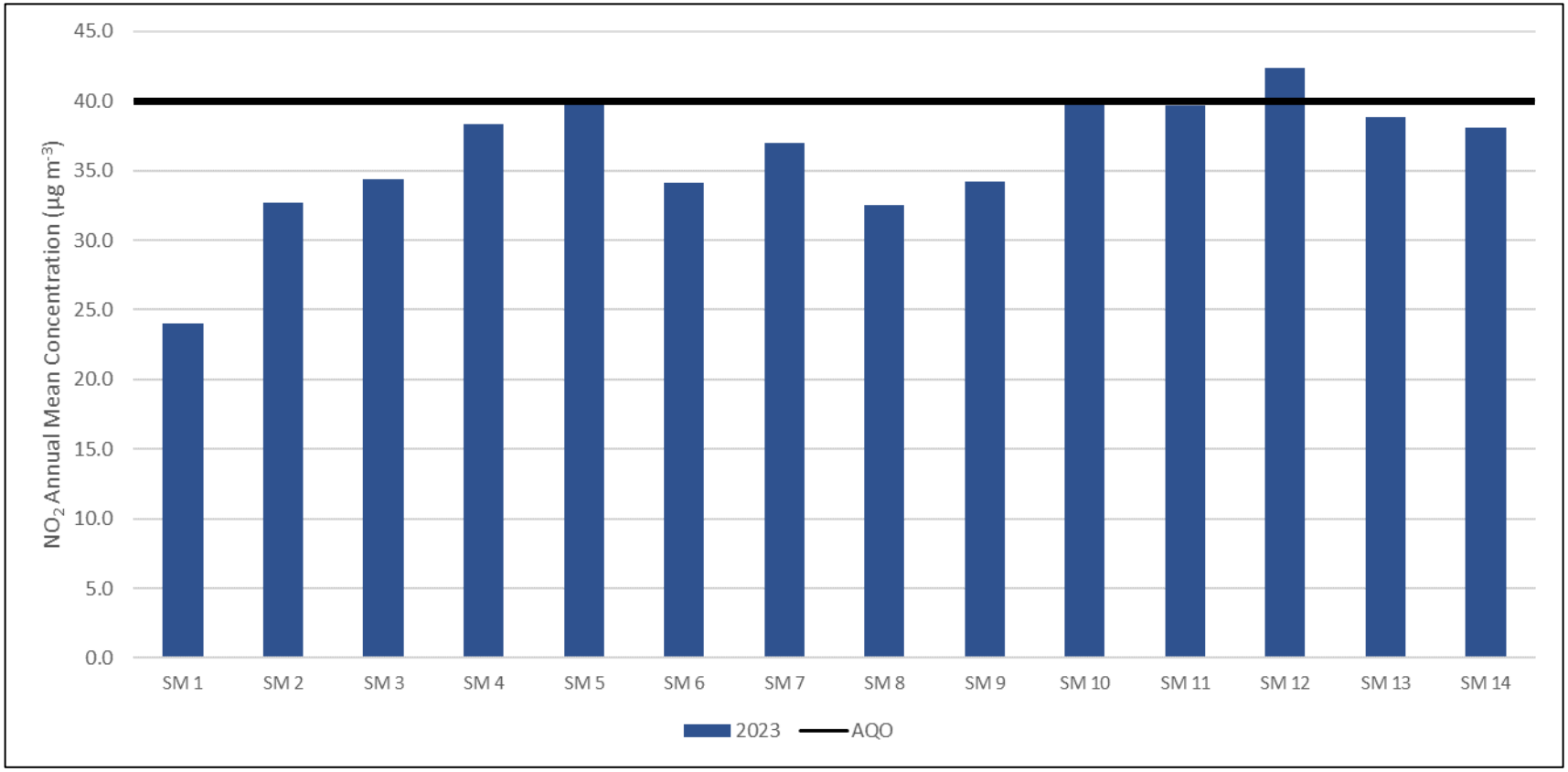
NO_2 diffusion tubes were deployed in 2018 to measure the impacts of the CoL Transport Strategy, which was adopted in May 2019. All the sites are roadside locations, and of the 16 active sites all were compliant with the annual mean AQO in 2023 except for T3 and T21. Both sites have continually exceeded the annual AQO since their inception.

Figure G. Annual Mean NO_2 Automatic Monitoring Results: Beech Street Project Diffusion Tube Sites



Diffusion tubes were installed on Beech Street and the surrounding roads in to establish NO_2 pollution concentrations prior to and during an experimental 18-month closure of Beech Street to all but tailpipe ZEV capable traffic. The scheme began in March 2020 and ended in September 2021, therefore will have been impacted from changing traffic numbers during periods of Covid-19 restrictions. It was decided in July 2023 that the zero-emission scheme was not to be made permanent. 2023 was the first year where all active sites within the area achieved compliance with the annual mean AQO.

Figure H. Annual Mean NO_2 Automatic Monitoring Results: St Martin's Le Grand Diffusion Tube Sites



NO_2 diffusion tubes were deployed in 2023 at a number of locations close to St Martin's Le Grand to initially provide baseline concentration data for a large redevelopment project. All the sites are either kerbside or roadside locations. Of the 14 sites deployed in 2023 all were compliant with the annual mean AQO except for SM 5 and SM 12. Monitoring will continue in the area throughout the duration of the regeneration project.

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

Site ID	Valid data capture for monitoring period % (1)	Valid data capture 2023 % (2)	2017	2018	2019	2020	2021	2022	2023
CT3	91.9	91.9	0	0	0	0	0	0	0
CT4	99.2	99.2	**67**	**27**	7	0	0	0	0
CTA	96.9	96.9	**-**	**-**	**-**	-	-	-	0

Notes

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

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

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

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

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

2023 was the fourth consecutive year where no hourly NO_2 concentrations greater than 200 µg m^{-3} were recorded. In addition, the relevant AQO has been complied with for five consecutive years. A significant reduction has been experienced at CT4, with the location significantly exceeding the AQO in 2017 but achieving compliance from 2019 onwards.

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

Site ID	Valid data capture for monitoring period % (1)	Valid data capture 2023 % (2)	2017	2018	2019	2020	2021	2022	2023
CT3	96.0	96.0	23	21	19	16	16	16.8	14.9
CT4	85.6	85.6	23	24	22	18	15	17.3	15.2
CTA	98.9	98.9	-	-	-	-	-	19.5	16.6

Notes

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

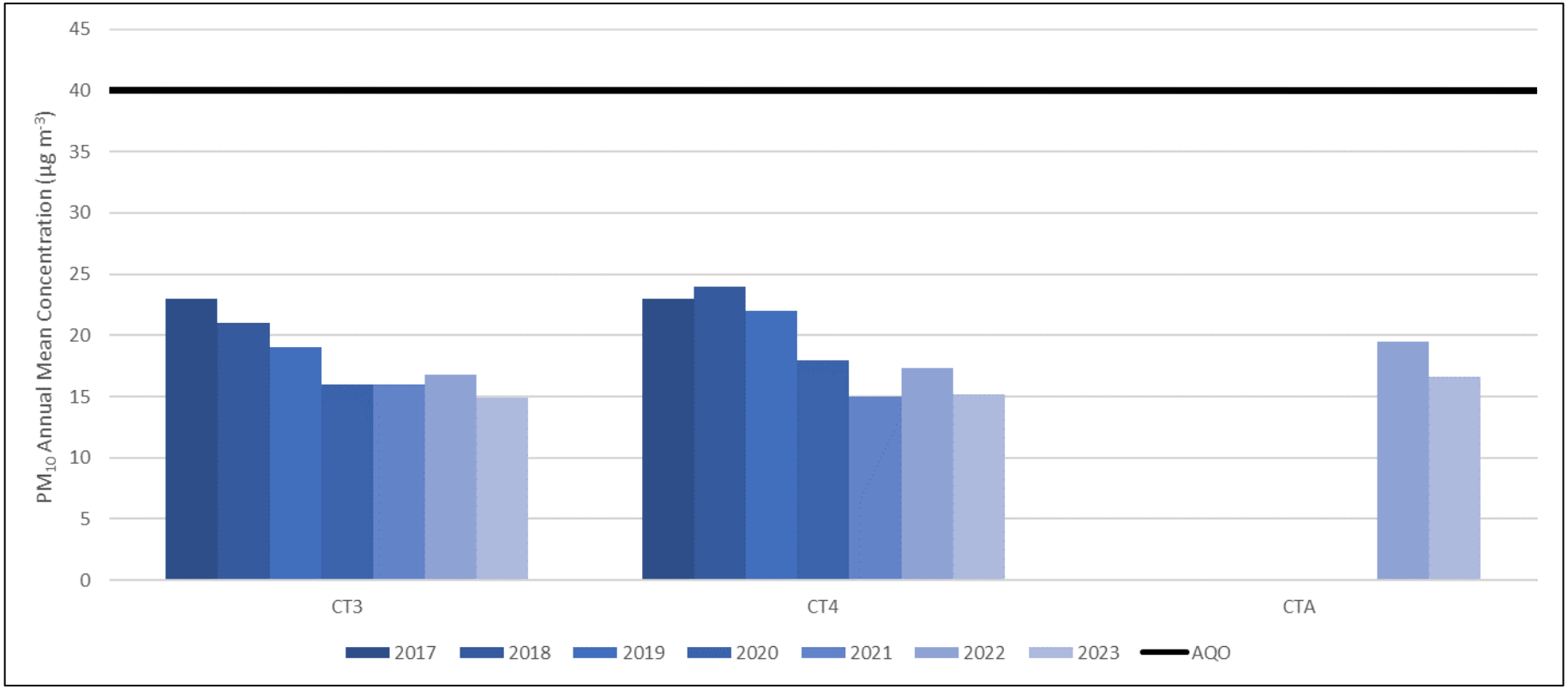
Exceedances of the PM_{10} annual mean AQO of 40 µg m^{-3} are shown in **bold**.

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

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

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

Figure I. Annual Mean PM_{10} Automatic Monitoring Results



All PM_{10} monitoring sites have complied with the annual mean AQO for the past seven years. Within the seven-year period CT3 and CT4 have seen a similar reduction in concentration; 8.1 µg m^{-3} and 7.8 µg $m^{-3,}$ respectively. 2023 was the second year of monitoring completed at CTA, and first where data capture was above the annualisation threshold.

