Stevenage Borough Council

2025 Air Quality Annual Status Report

June 2025

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Stevenage
BOROUGH COUNCIL

2025 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environemnt Act 1995

Local Air Quality Management, as amended by the Environment Act 2021

Date: June 2025

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Local Responsibilities and Commitment

This ASR was prepared by Bureau Veritas on behalf of Stevenage Borough Council, with the support and agreement of the following officers and departments:

- Wesley Cushing – Environmental Health Officer

This ASR has been approved by:

- Wesley Cushing – Environmental Health Officer

This ASR has not been signed off by a Director of Public Health.

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Executive Summary: Air Quality in Our Area

Air Quality in Stevenage

Breathing in polluted air affects our health and costs the NHS and our society billions of pounds each year. Air pollution is recognised as a contributing factor in the onset of heart disease and cancer and can cause a range of health impacts, including effects on lung function, exacerbation of asthma, increases in hospital admissions and mortality.

Air pollution particularly affects the most vulnerable in society, children, the elderly, and those with existing heart and lung conditions. Low-income communities are also disproportionately impacted by poor air quality, exacerbating health and social inequalities.

Table ES.1 provides a brief explanation of the key pollutants relevant to Local Air Quality Management and the kind of activities they might arise from.

Table ES.1 – Description of Key Pollutants

Pollutant	Description
Nitrogen Dioxide (NO_2)	Nitrogen dioxide is a gas which is generally emitted from high-temperature combustion processes such as road transport or energy generation.
Sulphur Dioxide (SO_2)	Sulphur dioxide (SO_2) is a corrosive gas which is predominantly produced from the combustion of coal or crude oil.
Particulate Matter (PM_{10} and $PM_{2.5}$)	Particulate matter is everything in the air that is not a gas. Particles can come from natural sources such as pollen, as well as human made sources such as smoke from fires, emissions from industry and dust from tyres and brakes. PM_{10} refers to particles under 10 micrometres. Fine particulate matter or $PM_{2.5}$ are particles under 2.5 micrometres.

Stevenage Borough Council routinely monitor the concentration of NO_2 via a passive diffusion tube network of 26 sites, and one automatic continuous analyser. Concentrations of $PM_{2.5}$ are also monitored by the automatic analyser. Data from these monitoring networks has shown no exceedances of the air quality objective for NO_2 and $PM_{2.5}$ during the last five years, highlighting that Stevenage continues to enjoy good air quality.

Nitrogen Dioxide:

During 2024, all passive and automatic monitoring sites reported NO_2 annual mean concentrations below 10% (36 µg/m^3) of the Air Quality Objective of 40 µg/m^3. The maximum NO_2 annual mean concentration at a diffusion tube site in 2024 was 30.4 µg/m^3 (Site 34). Relative to the previous reporting year (2023), this is a slight decrease from the maximum concentration of 33.8 µg/m^3, which was recorded at the same monitoring site. Across the entire diffusion tube network, the NO_2 annual mean concentration reduced at 24 of the 26 sites in 2024 (relative to 2023), indicating an improvement in the NO_2 concentration across Stevenage. At the automatic monitoring station on St Georges Way (South), the NO_2 annual mean concentration in 2024 was 13.6 µg/m^3, which is a reduction from the 17.7 µg/m^3 recorded in the previous reporting year. Therefore, as with the trend observed across the diffusion tube network, the data of the automatic monitoring station highlights a continual improvement in the concentration of NO_2 across Stevenage.

Particulate Matter ($PM_{2.5}$):

During 2024, the annual mean $PM_{2.5}$ concentration reported at the automatic monitoring station on St Georges Way (South) was 7.5 µg/m^3. This is a marginal increase from that recorded in the previous reporting year (7.0 µg/m^3). The 2024 annual mean concentration is however in alignment with the concentrations recorded over the previous five years being in the range of 7 – 9 µg/m^3 and is also below the annual mean target of 10 µg/m^3 set by the Fine Particulate Matter (England) Regulations 2023, that is not to be exceeded by the end of 2040.

Conclusions and Priorities

During 2024, the annual mean air quality objective for NO_2 was not exceeded at any of the 26 diffusion tube sites or at the automatic monitoring site on St Georges Way (South). Relative to the previous reporting year of 2023, the NO_2 annual mean concentrations in 2024 were lower at the majority of diffusion tube sites (24 out of 26), and at the automatic monitoring site. This demonstrates an improvement in the concentration of NO_2 across Stevenage in 2024. The $PM_{2.5}$ concentration recorded at the automatic monitoring site on St Georges Way (South) was also below the 10 µg/m^3 target, with a $PM_{2.5}$ annual mean concentration of 7.5 µg/m^3 in 2024. Therefore, from the latest available monitoring data, it is evident that Stevenage continues to enjoy good air quality in relation to concentrations of NO_2 and $PM_{2.5}$.

Although the monitoring data demonstrating compliance with the Air Quality Objectives, Stevenage Borough Council continue to implement a range of measures to further improve air quality. During the current reporting year of 2025, Stevenage Borough Council's priority measures are as follows:

1. Develop the Local Plan Mobility Strategy for the Cycling Network.
2. Raise awareness of air pollution through events such as Clean Air Day.
3. Ensure air quality is considered on all new planning applications.

How to get Involved

The public can help to improve air quality within Stevenage by:

- Using the excellent network of cycle paths laid out across the borough, through the use of the Beryl Bike Share service. Across Stevenage, there are 45 Bery Bays providing access to a total of 150 electronic bikes – the Interactive Map shows the location of these bays, and the availability of bikes at each collection point.
- Ensuring cars are serviced regularly.
- Reducing the use of a private vehicle for short journeys in replacement for a more sustainable mode of transport (i.e. walking / cycling).
- Considering a more efficient, cleaner type when changing vehicle.

Whilst Stevenage Borough Council are implementing a range of measures to further improve air quality, significant improvement relies on a collective effective from residents of Stevenage. Therefore, actions by individuals can have a combined effect on reducing the pollutant concentrations across the whole of the borough.

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1 Local Air Quality Management

This report provides an overview of air quality in Stevenage during 2024. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995), as amended by the Environment Act (2021), and the relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in order to achieve and maintain the objectives and the dates by which each measure will be carried out. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by Stevenage Borough Council to improve air quality and any progress that has been made.

The statutory air quality objectives applicable to LAQM in England are shown in Table E.1.

2 Actions 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 18 months. The AQAP should specify how air quality targets will be achieved and maintained and provide dates by which measures will be carried out.

Stevenage Borough Council has no declared AQMAs, therefore has no formally adopted AQAP. However, Stevenage Borough Council are continuing to implement a range of measure to further improve air quality. These are outlined in Table 2.1.

2.2 Progress and Impact of Measures to address Air Quality in Stevenage

Defra's appraisal of last year's ASR concluded that:

1. **The Council has developed an Air Quality Strategy. However, the Strategy listed on the Stevenage Borough Council website, was updated in 2003. It is recommended that the Council updates this to include the most recent legislation.**
   - Stevenage Borough Council are currently in the process of seeking consultancy support to assist with the production of an updated Air Quality Strategy.
2. **The information between tables and graphs is consistent. The trends have been well presented and discussed within the report. This is welcomed.**
   - Trends are presented in this report relative to geographical region, so that the change in concentrations across the Borough can easily be identified.
3. **Defra recommends that Directors of Public Health approve draft ASRs. Sign off is not a requirement, however collaboration and consultation with those who have responsibility for Public Health is expected to increase support for measures to improve air quality, with co-benefits for all. Please bear this in mind for the next annual reporting process too.**
   - The 2025 ASR has not been signed off by a Director of Public Health.

4. **In the QA/QC section, it is not mentioned whether the deployment of diffusion tubes have followed the Defra calendar. It is recommended that the Council status this information, as it affects the accuracy of the diffusion tube results.**
    - The QA/QC section of diffusion tube monitoring section of this report outlines that the Defra calendar was followed from March onwards and provides justification for the inclusion of the overexposed January data.
5. **In the "Conclusions and Priorities" section, Stevenage Borough Council have reported that although there are no exceedances and AQMAs within the borough, reducing road traffic emissions is still their top priority. This is welcomed, and it is encouraged that this continues. It would be beneficial to also include the relevant plans and measures to this section.**
    - Reducing emissions from road traffic remains a priority of Stevenage Borough Council, hence the development of the cycle network as a top priority for the coming year, and the introduction of the Beryl Bikes which provides 150 electric bikes for travel across Stevenage, as an alternative to private vehicle use.

