London Borough of Sutton Air Quality Annual Status Report for 2024

Date of publication: August 2025

This report provides a detailed overview of air quality in the London Borough of Sutton during 2024. It has been produced to meet the requirements of the London Local Air Quality Management (LLAQM) statutory process[1].

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

Contents

Tables

Figures

Abbreviations

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

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

Pollutant	Standard / Objective / Guideline	Averaging Period	Date[1]
Nitrogen dioxide (NO_2)	200 µg m^{-3} not to be exceeded more than 18 times a year	1-hour mean	31 Dec 2005
Nitrogen dioxide (NO_2)	40 µg m^{-3}	Annual mean	31 Dec 2005
Nitrogen dioxide (NO_2)	WHO AQG[2]: 10 µg m^{-3}	Annual mean	
Particles (PM_{10})	50 µg m^{-3} not to be exceeded more than 35 times a year	24-hour mean	31 Dec 2004
Particles (PM_{10})	WHO AQG[2]: 45 µg m^{-3} not to be exceeded more than 3-4 times a year	24-hour mean	
Particles (PM_{10})	40 µg m^{-3}	Annual mean	31 Dec 2004
Particles (PM_{10})	WHO AQG[2]: 15 µg m^{-3}	Annual mean	
Particles ($PM_{2.5}$)	10 µg m^{-3}[3]	Annual mean	2040
Particles ($PM_{2.5}$)	London Mayoral Objective[4]: 10 µg m^{-3}	Annual mean	2030
Particles ($PM_{2.5}$)	WHO AQG[2]: 5 µg m^{-3}	Annual mean	
Particles ($PM_{2.5}$)	Target of 15% reduction in concentration at urban background locations	3-year mean	Between 2010 and 2021
Particles ($PM_{2.5}$)	WHO AQG[2]: 15 µg m^{-3}	24-hour mean	
Sulphur dioxide (SO_2)	266 µg m^{-3} not to be exceeded more than 35 times a year	15-minute mean	31 Dec 2005
Sulphur dioxide (SO_2)	350 µg m^{-3} not to be exceeded more than 24 times a year	1-hour mean	31 Dec 2004
Sulphur dioxide (SO_2)	125 µg m^{-3} 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) Environmental Target Regulations under the Environment Act 2021

(4) London Mayoral Objective

1 Air Quality Monitoring

1.1 Locations

Table B Details of Automatic Monitoring Sites for 2024

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA ?	Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Inlet Height (m)
ST4	Wallington	Kerbside	528925	163804	NO_2, PM_{10}	Yes	Sutton AQMA	Chemiluminescent ; FDMS	5	0.8	1.5
ST5	Beddington Lane North	Industrial	529400	167224	NO_2, PM_{10}, $PM_{2.5}$	Yes	Sutton AQMA	Chemiluminescent ; FDMS	6	4	1.5
ST6	Worcester Park	Kerbside	522557	165787	NO_2, PM_{10}	Yes	Sutton AQMA	Chemiluminescent ; FDMS	2	1.3	1.5
ST8	Beddington Lane	Industrial	529781	166597	NO_2, PM_{10}	Yes	Sutton AQMA	Chemiluminescent ; FDMS	330	N/A	1.5
ST9	Beddington Village	Roadside	530124	165223	NO_2, PM_{10}	Yes	Sutton AQMA	Chemiluminescent ; FDMS	15	5	1.5

Notes:

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

(2) N/A if not applicable

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

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
ST21	Glastonbury Road	Urban Background	525567	166291	NO_2	In AQMA	6.0	2.0	No	2.0
ST22	Dorset Road, Belmont	Roadside	525063	162474	NO_2	In AQMA	12.0	2.0	No	2.0
ST23	Sandy Lane South	Roadside	529734	163868	NO_2	In AQMA	5.0	2.0	No	2.0
ST24	Derry Road	Roadside	530130	165404	NO_2	In AQMA	7.0	2.0	No	2.0
ST25	Staines Avenue	Roadside	523874	165683	NO_2	In AQMA	15.0	2.0	No	2.0
ST26	West Street	Roadside	527683	164663	NO_2	In AQMA	2.0	2.0	No	2.0
ST07	Hackbridge Primary	Urban Background	528401	166038	NO_2	In AQMA	0.0	56.0	No	2.0
ST08	Victor Seymour	Urban Background	527786	165021	NO_2	In AQMA	0.0	33.0	No	2.0
ST29	Park Lane	Roadside	528339	164615	NO_2	In AQMA	2.0	6.0	No	2.0
ST10	Muschamp Priory	Urban Background	527284	165778	NO_2	In AQMA	0.0	20.0	No	2.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
ST11	Sherwood Park School	Urban Background	529835	165041	NO_2	In AQMA	0.0	35.0	No	2.0
ST32	Alcorn Close	Urban Background	525184	165845	NO_2	In AQMA	40.0	25.0	No	2.0
ST33	Carshalton Road	Roadside	526021	164025	NO_2	In AQMA	3.0	1.0	No	2.0
ST34	Oakhill Road	Roadside	525772	165118	NO_2	In AQMA	10.0	1.0	No	2.0
ST35	Gander Green Lane	Roadside	524782	165167	NO_2	In AQMA	10.0	1.0	No	2.0
ST36	Croydon Road Beddington	Roadside	530645	164839	NO_2	In AQMA	0.0	11.0	No	2.0
ST27	Haddon Road St Nicholas Way	Roadside	525691	164599	NO_2	In AQMA	11.0	2.0	No	2.0
ST38	Brighton Road Sutton	Roadside	526046	163636	NO_2	In AQMA	2.0	10.0	No	2.0
ST39	Rose Hill Roundabout	Roadside	526019	166469	NO_2	In AQMA	6.0	2.0	No	2.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
ST40	38 High Street Cheam	Roadside	524357	163599	NO_2	In AQMA	2.0	1.0	No	2.0
ST42	Royston Park	Urban Background	526605	165364	NO_2	In AQMA	20.0	95.0	No	2.0
ST43	Chiltern Road	Roadside	525883	162518	NO_2	In AQMA	13.0	1.0	No	2.0
H1	Hackbridge Road	Roadside	528359	166067	NO_2	In AQMA	0.5	17.0	No	2.0
H2	Clover Way	Urban Background	528437	166275	NO_2	In AQMA	0.0	25.0	No	2.0
H3	57 London Road	Roadside	528637	166021	NO_2	In AQMA	0.0	5.0	No	2.0
BL	Beddington Lane	Roadside	529400	167235	NO_2	In AQMA	15.0	2.0	No	2.0

Notes:

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

(2) N/A if not applicable.