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

Site ID	Valid data capture for monitoring period % (1)	Valid data capture 2023 % (2)	2017	2018	2019	2020	2021	2022	2023
CT3	96.0	96.0	8	3	7	1	1	3 (25.7)	0
CT4	85.6	85.6	8	9	6	2	0	3	0
CTA	98.9	98.9	-	-	-	-	-	0 (27.8)	5

Notes

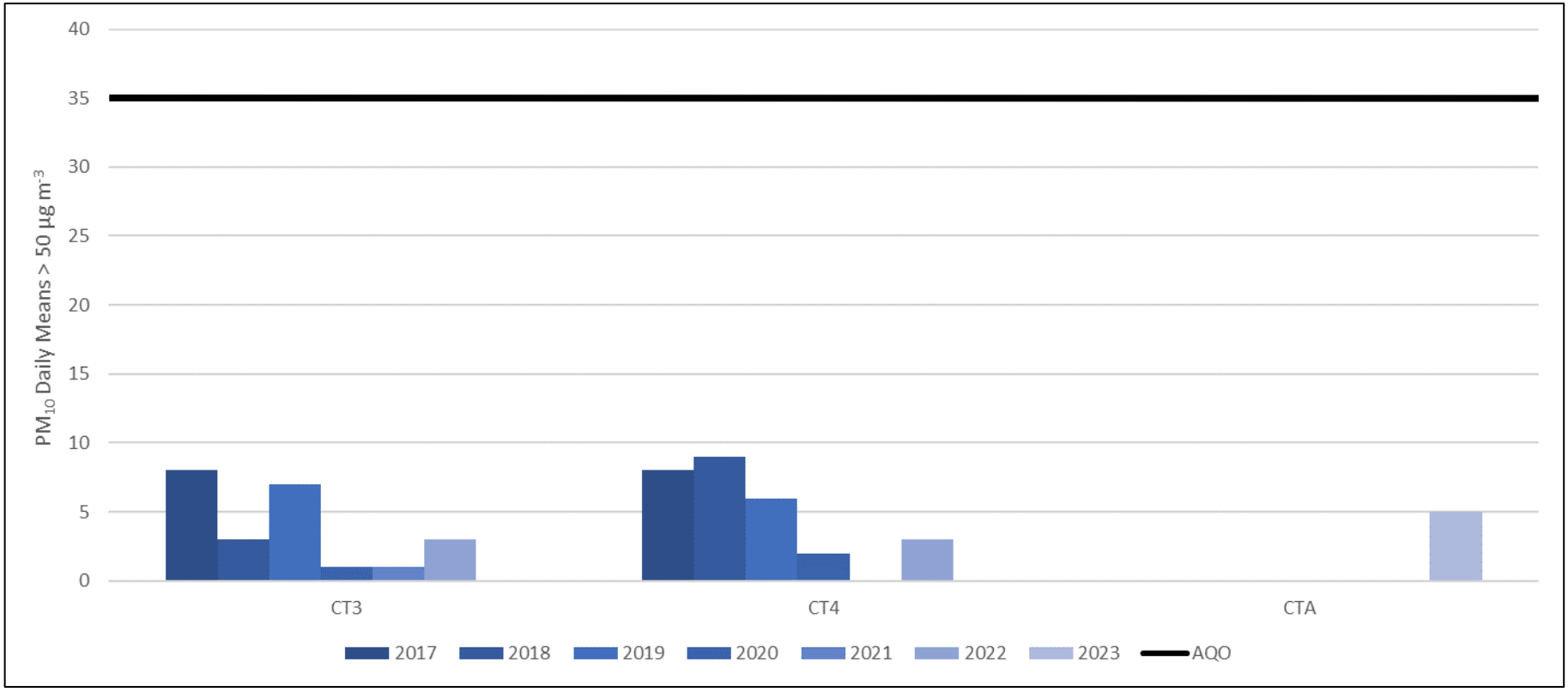
Exceedances of the PM_{10} 24-hour mean objective (50 µg m^{-3} over the permitted 35 days per year) are shown in **bold.**

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

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

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

Figure J. PM_{10} Automatic Monitoring Results: Comparison with 24-hr Mean AQO, Number of PM_{10} 24-hr Means > 50 µg m^{-3}



All PM_{10} monitoring sites have complied with the 24-hour mean AQO for the past seven years. The AQO was last exceeded in 2016. All active monitoring sites had a data capture of greater than 85% in 2023. As stated above 2023 was the first full year of monitoring completed at CTA.

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

Site ID	Valid data capture for monitoring period % (1)	Valid data capture 2023 % (2)	2017	2018	2019	2020	2021	2022	2023
CT2	96.9	96.9	16	16	14	12	12	11.9	9.5
CT3	78.3	78.3	14	12	12	12	11	13.2	8.5

Notes

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

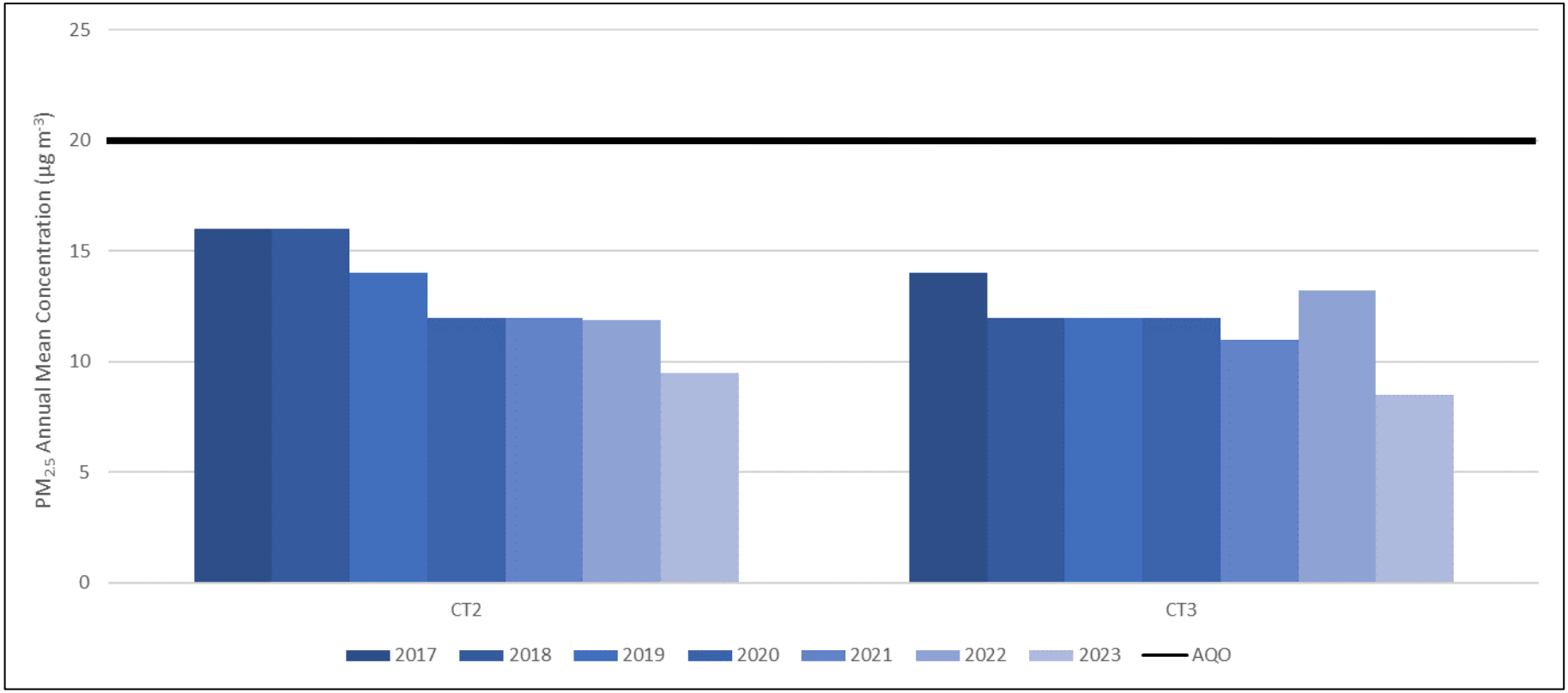
Exceedances of the $PM_{2.5}$ annual mean AQO of 20 µg m^{-3} are shown in **bold**.

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

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

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

Figure K. Annual Mean $PM_{2.5}$ Automatic Monitoring Results



The two $PM_{2.5}$ monitoring sites have complied with the annual mean AQO (20 µg m^{-3}, to be achieved by the 1st of January 2020) for the past seven years. Both sites present an overall decline between 2017 and 2023. It should be noted that the 2022 annual mean for CT3 was annualised due to data capture being less than 75%. In refence to the Mayor of London objective of 10 µg m^{-3}, to be achieved by 2030, both CT2 and CT3 complied with this objective in 2023.

Table V. O_3 Automatic Monitoring Results

Site ID	Valid data capture for monitoring period % (1)	Valid data capture 2023 % (2)	2022 Annual Mean (µg m^{-3})	2023 Annual Mean (µg m^{-3})
CT9	96.8	96.8	54.1	54.4

Notes

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

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

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

Although the monitoring and reporting of O_3 is not a requirement under LLAQM the CoL procured and installed an O_3 analyser during 2022. The analyser is located within the Guildhall on the 6th floor and has been operational since the 26th of March 2022 with the aim to compare long term trends of O_3 within the CoL as NO_2 concentrations have reduced across CoL and Greater London.

2. Action to Improve Air Quality

2.1 Air Quality Management Areas

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

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

- NO_2 annual mean.
- NO_2 1-hour mean.
- PM_{10} 24-hour mean.

As described above, the current AQMA has three separate designations. Two designations have seen compliance for five (NO_2 1-hour mean) and seven years (PM_{10} 24-hour mean) respectively. At the time of writing, in-line with current LLAQM Technical Guidance, the AQMA is to remain with all three designations for the following reasons:

- NO_2 annual mean: There continues to be a small number of monitoring locations within the Square Mile that report a concentration greater than the annual mean objective of 40 µg m^{-3}.
- NO_2 1-hour mean: Compliance with the 1-hour mean objective has been achieved since 2019, this designation will be reviewed with the GLA in 2024.
- PM_{10} 24-hour mean: As per LLAQM guidance, any AQMA for particulate matter should only be revoked following three years of continual compliance with the World Health Organisation guideline for $PM_{2.5}$ (2005 guideline). As presented in Table U this has not been achieved.

Table W. Declared Air Quality Management Area

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by National Highways*	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Number of Years Compliant with Air Quality Objective	Name and Date of AQAP Publication	Web Link to AQAP
City of London AQMA	26/01/2001	NO_2 annual mean	The entire Square Mile is designated as an AQMA	N/A	118.0 µg m^{-3}	48.9 µg m^{-3}	-	City of London Air Quality Strategy 2019-2024	City of London Corporation AQAP
City of London AQMA	26/01/2001	NO_2 1-hour mean	The entire Square Mile is designated as an AQMA	N/A	597 1-hour periods > 200 µg m^{-3}	No exceedance	Five	City of London Air Quality Strategy 2019-2024	City of London Corporation AQAP
City of London AQMA	26/01/2001	PM_{10} 24-hour mean	The entire Square Mile is designated as an AQMA	N/A	60 24-hour periods > 50 µg m^{-3}	No exceedance	Seven	City of London Air Quality Strategy 2019-2024	City of London Corporation AQAP

☒ **The City of London Corporation confirm the information on UK-Air regarding their AQMA is up to date.**

☒ **The City of London Corporation confirm that all current AQAPs have been submitted to GLA.**

* National Highways Strategic Road Network does not operate in central London. There are a number of Transport for London Road Network (TLRN) roads that pass through the Square Mile; A10, A201, A3211, A1210/11.

2.2 Air Quality Action Plan Progress

Since 2011 the City of London Corporation has adopted an Air Quality Strategy that incorporates the requirements of an AQAP. The current strategy is the City of London Air Quality Strategy 2019-2024. The strategy is currently being updated, and the revised version will be in place for the next round of LLAQM reporting.

Table X provides a brief summary of the progress made against the measures detailed in the current Air Quality Strategy, showing progress made this year.

Table X. Delivery of Air Quality Action Plan Measures

LLAQM Action Matrix Theme	Measure (Number corresponds to 2019-2024 Air Quality Strategy)	Action	Progress
Public health and awareness raising	1. Ensure that adequate and appropriate monitoring is undertaken across the City of London to fulfil statutory obligations and make good quality data available to the public.	NO_2, PM_{10} and $PM_{2.5}$ monitoring will continue using continuous analysers at four locations as a minimum. NO_2 diffusion tube monitoring will take place at 50 locations as a minimum. Support monitoring by our collaborators.	We have two $PM_{2.5}$, three PM_{10}, one ozone and three NO_x continuous analysers. All sites are serviced and audited in line with national guidance. The data is ratified by Ricardo Energy and Environment and made available to the public on the Air Quality England website. During 2023, we measured nitrogen dioxide at 86 locations using diffusion tubes.
Public health and awareness raising	2. Use air quality data to generate pollution alerts and messages using a range of media such as the free CityAir Smart Phone App.	Monitoring data will be used effectively to generate alerts for the smart phone app and tailored alerts for vulnerable people.	The air quality monitoring data is used to provide current information on air quality through the City Corporation CityAir App. It is also used to support the AirTEXT service.
Public health and awareness raising	3. Publish an annual report of air quality data on the City Corporation web site.	Annual reports will be produced for compliance with statutory obligations, demonstrating how air pollution compares to health-based Limit Values and WHO Guidelines and demonstrating how pollution has changed over time.	The 2022 Annual Status Report is available on the City Corporation air quality website. This report will also be made available on the web site.
Public health and awareness raising	4. Continue to make live data from continuous air quality monitors available to the public on the London Air Quality Network web site.	Kings College London will be commissioned to undertake independent checks of air quality data and make the data freely available to the public, consultants, and academics as part of a London wide resource.	Data from all continuous analysers is available on the Air Quality England website. This is managed by Ricardo Energy and Environment.