Stevenage Borough Council has taken forward a number of direct measures during the current reporting year of 2024 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.1. Eleven measures are included within Table 2.1, with the type of measure and the progress Stevenage Borough Council have made during the reporting year of 2024 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.1.

Key completed measures are:

- Establishment of an 'Air Pollution Episode Alert System'. The Hertfordshire and Bedfordshire Air Pollution Episode Alert System is a free service which is utilised to alert residents to forecasted pollution levels that are classified as moderate, high or very high according to the UK Air Quality Banding System.

Stevenage Borough Council's priorities for the coming year are:

1. Develop the Local Plan Mobility Strategy for the Cycling Network.
2. Raise awareness of air pollution through events such as Clean Air Day.
3. Ensure air quality is considered on all new planning applications.

Table 2.1 – Progress of Measures to Improve Air Quality

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
3	Local Plan Mobility Strategy - Cycle Network	Transport Planning and Infrastructure	Cycle network	Prior to 2016	Ongoing	Stevenage Borough Council	Stevenage Borough Council	None	-	Ongoing	Reduced vehicle emissions	Not Known	Ongoing	To be updated as part of new Local Plan from early 2026.
7	Promotion of Clean Air Day	Public Information	Via the internet	Prior to 2016	Ongoing	Stevenage Borough Council	Stevenage Borough Council	None	-	Ongoing	Public Information	Not Known	Ongoing - annual	None
11	Consider AQ on new planning applications	Policy Guidance and Development Control	Air quality planning and policy guidance	Prior to 2016	Ongoing	Stevenage Borough Council	Stevenage Borough Council	None	-	Ongoing	Reduced vehicle emissions	Not Known	Ongoing	None
1	Local Plan Mobility Strategy - Promotion of Cycling	Promoting Travel Alternatives	Promotion of cycling	Prior to 2016	Ongoing	Stevenage Borough Council	Stevenage Borough Council	None	None	Ongoing	Reduced vehicle emissions	Not Known	Ongoing	None
2	Local Plan Mobility Strategy - Promotion of Walking	Promoting Travel Alternatives	Promotion of walking	Prior to 2016	Ongoing	Stevenage Borough Council	Stevenage Borough Council	None	None	Ongoing	Reduced vehicle emissions	Not Known	Ongoing	First phase successful, second phase on-going
4	Relocating diffusion tubes	Other	Other	Prior to 2016	Ongoing	Stevenage Borough Council	Stevenage Borough Council	None	None	Ongoing	No direct impact on emissions - some tubes have been removed and new locations found	Tube deployed	Ongoing	None
5	Local plan mobility strategy - Cycle Hire	Transport Planning and Infrastructure	Public cycle hire scheme	Prior to 2016	Ongoing	Stevenage Borough Council	Stevenage Borough Council	None	None	Ongoing	Reduced vehicle emissions	Not Known	Ongoing	None
6	Electric car club	Alternatives to private vehicle use	Car clubs	Prior to 2016	Ongoing	Stevenage Borough Council	Stevenage Borough Council	None	None	Ongoing	Reduced vehicle emissions	Not Known	Ongoing	None
8	Air pollution episode alert system	Public Information	Other	Prior to 2016	Ongoing	Stevenage Borough Council	Stevenage Borough Council	None	None	Ongoing	Public Information	Not Known	Complete	None
9	Monitoring air quality	Public Information	Via other mechanisms	Prior to 2016	Ongoing	Hertfordshire County Council / Stevenage Borough Council	Hertfordshire County Council / Stevenage Borough Council	None	None	Ongoing	Public Information	Not Known	Ongoing	None
10	Engagement with Comms	Public Information	Via the internet	Prior to 2016	Ongoing	Stevenage Borough Council	Stevenage Borough Council	None	None	Ongoing	Public Information	Not Known	Ongoing	None

2.3 $PM_{2.5}$ – Local Authority Approach to Reducing Emissions and/or Concentrations

As detailed in Policy Guidance LAQM.PG22 (Chapter 8) and the Air Quality Strategy[1], local authorities are expected to work towards reducing emissions and/or concentrations of fine particulate matter ($PM_{2.5}$). There is clear evidence that $PM_{2.5}$ (particulate matter smaller 2.5 micrometres) has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

$PM_{2.5}$ Monitoring:

Stevenage Borough Council undertake monitoring of $PM_{2.5}$ on St Georges Way (South) via an automatic continuous analyser (BAM 1020). During the past five years (2020 – 2024), the $PM_{2.5}$ annual mean concentration recorded at the site has been between 7 – 9 µg/m^3, which is marginally below the $PM_{2.5}$ target set by the Fine Particulate Matter (England) Regulations 2023 of 10 µg/m^3 that is not to be exceeded by the end of 2040.

$PM_{2.5}$ Background Concentrations:

The Defra background maps[2] for Stevenage Borough Council in 2024 suggest that the annual average $PM_{2.5}$ concentration at 26 locations (1km x 1km grid square resolution) across the borough is 7.4 µg/m^3, whilst the maximum and minimum $PM_{2.5}$ concentration at a given location is 7.9 µg/m^3 and 7.1 µg/m^3, respectively. The data from the background maps and the automatic monitoring station combined, indicate that the concentration of $PM_{2.5}$ throughout Stevenage is relatively low. However, Stevenage Borough Council are to continue to implement measures to further reduce the concentration of $PM_{2.5}$, due to the impact exposure to such pollutant (even at low levels) has on public health.

Impact of $PM_{2.5}$ on Public Health:

According to the Public Health Outcomes Framework[3] developed by Public Health England, the fraction of mortality attributable to $PM_{2.5}$ in Stevenage is 5.3 %, which is equivalent to the average for the whole of England (5.2%). This therefore indicates that the

[1] Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

[2] Defra. Background Mapping Data for Local Authorities – 2021.

[3]

fractional of mortality attributable to $PM_{2.5}$ in Stevenage, is the same as across England as a whole and, therefore, actions are to be continued to be implemented to reduce $PM_{2.5}$.

Smoke Control Areas:

Smoke Control Areas (SCAs) are designated zones in which it is an offence to emit smoke from a chimney of a building, from a furnace, or from any fixed boiler. It is also an offence to acquire an unauthorised fuel for use within a SCA unless it is used within an exempt appliance (exempted from the controls which generally apply in SCAs). Within Stevenage, the majority of the borough was declared a SCA in 1972, which was subsequently revised to include the whole borough. Therefore, the whole of Stevenage is currently a SCA.

3 Air Quality Monitoring Data and Comparison with Air Quality Objectives and National Compliance

This section sets out the monitoring undertaken within 2024 by Stevenage Borough Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2020 and 2024 to allow monitoring trends to be identified and discussed.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Stevenage Borough Council undertook automatic (continuous) monitoring at one site during 2024, located on St Georges Way (South). Table A.1 shows the details of the automatic monitoring site. The Hertfordshire and Bedfordshire Monitoring Data page presents the automatic monitoring results for the site. Maps showing the location of the monitoring site are provided in Appendix D. Further details on how the monitors are calibrated and how the data has been adjusted are included in Appendix C.

3.1.2 Non-Automatic Monitoring Sites

Stevenage Borough Council undertook non-automatic (i.e. passive) monitoring of NO_2 at 26 sites during 2024. This is the same number of sites as 2023, and no changes to the monitoring network have been undertaken. Table A.2 presents the details of the non-automatic sites. Maps showing the location of the monitoring sites are provided in Appendix D. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including bias adjustments and any other adjustments applied (e.g. annualisation and/or distance correction), are included in Appendix C.

3.2 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for bias, annualisation (where the annual mean data capture is below 75% and greater than 25%), and distance correction. Further details on adjustments are provided in Appendix C.

3.2.1 Nitrogen Dioxide (NO_2)

Table A.3 and Table A.4 compare the ratified and adjusted monitored NO_2 annual mean concentrations for the past five years with the air quality objective of 40 µg/m^3. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

During 2024, the NO_2 annual mean objective was not exceeded at any monitoring site within Stevenage. Across the diffusion tube network, the maximum NO_2 annual mean concentration was 30.4 µg/m^3 (Site 34). This site has recorded the maximum NO_2 annual mean concentration since 2020. Relative to 2023, the NO_2 annual mean concentration decreased at 24 of the 26 diffusion tube sites, indicating an overall improvement in the concentration of NO_2 acorss Stevenage during 2024. The two diffusion tube sites where the concentrations increased where however not significant, with differences of 0.85 µg/m^3 and 0.52 µg/m^3 recorded at Site 18 and 35, respectively. For diffusion tubes, the full 2024 dataset of monthly values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

At the automatic monitoring station on St Georges Way (South), the 2024 NO_2 annual mean concentration was 13.6 µg/m^3. This is a reduction of 4.1 µg/m^3, from the 17.7 µg/m^3 recorded in 2023, and as is part of a wider trend of decreasing NO_2 concentrations observed at the site since 2021. Therefore, as with the data of the diffusion tube network, the autoamtic monitoring data highlights continuing improvements in the concentration of NO_2 across Stevenage during 2024.