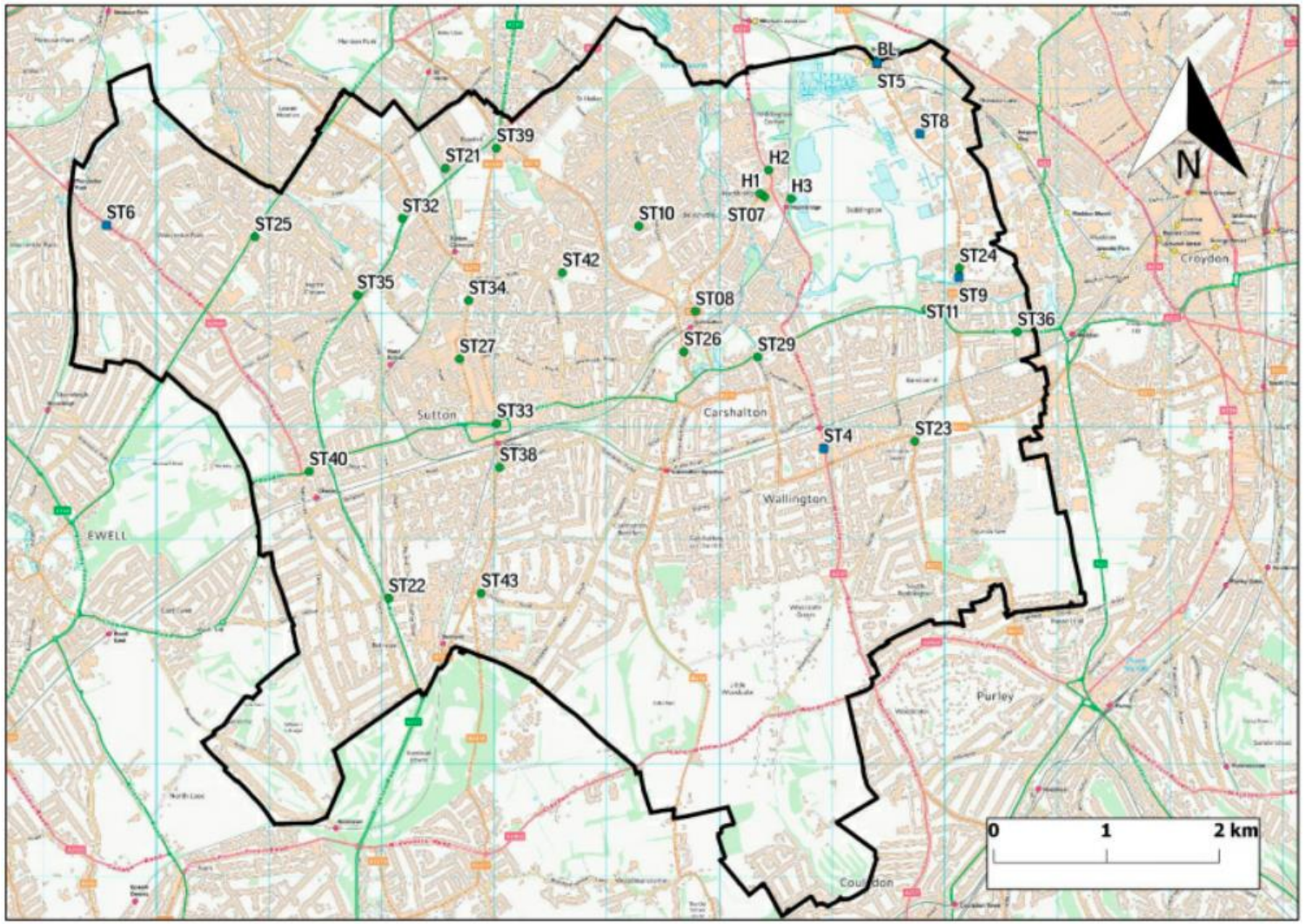


Figure 1-A Air Quality Monitoring Locations in the London Borough of Sutton

1.2 Comparison of Monitoring Results with AQOs

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid data capture for monitoring period %[(a)]	Valid data capture 2024 %[(b)]	2018	2019	2020	2021	2022	2023	2024
ST4 Wallington	528925	163804	Kerbside	98.0	43.1	**47.0**	**45.9**	**40.8**	**43.3**	**44.2 (32.7)**	**44.8 (32.9)**	35.0 *Ann
ST5 Beddington Lane North	529400	167224	Industrial	94.0	94.0	29.0	29.4	22.8	21.9	24.4	20.5	17.9
ST6 Worcester Park	522557	165787	Kerbside	99.5	99.5	**52.0**	**51.1**	39.4 (34.9)	**43.4**	39.9	30.8	26.0
ST8 Beddington Lane	529781	166597	Industrial	-	-	25.0	25.1	19.1 *Ann	-	-	-	-
ST9 Beddington Village	530124	165223	Roadside	43.1	99.6	-	-	21.6	24.3	22.7	19.8	17.5

Notes:

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

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

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

Means for diffusion tubes have been corrected for bias.

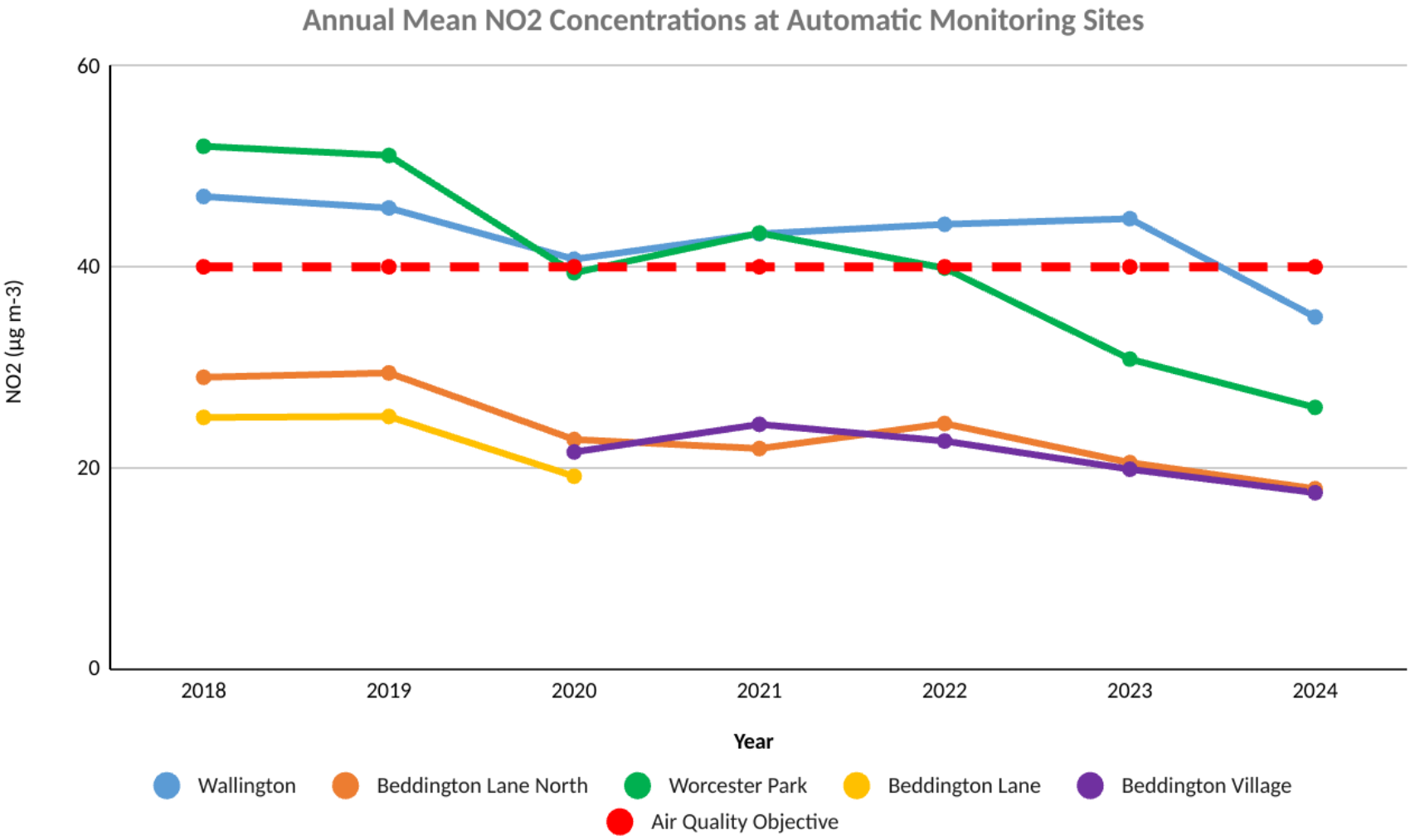
All means have been “annualised” in accordance with LLAQM Technical Guidance if valid data capture for the calendar year is less than 75% and greater than 25%.

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

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

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

Figure 1-B


Annual Mean NO2 Concentrations at Automatic Monitoring Sites
60
40
20
0
NO2 (µg m-3)
2018
2019
2020
2021
2022
2023
2024
Year
Wallington
Beddington Lane North
Worcester Park
Beddington Lane
Beddington Village
Air Quality Objective

Discussion

2024 saw the annual mean NO_2 concentrations at automatic monitoring sites in the London Borough of Sutton falling in comparison to concentrations recorded in 2023. No sites in the borough have exceeded the national objective in 2024.

Over the last 7 years, all monitoring sites have continued to show a reduction in annual mean NO_2 concentrations. Since 2021, automatic monitoring sites have once again shown the gradual fall in annual mean NO_2 concentration. The general fall in NO_2 concentrations post-2020 may be attributed to many factors including the decreased use of high emission vehicles, improved traffic systems, and post-COVID hybrid working.

In late August 2023, the Ultra-Low Emission Zone (ULEZ) was expanded to include most of Sutton. 2024 is the first full calendar year that ULEZ has been in effect in this area. The continued reduction of NO_2 concentrations across all sites may be indicative of the positive impacts of the expansion of the ULEZ. The sites Wallington (ST4) and Worcester Park (ST6) have consistently had the highest annual mean NO_2 concentrations in the London Borough of Sutton, the difference is likely due to both sites being located on congested roads. Worcester Park has remained below the annual national objective for the second year in a row, and Wallington has met the objective for the first time in 2024, however;

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

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

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%)([1])	Valid Data Capture 2024 (%)([2])	2018	2019	2020	2021	2022	2023	2024
ST21	525567	166291	Urban Background	85.3	85.3	29.4	26.8	20.6	21.5	20.2	17.7	15.6
ST22	525063	162474	Roadside	100.0	100.0	36.1	33.5	26.7	24.0	25.0	20.4	18.7
ST23	529734	163868	Roadside	100.0	100.0	37.0	34.9	27.0	28.1	27.1	22.3	17.8
ST24	530130	165404	Roadside	100.0	100.0	28.9	25.7	19.2	21.9	20.3	17.0	15.5
ST25	523874	165683	Roadside	100.0	100.0	31.6	29.7	23.9	25.2	22.6	19.1	15.4
ST26	527683	164663	Roadside	92.2	92.2	38.4	36.0	25.6	29.6	26.1	23.3	19.1
ST07	528401	166038	Urban Background	85.0	85.0	22.4	20.5	17.1	16.6	16.1	15.2	13.3
ST08	527786	165021	Urban Background	82.6	82.6	24.0	23.2	17.4	12.3	17.4	15.1	13.0
ST29	528339	164615	Roadside	100.0	100.0	38.9	35.7	29.6	33.5	34.6	32.9	26.8
ST10	527284	165778	Urban Background	92.5	92.5	22.7	20.1	14.6	16.2	14.6	12.5	11.1
ST11	529835	165041	Urban Background	92.2	92.2	24.5	22.6	18.6	19.5	19.5	16.6	14.6

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%)([1])	Valid Data Capture 2024 (%)([2])	2018	2019	2020	2021	2022	2023	2024
ST32	525184	165845	Urban Background	100.0	100.0	24.3	20.0	16.7	19.3	18.2	14.8	12.7
ST33	526021	164025	Roadside	81.0	81.0	34.5	34.2	27.7	30.2	30.4	26.5	21.4
ST34	525772	165118	Roadside	100.0	100.0	38.9	**40.7**	32.9	33.3	32.1	29.1	26.8
ST35	524782	165167	Roadside	100.0	100.0	31.1	28.7	22.0	24.0	22.0	18.2	16.1
ST36	530645	164839	Roadside	100.0	100.0	29.3	27.4	22.7	25.5	23.1	20.0	18.7
ST27	525691	164599	Roadside	100.0	100.0	35.6	34.7	28.1	29.1	30.0	21.3	21.4
ST38	526046	163636	Roadside	90.3	90.3	35.1	33.2	24.7	29.1	27.5	23.1	20.2
ST39	526019	166469	Roadside	100.0	100.0	**40.7**	**41.8**	**49.5**	**41.1**	**40.7 (33.0)**	34.0	30.0
ST40	524357	163599	Roadside	92.2	92.2	**41.1**	**42.1**	31.0	33.0	34.3 (34.9) *Ann	29.4 (29.2) *Ann	25.7
ST42	526605	165364	Urban Background	85.0	85.0	19.9	17.4	14.1	17.1	15.1	11.5	10.5
ST43	525883	162518	Roadside	100.0	100.0	-	28.4	22.2	23.9	23.9	20.0	17.7
H1	528359	166067	Roadside	100.0	100.0	30.0	32.6	24.2	27.0	27.5	24.7	25.2