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Public health and awareness raising	5. Support the testing of new air quality sensors to establish their degree of accuracy.	Support the testing of one new sensor per year.	The City Corporation was part of the working group that developed the British Standard Institute Code of Practice 2023 'Selection, deployment and quality control of low-cost air quality sensor systems in outdoor ambient air'
Public health and awareness raising	6. Undertake an annual assessment of air quality to ensure levels of nitrogen dioxide in 90% of the Square Mile meet health-based Limit Values and World Health Organisation Guidelines by 2025	Work with partners on a standardised framework to improve comparability of results.	An area compliance assessment was undertaken for the year 2022, which was the latest year with a completed set of ratified data. The area of the Square Mile to comply with the NO_2 AQO in 2022 was 93%, this is a significant increase from 2019 when it was 67%. This figure was calculated using air quality modelling, calibrated with monitoring data collected across the Square Mile. The modelled concentrations are output on a 1m resolution grid.
Public health and awareness raising	7. Continue to place air quality as an important political priority and support the outcomes of the City Corporate Plan and local and London-wide action.	Host at least one London wide event per year for relevant air quality organisations. Arrange meetings with relevant policy and research bodies.	The City Corporation hosted an event in February 2024 to launch the Environmental Policy Implementation Community (EPIC), which is part of the Institution of Environmental Sciences. The City Corporation provides the chair for the EPIC steering group. The event was attended by around 80 people with an address by Dame Glenys Stacey, the Chair of the Office for Environmental Protection. The event provided a networking opportunity for the London air quality and wider environmental communities.
Emissions from developments and buildings	8. Provide information on reducing emissions from buildings for City Corporation facilities managers and investment property managers.	Develop on-line resource. Deliver annual lunchtime workshops for at least 80% of Facilities Managers.	A guidance document 'Combustion plant: Recommendations for best practice' is available on the City's Air Quality webpages. The webinar that accompanied the combustion plant guidance for facility managers has been converted to an educational video, available to view on YouTube via a dedicated link. An online Facilities Managers drop-in session was also held.
Emissions from developments and buildings	9. Reduce emissions of air pollutants from buildings owned by the City Corporation.	Undertake energy audits of City Corporation buildings. Reduce emissions of NO_x from large buildings by at least 3% per year.	Energy Audits were completed in 10 buildings. Gas usage decreased by 6.7% from the previous year and electricity usage by 1%.
Cleaner transport	10. Review the provision of electric vehicle charging across City Corporation sites including residential estates.	Assess the requirement for electric vehicle charge points.	In March 2020, an electric vehicle charging infrastructure action plan was developed. The recommendations are being delivered. Work continues to progress to provide more residential charge points in residents car parks - Barbican car parks installed new

LLAQM Action Matrix Theme	Measure (Number corresponds to 2019-2024 Air Quality Strategy)	Action	Progress
		Make recommendations for the installation and use of charge points to meet residents' requirements. Source funding for additional charging infrastructure.	EV charge points in 2021 and new charge points in further DCCS estates are planned, subject to funding. Electric vehicle charge points have been installed in Baynard House car park and were opened for use end of 2022.
Borough fleet actions	11. Ensure that, subject to operational requirements, 100% of vehicles owned or leased by the City Corporation are electric or hybrid by 2025.	Use the Responsible Procurement Strategy and Transport Coordination Group to ensure this target is met subject to suitable vehicle availability.	The following vehicle purchasing hierarchy is implemented: fully electric; plug in hybrid; petrol hybrid, Euro VI petrol; Euro VI diesel. We continue to reduce the size of our fleet and expand the number of electric vehicles. We currently have 40 fully electric and hybrid vehicles. The Fleet Operator Recognition Scheme (FORS) is a voluntary accreditation scheme designed to help fleet operators improve standards in their organisation. Bronze, Silver, or Gold accreditation is awarded to organisations based on a range of criteria including emissions and fuel efficiency. The City Corporation has been awarded the Gold FORS accreditation standard for over a decade.
Borough fleet actions	12. Continue to trial low and zero emission technology.	Take all opportunities to trial and evaluate at least one new low and zero emission vehicle per annum.	We continue to trial electric vehicles as they come onto the market. Following successful trials, refuse collection is undertaken using five all electric refuse collection vehicles.
Delivery servicing and freight	13. Continue to encourage zero emission vehicles through the supply chain.	Apply the menu of options in the Responsible Procurement Strategy to assist in reducing air pollution to major contracts. Review the menu of options biannually.	Following the latest review, the menu of options is: • Set ambitious targets for the reduction of nitrogen oxides, PM_{10} and $PM_{2.5}$ emissions from vehicles over the life of the contract. • Set an ambitious target for increasing the use of zero tailpipe emission vehicles over the life of the contract. • Set a target for a reduction in the number of motorised vehicle trips that form part of the services. • Develop a logistics approach that avoids vehicle movements during peak congestion and pedestrian footfall times, 07:00–10:00, 12:00–14:00, 16:00–19:00. • Use technology that supports air quality improvement e.g., gear shift indictors, stop-start ignition, software to monitor green driving.

LLAQM Action Matrix Theme	Measure (Number corresponds to 2019-2024 Air Quality Strategy)	Action	Progress
			• Green driver training for Contractor Staff used on the Contract, offer safer urban driving courses to drivers. • Another innovative action to support the Air Quality Strategy that the City would reasonably deem of an equivalent level of ambition.
Borough fleet actions	14. Require electric or hybrid vehicles as a default for the Corporate taxi contract, together with annual emission reduction targets	When the Corporate taxi contract is renewed, stipulate a requirement for low and zero emission vehicles as default, with emission reduction targets applied.	The City Corporation uses the Gett black cab App. Over 4000 black cabs available through the App are electric and over 6000 private hire vehicles are electric or hybrid. Gett offsets 100% of carbon emissions from each ride. The City Corporation also has a contract with Addison Lee who have 1,000 fully electric VW ID.4s in their fleet plus 400 Audi A6 zero-emission capable vehicles. For deliveries within five miles, the Courier Contract requires the use of zero emission transport e.g., cargo bikes. The contract for national and international parcels requires the use of safe, low-emission and zero emission modes of transport wherever possible.
Borough fleet actions	15. Require zero emission and electric or hybrid vehicles as a default for courier contracts, together with annual emission reduction targets	When the courier contracts are renewed, stipulate a requirement for zero and low emission vehicles as default, with emission reduction targets applied.	For deliveries within five miles, the Courier Contract requires the use of zero emission transport e.g., cargo bikes. The contract for national and international parcels requires the use of safe, low-emission and zero emission modes of transport wherever possible.
Public health and awareness raising	16. Continue to ensure that all relevant Corporate strategies and policies reflect the importance of improving local air quality and reducing exposure.	All existing strategies will be assessed for actions to assist in improving air quality and reducing exposure. Further measures will be included in Corporate strategies when they are reviewed.	The air quality team works very closely other teams, so air quality is considered in decision making. This includes Planning, Transportation, Public Realm, Highways, Recycling and Waste, Open Spaces, Procurement, Remebrancers, Public Health, Climate Action, and Fleet Management. The team is part of a Corporate Strategy Forum which has been set up to share best practice. The new Corporate Plan 2024 to 2029 includes a performance measure to assess progress towards World Health Organisation Air Quality Guidelines. This supports the outcome Leading Sustainable Environment.

LLAQM Action Matrix Theme	Measure (Number corresponds to 2019-2024 Air Quality Strategy)	Action	Progress
Public health and awareness raising	17. Work with London Councils and other stakeholders to develop proposals for legislation to help improve air quality across London.	Agree proposals for a Private Members Bill with London Councils. Coordinate proposals with the Greater London Authority and other bodies. Support the passage of the Bill through the House of Lords.	The Emission Reduction (Local Authorities in London) Private Members Bill was introduced to the House of Lords by Lord Tope in October 2019, and again in January 2020. The Bill, which is supported by London Councils, has not been selected for a second reading to date, but has been used to influence discussions with Defra officials about the provision of new powers to assist London local authorities with obligations under the Environment Act 2021. The provisions have also been promoted in responses to government consultations and to inform parliamentary debates such as the Environmental Targets (Fine Particulate Matter) (England) Regulations 2022. They were also promoted in the development of the Parliamentary POST research briefing on urban air quality.
Public health and awareness raising	18. Continue to work closely with the Greater London Authority and Transport for London on policies to improve air quality and ensure that all actions support the aims and objectives of the Mayor's Environment Strategy.	Ensure actions within this Strategy support the Mayor of London's activities and the requirements of LLAQM. Undertake air quality improvement projects with the support of the Mayor's Air Quality Fund. Support the activities of the Mayor of London Air Quality Department.	We continue to be part of the Mayor of London Non-Road Mobile Machinery enforcement project. We are about to commence work on a Mayor of London funded pan London idling engine programme. We are also providing support for a pan London project to gather data on mobile generators used in street works, filming, markets, and events.
Public health and awareness raising	19. Continue to collaborate with London Boroughs and London Councils on action to improve air quality.	Provide air quality advice to London Councils. Chair four meetings per annum of the London Air Quality Steering Group. Host four meetings per annum of the central London Air Quality Cluster group.	We hosted and chaired four virtual meetings of the London Air Quality Steering Group (LAQSG). These were attended by representatives from the Greater London Authority, Environment Agency, Port of London Authority, London Councils, UK Health Security Agency, and Lead Air Quality Cluster co-ordinators. We also represent London local authorities on behalf of the LAQSG at the London Air Quality and Health Delivery Group a forum, set up to maximise the health and care system's action on air pollution and health.

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			We have attended, and chaired in turn, quarterly Central London Cluster group meetings throughout 2023.
Public health and awareness raising	20. Support Universities with research into the health impacts of air pollution, to increase understanding of the sources of pollution and the effectiveness of interventions to reduce pollution.	Support research on impact of building form on wind patterns and pollution concentrations. Support an air quality dissertation through Dissertations for Good. Support other research projects as and when required. Source funding to support London Universities with research for dealing with air pollution in urban areas.	We sit on the Air Pollution Research in London (APRIL) committee which identifies priority areas for research to improve air quality in London and other major cities, supports the development of new scientific research and communicates the latest research findings. Research into the impact of urban form on air pollution is ongoing.
Public health and awareness raising	21. Continue to support the Third Sector to deliver air quality improvement projects and raise awareness amongst London's communities.	Judge the Sustainable Transport Category of the Sustainable City Awards. Support the work of Environmental Protection UK with events, meeting space and administrative support.	We provided a representative for the judging panel for the 2023 Sustainable City Awards. We supported the development of the draft EPIC Guidance for local authorities on Air Quality and Climate Change.
Public health and awareness raising	22. Support the Port of London Air Quality Strategy through air quality monitoring and in taking wider action to reduce emissions from vessels on the river Thames.	Monitor air pollution along the river. Source funding to support the PLA to pilot measures to reduce emissions from vessels using the river.	NO_2 monitoring continued at adjacent to the river at Southwark Bridge. Additionally, the PLA monitors NO_2 at TfL operated piers. Meetings held been held with the PLA for the presentation of the revised PLA AQ Strategy to coordinate on actions. We attended the launch of a retrofitted PLA vessel completed in a partnership between the City Corporation, the PLA and CRP.
Public health and awareness raising	23. Continue to support the Cross-River Partnership in its delivery of air quality projects in central London.	Provide the co-chair for CRP and take part in joint projects.	We provide the co-chair for Cross River Partnership and have worked in partnership with the organisation on the Clean Air Thames Project and Healthy Streets Everyday Defra funded project. The vessel Driftwood II was launched in December 2023. This had been retrofitted to reduce its exhaust air pollutants as part of Clean Air Thames.
Public health and awareness raising	24. Continue to support the Environment Agency with action to improve air quality,	Source funding to undertake a survey of combustion plant in the City of London.	We have collated data from a range of sources to compile a list of combustion plant in the Square Mile. This data continues to be updated and used to inform research into the sources of $PM_{2.5}$ in the Square Mile.