Table A.5 compares the ratified continuous monitored NO_2 hourly mean concentrations for the past five years with the air quality objective of 200 µg/m^3, not to be exceeded more than 18 times per year. During 2024, the NO_2 hourly objective was not exceeded on any occasion, as the maximum hourly mean concentration was 73.6 µg/m^3. Additionally, as no diffusion tube recorded an annual mean concentration greater than 60 µg/m^3, it can be inferred that the NO_2 hourly mean objective was also not exceeded at any diffusion tube site during 2024.

As a result of both the automatic monitoring station and the passive diffusion tube network recording NO_2 concentrations below the annual and hourly objective, no AQMA has needed to be declared for NO_2 within Stevenage. It is therefore evidence from the data that Stevenage continues to enjoy good air quality in relation to NO_2.

3.2.2 Particulate Matter ($PM_{2.5}$)

Table A.6 presents the ratified and adjusted monitored $PM_{2.5}$ annual mean concentrations for the past five years. During 2024, the annual mean $PM_{2.5}$ concentration reported at the automatic monitoring station on St Georges Way (South) was 7.5 µg/m^3, which is an increase from that recorded in the previous reporting year (7.0 µg/m^3). The increase is however marginal (0.5 µg/m^3) and the $PM_{2.5}$ annual mean concentration recorded in 2024 is in alignment with the cocnentrations reocrded over the previous five years being in the range of 7 – 9 µg/m^3. Therefore, this increase is not likely to be a concerning trend and the $PM_{2.5}$ annaul mean concentration remains below the annual mean target set by the Fine Particulate Matter (England) Regulations 2023 of 10 µg/m^3, that is not to be exceeded by the end of 2040.

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA?	Which AQMA? (1)	Monitoring Technique	Distance to Relevant Exposure (m) (2)	Distance to kerb of nearest road (m) (1)	Inlet Height (m)
AQMS2	St Georges Way	Roadside	523980	224265	NO_2, $PM_{2.5}$	No	N/A	Chemiluminescent (NO_2) / BAM ($PM_{2.5}$)	85.0	1.5	2.9

Notes:

(1) N/A if not applicable

(2) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

Table A.2 – Details of Non-Automatic Monitoring Sites

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
1	Town Centre	Roadside	523771	224090	NO_2	No	102.0	4.0	No	2.4
3	Monks View	Suburban	524345	224468	NO_2	No	9.5	0.2	No	2.9
4	Bedwell Crescent	Kerbside	525373	226985	NO_2	No	20.0	0.8	No	2.5
7	High Street	Roadside	523278	225479	NO_2	No	9.0	2.4	No	3.0
9	Magpie Crescent	Kerbside	526652	223438	NO_2	No	12.5	2.0	No	2.9
10	Shoreham Close	Roadside	522075	225568	NO_2	No	8.0	2.1	No	2.5
11	Newlyn Close	Suburban	522126	224862	NO_2	No	3.5	1.7	No	2.7
12	Chadwell Road	Suburban	522955	223335	NO_2	No	25.0	0.4	No	2.6
13	Whitney Drive	Suburban	523070	226070	NO_2	No	8.0	1.9	No	2.3
17	Hitchin Road	Roadside	522700	226550	NO_2	No	14.0	2.4	No	2.5
18	Fairlands Valley Park	Background	525425	224183	NO_2	No	167.0	172.5	No	2.6
19	7 Tates Way	Roadside	522700	226570	NO_2	No	0.0	9.0	No	2.3
21	13 Hitchin Road	Roadside	523128	225677	NO_2	No	0.0	16.0	No	2.2
22	Townsend Mews	Roadside	523360	224786	NO_2	No	0.0	7.8	No	2.7

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
23	Hitchin Road - Longfields	Roadside	523014	226029	NO_2	No	7.4	2.5	No	2.1
24	Martins Way	Kerbside	525987	226368	NO_2	No	8.0	0.8	No	2.2
26	Vardon Road	Roadside	524542	225654	NO_2	No	10.2	7.7	No	2.6
28	Chells Way	Roadside	526078	224818	NO_2	No	1.5	1.5	No	2.4
31	Hydean Way	Roadside	525160	223069	NO_2	No	0.0	6.0	No	2.6
34	A602/A1(M) Junction 7	Kerbside	523697	225920	NO_2	No	>50	2.2	No	2.2
35	A602 The Chequers	Kerbside	527020	221097	NO_2	No	>50	0.5	No	2.2
37	Fishers Green Road	Roadside	522608	225880	NO_2	No	2.9	1.7	No	2.6
38	High Street - Costa	Roadside	523406	225035	NO_2	No	4.0	4.3	No	2.0
39	High Street - Bike Stop	Roadside	523319	225021	NO_2	No	3.5	5.0	No	2.0
40	London Road	Kerbside	524097	222765	NO_2	No	>50	0.9	No	2.0
41	St Georges Way South	Roadside	523981	224264	NO_2	No	85.0	1.5	Yes	2.9

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 A.3 – 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 (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
AQMS2	523980	224265	Roadside	97.2	97.2	26.1	23.1	19.5	17.7	13.6

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

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

☒ **Where exceedances of the NO_2 annual mean objective occur at locations not representative of relevant exposure, the fall-off with distance concentration has been calculated and reported concentration provided in brackets for 2024.**

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**.

All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

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

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

Table A.4 – 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]	2020	2021	2022	2023	2024
1	523771	224090	Roadside	100.0	100.0	25.5	25.7	22.1	16.0	13.9
3	524345	224468	Suburban	100.0	100.0	17.1	16.7	16.7	15.3	14.2
4	525373	226985	Kerbside	92.5	92.5	14.6	14.9	16.0	14.7	12.9
7	523278	225479	Roadside	83.0	83.0	21.9	22.2	22.8	21.2	19.0
9	526652	223438	Kerbside	92.5	92.5	17.2	16.6	19.7	16.6	15.6
10	522075	225568	Roadside	100.0	100.0	18.7	18.7	18.8	16.8	16.1
11	522126	224862	Suburban	100.0	100.0	13.8	13.4	13.9	12.6	11.1
12	522955	223335	Suburban	92.5	92.5	12.4	13.2	13.0	11.2	10.5
13	523070	226070	Suburban	100.0	100.0	15.8	14.9	16.8	16.0	13.1
17	522700	226550	Roadside	100.0	100.0	32.6	33.6	32.9	31.7	29.3
18	525425	224183	Background	100.0	100.0	10.1	9.7	11.1	9.0	9.8
19	522700	226570	Roadside	100.0	100.0	26.3	27.0	27.1	26.5	22.4
21	523128	225677	Roadside	90.6	90.6	17.3	17.4	18.4	16.8	15.7
22	523360	224786	Roadside	100.0	100.0	17.6	18.2	19.4	18.4	15.8
23	523014	226029	Roadside	100.0	100.0	24.4	25.7	24.2	23.5	21.7
24	525987	226368	Kerbside	100.0	100.0	23.5	23.8	22.9	20.5	18.6
26	524542	225654	Roadside	100.0	100.0	14.1	14.6	17.6	15.4	12.6
28	526078	224818	Roadside	100.0	100.0	17.0	16.9	17.4	16.7	15.1
31	525160	223069	Roadside	100.0	100.0	15.8	16.1	17.3	16.5	14.3

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)	2020	2021	2022	2023	2024
34	523697	225920	Kerbside	100.0	100.0	37.4	38.2	36.8	33.8	30.4
35	527020	221097	Kerbside	100.0	100.0	17.6	18.0	17.0	15.3	15.8
37	522608	225880	Roadside	100.0	100.0	21.5	16.8	16.6	14.7	13.7
38	523406	225035	Roadside	100.0	100.0	26.6	18.3	20.4	20.0	18.2
39	523319	225021	Roadside	92.2	92.2	27.2	21.0	22.5	20.3	17.5
40	524097	222765	Kerbside	100.0	100.0	32.1	21.4	21.9	20.9	19.6
41	523981	224264	Roadside	83.0	83.0	-	-	22.0	18.3	15.3