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%)([1])	Valid Data Capture 2024 (%)([2])	2018	2019	2020	2021	2022	2023	2024
H2	528437	166275	Urban Background	100.0	100.0	26.8	24.3	18.1	21.9	19.1	16.2	15.1
H3	528637	166021	Roadside	90.6	90.6	**44.1**	**44.5**	36.1	33.0	33.6	31.4	29.3
BL	529400	167235	Roadside	83.4	83.4	29.0	29.1	26.8	24.6	31.1	26.3	24.5

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

Diffusion tube data has been bias adjusted

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

Notes:

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

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

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

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

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

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

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

Figure 1-C

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

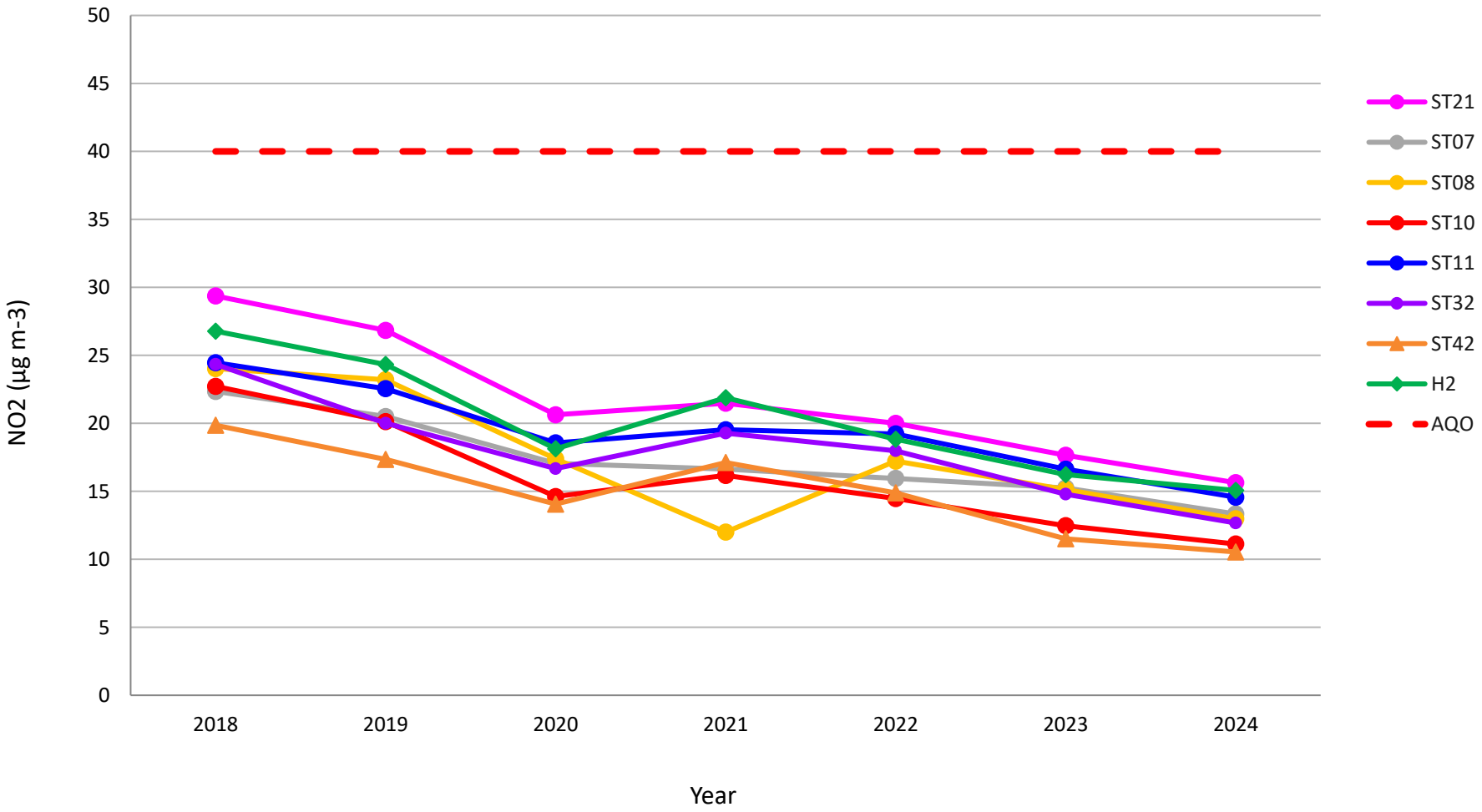
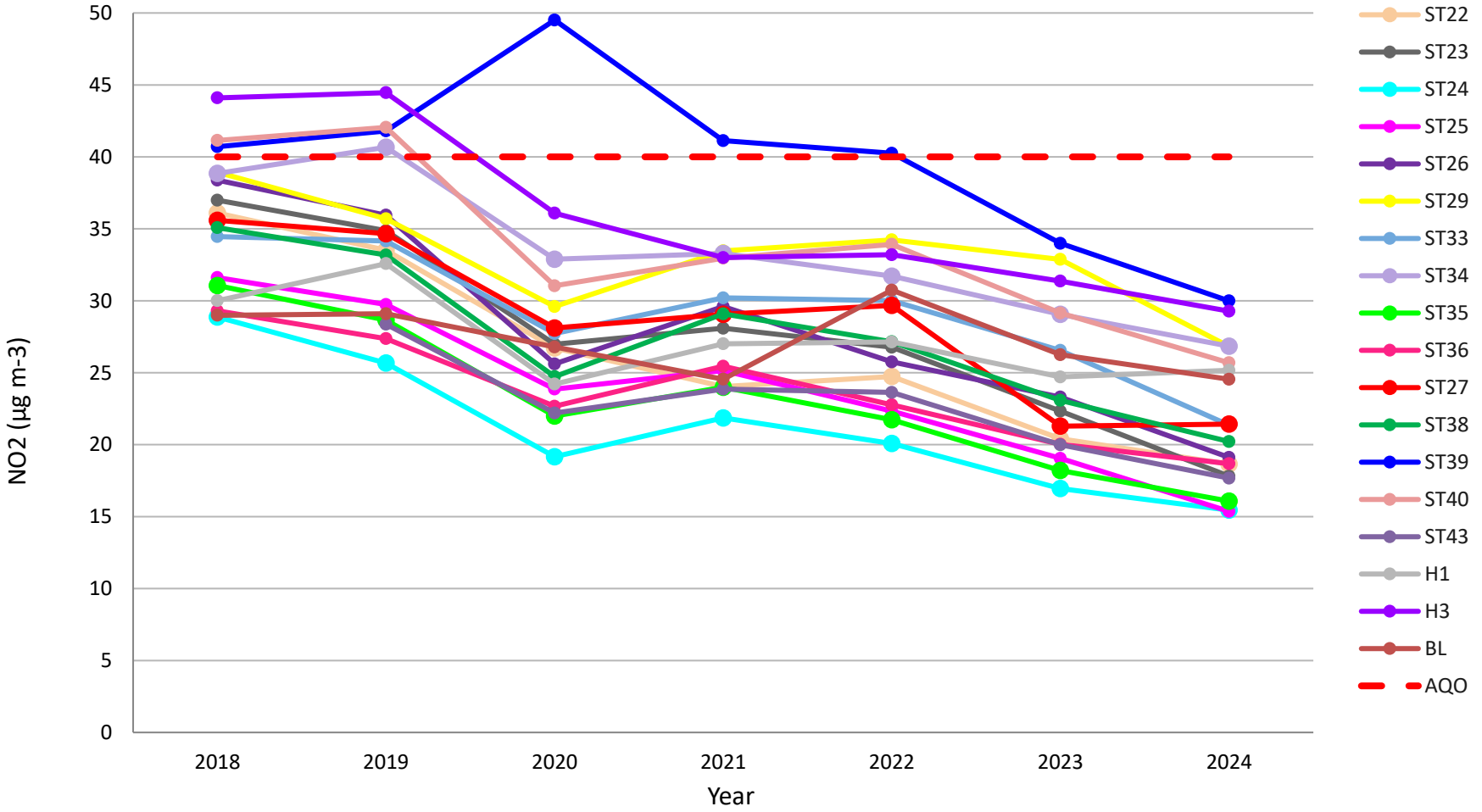


Figure 1-D

Annual Mean NO2 Concentrations at Diffusion Tubes Monitoring Sites - Roadside



General Overview

In 2024, the NO_2 annual mean air quality objective was met across all diffusion tube sites in the London Borough of Sutton. No sites required annualisation or distance correction. The annual mean NO_2 concentration at diffusion tube sites continued to decrease over the 7 years and in comparison to 2023. The two exceptions to this were two roadside sites; H1 (Hackbridge Road) and ST27 (Haddon Road, St Nicholas Way). Both of these sites showed a slight increase in NO_2 concentrations in compassion to 2023, however concentrations have not exceeded those measured in years previous to 2023 (barring 2020 for H1). All other sites have reported 2024 concentrations lower than those in 2020. There are various likely causes for the continued reduction in NO_2 concentrations since 2021, including, the decreased use of high emission vehicles by the general public, traffic improvements, ULEZ expansion, and post-COVID hybrid working.