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	including the implementation of the Medium Combustion Plant Directive.	Support the implementation of the Medium Combustion Plant Directive through the provision of information where available and review of permits where required.	We commissioned a case study to understand the operating regime and the applicability of MCP regulations to back-up generators used within the Square Mile. We liaise with the EA on the potential risk of increased emissions due to the use of generators to provide electricity to the GRID during power outages. Through the LAQSG we have supported the establishment of a roundtable of local authorities to engage with the EA on issues around MCP and data centres. To date three meetings have been held.
Public health and awareness raising	25. Continue to engage with and support the Business Community to become Air Quality Champions and reduce their impact on local air pollution.	One on one business engagement through the CityAir scheme. Run at least one Air Quality Business event per year. Engage with intermediary groups who work with small businesses to raise the profile of air quality. Work with the Cheapside Business Alliance (CBA) to raise the profile of air quality and obtain support for action to reduce emissions associated with the CBA member activities.	We delivered the 'Air Quality and Climate Change' award for the Clean City awards Scheme. Through this partnership we continued to share our air quality resources for businesses with a wider network. We continue to support City Business Alliances, working in partnership to improve information about the health impacts of air pollution and how businesses can help to improve local air quality.
Cleaner transport	26. Support the Mayor of London with the effective implementation of the Ultra-Low Emission Zone.	Publicise the ULEZ amongst local businesses, City Corporation departments and markets. Ensure City Corporation fleet of vehicles meet the ULEZ criteria.	We are continuing to strive towards 100% ULEZ compliance, operating a 'Transition to Zero Emission Fleet policy', a decision-making hierarchy which applies to all purchased, leased, and hired vehicles operated by the City Corporation.
Cleaner transport	27. Work with the taxi industry to reduce empty running of taxis within the Square Mile.	Explore what practical action can be taken to reduce empty taxi running.	No progress to report.
Cleaner transport	28. Urge Transport for London to prioritise Zero Emission Capable buses on routes through the City of London.	Work with TfL on their programme of upgrades to cleaner buses and review of routes.	There are 35 bus routes that pass through the Square Mile. Of these routes, 97% operate a mix hybrid and fully electric vehicles and 17% of routes operate solely fully electric vehicles. Additionally, it is planned for the diesel route and three hybrid routes to become fully electric in 2024/25.

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Public health and awareness raising	29. Ensure that Healthy Street Plans have air quality improvement targets and that the air quality impact of major transport and public realm schemes are measured.	Healthy Streets plans will have air quality KPIs. Road schemes will be assessed for local air quality impact when there are proposed changes.	All major road schemes are assessed for air quality impacts. Air quality is factored in as a key objective to all Healthy Street Plans. Wide scale air quality monitoring continues to be used to assess the impacts of street schemes including Bank on Safety/ All Change at Bank, proposed changes around St Martins Le Grand, the Pedestrian Priority Streets programme and the wider Transport Strategy.
Localised solutions	30. Introduce Local Zero Emission Zones by 2022.	Introduce local ZEZs covering the Barbican and Golden Lane and Eastern Cluster.	Beech Street zero emission street was piloted from March 2020 to September 2021. Following consultation, the decision was made to discontinue with the scheme and instead incorporate traffic related air quality improvements into wider traffic management schemes in the area.
Localised solutions	31. Implement a wide range of action through the City Corporation Transport Strategy to reduce the exposure of pedestrians to transport generated air pollution in the Square Mile.	Increase in the number of pedestrianised, or pedestrian priority streets. Widen pavements. Reduce the amount of time people wait for a green signal to cross the road. Improve specific walkways such as the riverside walkway and Barbican High-Walk. Improve awareness of traffic free walking routes. Timed and temporary street closures Car free days. Lunchtime Streets – at least 5 to be in operation by 2025.	The City's Transport Strategy contains its Pedestrian Priority Programme: a series of street improvements to manage pedestrian priority, including traffic access restrictions and pavement widening. Plans were made to make three of the current pedestrian priority streets permanent from February 2023, namely King Street, King William Street and Old Jewry. The traffic restriction on Chancery Lane between 7am-7pm, Monday- Friday is currently an experimental traffic order and a decision to make this permanent will be made in May 2024. 'All Change at Bank' walking and public realm improvements have progressed with construction of the main junction area completed by November 2023 in time for the Lord Mayor's Show. This included the significant widening of the pavement outside of Mansion House and the narrowing of Mansion House Street to a lane in each direction, new traffic signal infrastructure, pavement widening on Queen Victoria Street, rain gardens and finally planting and new trees. Work continues on Threadneedle Street for the delivery on new wider pavements outside the Bank of England and the cycle lane, with the expected completion at the end of June 2024.

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			The St Martin's Le Grand project seeks to partially remove the gyratory system between St Paul's Underground station and the old Museum of London roundabout (the Rotunda). This enables the creation of a new public space, to be named Greyfriars Square. The project is currently at detailed design stage for both the highway changes and the public space which are programmed to complete design work in October 2024 and March 2025 respectively before construction commences in mid-2025. Fleet Street Area Healthy Streets Plan has been drafted and pending approval by Members in July 2024, will provide a framework for public realm improvements and traffic management in the Fleet Street area. Street level and Barbican 'highwalks' installation have been largely completed. Improvements to the Globe View section of the riverside walkways have been completed and opened. Highway works for Puddle Dock Pedestrian Route to the riverside are complete.
Localised solutions	32. Pilot an ultra-low emission vehicle street.	Assess the feasibility of piloting an ULEV access restriction to inform the development of Zero Emission Zones as part of the City Corporation Transport Strategy. Subject to the outcome of the feasibility study, pilot an ULEV street.	Beech Street zero emission street was piloted from March 2020 to September 2021. Following consultation, the decision was made to discontinue with the scheme and instead incorporate traffic related air quality improvements into wider traffic management schemes in the area.
Localised solutions	33. Assess the suitability of rolling out LEN pilot projects at other locations across the Square Mile.	Commission a legacy report to establish the most cost-effective interventions. Source funding to roll out cost effective interventions.	The Low Emission Neighbourhood Legacy report was completed and effective measures that were identified have been incorporated into a range of operations.
Delivery servicing and freight	34. Implement a wide range of action, through the City Local Plan and the City Corporation Transport Strategy, and Freight and Servicing SPD to reduce emissions from freight vehicles in the Square Mile.	Introducing a freight consolidation service for the City. Delivering two last mile logistics hubs.	We have stimulated the marketplace for consolidation services through the planning process, with 50 s106 agreements for use of a physical consolidation centre agreed by developers to date. Move away from a commitment for the City Corporation to provide a set number of last mile logistics hubs within the Square

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		Producing a Servicing Action Plan. Identifying opportunities to increase the use of the river for freight including exploring the use of Blackfriars and Tower Piers and a reinstated Swan Lane Pier. Require all development in the City to consider the use of the river for the movement of construction material and waste.	Mile. Instead, the emphasis will be on seeking a coordinated approach to last mile logistics across central London, working with neighbouring boroughs, TfL, the GLA and developers to identify sites that serve the Square Mile, including beyond the City boundary. London Wall car park has now been discounted as a potential location for a last mile delivery hub due to access issues and timescales of the London Wall West development. The City Corporation is still committed to identifying potential locations for last mile delivery hubs. Discussions continue with City Surveyors to identify potential City Corporation assets, such as Minories car park or Walbrook Wharf, where a feasibility study is being undertaken to assess its suitability for river freight. No further progress has been made regarding increased use of the river Thames for freight/construction/waste and plans for a Servicing Action Plan are currently on hold.
Cleaner transport	35. Implement a range of actions through the City Corporation Transport Strategy and City Local Plan to support and encourage cycling.	Conduct a City-wide cycle parking review and publish a Cycle Parking Delivery Plan that will detail our ambitions for increasing the amount of cycle parking in the City. Ensure new developments provide secure cycle parking facilities including for non-standard cycles, cargo bikes, hand carts and visitor cycle bays. Promote cycling through improving awareness, support London-wide and national campaigns and explore the potential for an annual City Corporation cycling festival. Work with TFL and cycle providers to improved cycle hire provision.	City Cycle Network Phase 1: Route 1: CS1 to Monument via Bank & Route 2: Aldgate to Blackfriars via Bank: This scheme will be delivered by 2026/27. Work continues on Threadneedle Street for the delivery on wider pavements outside the Bank of England and the cycle lane, with the expected completion at the end of June 2024. A concept proposal for the Moorgate corridor between Ropemaker Street and London Wall has been developed and includes cycle improvements. The St Martin's Le Grand project will deliver significant cycle infrastructure. Cycle Parking:

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		Apply a minimum cycling level of service to all streets initially by reducing motor traffic volumes to below 150 vehicles per hour or Protected cycle lanes that are a minimum of 1.5m wide per direction of travel along a core cycling network.	We have identified sites for 120 additional dockless cycle/scooter spaces and these will be implemented in Summer May 2023/2024. Five parking stands (50 spaces) for bikes and scooters have been installed as a trial for e-scooter and dockless cycles in March 2023. We have carried out a kerb side review and over 70 potential new dockless cycle/scooter parking locations have been identified. The delivery of this programme for these sites is expected to be completed by 2026.
Cleaner transport	36. Install additional publicly accessible electric vehicle (EV) rapid charge points by 2025.	An EV Charging Action Plan will be published by December 2019. This will identify how many charge points, including charging hubs, are required up to 2022, as well as longer-term forecasts. Locations to be identified through engagement with the Transport for London Electric Vehicle Infrastructure Taskforce. Install a rapid charging hub for taxis in Baynard House car park. Install a taxi only rapid charge point in Noble Street rest rank.	• There is a rapid charge point for taxis is in operation on Noble Street. • Six rapid charge points installed in Baynard House Car park. • 50 standard electric charge points are available to the public in our car parks. • Electric charge points are being upgraded a Walbrook Wharf to support the refuse collection vehicles. • 20 charge points have been installed to support City Corporation owned electric vehicles. • Feasibility assessments on CoL housing estates to install further charge points for residents. • In Summer 2023, all electric vehicle charging points were upgraded across each of the Square Mile's car parks, delivering reliability and convenience. The electric vehicle infrastructure action plan will be updated in 2024, to reflect projected requirements up to and including 2030.
Cleaner transport	37. Through the City Local Plan require the installation of rapid charge points in new developments.	Apply the requirements of planning policy and the Freight and Servicing Supplementary Planning Document.	We continue to ensure that electric vehicle charging facilities are installed in accordance with our parking and servicing standards.
Localised solutions	38. Ensure that improving air quality and reducing exposure is an integral part of all major transport and public realm schemes and that all schemes incorporate greening where possible.	Air pollution will be modelled and measured as part of all major transport and public realm schemes. Incorporating greenery and planting when making changes to streets and the public realm.	All major transport and public realm schemes are reviewed for air quality impacts and air quality monitoring and modelling is carried out were necessary. Detailed monitoring is underway to assess the impact of proposed changes to the road layout around St Martin's Le Grand. Particulate monitoring was undertaken adjacent to a London underground vent shaft in the locality to assess the