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

☒ **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” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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 A.1 – Annual Mean NO_2 Concentrations: South of the Borough

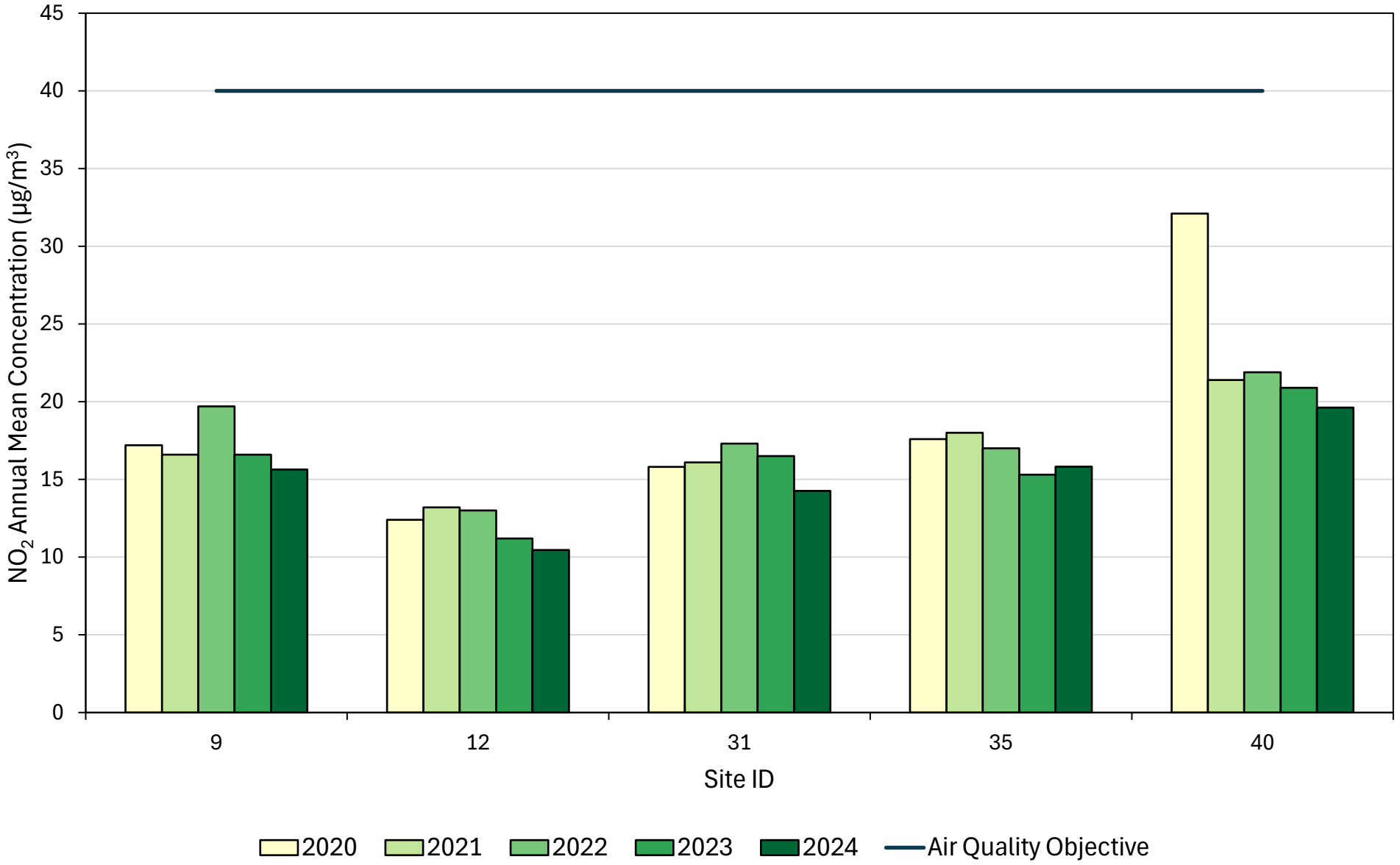


Figure A.2 – Annual Mean NO_2 Concentrations: East of the Borough

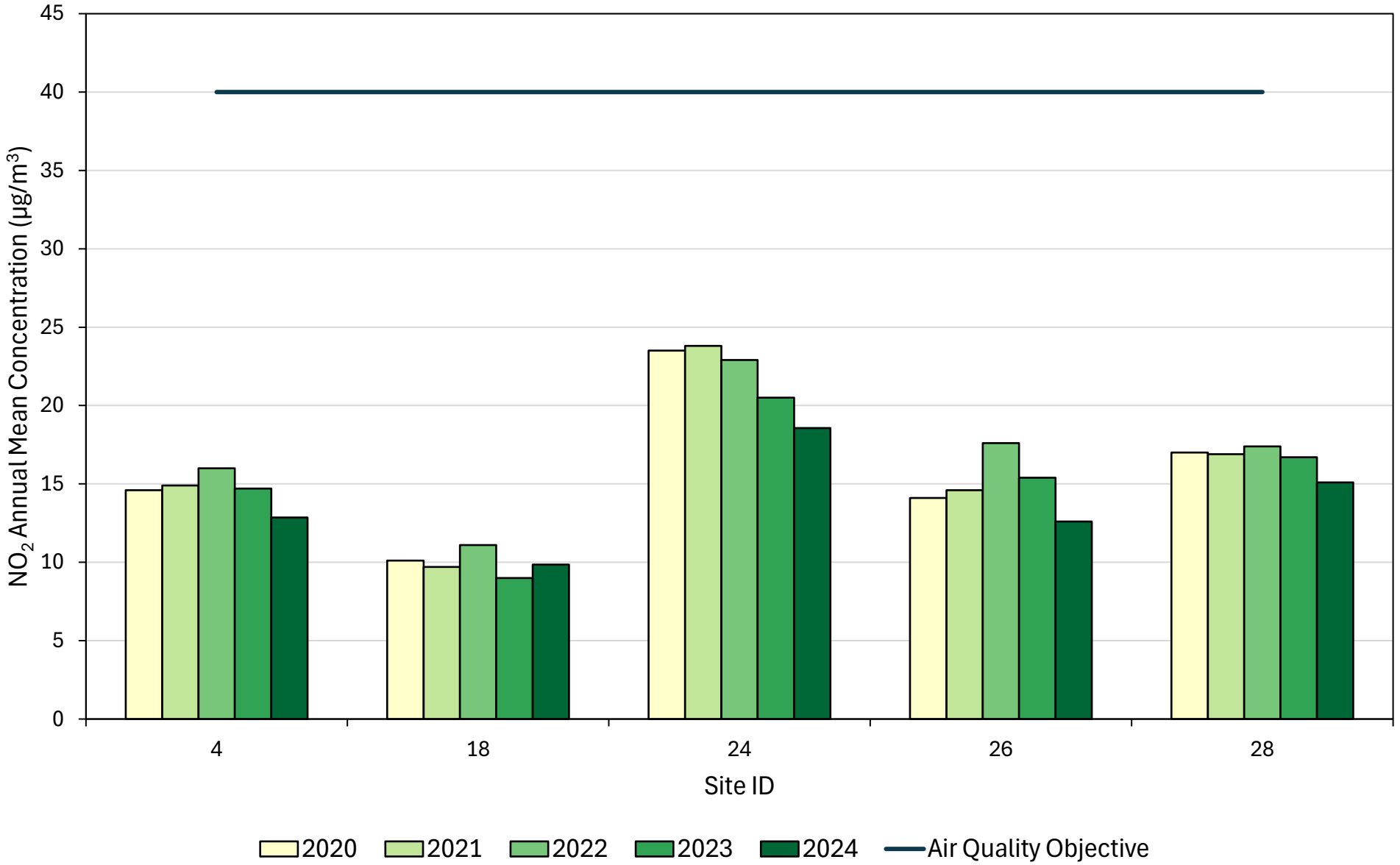


Figure A.3 – Annual Mean NO_2 Concentrations: West of the Borough (1)