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

Rosehill Roundabout

Sharp reductions in NO_2 concentrations have been observed at ST39 (Rosehill Roundabout) since 2022, by approximately 25% over these years (40.3 µg m^{-3} in 2022, reduced to 30.0 µg m^{-3} in 2024). Now the concentration is well below the national air quality objective despite the heavily trafficked location; Rosehill Roundabout connects to the highly congested A297 road, which links several areas of the borough to central London. This route is also attractive to other road users in neighbouring boroughs, due to this. This location also has other pull factors, including St Helier's Hospital, and shops on Wrythe Lane. This is the initial explanation for the relatively high annual mean NO_2 concentrations observed in previous years, and was especially apparent in

2020 where an NO_2 increase in concentrations was observed. While still recording the highest NO_2 concentrations of all monitoring sites in 2024, the gap between this site and all others has narrowed considerably. The narrowing of this gap may be attributed to the closure of the roundabout and surrounding roads between February and August 2024 for road resurfacing works; these works were carried out in evenings into early mornings. While traffic is generally reduced during these times, a location as busy as this roundabout would likely see relatively higher amounts of traffic at all times of the day so this may be a factor in the decreased NO_2 concentrations. Another factor may be ULEZ, as this area would likely see the highest number of vehicles regardless of their compliance to the ULEZ regulations. Increased compliance since Sutton's inclusion within ULEZ may have contributed to reduced NO_2 concentrations in 2024.

Hackbridge

The Hackbridge site H3 (London Road) had the second highest annual mean NO_2 concentrations in the London Borough of Sutton in 2024. This is slightly worse than its standing in 2023 (as 3rd highest) despite a continuing decline in NO_2 concentrations. This is, however, more to do with the improved performance of the formerly second place site ST29 (Park Lane).

Other Hackbridge sites, H1 (Hackbridge Road) and H2 (Clover Way) still maintain lower annual mean NO_2 concentrations; H1 is one of two sites in the borough which showed an increase in annual NO_2 concentrations in 2024. This increase is very minor (approx. 0.5 $\mu g\ m^{-3}$) and could therefore be attributed to statistical noise, as this value falls well within the bias percentage. H2 continues to decrease, albeit at a slightly slower rate than previous years.

Cheam

NO_2 concentrations at the Cheam High Street site ST40 have continued to decrease since 2022, when it previously had the second highest annual mean NO_2 concentrations in the borough between 2018 and 2019. The site ST40 is a roadside diffusion tube located on the congested A232 that connects highly populated areas across south London and high traffic volumes is likely the

reason for the high annual mean NO_2 concentration. The sharp fall in concentration in 2020 is likely attributed to COVID restrictions, and this fall was in line with other roadside diffusion tube sites. The site has never again reached its pre-2020 annual mean NO_2 concentrations even with the slight increases, once again, this is in line with other diffusion tube sites in the borough. This is another heavily trafficked location that may have benefited from the ULEZ expansion to cover Sutton, as there were no long term disruptions to traffic flow in this location across the year.

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

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid data capture for monitoring period %([a])	Valid data capture 2024 %([b])	2018	2019	2020	2021	2022	2023	2024
ST4 Wallington	528925	163804	Kerbside	98.0	43.1	0	0	0	1	0	3	0 (126.0)
ST5 Beddington Lane North	529400	167224	Industrial	94.0	94.0	0	0	0	0	0	0	0
ST6 Worcester Park	522557	165787	Kerbside	99.5	99.5	7	9	0	0	0	0	0
ST8 (1) Beddington Lane	529781	166597	Industrial	-	-	25.0	25.1	19.1 *Ann	-	-	-	-
ST9 (2) Beddington Village	530124	165223	Roadside	43.1	99.6	-	-	0 (72.1)	0	0	0	0

Notes

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

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

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

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

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

Discussion

The NO_2 1-hour mean objective was met across all automatic monitoring sites in London Borough of Sutton, with Beddington Lane North (ST5), Worcester Park (ST6), and Beddington Village (ST9) showing that an exceedance of 200 µg m^{-3} was not reached. No locations recorded a breach in 2024, although this may be due to the Wallington monitor (ST4) being inactive for a significant proportion of the year.

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid data capture for monitoring period %(a)	Valid data capture 2024 %(b)	2018	2019	2020	2021	2022	2023	2024
ST4 Wallington	528925	163804	Kerbside	98.0	43.1	23	21	18.7	18.0	20.2	18.9	19.0 *Ann
ST5 Beddington Lane North	529400	167224	Industrial	94.0	94.0	22	22	21.4	17.6	20.2	17.9	16.7
ST6 Worcester Park	522557	165787	Kerbside	99.5	99.5	20	21 *Ann	15.3 *Ann	14.8	18.2	14.7	14.4
ST8 (1) Beddington Lane	529781	166597	Industrial	-	-	22	17	14.5 *Ann	-	-	-	-
ST9 (2) Beddington Village	530124	165223	Roadside	43.1	99.6	-	-	14.5 **	17.3	19.4	18.2 (17.6) *Ann	18.4

Notes

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

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

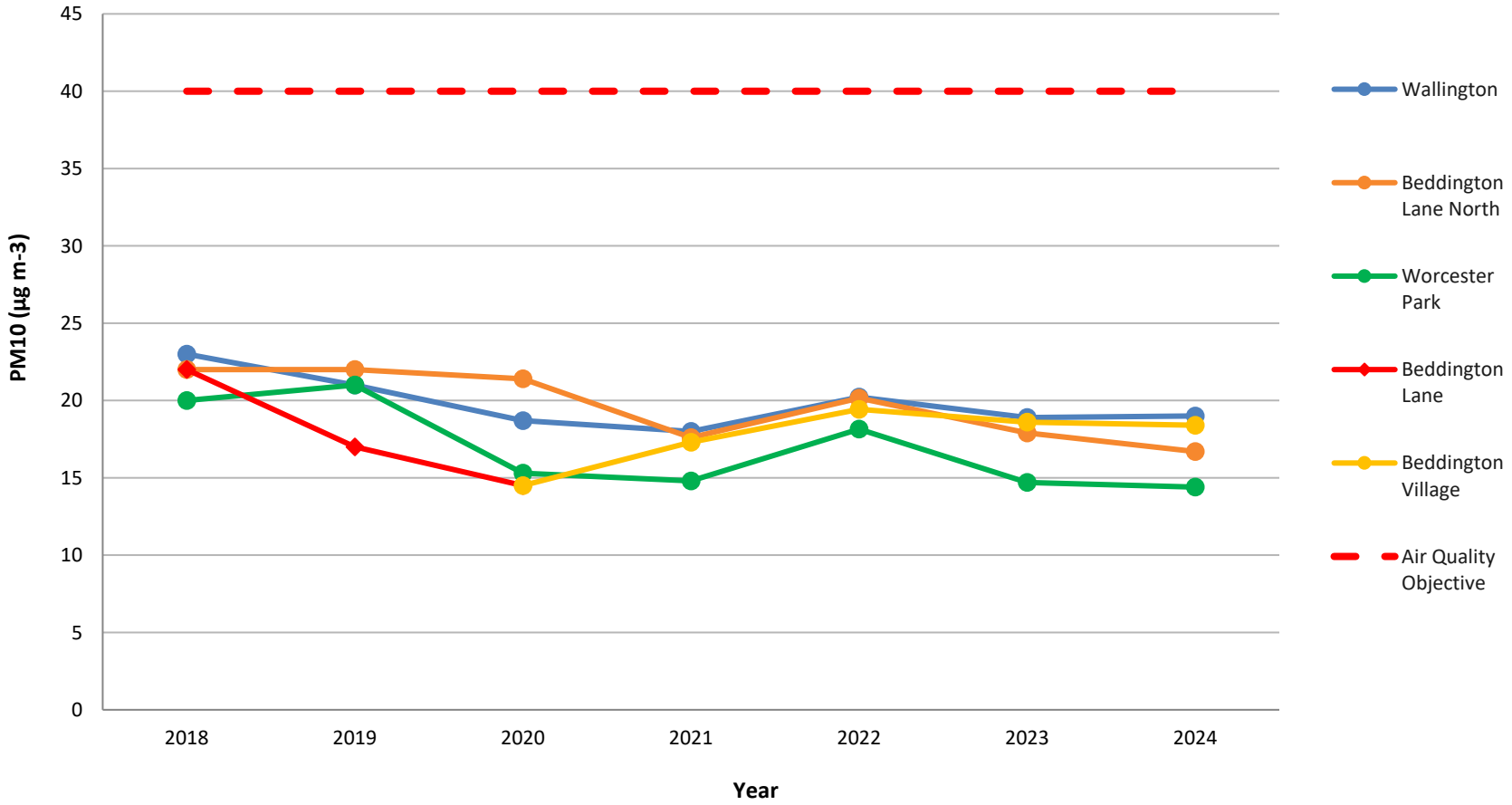
All means have been “annualised” in accordance with LLAQM Technical Guidance, if valid data capture is less than 75% and more than 25%.

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

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

Figure 1-E

Annual Mean PM10 Concentrations at Automatic Monitoring Sites



Discussion

The main source of PM_{10} is dust from construction sites, wood burning, car tyres, brake and road wear, dust resuspension and various other activities in industrial sites. In 2024, the annual mean PM_{10} air quality objective was met across all monitoring sites. All stations recorded PM_{10} concentrations between 14 and 19 µg m^{-3}.