LLAQM Action Matrix Theme	Measure (Number corresponds to 2019-2024 Air Quality Strategy)	Action	Progress
			potential impact on users of the space from any particles coming from the tube network.
Localised solutions	39. Continue to take a wide range of action to discourage unnecessary vehicle engine idling in the Square Mile.	Run at least three Cleaner Air Action Days throughout the year. Review options for enforcement. Jointly lead the Pan London Idling Action project. Respond to complaints and erect signs in hot spot areas.	The City Corporation has the provision to issue Fixed Penalty Notices or Penalty Charge Notices for unnecessary vehicle engine idling. Civil Enforcement Officers (CEO's) take enforcement action. The CEO's will ask a driver to turn their engine in the first instance. If the driver refuses, the CEO can issue a warning notice for a first offence to the driver. This approach is in line with guidance issued by the government. If the vehicle has been issued with a previous warning notice for the same contravention, then a Penalty Charge Notice (PCN) is issued. In 2023 11 warning notices and 4 PCNs were issued. Action is taken following complaints of vehicle engine idling, and signs erected, and letters sent where necessary. In 2023 five letters were sent to organisations following complaints of unnecessary vehicle engine idling.
Cleaner transport	40. Ensure City Corporation parking charges favour low and zero emission vehicles in the City of London.	Differential parking charges applied with the lowest level of charges being applied to zero and low emission vehicles such as electric, hydrogen and hybrid.	Both on street and off-street vehicle parking charges now reflect vehicle emissions. Older, more polluting vehicles pay a higher charge to park, with electric or hydrogen or hybrid paying the lowest tariff.
Emissions from developments and buildings	41. Continue to assess all planning applications for air quality impact.	Review all planning applications and make recommendations for conditions as required. Require air quality assessments for major developments. This includes all fixed plant, boiler and emergency generators, and transportation sources including delivery and servicing.	All planning applications are reviewed for air quality impacts, with conditions recommended where necessary. All major developments require an air quality assessment. This has been incorporated into the draft City Plan 2040 and will be included in a revised Air Quality Supplementary Planning Document. The pre app guidance for air quality is constantly reviewed and updated where required.
Emissions from developments and buildings	42. Encourage the use of non-combustion technology during construction and in the operation of new developments.	Developers required to identify suitable non-combustion/zero emission technologies such as heat pumps.	The draft City Plan 2040 aligns with the commitment in the City Corporation's Climate Action Strategy to support the achievement of net zero for the Square Mile by 2040. It reflects the London Plan in prioritising non combustion and zero emissions heating and energy systems.

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		BREEAM maximum pollution credits for local air quality to be obtained from non-combustion systems where possible.	Following the adoption if the City Plan 2040 is, an updated Air Quality SPD will be produced. The update will prioritise zero emissions heating and will include BREEAM maximum pollution credits for local air quality to be obtained from non-combustion systems where possible. All planning applications are reviewed by air quality officers and alternatives to diesel backup generators are required to be assessed.
Emissions from developments and buildings	43. Apply stringent emission standards for combustion plant where non-combustion plant is not feasible in new developments.	Where non-combustion technologies are not feasible and combustion plant is installed the NO_x emissions from Combined Heat and Power (CHP) plant will be required to meet the following emission limits: 50mg/Nm^3 (and 25mg/Nm^3 for turbocharged CHP) at reference O_2. All gas boilers will be required to have a NO_x rating of <40mgNO_x/kWh at 0% O_2 as a minimum. Options for tightening these limits by 2020 will be kept under review. The use of oil, biomass, biofuels, and wood pellets will be discouraged.	Due to sustainable planning requirements, the majority of planning applications for commercial developments now propose zero emissions heating solutions, most commonly heat pumps, instead of combustion plant. If combustion plant is installed, conditions are applied requiring plant to meet specified NO_x emissions standards.
Emissions from developments and buildings	44. Ensure that where possible chimney stacks terminate above the height of the nearest building.	Where combustion plant is installed good dispersion of emissions will be required by ensuring adequate dispersion. Chimneys should terminate a minimum of 2m above roof height where possible stack discharge velocity should be at least 10 m/sec. Appliances 1MW or greater will be required to achieve a stack discharge velocity of 15 m/sec.	The City Corporation Air Quality SPD requires a consideration of combustion flue location and emission discharge velocity at the planning stage to ensure appropriate provision has been made. We set conditions to require that chimneys are a minimum of 1m above building height. The Air Quality SPD will be reviewed once the City Plan 2040 has been adopted and we will look to strengthen our requirements. We respond to applications for chimney height approval as they arise. In 2023 there was one application.
Emissions from	45. Require all new developments to be air	Evaluate all air quality neutral assessments.	All major developments must submit an Air Quality Neutral Assessment. All Air Quality Neutral Assessments are reviewed by

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developments and buildings	quality neutral as a minimum and developments subject to an Environmental Impact Assessment to be Air Quality Positive in line with the requirements of the emerging London Plan.	Mitigation may be considered but offsetting is not acceptable. Ensure air quality positive assessments are carried out for developments that require an Environmental Impact Assessment.	an air quality officer to ensure the benchmarks are met, or relevant mitigation is provided. We have updated our pre-application advice to specify that Air Quality Positive Assessments for Environmental Impact Assessments (EIA) developments are also required. Air Quality Positive Assessments for EIA development has been included in the draft City Plan 2040 and will be reflected in the Air Quality SPD update.
Emissions from developments and buildings	46. Update the City Corporation Supplementary Planning Document for Air Quality to reflect new policies and requirements of the City Local Plan and London Plan.	Update the Supplementary Planning Document for Air Quality to reflect the latest guidance.	Our draft local plan, the City Plan 2040, has been published. A regulation 19 consultation is open until the 31st of May. Once adopted, the new Plan will replace the Local Plan 2015. An updated SPD will be produced once the City Plan 2040 has been adopted.
Emissions from developments and buildings	47. Ensure emissions from construction sites are minimised through close management and control.	Regularly inspect sites and respond to complaints. Investigate options for powering tower cranes by mains electricity rather than a diesel generator. Encourage the use of electric excavators and diggers.	Construction sites are required to follow the City of London Code of Practice for Deconstruction and Construction Sites. We work with construction companies during the development of the proposals for construction practice proposals to minimise emissions and respond promptly to complaints. Site audits of Non-Road Mobile Machinery (NRMM) are undertaken through the pan London project, funded by the Mayor of London, and supplemented by the City Corporation. In 2023, 29 site audits were completed. Our Code of Practice for Deconstruction and Construction Sites encourages sites to secure an electrical supply for sites well in advance of works. Membership of the NRMM Project ensures that where alternative fuels and power sources are not available, sites use the least-polluting diesel equipment possible. Our guide to low emission and alternative technology and fuels is available on our webpages to support the uptake of lower emission NRMM for use during construction and street works, filming, and other events.

LLAQM Action Matrix Theme	Measure (Number corresponds to 2019-2024 Air Quality Strategy)	Action	Progress
Emissions from developments and buildings	48. Regularly update the City Corporation best practice guidance on minimising emissions from construction and demolition in order to reflect best practice.	Work with demolition and construction companies to update the best practice guide. Look for further opportunities to reduce emissions with key companies.	We continue to liaise with our Pollution team to provide relevant information for updates of the Air Quality Chapter of the Code of Practice for Deconstruction and Construction Sites.
Emissions from developments and buildings	49. Enforce the Mayor of London NRMM requirements on construction sites as a minimum.	Carry out an inspection programme. Continue with membership of the London Low Emission Construction Partnership (LLECP)	We continue to be a member of the pan London NRMM project. Our sites are audited regularly for compliance with NRMM requirements by the project team and City Corporation officers. A range of sources are used to identify active demolition and construction sites, including planning and information from construction levy officers. During 2023, 29 site audits were undertaken. 21 sites were compliant, 16 sites achieved 'Self-Compliant' status, eight sites had no NRMM on site. Membership of the LLECP ceased following the second phase of the project 2016-19.
Emissions from developments and buildings	50. Introduce a Stage V emission limit for NRMM on construction sites by 2025 where available.	Incorporate this requirement in the City Corporation Code of Practice.	The proportion of NRMM over 37kW that is Stage V compliant continues to increase across the Square Mile. An increase in the number of Stage V generators rather than Stage IIIA generators has been experienced. This is noticed through consultation with site managers during the NRMM audits completed. A Stage V restriction will be implemented London wide from 2030, and prior to this, officers will continue to promote the use of Stage V NRMM across all construction sites across the Square Mile.
Emissions from developments and buildings	51. Investigate options for reducing emissions from NRMM used in street works, filming, and other events.	Source funding to undertake a trial of charging facility for street/film events.	A CoL guide to low emission alternative technology and fuels is available on our webpages to support the uptake of lower emission NRMM for use during street works, filming, and other events. We are supporting the London-wide project to document what NRMM is currently being used for licensed works such as film events, street works and waste transfer sites.

LLAQM Action Matrix Theme	Measure (Number corresponds to 2019-2024 Air Quality Strategy)	Action	Progress
			We obtain information on the number and size of generators including the number of Stage V generators used whilst filming in the Square Mile. The information is collated by the Sustainability /Generator app which is used by filming teams to log their current generator locations and usage. We have previously included presentations at the Considerate Contractors Street works Scheme (CCSS) Workshops for utilities and contractors working in the square Mile. The CCSS rewards good practice through the Innovation award. An all-electric street-works trial was carried out in the Square Mile.
Emissions from developments and buildings	52. Examine options for reducing emissions from existing combustion plant in the Square Mile.	Source funding for trials. Work with the construction industry and equipment suppliers to support and pilot low and zero emission equipment. Work with business to support trials to reduce emissions from combustion plant in buildings.	An increase in Stage V generators in the Square Mile has been noted, showing an improvement from Stage IIIA. Information is provided to construction sites during NRMM audits regarding additional options such as battery storage and hybrid systems to supplement the use of, and the reduce the dependency on diesel generators. In addition to the pan-London NRMM guidance for construction sites, the city's Low Emission NRMM Guide is available through the City Corporation website. An unsuccessful application was made to the 4th round of the Mayor's Air Quality Fund to help build a tool to quantify emissions from combustion plant in buildings. A scaled-down project has been commenced that will gather information on backup generator usage within the Square Mile.
Emissions from developments and buildings	53. Improve the understanding of the use of emergency generators in City of London buildings being used for Demand Side Response and Short-Term Operating Reserve.	Source funding to investigate the use of emergency generators in buildings. Work with building owners to investigate alternative means of providing emergency back-up power. Support the Mayor of London to seek reductions in emissions from large scale generators producing power for commercial buildings.	Meetings have been held with City businesses to understand the use of back-up generators and determine the impact on emissions of pollutants across the Square Mile. An independent assessment has been commissioned and will be further developed throughout 2024.

LLAQM Action Matrix Theme	Measure (Number corresponds to 2019-2024 Air Quality Strategy)	Action	Progress
Emissions from developments and buildings	54. Continue to ensure that emissions from chimneys are dispersed as far as possible using the provisions of the Clean Air Act 1993.	Issue authorisations for Chimney Heights for new appliances.	One Chimney Height approval was issued during 2023.
Emissions from developments and buildings	55. Ensure compliance with emission control requirements for the City Corporation's prescribed processes.	Carry out regular risk-based inspections of prescribed processes in the Square Mile.	All permitted processes premises are inspected in line with their risk rating and the recommended inspection schedule. There is one dry cleaning operation and Barts energy centre has also been permitted. In 2023, inspections were completed at Barts energy centre and one dry cleaner Both were scored as LOW risk.
Emissions from developments and buildings	56. Promote and enforce smoke control provisions detailed in the City of London Various Powers Act 1954 and 1973 and the Clean Air Act 1993.	Continue to enforce the smoke control provisions and raise awareness in the City of London. Engage with food premises to ensure the correct appliances and fuels are used and reach out to employees through the business engagement program.	The City's air quality webpages include information on the Domestic Solid Fuels Standards regulations in addition to the responsibilities required in a smoke control area. Our factsheet 'Smoke Control from Food Premises,' which provides information on smoke provisions and advice to food premises on exempt appliances and authorised fuels, is also available on our air quality webpages. We inspected all City shops likely to sell manufactured solid fuels (MSF) and wood to check that the correct labelling was displayed.
Public health and awareness raising	57. Make greater use of Public Health Networks to disseminate information about air quality.	Use Public Health Networks to disseminate information and improve awareness of air pollution and its impact on health. Promote exposure reduction techniques and greater uptake of exposure reduction apps, such as CityAir phone app especially amongst vulnerable people and groups.	We support the Mayor of London's air pollution alerts to schools and GP practices, amplifying this message through X alerts. The City Corporation CityAir App is promoted both on our website, through our e-newsletter and at events we attend. We have created a factsheet for health professionals summarising the health impacts of air pollution and providing tools and guidance for how to minimise exposure to air pollution. It is available to download from the City Corporation website. We attend the Air Quality and Health Delivery Group as representatives of London local authorities on behalf of the LAQSG.