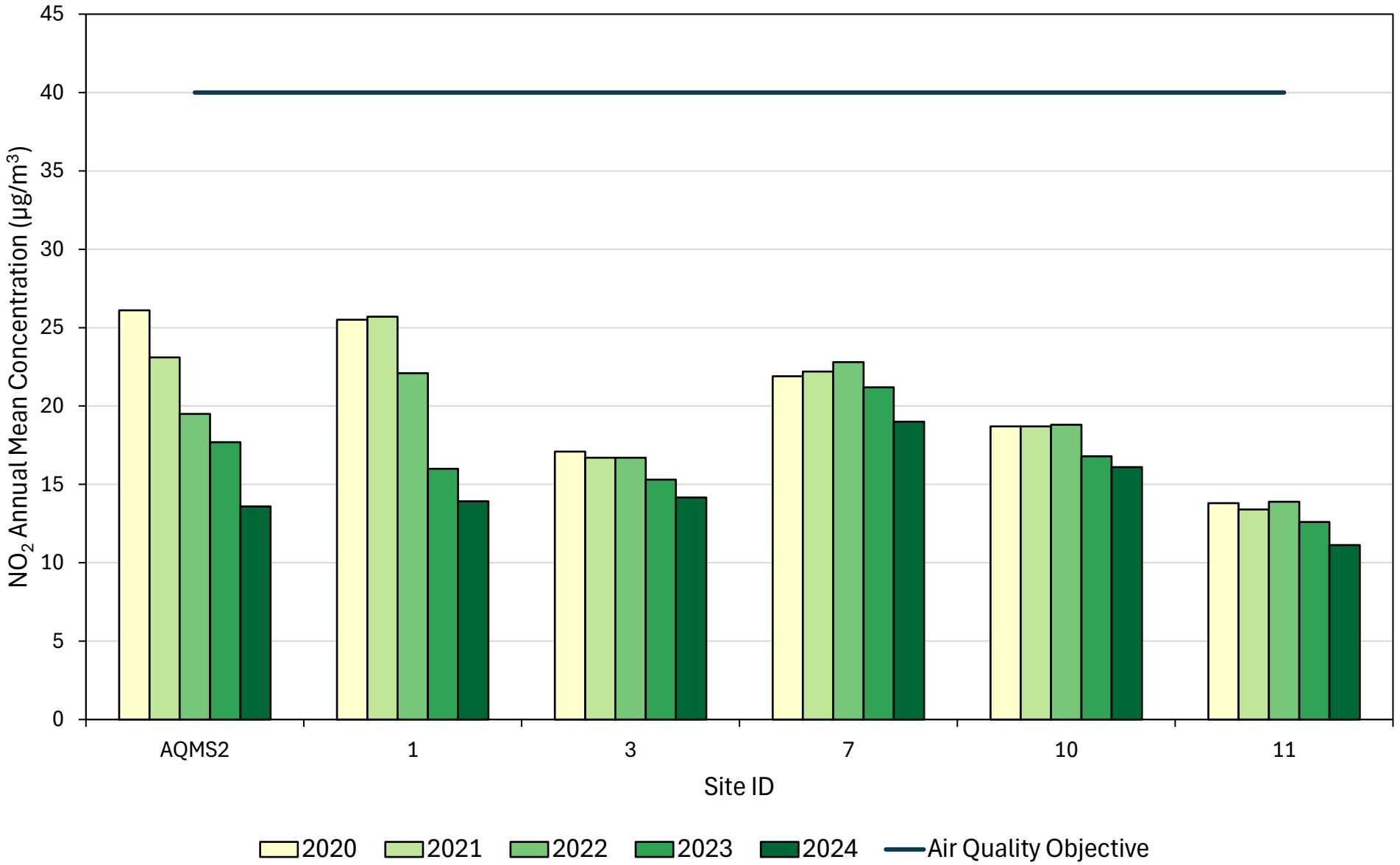


Figure A.4 – Annual Mean NO_2 Concentrations: West of the Borough (2)

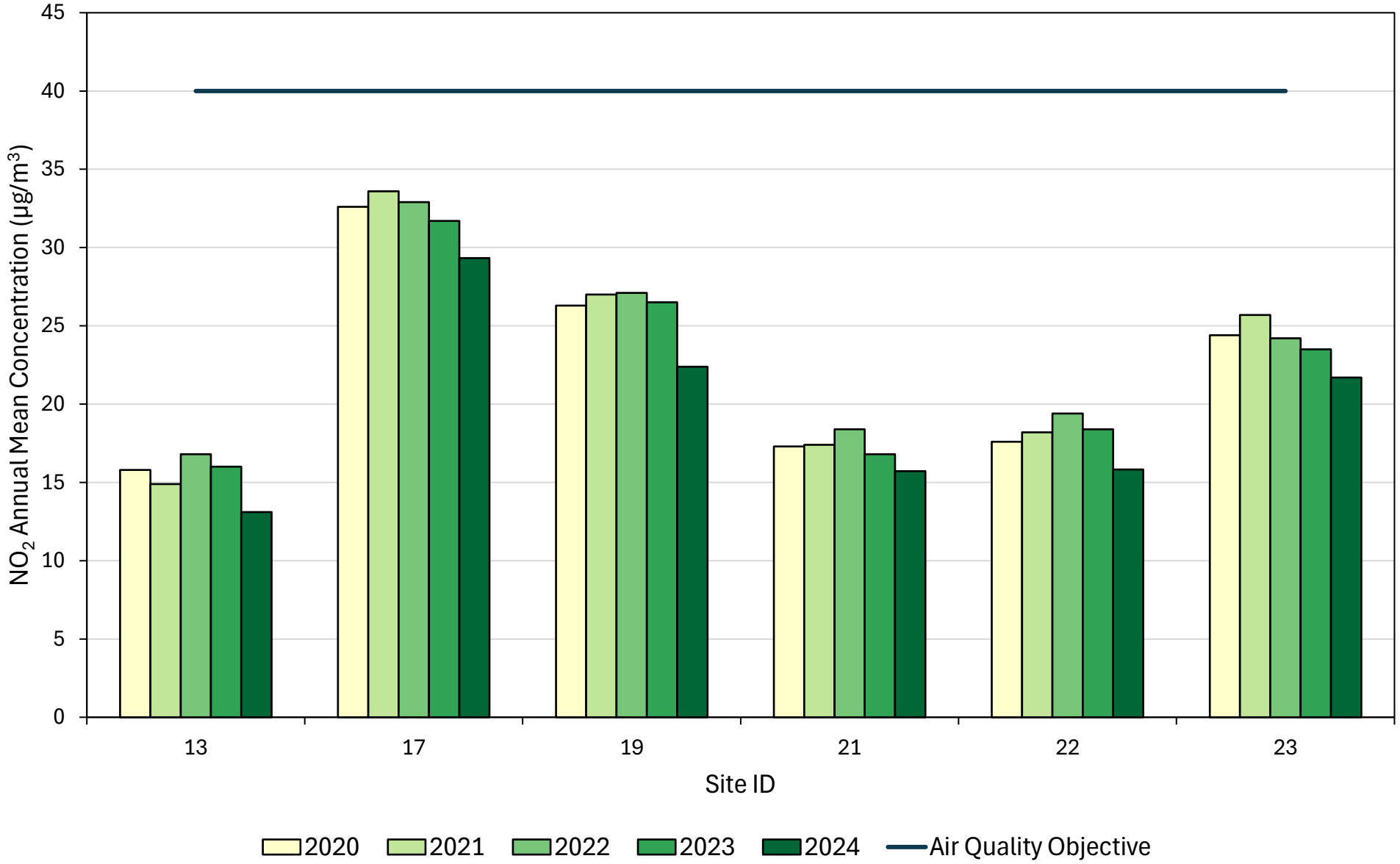


Figure A.5 – Annual Mean NO_2 Concentrations: West of the Borough (3)