Wallington (ST4), Beddington Village (ST9), and Worcester Park (ST6) appear to be beginning to plateau, with no significant reductions in PM_{10} concentrations; further observations over the next year or so years will confirm this trend. The smallest reduction was observed at ST6, of 0.3 µg m^{-3}, which easily falls within the realm of statistical noise.

The Beddington industrial area has two nearby automatic PM_{10} monitoring sites, Beddington Lane North and Beddington Village. Both sites have consistently met the annual mean PM_{10} air quality objective and show PM_{10} levels similar to other (non-industrial) sites in the borough.

Site ST4 had annual mean PM_{10} data capture of 43%, and was annualised using urban background sites Honor Oak (Lewisham), Westminster, Hillingdon, and North Kensington AURN sites. Significant equipment failure resulted in the total loss of data since June 2024. The annualised annual mean PM_{10} concentration was 19.0 µg m^{-3} and the unadjusted mean was 18.3 µg m^{-3}. The calculations can be found in the Appendix under section A.3 and Table R.

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid data capture for monitoring period %[a]	Valid data capture 2024 %[b]	2018	2019	2020	2021	2022	2023	2024
ST4 Wallington	528925	163804	Kerbside	98.0	43.1	4	7	1	0	1	2	1 (32.0)
ST5 Beddington Lane North	529400	167224	Industrial	94.0	94.0	2	13	8	1	1	2	0
ST6 Worcester Park	522557	165787	Kerbside	99.5	99.5	7	10 (44.0)	1 (22.6)	0	2	2	0
ST8 [1] Beddington Lane	529781	166597	Industrial	-	-	2	4	0 (23.3)	-	-	-	-
ST9 [2] Beddington Village	530124	165223	Roadside	43.1	99.6	-	-	1 (26.2)	0 (28)	1	2 (30)	1

Notes

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

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

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

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

Discussion

In 2024, all automatic monitoring sites in London Borough of Sutton met the PM_{10} 24-hour mean objective as no site had an exceeded 50 µg m^{-3} for over 35 days. Over the last 7 years, the number of exceedances have fallen, with the greatest fall occurring in 2020, as predicted with COVID restrictions. However, since 2020, the number of exceedances have never again reached their pre-2020 numbers. Only Wallington (ST4) and Beddington Village (ST9) recorded a single instance of an exceedance each across 2024.

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid data capture for monitoring period %[(a)]	Valid data capture 2024 %[(b)]	2018	2019	2020	2021	2022	2023	2024
ST5 Beddington Lane North	529400	167224	Industrial	94.0	94.0	12	11.7	9.4	10	10.2	8.7	10.0

Notes

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

Exceedances of the $PM_{2.5}$ annual mean concentration target of 10 µg m^{-3} are shown in **bold**.

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

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

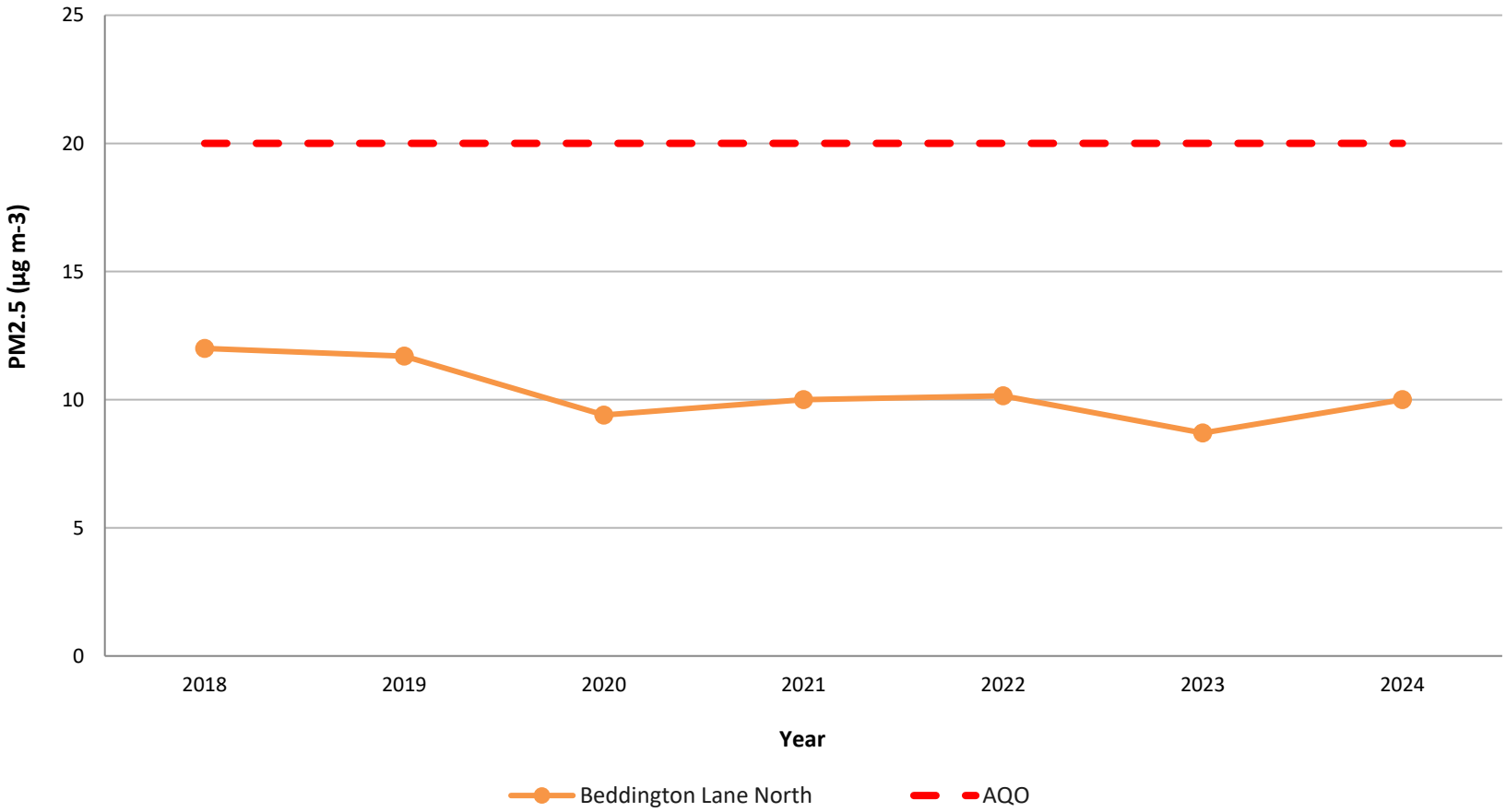
(b) Data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%).

Discussion

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

Figure 1-F

Annual Mean PM2.5 Concentrations at Automatic Monitoring Sites



2 Action to Improve Air Quality

2.1 Air Quality Management Areas

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

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

- Particulate Matter PM_{10} – Annual Mean and 24-Hour Mean
- Nitrogen dioxide NO_2 – Annual Mean and 1-Hour Mean

Table L. Declared Air Quality Management Areas

Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Number of Years Compliant with Air Quality Objective	Name and Date of AQAP Publication	Web Link to AQAP
Sutton AQMA	01/06/2013	NO_2 (annual mean,1-hour mean) PM_{10} (annual mean, 24 hour mean)	Whole Borough	No	NO_2 - annual mean - 69.6 µg m^{-3} (ST4) NO_2 1-hour mean - 69 exceedances (ST4) PM_{10} - annual mean - 27.7 µg m^{-3} (ST6) PM_{10} - 24 hour mean - 20 exceedances (ST6)	None	1	London Borough of Sutton AQAP 2024-2029	Currently undergoing redesign for publication.

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

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

2.2 Air Quality Action Plan Progress

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

2024 is the year of the development of a new air quality action plan for Sutton, which will be implemented over the next 5 years. Therefore, updates on the actions included in the table are limited as the first year of implementation has not concluded; updates will be provided where available in this report. The actions provided within Table M will be formatted in *italics* where an update (interim or otherwise) has been provided. The first full update of this new action plan will come in 2026 with the publication of the 2025 annual progress report. Actions developed from the old action plan are also identified within the table.

Table M. Delivery of Air Quality Action Plan Measures

Measure	LLAQM Action Matrix Theme	Action	Estimated / Actual Completion Date	Organisations Involved	Progress ● Emissions/Concentration data ● Benefits ● Negative impacts / Complaints
14	Public health and awareness raising	Encourage safe active travel over car use by preserving safe routes to school	Ongoing	Sustainable Transport	Use of TfL Safer Corridors and Neighbourhoods LIP budget including Behaviour Change workstreams; 21 schemes proposed for 2024/25, further targets to be set annually as part of budget management processes.
15	*Public health and awareness raising*	*Encourage safe active travel over car use by maintaining an effective Bikeability service offered to adults,*	*Ongoing*	*Sustainable Transport*	*Subject to TfL for funding, and other funding opportunities, the Council proposes to expand the Bikeability service to engage with*

		families and all school across the borough			*1200 unique children and 200 unique adults per year.* *Academic Year 2025-22026. Autumn Bikeability programme allocated already to instructors. Spring and summer bookings sent will be sent to instructors, Week 28 July*
23	Localised solutions	Undertake 'Neighbourhood Place Shaping' consultation with residents regarding the 'Safer and Healthier Streets' programme, developing and co-designing potential schemes as appropriate.	Ongoing	Sustainable Transport and Commissioning (Highways)	Two key areas - Worcester Park and Butter Hill - have currently been identified for further engagement in 2024 to consider traffic measures, including improvements for pedestrians and ways to manage through traffic levels. No specific measures have been designed yet, and will follow from *the* engagement in 2024/25 and beyond.
1	*Monitoring and other core statutory duties*	*Maintaining and where possible expanding air quality monitoring networks, and fulfilling other statutory duties such as reporting on progress*	*Ongoing through and beyond the period of this AQAP*	*Regulatory Services (Pollution Control)*	*Following the issues with the Wallington Monitor, the process of procurement has begun for replacement and relocation. Other monitors considered for upgrades include the monitors at Beddington Lane and Beddington Village. This process started at the end of 2024, but has been delayed to 2025 due to a change in the council's procurement processes.* *The council continues to be represented at working groups:* ● *MAQF London Wood Burning Project* ● *MAQF Anti idling Project*