LLAQM Action Matrix Theme	Measure (Number corresponds to 2019-2024 Air Quality Strategy)	Action	Progress
			A Defra Air Quality Grant funded project was completed in2023. This was specifically tailored to bolster the confidence of healthcare professionals in advising patients on how to minimise exposure to air pollution and where to find further information and guidance.Four online webinars were delivered, targeting various professional groups, with a total of 33 attendees. A dedicated webpage was created on the Training Hub website to host these recordings and additional resources and will be promoted through various networks with the support of project partners. Since the webinars were uploaded on to the Hub, there have been 17 further views by health practitioners.
Public health and awareness raising	58. Assess options to improve and further develop the free CityAir Smart Phone App and continue to support and promote the AirText service.	Source funding for improvements to the CityAir Smart Phone App. Work with Kings College London to upgrade the App. Continue to support and promote AirText.	We continue to support and promote AirTEXT.
Public health and awareness raising	59. Disseminate information about air quality through various channels such as social media, the City Corporation web site, and an e-newsletter.	Use and continue to develop a range of communication methods to reach businesses, workers, and residents, including social media, digital and website media, newsletters, and events. Specifically: • Daily tweets • Bimonthly e newsletter • At least 2 x hard copy articles per year • Update the City Corporation web pages at least every fortnight. Attend at least four events per year to promote air quality.	We continue to promote air quality messaging through our X and Linkedin accounts, monthly e-newsletters, and our website pages. A number of events during 2023 have been attended by officers, and presentations have been made both internally and externally through the Clean City Award Scheme.
Public health and awareness raising	60. Develop an action plan, in support of the Mayor of London's air pollution forecasting	An action plan focussed on raising awareness on days of high and very high air pollution.	We continue to support the dissemination of the Mayor of London air pollution forecasting system and take opportunities as they arise to raise the profile of air quality.

LLAQM Action Matrix Theme	Measure (Number corresponds to 2019-2024 Air Quality Strategy)	Action	Progress
	service, to reduce exposure on days of high and very high levels of air pollution.		
Public health and awareness raising	61. Increase awareness of air pollution amongst the City of London residential community.	Attend events with an information stall. Provide information for newsletters. Attend residents' meetings. Support residents who wish to measure air pollution where they live.	In collaboration with the London Boroughs of Hackney, Newham, Tower Hamlets we secured funding from the Defra Air Quality Grant scheme in 2021/2022. The funding was awarded to deliver an awareness-raising project that aimed to disseminate information on air quality and methods of reducing exposure to pollution, to help people better manage their health. One of the outcomes of the project was a web-based tool Air Aware that helps users to better manage their health by providing information about air pollution and easy access to the latest monitoring data. Co designed by residents from each Borough, the aim was to improve the access to information on local air quality and provide verified advice in direct response to the questions that users ask. To mark the end of the project, a celebration event, showcasing the projects outcome was hosted in March 2024. 85 guests attended.
Public health and awareness raising	62. Run events in support of National Clean Air Day.	Run up to three events each year on and around National Clean Air Day.	For Clean Air Day 2023 the following events were undertaken: • Air quality information stall at the 2023 London Cycling and Walking Conference. • Air quality information stall at Shoe Lane library. • Air quality craft activity session at the Dragon Café. • Air quality information stall at City Question Time.
Public health and awareness raising	63. Develop plans for improving air quality and reducing the exposure to pollution of children who attend schools and nurseries in the City of London	An action plan for all City of London schools and nurseries	All action plans have been reviewed for all five City schools and four nurseries. Monitoring reports are produced annually for each school and nursery based on monitoring data from the sites or at nearby comparable locations. These reports are provided to the respective schools and nurseries. Data from the permanent background monitoring site at the Aldgate School continues to be used to produce six monthly reports for the School Governors.

LLAQM Action Matrix Theme	Measure (Number corresponds to 2019-2024 Air Quality Strategy)	Action	Progress
Public health and awareness raising	64. Continue to support Barts Health NHS and other health care facilities to reduce their own impact on local air pollution and assist vulnerable patients in reducing their exposure to pollution.	Support hospital events. Liaise with staff to reduce emissions and improve the understanding of air quality. Assess air quality around health care facilities	We obtained joint funding with the London Boroughs of Hackney, Tower Hamlets, and Newham to improve messaging around air quality for communities. The project focused on training healthcare professionals and creating patient resources, creating a community-based app, Air Quality Champions, and providing training to Health Practitioners on air pollution. As part of the wider project, the City of London Corporation led on a pilot project for pharmacists to have a face-to-face quality conversation with children and their families, around asthma care and the impacts of air pollution on their health, and what simple steps they can take to help reduce their exposure. By May 2024, 212 conversations had taken place.
Public health and awareness raising	65. Continue to work with businesses to raise awareness of air pollution amongst workers.	Engage with business through CityAir business engagement programme. Working with Heart of the City and Business Healthy on business engagement.	The City Corporation runs an annual Clean City Award Scheme for City businesses. The winner of the Air Quality and Climate Action Award for 2024 was 20 Fenchurch Street Ltd. The award recognised their work to reduce the environmental impact of light pollution. Project Go Dark reduced energy use by 3,3780kW over a 13-month period by turning office lights off when not needed. Work continues with the City Business Improvement Districts.

3. Planning Update and Other New Sources of Emissions

Table Y. Planning requirements met by planning applications in The City of London in 2023

Condition	Number
Number of planning applications where an air quality impact assessment was reviewed for air quality impacts	19
Number of planning applications required to monitor for construction dust	8
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_X boilers	0
Number of developments where an AQ Neutral building and/or transport assessments undertaken	17
Number of developments where the AQ Neutral building and/or transport assessments not meeting the benchmark and so required to include additional mitigation	0
Number of planning applications with S106 agreements including other requirements to improve air quality	0
Number of planning applications with CIL payments that include a contribution to improve air quality	0
NRMM: Central Activity Zone, Canary Wharf and Opportunity Areas 1. Number of conditions related to NRMM included. 2. Number of developments registered and compliant. 3. Number of audits 4. % of sites unregistered prior to audit 5. Please include confirmation that you have checked that the development has been registered with the GLA through the relevant NRMM website and that all NRMM used on-site is compliant with Stage IV of the Directive and/or exemptions to the policy.	1. 12 conditions included 2. 21 registered and compliant. 3. 29 audits completed: - 16 sites self-compliant - 5 sites compliant - 8 sites with no NRMM 4. 3% sites unregistered prior to audit. 5. GLA register is constantly checked. The AQ team work externally with the NRMM team, and internally with the Pollution team to ensure sites are identified, registered and compliant.

All relevant planning applications are reviewed in terms of air quality. A weekly General Development Order is sent to the Air Quality Team. This is reviewed to identify those that require review. Officers ensure that all relevant developments are assessed and conditions recommended, should the development be approved.

3.1 New or significantly changed industrial or other sources

No new or significantly changed sources identified.

4. Additional Activities to Improve Air Quality

4.1 The City of London Corporation Fleet

The City Corporation has been reducing emissions from its own fleet for several years. This has been achieved by improved management, a reduction in size of the fleet and the purchase of newer, cleaner vehicles. The City Corporation owns or leases 122 vehicles. The majority of these are not used in the Square Mile. At the time of writing, 40 of the vehicles are fully electric or hybrid.

Since January 2016, a policy has been in place that diesel vehicles cannot be purchased or leased if there are low or zero tailpipe emission options available. A fuel hierarchy is in place for new vehicles:

1. Full electric.
2. Plug-in hybrid.
3. Petrol hybrid (regenerative braking).
4. Petrol.
5. Diesel Fleet (Euro VI) Operator Recognition Scheme Accreditation.

4.2 NRMM Enforcement Project

The City Corporation will continue to support the pan-London NRMM enforcement project in 2024-2025. During 2023, 29 site audits were undertaken. 16 sites were self-compliant, five were compliant, and eight sites had no NRMM on site.

In addition to enforcing the Low Emission Zone requirements for NRMM, significant progress in being made with the deployment of Stage V machinery on construction sites within the Square Mile. In 2022 62% of NRMM over 37kW was EU Emission Stage V compared to 23% in 2021 and none in 2019.

A standard condition is applied to a Decision Notice where NRMM is to be used for the demolition/construction of a proposed development to ensure that the requirements of the NRMM Low Emissions Zone are met. A precautionary approach is taken where it may not be known at the planning stage if NRMM is to be used, with the condition being set. The condition is as follows:

Prior to the commencement of the development, the developer/ construction contractor shall sign up to the Non-Road Mobile Machinery Register. The development shall be carried out in accordance with the Mayor of London Control of Dust and

Emissions during Construction and Demolition SPG July 2014 (Or any subsequent iterations) to ensure appropriate plant is used and that the emissions standards detailed in the SPG are met. An inventory of all NRMM used on site shall be maintained and provided to the Local Planning Authority upon request to demonstrate compliance with the regulations.

4.2 Air Quality Alerts

We continue to support *air*TEXT (https://www.airtext.info/) and also issue air quality alerts through our own smartphone App CityAir.

Appendix A Details of Monitoring Site Quality QA/QC

A.1 Automatic Monitoring Sites

The City Corporation employ the services of a Data Management Unit (DMU), Ricardo, and an Equipment Support Unit (ESU), Matts Monitors, to ensure that data is accurate, and the analysers are maintained. Additionally, the City Corporation act as the Local Site Operator (LSO) for all sites to carry out the routine tasks required for each type of analyser. The tasks assigned to each team are as follows:

DMU

- Analysis of day-to-day data.
- Identification of analyser faults.
- Data ratification.
- Biannual site audits.

ESU

- Reactive site maintenance.
- Biannual site servicing.
- LSO training.

LSO

NO_x Analysers (API and Ecotech)

- Calibrations and filter changes; biweekly for CT4 and CTA, four-weekly for CT3.
- Provision of calibration gas.

PM Analysers (BAM)

- Cleaning the inlet head; collector assembly monthly, acceleration assembly and sharp cut cyclone quarterly.
- Tape changes every 60 days.
- Leak check on every LSO visit.
- Cleaning the nozzle and vane on every tape change and dictated by leak check results.

<u>PM Monitoring Adjustment</u>

All BAM monitoring data has been corrected in line with guidance provided in LLAQM.TG (19). All PM data is corrected, where required, by Ricardo in their role as our DMU and is accessible through the Air Quality England and Air Aware websites.

A.2 Diffusion Tubes

- The diffusion tubes utilised by the CoL in 2023 were supplied and analysed by Gradko International Laboratory.
- The preparation method used was 50% Triethanolamine (TEA) in Acetone preparation method and analysis of diffusion tubes was completed using U.V. Spectrophotometry.
- Gradko International Ltd is a UKAS accredited laboratory and participates in the AIR-PT Scheme (a continuation of the Workplace Analysis Scheme for

Proficiency (WASP)) for NO_2 tube analysis and the Annual Field Inter-Comparison Exercise. These provide strict performance criteria for participating laboratories to meet, thereby ensuring NO_2 concentrations reported are of a high calibre. The lab follows the procedures set out in the Harmonisation Practical Guidance.