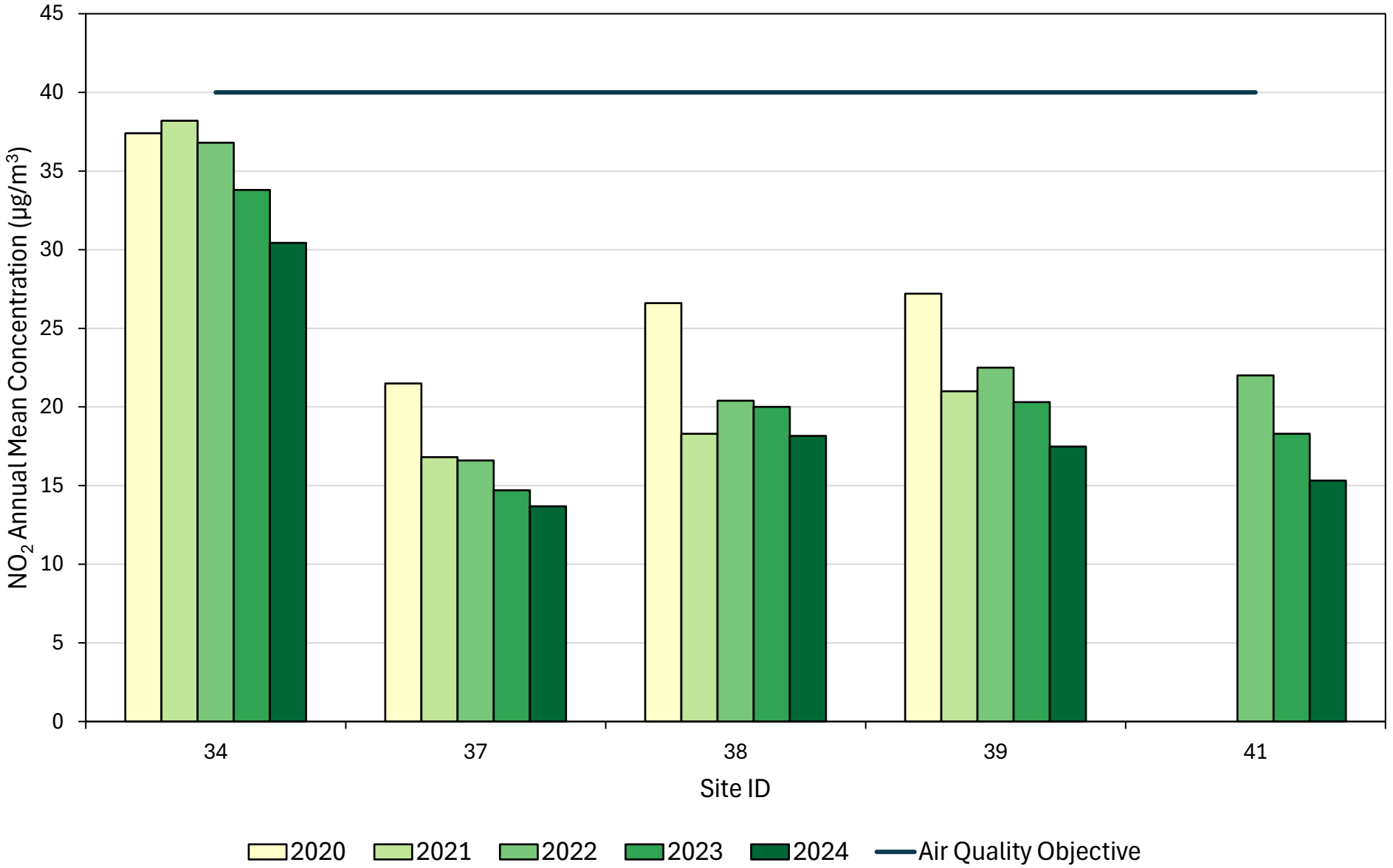


Table A.5 – 1-Hour Mean NO_2 Monitoring Results > 200 µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
AQMS2	523980	224265	Roadside	97.2	97.2	0	0	0	0	0

Notes:

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

Exceedances of the NO_2 1-hour mean objective (200µg/m^3 not to be exceeded more than 18 times/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 6 months, the maximum data capture for the full calendar year is 50%).

Table A.6 – Annual Mean $PM_{2.5}$ 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 (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
AQMS2	523980	224265	Roadside	96.2	96.2	9.0	7.0	9.0	7.0	7.5

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

Notes:

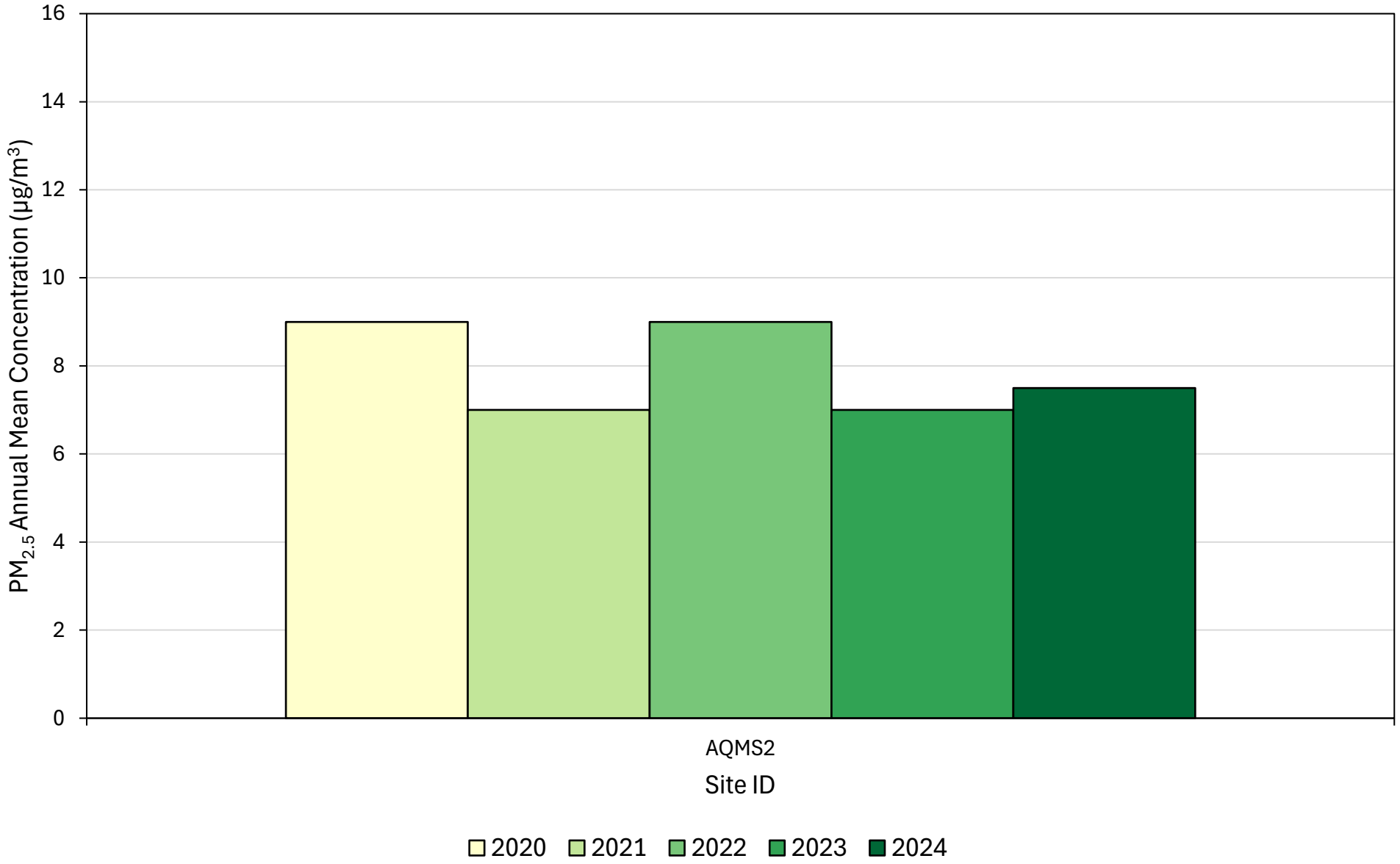
The annual mean concentrations are presented as µg/m^3.