					Training was provided and attended by all officers on enforcement procedure in October 2024.
2	*Emissions from developments and buildings*	*Ensuring emissions from construction are minimised*	*Ongoing through and beyond the period of this AQAP*	*Planning*	***Formerly action 19 of the 2019-24 AQAP*** *Air Quality Assessments (incl AQN, and AQP statements where required) are required for 100% of major applications;* *Currently working on a method to record the number of construction logistics/environmental management plans are conditioned/received* *KPI: number of construction sites about which relevant complaints are received; 100% of complaints investigated within 3 working days.*
3	*Emissions from developments and buildings*	*Ensuring enforcement of non-road mobile machinery (NRMM) air quality policies*	*Ongoing through and beyond the period of this AQAP*	*Regulatory Services (Pollution Control)*	***Formerly action 20 of the 2019-24 AQAP*** *A relevant code within our databases has been created to record this value. Due to personnel changes in that team, the statistics currently remain unavailable to us.* *KPI:100% of all relevant planning applications to include a condition requiring NRMM compliance; measured as a number per year.*

					Sutton maintains subscription to the Pan-London NRMM Scheme; A quarterly list of active development sites to the NRMM enforcement project leads is provided. Compliance values are recorded in Table N.
4	Emissions from developments and buildings	Reducing emissions from Combined Heat and Power (CHP)	Ongoing through and beyond the period of this AQAP	Planning	**Formerly action 21 of the 2019-24 AQAP** 100% of relevant applications to include appropriate conditions. Performance to be reported annually as standard in the Annual Status Report on air quality.
5	*Emissions from developments and buildings*	*Applying London Plan 2021 Air Quality Neutral policies to new major development.*	*Ongoing until next London Plan Update*	*Planning*	***Formerly action 22 of the 2019-24 AQAP*** *100% of relevant applications to include appropriate AQN conditions.*
6	Emissions from developments and buildings	Urban Greening Factor requirement for relevant development in line with the London Plan; Maintenance plans for green infrastructure secured by planning condition.	Ongoing through and beyond the period of this AQAP	Planning	**Formerly action 23 of the 2019-24 AQAP** 100% of relevant applications to include appropriate conditions. All officers involved with major schemes to have received training on Healthy Streets Check and apply the checklist to all schemes
7	Emissions from developments and buildings	Ensuring Smoke Control Zones are fully promoted and enforced	Ongoing through and beyond the period of this AQAP	Pollution Control	**Formerly action 25 of the 2019-24 AQAP** *Officers continue to attend working groups for the London Wood burning Project 2024/25. Potential Smoke Control breaches*

					are recorded along with case outcomes. The recording sheet was developed over 2024. KPI: Suppliers of appliance and fuels visited or contacted regarding the sale of exempt appliances / authorised fuel - target 10 visits per year KPI 100% of complaints investigated within 3 working days, and appropriate enforcement action taken in accordance with our Enforcement Policy;
8	Emissions from developments and buildings	Promoting and delivering energy efficiency and energy supply retrofitting projects in workplaces and homes through EFL retrofit programmes such as RE:FIT, RE:NEW 'Sutton Healthy Homes' and through borough carbon offset funds.	2026	Property Service/ Environment Project Officer	**Formerly action 26 of the 2019-24 AQAP** Energy efficiency improvements delivered within Council's own buildings. KPIs: Percentage of Sutton Housing Partnership residential properties fitted with energy efficient boilers; 15% of the borough's energy needs to be met from renewable or community sources by 2026.
9	Emissions from	Ensure that planning and development	Ongoing through and	Planning	**Formerly action 23 of the 2019-24 AQAP**

	developments and buildings	within the borough are compliant with relevant planning policies (Air Quality Positive and Healthy Streets Approach) in relation to air quality in order to mitigate the potential impacts of development on air quality and to protect the health and amenity of the population.	beyond the period of this AQAP		Performance to be reported annually in the Annual Status Report on air quality.
10	Public health and awareness raising	Ensure that the Director of Public Health is fully briefed on the content of the Annual Status Reports on air quality in relation to the current situation in our local authority area, actions that have been taken thus far, and what is needed to reduce the health impacts of poor air quality in the future.	Annually after March 31st - in time for the ASR submission deadline.	Regulatory Services (Pollution Control)	**Formerly action 27 of the 2019-24 AQAP** Air Quality Action Plan signed off by the Director of Public Health Annual Status Reports to be reviewed by the Director of Public Health prior to publication. Air quality updates to be provided to the Director of Public Health through an Air Quality Working Group of officers that will meet a minimum of twice per year.
11	*Public health and awareness raising*	*Director of Public Health will be consulted on all relevant air quality projects to liaise with key stakeholders.*	*Ongoing through and beyond the period of this AQAP*	*Public Health*	**Formerly action 28 of the 2019-24 AQAP** *Sutton Air Quality Working Group, membership to be established in 2025* Air Quality to be further integrated into Suttons's Joint Strategic Needs Assessment
12	Public health and awareness raising	Promotion of availability of airTEXT air pollution alert system on the website, doctor's surgeries, hospitals, and	Ongoing	Regulatory Services (Pollution Control)	**Formerly action 30 of the 2019-24 AQAP** KPIs: ● 10% year on year increase in the

		schools. Mayor's air quality alerts to be disseminated using social media.			number of Sutton based registered users of airTEXT service; ● Quarterly promotion of the airTEXT service through website, social media, NHS and other methods as appropriate. ● Measured by the number of events where airTEXT promoted and the number of air quality alerts disseminated.
13	*Public health and awareness raising*	*Work with businesses to support their travel planning. Encourage schools to join the TfL Transport for Life STARS accredited travel planning programme*	*Ongoing*	*Sustainable Transport*	***Formerly actions 29 and 31 of the 2019-24 AQAP*** *Schools with accredited travel plans in 2024/25 tbc but likely to be 23 schools with Gold accreditation, 1 with Bronze and two engaged on Travel for Life programme. No businesses engaged with travel planning due to lack of resources and funding.*
15	*Public health and awareness raising*	*Encourage safe active travel over car use by maintaining an effective Bikeability service offered to adults, families and all school across the borough*	*Ongoing*	*Sustainable Transport*	*Subject to TfL for funding, and other funding opportunities, the Council proposes to expand the Bikeability service to engage with 1200 unique children and 200 unique adults per year.* *Academic Year 2025-22026. Autumn Bikeability programme allocated already to instructors. Spring and summer bookings sent will be sent to instructors, Week 28 July*
16	*Public health and awareness raising*	*Promote green walking routes over car use*	*Ongoing*	*Sustainable Transport*	*Walking and cycling map developed and distributed to Sutton businesses and GP*

					surgeries. Suggestions for new routes including Avenue Verte suggested for reprint in 2026. *AQ issues highlighted in Travel for Life engagement with all accredited schools taking part in AQ awareness and education.*
17	Public health and awareness raising	Air quality in and around schools	Ongoing - First Audit to be completed by the end of 2025	Regulatory Services (Pollution Control)/ Sustainable Transport / Public Health	**Formerly action 32 of the 2019-24 AQAP** **KPIs:** Change in levels of awareness of air quality issues among the school community; measured through hands up surveys and engagement as part of School Street schemes. Change in modes of transport used to travel to / from school; linked to Action 13. Number of schools that have carried out an air quality audit and/or are using the toolkit of measures to improve air quality - targets linked to Action 13.
18	*Delivery servicing and freight*	*Update of procurement policies to reduce pollution from logistics and servicing*	*Ongoing (currently in line with Sutton's Procurement Strategy 2023-2027)*	*Procurement & Commissioning*	**Formerly Action 14 of the 2019-24 AQAP** This is now covered by Sutton's Sustainable Procurement Policy and Sustainable Procurement Strategy. As stated in the strategy: "A*ir quality priorities are chosen using an estimation of difficulty of implementation versus magnitude of potential impact on local air quality.*

					The London Borough of Sutton has nine air quality priorities which are supported by the Action Plan: ● *Increase uptake of zero emission vehicles in the Borough's fleet. Review and update policies to guidance on scoring bidders for procurement projects who use low emission or electric vehicles more favourably. Aims to a fully zero emission vehicle waste fleet*."
19	Delivery servicing and freight	Reducing emissions from deliveries to local businesses and residents	2024/25 and ongoing	Energy Manager / Head of FM Client / Climate Partnerships Manager	On-street charging points delivered for residents and businesses; target 100 per year. Explore opportunities to work with industry partners to consolidate last mile parcel deliveries and reduce delivery vehicle mileage. Local lockers to be installed in up to 15 locations by the end of 2024/25.
20	*Borough Fleet*	*Reducing emissions from council fleets*	*2025/2026*	*Procurement/ Sustainable Transport*	***Formerly actions 17 & 18 of the 2019-24 AQAP*** *5 vehicles replaced with EV/Hybrid through renewal of (non-Waste) Fleet Contract. Meals on Wheels and Inclusion Centre vehicles (12 vehicles) under review.*

					This is also related to action 18, and procurement is conducted in line with Sutton's Procurement Strategy and Policy.
21	Localised solutions	Expanding and improving green Infrastructure (GI)		Parks and Open Spaces	Bid for funding to provide green infrastructure.
22	*Localised solutions*	*Implement a programme of School Streets, working with residents and schools.*	*Ongoing through and beyond the period of this AQAP*	*Sustainable Transport and Commissioning (Highways)*	***Formerly action 31 of the 2019-24 AQAP*** *School Streets Phase 3 programme - consultation on one new school streets scheme complete. Awaiting final sign off for implementation.*
24	Cleaner transport	Ensuring that Sustainable Transport and Air Quality policies and projects are integrated	Ongoing through and beyond the period of this AQAP	Pollution Control / Highways & Transport	**Formerly action 2 of the 2019-24 AQAP** Head of Highways and Sustainable Transport briefed on the Services' role in delivering air quality measures though an Air Quality Working Group of officers that will meet a minimum of twice per year. Briefing prepared for officers on integrating air quality into transport policies and programmes by the end of 2026.
25	Cleaner transport	Discouraging unnecessary idling by taxis and other vehicles	Ongoing through and beyond the period of this AQAP	Pollution Control / Parking Services / Sustainable Transport	**Formerly action 1 of the 2019-24 AQAP** Mapping of complaints received will be ongoing so focus will be on reported hotspots. Investigate options for creating No Engine Idling Zone(s) around a school at peak times.