- Results of laboratory precision for 2023:
    - Gradko 50% TEA in acetone tube precision for 2023= 100% good precision, 14 studies.
    - Latest AIR NO_2 PT Scheme results: 100% for all 2023 results available at the time of writing (AR055/56/58/59).
- Bias adjustment factor from the National Bias Adjustment Spreadsheet available on the LAQM Support Website (Spreadsheet Version Number: 03/23); 0.82 based on 14 studies.
- Two local co-location studies were undertaken during 2023: one roadside at CTA and one urban background at CT3.

Factor from Local Co-location Studies

During 2023 two co-location studies were undertaken with triplicate diffusion tubes at the CT3 and CTA automatic monitoring sites. Local bias adjustment factors have been calculated for each site using the Diffusion Tube Data Processing Tool (DTDPT) provided by the LAQM Helpdesk.

The results of both studies have been submitted to the LAQM Helpdesk for inclusion within the National Diffusion Tube Bias Adjustment Factor Spreadsheet. The results presented below are based on ratified automatic monitoring data up to the 31st of December 2023, and provisional data thereafter.

Table Z. Local Bias Factor Results

Site ID	Triplicate Diffusion Tube Mean (µg m^{-3})	Automatic Monitoring Mean (µg m^{-3})	Bias A	Bias B
CT3	28.4	22.4	0.79	27%
CTA	35.9	31.0	0.86	16%

Following the procedure as detailed in LLAQM.TG (19) the average of the two local bias adjustment factors is 0.82.

Discussion of Choice of Factor to Use

The national bias adjustment factor has been used to adjust all 2023 diffusion tube annual mean concentrations. This is consistent with bias adjustment factors used within previous years. Due to the changing monitoring environment across the CoL, using a larger dataset (national) rather than the two local studies completed in 2023 provides a more robust structure for bias adjustment.

There is a small range across all possible options for bias adjustment (0.79 – 0.86), therefore any change to the bias adjustment factor will not significantly impact the 2023 annual mean concentrations considering the +/- 25% indicative accuracy currently stated for diffusion tube monitoring[2].

Table AA. Bias Adjustment Factor

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2023	National	03/24	0.83
2022	National	03/23	0.82
2021	National	03/22	0.83
2020	National	03/21	0.82
2019	National	03/20	0.87
2018	National	03/19	0.92
2017	National	03/18	0.97
2016	National	03/17	1.03

[2] Diffusion Tubes for Ambient NO_2 Monitoring: Practical Guidance for Laboratories and Users (Defra, 2008)

A.3 Adjustments to the Ratified Monitoring Data

Short-term to Long-term Data Adjustment

In accordance with LLAGM.TG (19) any relevant monitoring sites have been annualised. The DTDPT has been utilised to complete the required annualisation calculations. As per guidance provided by the LAQM Helpdesk, any diffusion tubes that had nine months of results, but <75% of data capture, have not been annualised.

For 2023 monitoring data there were 11 sites that required annualisation, all of which being diffusion tube monitoring sites. This compares to two automatic and 14 diffusion tube monitoring sites that required annualisation for 2022 monitoring data.

Distance Adjustment

Due to the simplistic nature of the NO_2 fall off with distance tool distance, distance adjustment has not been completed for any of the NO_2 monitoring locations. The Square Mile is a complex urban environment with a network of roads, multiple pollutant sources, and an ever-changing landscape of buildings. Limitation 7 within the tool states that the calculator can only be used where the influence of one road is present. Due to this, and the influence of buildings not considered within the calculations, the methodology is not relevant to the NO_2 monitoring completed within the Square Mile.

Table BB. Short-Term to Long-Term Monitoring Data Adjustment: Diffusion Tubes

Site ID	Annualisation Factor: CT3	Annualisation Factor: London Bloomsbury	Annualisation Factor: London North Kensington	Annualisation Factor: London Westminster	Average Annualisation Factor	Raw Data Annual Mean (µg m^{-3})	Annualised Annual Mean (µg m^{-3})	Comments
Bank 1	0.9403	0.9899	0.9361	0.9885	0.9637	47.7	45.9	
Bank 12	1.0113	1.0528	1.0130	1.0314	1.0271	30.4	31.2	
Bank 14	1.0000	0.9961	1.0088	1.0187	1.0059	37.9	38.1	
Bank 19	1.0691	1.1152	1.0829	1.0861	1.0883	28.6	31.1	
Bank 20	1.0094	0.9038	0.8953	0.8844	0.9232	42.7	39.4	
Bank 22	0.9214	0.9294	0.8785	0.9183	0.9119	45.5	41.5	
OS3	0.9917	0.9605	0.9717	0.9865	0.9776	31.9	31.2	
T4	0.9604	0.9318	0.9500	0.9459	0.9470	34.7	32.9	
BS14	1.0146	1.0396	1.0247	1.0437	1.0306	29.3	30.2	
SM 3	1.0340	0.9700	1.0080	0.9757	0.9969	41.6	41.5	
SM 4	1.0146	1.0396	1.0247	1.0437	1.0306	44.8	46.2	

Appendix B Full Monthly Diffusion Tube Results for 2023

Table CC. NO_2 2023 Diffusion Tube Results (µg m^{-3})

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.83)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
CL5	531901	181571	47.4	53.1	54.4	44.0	29.1	31.8	44.3	22.5	29.1	33.1	46.9	54.0	40.8	33.9		
CL38	531851	180962	35.1	43.8	34.2	33.9	31.4	33.4	25.5	29.4	34.5	31.3	37.6	27.0	33.1	27.5		
CL39	531235	181155	54.6	55.3	43.6	49.7	50.4	43.7	37.4	34.0	49.7	44.3	50.0	41.8	46.2	38.4		
CL40	533794	181026	31.6	38.2	31.2	29.1	24.2	26.9	30.6	27.3	35.7	32.9	35.3	32.4	31.3	26.0		
CL55	532482	181799	31.7	33.8	22.2	20.4	15.1		15.9	16.8	20.3	25.4	28.2	21.2	22.8	18.9		
Bank 1	532641	180914	48.9	50.4				61.1	37.0			47.0		41.6	47.7	38.1		
Bank 2a	532591	181073	45.6	47.6	28.5	28.1	21.0	26.8	27.3	28.4	35.3	36.0	40.1		33.2	27.5		
Bank 3	532465	181171	47.3	51.4	32.2	32.9	27.4	28.7	26.8	28.1	35.5	34.0	43.4	33.1	35.1	29.1		
Bank 5	532647	181092	54.6	37.9	31.7	31.1		27.2	27.6	28.1	33.2	37.3	39.9	31.1	34.5	28.6		
Bank 6	532791	180986	50.5	47.2	31.2	37.1	35.6	33.3	33.7	36.7	44.1	41.3	45.1	38.3	39.5	32.8		
Bank 8	532853	181019	41.7	47.5	30.7	29.0	24.7	26.0	25.7	27.5		34.4	37.5	30.4	32.3	26.8		
Bank 11	532785	181119		33.1	29.1		21.7	25.9	25.0		39.6	35.7	38.9	34.0	31.4	26.1		
Bank 12	532804	181164	42.5				23.1	27.4	23.7		32.5	31.7	34.4	27.8	30.4	25.9		
Bank 13	533036	181376	39.6	42.8	29.4	32.5	27.6	27.0	22.2	24.4	32.1	32.5		26.4	30.6	25.4		
Bank 14	533077	181448		45.2	41.1	42.4		31.4	28.0		38.6		43.4	33.1	37.9	31.6		
Bank 15	532915	181513	49.6	54.9	46.8	48.5	44.9			39.3	47.2	42.7	44.3	36.1	45.4	37.7		
Bank 16	532670	181555	54.8	57.4	46.1	41.8	42.5	39.4	36.9	40.8	46.4	44.3	42.4	41.7	44.5	37.0		
Bank 17	532684	181442	47.0	53.5	39.2	32.1	33.0	33.8	33.6	34.8	47.2	45.1	44.2	40.6	40.3	33.5		
Bank 18	532503	181304	40.6	42.7	34.5		31.1	32.6	30.0	30.3	38.4	35.5	39.9	32.6	35.3	29.3		
Bank 19	532705	181268	42.5				23.8	25.1	23.0		31.0	29.5		25.4	28.6	25.8		
Bank 20	532659	181215	50.9	53.5		37.3	34.0	37.7							42.7	32.7		
Bank 22	533010	181058	54.7	61.3		47.6		39.8	35.5			39.9	39.5		45.5	34.4		
LEN 1	531872	181621	46.4	40.1	38.6	37.0	24.5	25.9	25.4	26.3	34.7	30.7	39.2	38.9	34.0	28.2		
LEN 3	532117	181840	55.9	54.4	40.4	44.2		41.1	36.8	35.2	46.7	41.5	47.0	43.9	44.3	36.8		
LEN 4	532117	181714	55.1	59.4	40.4	34.5			37.9	38.7	38.0	36.2	46.5	39.0	42.6	35.3		
LEN 5	532242	181948	35.4	36.4	28.7	25.1	18.3			20.3	25.6	29.0	34.2	26.1	27.9	23.2		
LEN 6	532443	181966	45.1	38.5	30.5	28.5	23.7	24.4	23.9	23.9		34.0	39.0	33.2	31.3	26.0		
LEN 9	532435	181558	37.2	47.7	42.2	34.7	29.7	38.4		35.3	46.0	42.8	46.0	36.8	39.7	33.0		
LEN 15	532144	182013	44.5	33.0	30.8	26.5	17.9	19.0	21.1	19.8	24.0	26.6	37.0	30.8	27.6	22.9		
TAS1	533484	181190	36.3	34.9	23.9	25.5	19.2	18.8	17.8	21.2	29.0	31.5	33.2	27.3	-	-		Triplicate Site with TAS1, TAS2 and TAS3 - Annual data provided for TAS3 only
TAS2	533484	181190	31.0	37.0	24.2	22.7	19.8	20.8	20.4	21.7	29.0		34.8	31.7	-	-		Triplicate Site with TAS1, TAS2 and TAS3 - Annual data provided for TAS3 only
TAS3	533484	181190	41.8	34.1	26.7	20.4	18.6		20.5	22.3		32.8	33.9	31.3	27.1	22.5		Triplicate Site with TAS1, TAS2 and TAS3 - Annual data provided for TAS3 only
WW	532540	180786	55.0	63.5	62.0	67.3	51.1	60.8	54.8	58.9	70.3	59.9	51.5	52.2	58.9	**48.9**		