All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(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 A.6 – Annual Mean $PM_{2.5}$ Concentrations



Appendix B: Full Monthly Diffusion Tube Results for 2024

Table B.1 – NO_2 2024 Diffusion Tube Results (µg/m^3)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.88)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
1	523771	224090	19.3		13.3	11.6	11.9	13.0	13.7	14.4	17.2	21.2	15.0	18.7	15.8	13.9		
3	524345	224468	19.9		15.6	14.2	11.4	12.8	16.2	15.6	16.1	20.7	12.4	17.7	16.1	14.2		
4	525373	226985	18.1		15.6	11.5	12.1		12.4	12.5	15.3	21.0	10.9	12.7	14.6	12.9		Tube Missing June
7	523278	225479	21.0		23.2	20.5	21.8	19.4	19.8		22.0	24.5		22.0	21.6	19.0		Tube Missing August / November
9	526652	223438	20.2		17.0	15.7	17.3		16.4	16.8	17.4	22.6	14.1	16.7	17.8	15.6		Tube Missing June
10	522075	225568	22.8		18.7	16.1	14.2	16.6	17.6	16.7	17.3	21.9	14.2	19.8	18.3	16.1		
11	522126	224862	15.2		13.3	10.1	10.6	10.2	11.9	11.3	12.9	16.3	10.1	13.8	12.6	11.1		
12	522955	223335	13.4		13.4	11.5	12.7	6.8		9.1	15.1	15.4	9.4	10.4	11.9	10.5		Tube Missing July
13	523070	226070	18.4		14.8	13.4	11.5	11.9	13.6	12.9	13.3	21.1	12.3	16.0	14.9	13.1		
17	522700	226550	37.7		35.4	30.8	33.4	35.2	35.0	35.2	36.2	32.8	21.0	29.2	33.3	29.3		
18	525425	224183	13.0		11.2	6.0	7.0	28.8	8.2	8.4	9.1	12.3	8.5	10.0	11.2	9.8		
19	522700	226570	28.8		29.1	30.5	29.7	6.5	18.9	26.7	31.5	28.9	19.3	23.9	25.4	22.4		
21	523128	225677	22.2		21.3	15.3	17.0	13.5	15.4		15.7	21.9	12.4	17.7	17.9	15.7		Tube Missing August
22	523360	224786	21.5		18.2	15.8	16.3	14.3	15.1	21.7	17.7	24.2	11.9	15.5	18.0	15.8		
23	523014	226029	28.9		28.9	22.0	26.2	18.3	21.7	20.5	27.6	33.0	17.3	21.0	24.7	21.7		

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.88)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
24	525987	226368	22.9		22.7	16.6	20.5	21.4	21.8	21.7	24.4	23.9	13.4	20.3	21.1	18.6		
26	524542	225654	18.0		12.7	12.8	10.9	10.4	12.2	13.3	13.2	21.1	12.4	15.4	14.3	12.6		
28	526078	224818	19.7		15.4	13.6	16.9	16.0	16.8	15.1	19.1	23.8	14.5	14.5	17.2	15.1		
31	525160	223069	20.3		15.1	15.1	14.4	12.5	13.8	14.8	18.2	21.9	12.3	14.7	16.2	14.3		
34	523697	225920	37.7		36.9	32.3	35.9	34.5	37.3	35.8	34.2	42.0	21.2	27.9	34.6	30.4		
35	527020	221097	18.6		16.2	14.6	17.4	19.1	18.5	17.3	21.5	22.9	14.4	16.2	18.0	15.8		
37	522608	225880	19.2		14.9	12.8	14.6	13.1	14.0	12.9	17.3	22.0	11.9	13.6	15.6	13.7		
38	523406	225035	21.7		21.7	20.4	21.4	17.6	18.9	18.6	22.9	28.7	16.1	17.0	20.6	18.2		
39	523319	225021	22.2			15.1	17.5	17.2	20.8	20.6	22.2	25.5	12.7	20.8	19.9	17.5		Tube Missing March
40	524097	222765	25.8		23.9	19.2	24.6	22.3	20.1	20.7	19.0	28.2	14.2	21.5	22.3	19.6		
41	523981	224264	20.4		17.2	17.6	13.4		14.2		17.7	19.5	12.0	20.8	17.4	15.3		Tube Missing June / August

☒ **All erroneous data has been removed from the NO_2 diffusion tube dataset presented in Table B.1.**

☒ **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.**

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

Notes:

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

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

See Appendix C for details on bias adjustment and annualisation.

See QA/QC of Diffusion Tube Monitoring for reasoning of missing February data at all sites.

Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC

New or Changed Sources Identified Within Stevenage During 2024

Stevenage Borough Council has not identified any new sources relating to air quality during the reporting year of 2024.

Additional Air Quality Works Undertaken by Stevenage Borough Council During 2024

Stevenage Borough Council has not completed any additional air quality works during the reporting year of 2024.

QA/QC of Diffusion Tube Monitoring

During the 2024 monitoring year, diffusion tubes were supplied and analysed by Gradko International, using the 50% TEA in acetone preparation method. Gradko International are a UKAS accredited laboratory and participate in the AIR-PT scheme for NO_2 diffusion tube analysis and Annual Field Intercomparison Exercise. These provide strict criteria relating to performance that participating laboratories must meet, ensuring that the reported NO_2 concentrations are of a high calibre. For all AIR-PT rounds for diffusion tubes analysed during 2024, Gradko International received a score of 100% – the percentage score reflects the results deemed satisfactory based upon the z-score of ± 2.

Additionally, the precision of the NO_2 diffusion tubes (50% TEA in acetone) supplied by Gradko International was classified as ‘good’ for all twelve observations in 2024. This reflects the laboratory’s performance and consistency in preparing and analysing the diffusion tubes, as well as the subsequent handling of the tubes in the field. Tubes are considered to have ‘good’ precision where the coefficient of variation of duplicate or triplicate diffusion tubes for eight or more monitoring periods during the year is less than 20%. Further information on the precision results is available on the LAQM Website.

Diffusion Tube Deployment Calendar

During 2024, the diffusion tubes deployed by Stevenage Borough Council adhered to the dates outlined on the Defra monitoring calendar from March onwards. The diffusion tubes that were deployed at the beginning of January were not changed at the beginning of February and were instead exposed until the beginning of March. Therefore, the January diffusion tubes were over exposed beyond the recommended period of four to five weeks.

Section 7.199 of LAQM.TG22 states that:

"If diffusion tubes are left out for significantly longer or shorter periods than the four and five weeks recommended, then the data may not be reliable as the diffusion rate may not have been accurately defined".

Therefore, in order to determine if the overexposed January data is reliable and suitable for inclusion in the annual mean calculation, a sensitivity analysis was performed on the annual mean concentration at each diffusion tube site. This involved investigating the impact that including or excluding the January data had on the NO_2 annual mean concentration (as shown in Table C.1). It was evident that the overall change in the annual mean concentration between either including or excluding the January data was minimal at the majority of the sites. Furthermore, removing the January data resulted in the data capture falling below the threshold for requiring annualisation, which introduces additional uncertainty to the results. This is because the nearest background monitoring sites that can be used for annualisation are at a distance of 40 km (Northampton Spring Park AURN) and 27 km (Boreham Wood Meadow Park AURN) from Stevenage. On the basis of the minimal difference between the reported annual mean concentrations, and the process of annualisation adding uncertainty into the results, the overexposed January data has been included in the NO_2 annual mean concentrations presented throughout this report.

Table C.1 – Sensitivity Analysis (Overexposed January Diffusion Tube Data)

Diffusion Tube Site ID		Annual Mean Concentration (µg/m^3)		
Site ID	Site Name	Jan Overexposed Data Included	Jan Overexposed Data Excluded	Difference
1	Town Centre	13.9	13.3	-0.6
3	Monks View	14.2	13.5	-0.7
4	Bedwell Crescent	12.9	12.2	-0.7
7	High Street	19.0	21.6	2.6
9	Magpie Crescent	15.6	15.2	-0.5
10	Shoreham Close	16.1	15.3	-0.8
11	Newlyn Close	11.1	10.7	-0.5
12	Chadwell Road	10.5	10.2	-0.3

13	Whitney Drive	13.1	12.5	-0.6
17	Hitchin Road	29.3	28.6	-0.8
18	Fairlands Valley Park	9.8	9.5	-0.3
19	7 Tates Way	22.4	21.8	-0.6
21	13 Hitchin Road	15.7	14.9	-0.9
22	Townsend Mews	15.8	15.2	-0.6
23	Hitchin Road - Longfields	21.7	20.9	-0.8
24	Martins Way	18.6	18.3	-0.3
26	Vardon Road	12.6	12.0	-0.6
28	Chells Way	15.1	14.6	-0.5
31	Hydean Way	14.3	13.5	-0.7
34	A602/A1(M) Junction 7	30.4	29.9	-0.6
35	A602 The Chequers	15.8	15.7	-0.1
37	Fishers Green Road	13.7	13.0	-0.6
38	High Street - Costa	18.2	18.0	-0.2
39	High Street - Bike Stop	17.5	17.0	-0.5
40	London Road	19.6	19.0	-0.6
41	St Georges Way South	15.3	14.4	-0.9

Diffusion Tube Annualisation

All diffusion tube monitoring sites within Stevenage recorded a data capture greater than 75% in 2024, therefore it was not required to annualise any diffusion tube monitoring data. In addition, any sites with a data capture below 25% do not require annualisation.