26	*Cleaner transport*	*TfL are now proposing for the red bus fleet to be zero emission by 2030. The council will continue to lobby for earlier adoption in Sutton as changes caused by the Bus Review are implemented.*	*2030*	*Highways & Sustainable Transport*	***Formerly action 11 of the 2019-24 AQAP*** *Roll out of cleaner buses on specific routes is normally carried out as each route comes up for re-tender. Ongoing work being carried out by TfL and operators*
27	*Cleaner transport*	*Continue to seek improvement to rail services in the borough including metroisation, meaning a more frequent service.*	*Ongoing through and beyond the period of this AQAP*	*Highways & Sustainable Transport*	*Support for metroisation and other measures, including the Sutton Link tram scheme, is included as part of the ongoing LBS Local Plan Review. The draft revised Local Plan will be released for consultation late in 2025.* *Measures for the London Cancer Hub are being developed by the relevant team.*
28	Cleaner transport	Deliver and monitor the Parking Strategy to identify any displacement activities and reduction in traffic	2029	Highways & Sustainable Transport and Parking Services	Displacement identified and measures implemented to manage the impact. To aid this understanding the borough have carried out before and after parking beat surveys at a number of locations to under the impacts where permit parking schemes have been introduced. Beat surveys will continue and will identify reductions in the level of vehicles in the area, and from that it is identified that there will have been local reductions in traffic volumes

29	Cleaner transport	Produce a new travel plan for council staff travel to, from and at work, including HR policies, travel allowances, the use of personal vehicles, pool and electric hire bikes, car clubs, lift sharing and public transport. Encourage partners to do the same. As part of this work, review awareness and effectiveness of cycle to work salary sacrifice scheme and investigate the feasibility of a salary sacrifice scheme to support staff take up of electric (or other renewable fuels) vehicles.	2025	Climate action and sustainability	**Formerly Action 4 of the 2019-24 AQAP** Travel plan to be completed by the end of 2026. Pool bike membership measured through uptake via induction for staff new to this service. Uptake of the salary sacrifice scheme, electric bike hire, and car club membership measured through payroll.
30	*Cleaner transport*	*Encourage e-bike use by working with bike shops to promote offers on e-bikes, and promote to residents.*	*Ongoing*	*Highways & Sustainable Transport / Climate Partnerships Manager*	*The Forest e-bike contract is being extended by "variation" for a maximum period of six months to allow for a re-procurement across Sutton & Kingston boroughs. Increased usage provides the opportunity to include a profit-sharing option & the potential new contract requires Committee approval, resulting in delays to the initial time frame. Up to the end of June 2025, 332,424 journeys have been taken by Forest users in Sutton with an estimated saving of 55.87 tonnes CO2. In June 2025 the scheme recorded its busiest month with 29,296 trips being taken on Forest bikes; in October 2022, when the*

					scheme launched, just 5101 trips took place.
30.1	*Cleaner transport*	*Encourage workplaces to introduce electric cargo bikes as part of services/ goods delivery.*	*Ongoing*	*Highways & Sustainable Transport / Climate Partnerships Manager*	*Ourbike e-cargo bike scheme launched in June 2024 at the Cryer Arts Centre & in September 2024 at Sutton FC. Unfortunately, the Ourbike located at Sutton FC was stolen on two occasions and not recovered the second time. Under the lease, Ourbike replaced the cargo bike and it now has a new home at Sutton Riverside Centre. OurBike is based on a 'back-to-base' model which means the bike must always be returned to the location it was collected from. To integrate the bike into the local community the scheme uses a 'host' model whereby a local business will be the OurBike cargo bike 'host'. The OurBike host receives a number of benefits including free use of the bike for their business and branding on the cargo box in return for them managing the batteries. Uptake from local residents & businesses remains poor & following a recent meeting with Ourbike, they are promoting the opportunity for registered users to book a free training session with a Sutton Council Cycling Instructor to help build confidence and encourage use (Ourbike has agreed to allow instructors free access to the e-cargo bike during the training sessions).*
31	Cleaner transport	Build upon previous successes, securing funding to install electric vehicle charging points in residential roads and at key places across the	Ongoing until 2027	Highways & Sustainable Transport	*At least 100 lamp column chargers are added every year.* *Replacing concrete street lamp column stock*

		borough where this supports a switch away from more polluting vehicles, with an aim to install 100 points a year.			*will allow implementation of future EV charging points on street lamp columns* Measured by the number and type of accessible electric vehicle charging points installed in the borough each year; there are no current targets for this activity. Measured by the number of electric vehicles registered to postcodes within the borough. Strategy and toolkit to be put in place to create targets in 2024/25. Progress on the electrification of the car club fleet throughout the lifetime of the new contract due to commence in 2024/25.
32	Cleaner transport	Provision of infrastructure to support walking and cycling Lobby for improvements in facilities to support walking and cycling on the Transport for London Road Network.	Implement the Sustainable Transport Strategy 2020 - 2025	Highways & Sustainable Transport and Commissioning (Highways)/ Principal Policy Officer	**Formerly action 10 of the 2019-24 AQAP** Progress is reported annually to the Environment and Sustainable Transport Committee. Full utilisation of TfL funding for transport projects each year. E-bikes promotion including the dockless e-bike hire scheme through press releases, the Council website and in council social media. Measured by trip data and hires per day

					(against the number of bikes available). This is ongoing throughout the life of the Action Plan.
33	Localised solutions	Expanding efforts and opportunities for Community Engagement	Ongoing through and beyond the period of this AQAP	Regulatory Services (Pollution Control)/ Sustainable Transport / Public Health / Communications	This action is focused on encouraging community action on air pollution, by establishing a communication plan, and has direct links to other actions (12, 13, 17, 18, , 23, 25, 30, 34) within the table. Success may be measured in- Number of Community Groups Engaged; target 5: - Not limited to those which have an environmental focus Number of Schools engaged; target 10: - Anti-Idling - Clean Air Poster competitions - Information leaflets and/or assemblies Publicising Air Quality Related events; minimum 3: - Numbers of people engaging with social media posts on X, Facebook, Instagram etc. - Number of enquiries regarding events
34	Public health and awareness raising	Empowering communities, residents, and volunteers in taking action on	Ongoing through and beyond the period of	Regulatory Services (Pollution Control)/	Promoting opportunities e.g., Breathe London Community Programme, and the

		poor Air Quality	this AQAP	Sustainable Transport / Public Health / Communications	Asthma and Lung UK air quality monitoring project. Target linked to the *NEW (Localised Solutions)* action Providing guidance and support to groups wanting to take a proactive approach to the reduction of air pollution. We will aim to address 100 % of all requests. Assess the feasibility and viability of Sutton specific physical (Doctors Surgeries and Health centres, Schools, community/church halls etc.), and digital (Sutton Council Website, social media channels etc.) air quality information hubs, with the aim of implementing 2 hubs (one physical, one digital) over the course of the AQAP period. Measured by number of: - website hits, - emails or newsletters distributed, - hard copy posters/leaflets distributed - social media interactions (as appropriate)

3 Planning Update and Other New Sources of Emissions

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

Condition	Number
Number of planning applications where an air quality impact assessment was reviewed for air quality impacts	All major developments are assessed for air quality; including operational air quality, air quality neutral, and construction impacts. *A relevant code within our databases has been created to record this value. Due to personnel changes in that team, the statistics currently remain unavailable to us. .*
Number of planning applications required to undertake construction dust monitoring and reporting (Please specify how you get access to dust monitoring data i.e. online tool or CSV file)	All major developments with demolitions and Air Quality Dust Management Plans perform monitoring, visual or otherwise. Our database is not currently set up to record the number of sites, however when data is requested, it is generally by contractors in a pdf report, or spreadsheet file.
Number of CHPs/Biomass boilers refused on air quality grounds	0 (context: no applications were submitted which included CHP/Biomass)
Number of CHPs/Biomass boilers subject to GLA emissions limits and/or other restrictions to reduce emissions as detailed in Air Quality Neutral LPG (london.gov.uk) point 3.1.5.	0 (context: no applications were submitted which included CHP/Biomass)
Number of developments required to install Ultra-Low NO_X boilers	This information is not collected. All developments are required to install boilers with NOx emissions below 40 mg/kWh, in adherence to the London Plan 2021
Number of developments where an AQ Neutral building and/or transport assessments undertaken	285 planning applications were assessed by the pollution control team in 2024 – All sites are required to either be AQ neutral or exempt, and are assessed for this. *A relevant code within our databases has been created to record this value. Due to personnel changes in that team, the statistics currently remain unavailable to us.*
Number of developments where the AQ Neutral building and/or transport assessments not meeting the benchmark and so required to include additional mitigation	*We currently do not collect this information.*
Number of planning applications with S106 agreements including other requirements to improve air quality	0 (context: no applications were submitted which included CHP/Biomass)