PLA5	532412	180709	44.0	45.5	38.9	40.3	34.4	33.3		30.9	40.2	34.0	39.0	35.4	37.8	31.4		
LS	533147	181574	49.8	60.6	36.0	47.4	48.3	43.6	27.6	34.2	41.0	37.7	43.5	34.0	42.0	34.8		
FA	533236	181040				24.6	21.0	21.6	18.6	21.7	27.7	29.1	35.0	23.8	24.8	20.6		
FL	531276	181261	42.7		30.3	35.5	31.5	32.1	24.9	28.8	39.5	37.5	38.7	32.0	33.9	28.2		
OS3	532132	181108	34.9	40.5	30.4	28.2	22.3		32.1		32.6			34.7	31.9	25.9		
OS6	532939	181609	36.0		24.7	29.5	25.2	26.3	20.5	22.4	29.5	31.6	37.0	25.9	28.1	23.3		
OS7	531974	181382	44.4	41.8	37.1	32.7	31.0	25.0	23.0	24.9	27.3	30.8	39.5	31.8	32.5	26.9		
GY	533703	180913	38.2	44.9	32.7	29.7	23.6	29.1	28.8	29.1	35.8	35.4	39.7	32.9	33.3	27.7		
CT	531634	181692	39.7	46.9	31.9	38.2	33.6	31.2	27.9		44.0	40.4	44.3	40.5	38.1	31.6		
N1	532164	181641	38.5	38.1	23.9	27.7	21.8	24.2	22.0	22.5	28.2	29.6	30.9	26.5	27.8	23.1	-	
N2	532210	181975	37.3	32.5	22.6	22.6	15.5	17.3	21.7	18.1	22.2	26.4	24.7	26.0	23.9	19.8	-	
SPS2	532175	181150	47.6	44.2	38.8	35.6	26.8	29.3	35.7	36.6	41.4		40.9	42.3	38.1	31.6		
CLS2	532051	180900	34.6	34.6	25.3	23.7	21.0	21.2	18.6	22.6	27.3	27.4	30.5	22.2	25.7	21.4		
CHS	531988	181881				30.1	20.6	22.4	25.2	23.0	30.3	30.3	38.9	32.3	28.1	23.4		
CSG	532174	181214	44.4	38.8	33.8	33.1	27.8	30.5	29.5	32.2	38.3	34.6	37.3	35.1	34.6	28.7		
TC	531254	181044	40.0	36.4	27.7	24.9	19.7	20.3		19.0	26.0	28.8	31.7	27.6	27.5	22.8		
BWL1	532495	180791	45.1		33.4	34.1	31.0	36.3	33.3	36.0	41.4	32.5	39.7	30.7	-	-		Triplicate Site with BWL1, BWL2 and BWL3 - Annual data provided for BWL3 only
BWL2	532495	180791	41.8		32.0	35.7	30.1	34.7	35.0	37.2	41.2	37.1	37.1	32.7	-	-		Triplicate Site with BWL1, BWL2 and BWL3 - Annual data provided for BWL3 only
BWL3	532495	180791	46.4		33.5	36.4	30.4	32.6	33.3	35.7	40.9	33.2	39.5	33.5	35.9	29.8		Triplicate Site with BWL1, BWL2 and BWL3 - Annual data provided for BWL3 only
T2	533294	180688	55.1	56.7	44.2	40.7	31.7		41.9	43.9	46.8	41.4	45.9	39.6	44.4	36.8		
T3	533385	180722	69.0	64.4	52.6	48.7	52.6	57.4	52.0	48.5	59.9	55.5	55.6	50.0	55.5	**46.1**		
T4	533513	180939	36.9	40.9	31.4	31.8	26.6			27.9		43.3		39.0	34.7	27.3		
T5	533600	181165	56.0	47.1	42.6	40.3	42.7	39.7	40.9	37.8	53.9	46.1	49.1	48.0	45.3	37.6		
T6	533549	181345	40.5	36.2	31.7	24.4	20.8	23.8	25.2	24.2		36.1		23.6	28.6	23.8		
T7	533418	181257	36.0	35.4		30.4		19.6	20.9	22.3	29.7	32.5	32.7	31.5	29.1	24.1		
T10	533239	181152	36.8	37.9		26.9	24.0	23.4	20.9	23.5	30.9	31.1	36.4	34.9	29.7	24.7		
T13	531644	180857	52.9	56.7	46.9	46.0	42.4	42.7	38.6	37.4	53.3	44.6	47.4	42.6	46.0	38.1		
T14	531197	180826	56.3	55.1	44.8	45.8	34.0	43.4		44.2	55.6	43.7	38.8	45.2	46.1	38.2		
T15	531419	181166	53.6	46.3	40.8	37.8		33.9	35.9	32.6	42.1	36.2	43.1	39.4	40.2	33.3		
T16	531769	181167	47.0	45.9	38.0		40.2	38.5	25.5	35.9		35.1	38.5	30.5	37.5	31.1		
T17	532156	181528	64.4	47.6	48.5	43.5	35.2	38.2	41.7	40.3	50.3	46.6	46.9	47.0	45.9	38.1		
T18	532251	181571	45.6	44.4	37.9	39.0	27.8	34.4	34.4	29.8	41.4	41.6	44.1	41.6	38.5	32.0		
T20	531592	181563	45.9	49.8		39.9	35.3	36.6	32.8	34.0	48.3	36.3	39.5	36.0	39.5	32.8		
T21	531804	181395	59.5	53.9	51.5	52.9	51.6	48.4	39.7	38.7	58.3	57.9	48.6	50.8	51.0	**42.3**		
T23	533263	181248		40.3	13.8	27.1	22.0	22.2	20.3	21.9		32.2	40.2		26.7	22.1		
BS1	532105	181967	58.8	60.0	49.4	39.6	35.1	39.7	40.1	36.6	47.9	44.4		38.9	44.6	37.0		
BS14	532631	181924	40.3	40.5				25.5	20.7	24.3				24.5	29.3	25.1		
BS16	532615	181856	40.0	42.2	31.2	26.8	20.5	23.9	20.1	22.1	32.5	30.1	34.3	27.7	29.3	24.3		
BS17	532756	181723	60.8	55.3	44.7	35.9	32.0	38.5	41.3	39.5	56.6	49.9	47.8	34.8	44.8	37.2		
BS18	532706	181571	44.7	53.9	43.0	42.2	45.5	41.8	31.0	34.1	44.2	42.5	42.9	29.6	41.3	34.3		
BS19	532612	181576	47.1	49.8	38.4	39.2	36.3	39.6	30.4	34.6	47.0	43.4	43.7	33.7	40.3	33.4		
BS20	532412	181685	36.1	34.4		23.5	19.4	21.5			26.2	26.4	28.0	23.3	26.5	22.0		
BS21	532101	182074	50.4	51.5	43.4	42.4	37.2	37.4	33.2		39.8	38.8	46.2	33.3	41.2	34.2		
SM 1	532312	181270	38.7	39.0	28.7	26.4	21.4	24.0	24.5	25.2	31.7	30.3			29.0	24.0		
SM 2	532210	181217	45.3	44.1	36.2	33.2	26.7	34.2		37.5	44.7	42.1	44.2	45.3	39.4	32.7		
SM 3	532154	181260	49.9	49.4	37.5	40.1	41.3	41.7		37.9				35.3	41.6	34.4		

SM 4	532095	181285	48.0	54.8				45.1	39.9	35.2				45.9	44.8	38.3			
SM 5	531980	181331	52.1	52.4	54.0	51.4	42.0	45.4	44.4	30.9	55.9	54.6	47.5	50.3	48.4	**40.2**			
SM 6	531898	181353	46.6	45.8	44.0	48.1	45.3	39.7	31.0	28.8	45.1	40.0	43.9	34.8	41.1	34.1			
SM 7	532025	181371	47.8	52.3	44.2	43.5	37.8	40.6	39.6		57.7	43.0	45.3	38.9	44.6	37.0			
SM 8	532041	181468	49.8	54.9	41.4	37.9	26.0	32.5	35.6	30.1	41.3	40.6	39.1	41.0	39.2	32.5			
SM 9	532038	181534	49.6	54.2	36.8	39.7	32.5	36.7	36.0		42.5	43.2	39.3	43.4	41.3	34.2			
SM 10	532082	181578	64.5	64.8	43.8	43.3	38.9	45.2		38.0	49.7	46.9	47.1	45.8	48.0	39.8			
SM 11	532143	181492	55.3	49.3	45.4	46.8	42.4	48.0	45.5	40.2	57.6	54.9	42.6	46.3	47.9	39.7			
SM 12	532138	181425	60.8	60.5	47.6	48.6	48.9	51.9	47.4	42.6	59.3	54.4	47.9	43.7	51.1	**42.4**			
SM 13	532143	181371	49.9	50.5		45.0		47.5	43.9	47.5	41.2	48.8	49.4	44.0	46.8	38.8			
SM 14	532137	181316	42.6		41.6	45.8	49.4	49.1		49.2	52.8	48.8		33.7	45.9	38.1			

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

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.**

☐ **Local bias adjustment factor used.**

☒ **National bias adjustment factor used.**

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

☒ **The City of London Corporation confirms that all 2023 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.**

Notes:

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

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

See Appendix C for details on bias adjustment and annualisation.

Appendix C Maps of Monitoring Locations and AQMAs

Figure L. Map of Non-Automatic Monitoring Sites

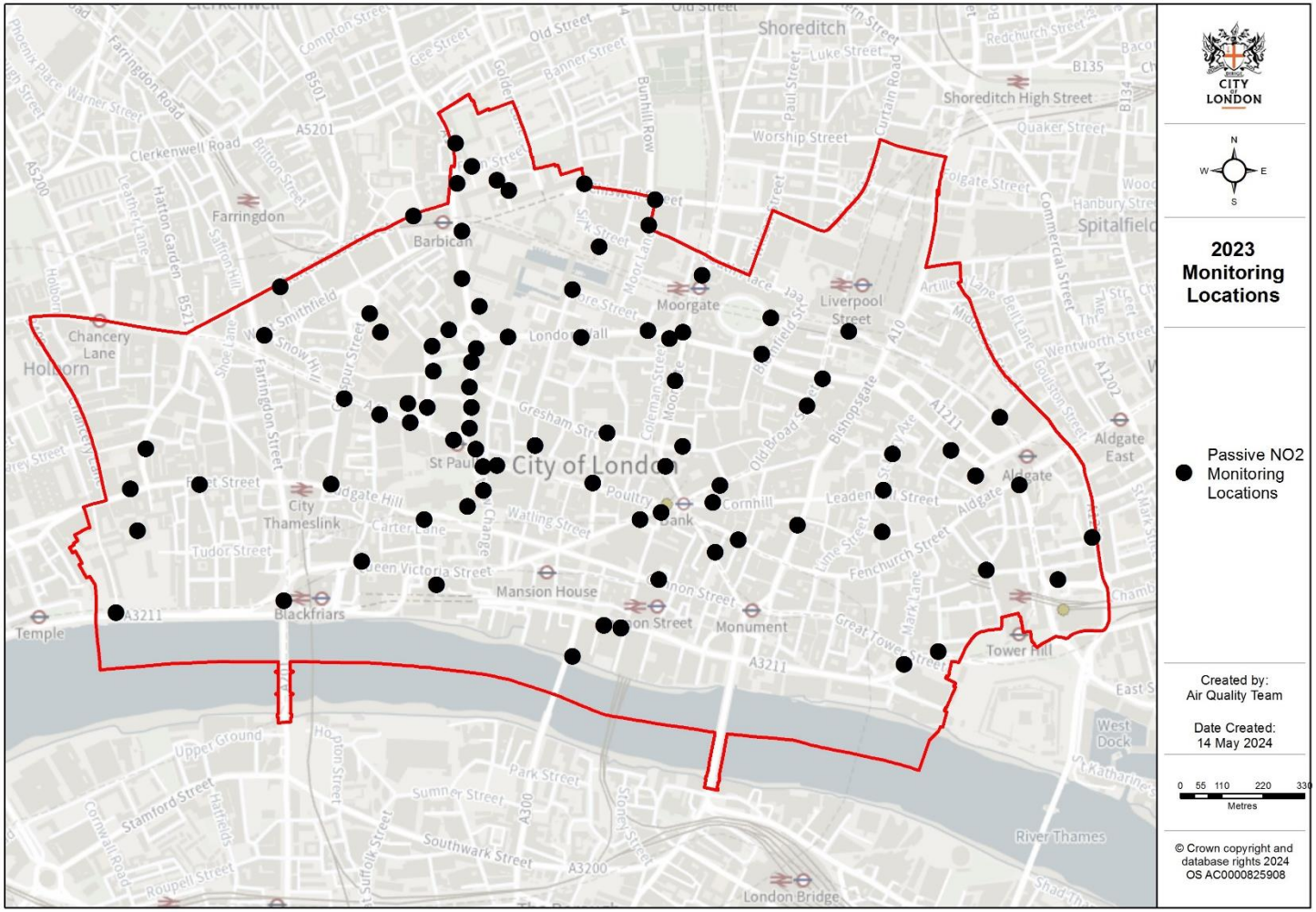

Figure M. Map of Automatic Monitoring Sites