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

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

3.1 New or significantly changed industrial or other sources

No new or significantly changed sources identified in 2024

4 Additional Activities to Improve Air Quality

4.1 London Borough of London Borough of Sutton Fleet

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

4.2 Planning Enforcement

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

4.3 Pan-London NRMM Auditing Project

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

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

"***NRMM***

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

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

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

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

b) *Details of emissions certificates, and the results of NOx and PM10 emissions testing of each Emergency Diesel Generator Plant and associated abatement technologies including Diesel Particulate Filters (DPF) shall meet a minimum dry NOx emissions standard of 100 mg/Nm-3 (at 15% O2) respectively by an MCERTS accredited organisation shall be provided following installation and thereafter on an annual basis to verify compliance of the relevant emissions standards in part b). The DPF particulate emissions abatement system must achieve a value less than 0.015 g/kWh and a minimum reduction of 95% in the weighted engine-out brake-specific PM mass emissions. Where any combustion plant does not meet the relevant emissions Standards in part b) above, it should not be operated without the fitting of suitable secondary NOx abatement Equipment or technology as determined by a specialist to ensure comparable emissions.*

c) *Details to demonstrate where secondary abatement is used for the Emergency Diesel Generator the relevant emissions standard in part b) is met within 10 minutes of the generator commencing operation. During the operation of the emergency Diesel generators there must be no persistent visible emission. The maintenance and cleaning of the systems shall be undertaken regularly in accordance with manufacturer specifications. The diesel fuelled generators shall only be used for a maximum of 24 hours when there is a sustained interruption in the mains power supply to the site, and the testing of these diesel generators shall not exceed a maximum of 12 hours per calendar year.*

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

The above wording is applied in decision notices.

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

4.4 Air Quality Alerts

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

4.5 Air Quality Positive

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

Appendix A Details of Monitoring Site Quality QA/QC

A.1 Automatic Monitoring Sites

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

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

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

PM_{10} Monitoring Adjustment

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

A.2 Diffusion Tubes

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

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

Gradko International Ltd is a UKAS-accredited laboratory and participates in laboratory performance and proficiency testing schemes. These provide strict performance criteria for participating laboratories to meet, thereby ensuring NO_2 concentrations reported are of a high calibre. The lab follows the procedures set out in the Harmonisation Practical Guidance. Gradko previously participated in the Workplace Analysis Scheme for Proficiency (WASP) for NO_2 diffusion tube analysis Page 38 and the Annual Field Inter Comparison Exercise. In April 2014, a new scheme, AIR PT13, was introduced. This is an independent analytical proficiency-testing (PT) scheme operated by LGC Standards and supported by the Health and Safety Laboratory (HSL). AIR PT combines two long-running PT schemes: LGC Standards STACKS PT scheme and HSL WASP PT scheme.

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

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

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

Discussion of Choice of Factor to Use

Using the most recent national bias adjustment data (Version 06/24), a bias adjustment factor of 0.84 has been applied to all the diffusion tubes in the 2024 calendar year. For comparison, in 2023 a national bias adjustment factor of 0.81 was used. The relevant examples were selected using the spreadsheet workflow by using

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

Table O. Bias Adjustment Factor

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

National Diffusion Tube Bias Adjustment Factor Spreadsheet — Spreadsheet Version Number: 06/25

Follow the steps below **in the correct order** to show the results of **relevant** co-location studies

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

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

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

heet will be updated at the end of Sep

LAQM Helpdesk Website

The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.

Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.

Step 1: Select the Laboratory that Analyses Your Tubes from the Drop-Down List

If a laboratory is not shown, we have no data for this laboratory.

Step 2: Select a Preparation Method from the Drop-Down List

If a preparation method is not shown, we have no data for this method at this laboratory.

Step 3: Select a Year from the Drop-Down List

If a year is not shown, we have no data2

Step 4: Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor3 shown in blue at the foot of the final column.

If you have your own co-location study then see footnote4. If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953

Analysed By1	Method (To undo your selection, choose (All) from the pop-up list)	Year5 (To undo your selection, choose (All))	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (mg/m3)	Automatic Monitor Mean Conc. (Cm) (mg/m3)	Bias (B)	Tube Precision6	Bias Adjustment Factor (A) (Cm/Dm)
Gradko	20% TEA in water	2024	R	Worcestershire	12	12	12	-3.4%	G	1.04
Gradko	20% TEA in water	2024	R	Cheshire West And Chester	12	33	27	21.7%	G	0.82
Gradko	20% TEA in water	2024	R	Cheshire West And Chester	11	30	27	12.9%	G	0.89
Gradko	20% TEA in water	2024	R	The Highland Council	12	19	18	6.9%	G	0.94
Gradko	20% TEA in water	2024	R	The Highland Council	11	15	11	35.3%	G	0.74
Gradko	20% TEA in water	2024		Overall Factor3 (31 studies)				Use		0.84

A.3 Adjustments to the Ratified Monitoring Data

Short-term to Long-term Data Adjustment

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

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

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

Distance Adjustment

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

Table Q. Automatic NO_2 Monitoring Data Adjustment

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

Table R. Automatic PM_{10} Monitoring Data Adjustment

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

Appendix B Full Monthly Diffusion Tube Results for 2024

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

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

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

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

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

National bias adjustment factor used

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

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

Notes:

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

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

See Appendix C for details on bias adjustment and annualisation.

Appendix C Map(s) of Monitoring Locations and AQMAs

Figure 5-A Map of Non-Automatic Monitoring Site(s)

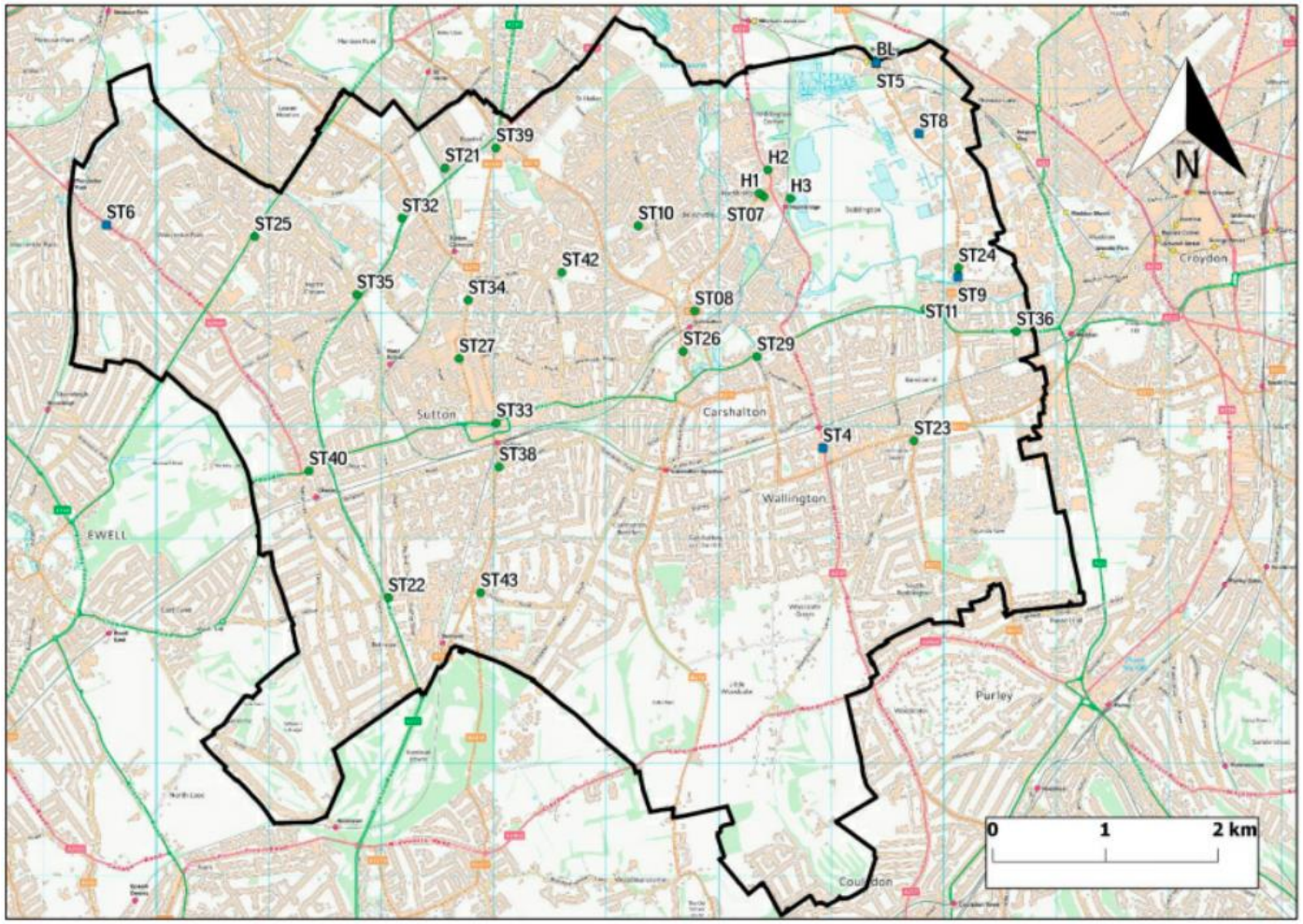


Figure 5-B Map of Automatic Monitoring Site(s)