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2024 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG22 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO_2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Stevenage Borough Council have applied a national bias adjustment factor of 0.88 to the 2024 monitoring data. The national bias adjustment factor spreadsheet (version 04/25) was used to derive the national bias adjustment factor for diffusion tubes analysed by Gradko International (50% TEA in acetone). A summary of bias adjustment factors used by Stevenage Borough Council over the past five years is presented in Table C.2.

Figure C.1 – National Bias Adjustment Factor Spreadsheet (04/25)

National Diffusion Tube Bias Adjustment Factor Spreadsheet — Spreadsheet Version Number: 04/25

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

This spreadsheet will be updated at the end of June 2025
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 data[2]

Step 4:
Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution.
Where there is more than one study, use the overall factor[3] shown in blue at the foot of the final column.
If you have your own co-location study then see footnote[4]. If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953

Analysed By[1]	Method (To undo your selection, choose (All) from the pop-up list)	Year[2] (To undo your selection, choose (All))	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m³)	Automatic Monitor Mean Conc. (Cm) (µg/m³)	Bias (B)	Tube Precision[4]	Bias Adjustment Factor (A) (Cm/Dm)
Gradko	50% TEA in Acetone	2024	UB	City Of London Corporation	10	26	21	26.8%	G	**0.79**
Gradko	50% TEA in Acetone	2024	R	City Of London Corporation	12	34	30	12.1%	G	**0.89**
Gradko	50% TEA in Acetone	2024	UB	Falkirk Council	11	13	13	-1.6%	G	**1.02**
Gradko	50% TEA in Acetone	2024	SU	Redcar And Cleveland Borough Council	12	12	9	35.4%	G	**0.74**
Gradko	50% TEA in acetone	2024	KS	Marylebone Road Intercomparison	11	43	36	20.8%	G	**0.83**
Gradko	50% TEA in acetone	2024	R	Sandwell Mbc	12	30	25	24.2%	G	**0.81**
Gradko	50% TEA in acetone	2024	UB	Sandwell Mbc	12	19	17	8.0%	G	**0.93**
Gradko	50% TEA in acetone	2024	R	Sandwell Mbc	12	20	20	-2.6%	S	**1.03**
Gradko	50% TEA in Acetone	2024	R	London Borough Of Merton	12	27	22	25.7%	G	**0.80**
Gradko	50% TEA in acetone	2024	UB	London Borough Of Wandsworth	10	19	14	31.7%	G	**0.76**
Gradko	50% TEA in acetone	2024	R	London Borough Of Richmond Upon Thames	12	18	19	-9.1%	G	**1.10**
Gradko	50% TEA in acetone	2024	B	London Borough Of Richmond Upon Thames	12	13	13	5.0%	G	**0.95**
Gradko	50% TEA in acetone	2024		**Overall Factor[3] (12 studies)**				**Use**		**0.88**

Table C.2 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2024	National	04/25	0.88
2023	National	03/24	0.83
2022	National	03/23	0.82
2021	National	03/23	0.82
2020	National	06/21	0.83

NO_2 Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure has been estimated using the Diffusion Tube Data Processing Tool/NO_2 fall-off with distance calculator available on the LAQM Support website.

During 2024, no diffusion tube site within Stevenage required distance correction.

QA/QC of Automatic Monitorng

Automatic measurements of $PM_{2.5}$ were made using a Beta Attenuation Mass (BAM) 1020 monitor, whilst automatic measurements of NO_2 were made using an Enviro Technology

(ET) Model 200E chemiluminescent analyser. All measurements logged by the analysers were collected by ET each hour. The data from the automatic monitoring station was validated by Ricardo using the most up-to-date calibration factors and was disseminated in real time on the Hertfordshire and Bedfordshire Air Quality Network website.

$PM_{2.5}$ Monitoring Adjustment

The type of $PM_{2.5}$ analyser (BAM 1020) used at the St Georges Way (South) automatic monitoring station does not require the application of a correction factor.

Automatic Monitoring Annualisation

The St Georges Way (South) automatic monitoring station recorded a date capture greater than 75% in 2024 for both NO_2 and $PM_{2.5}$, therefore it was not required to annualise any automatic monitoring data.

NO_2 Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure has been estimated using the NO_2 fall-off with distance calculator available on the LAQM Support website.

During 2024, the data from the automatic monitoring station on St Georges Way (South) was not required to be corrected for distance to relevant exposure.

Appendix D: Maps of Monitoring Locations

Figure D.1 – Map of Monitoring Sites (Stevenage Overview)

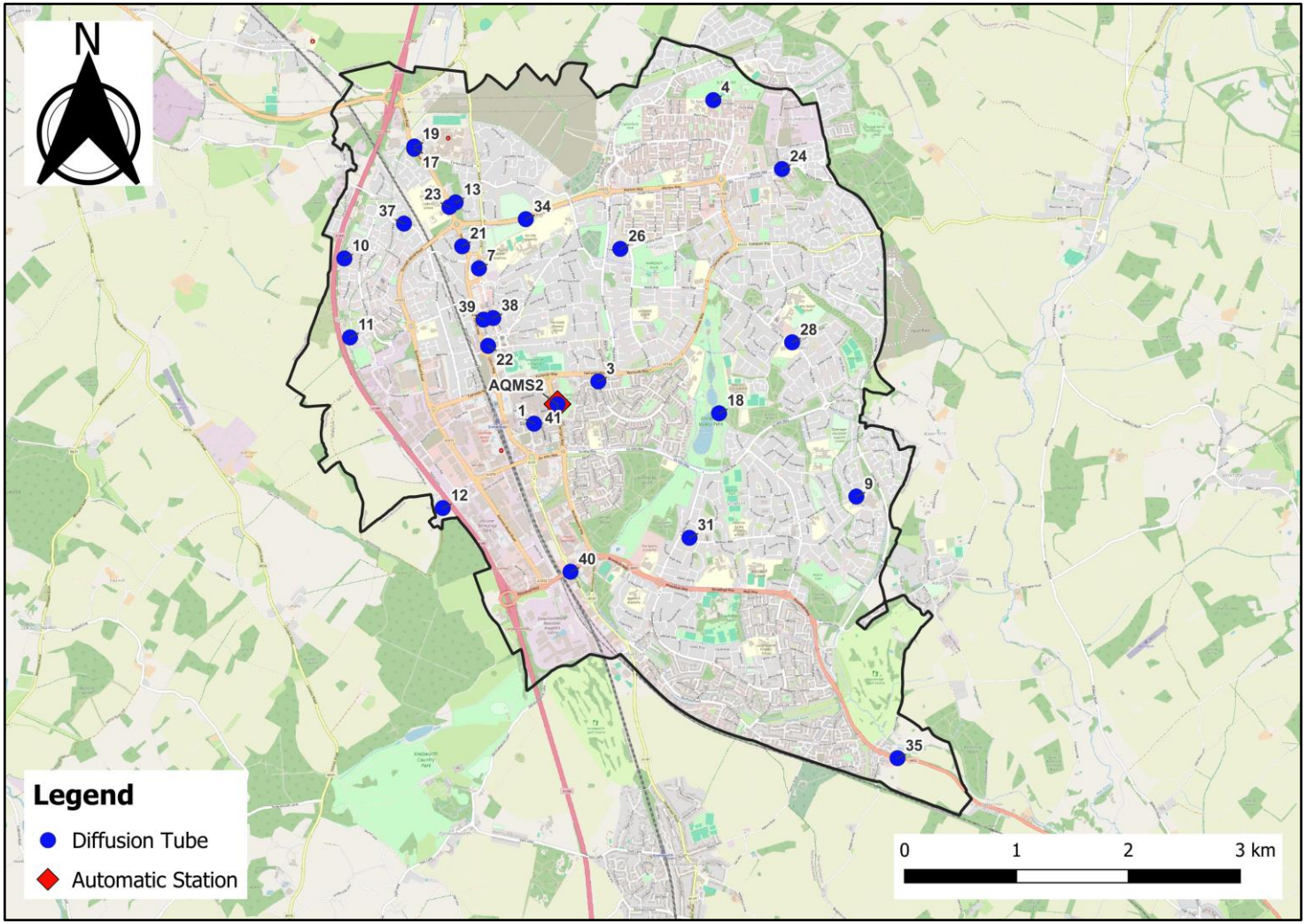


Figure D.2 – Map of Monitoring Sites (South of the Borough)

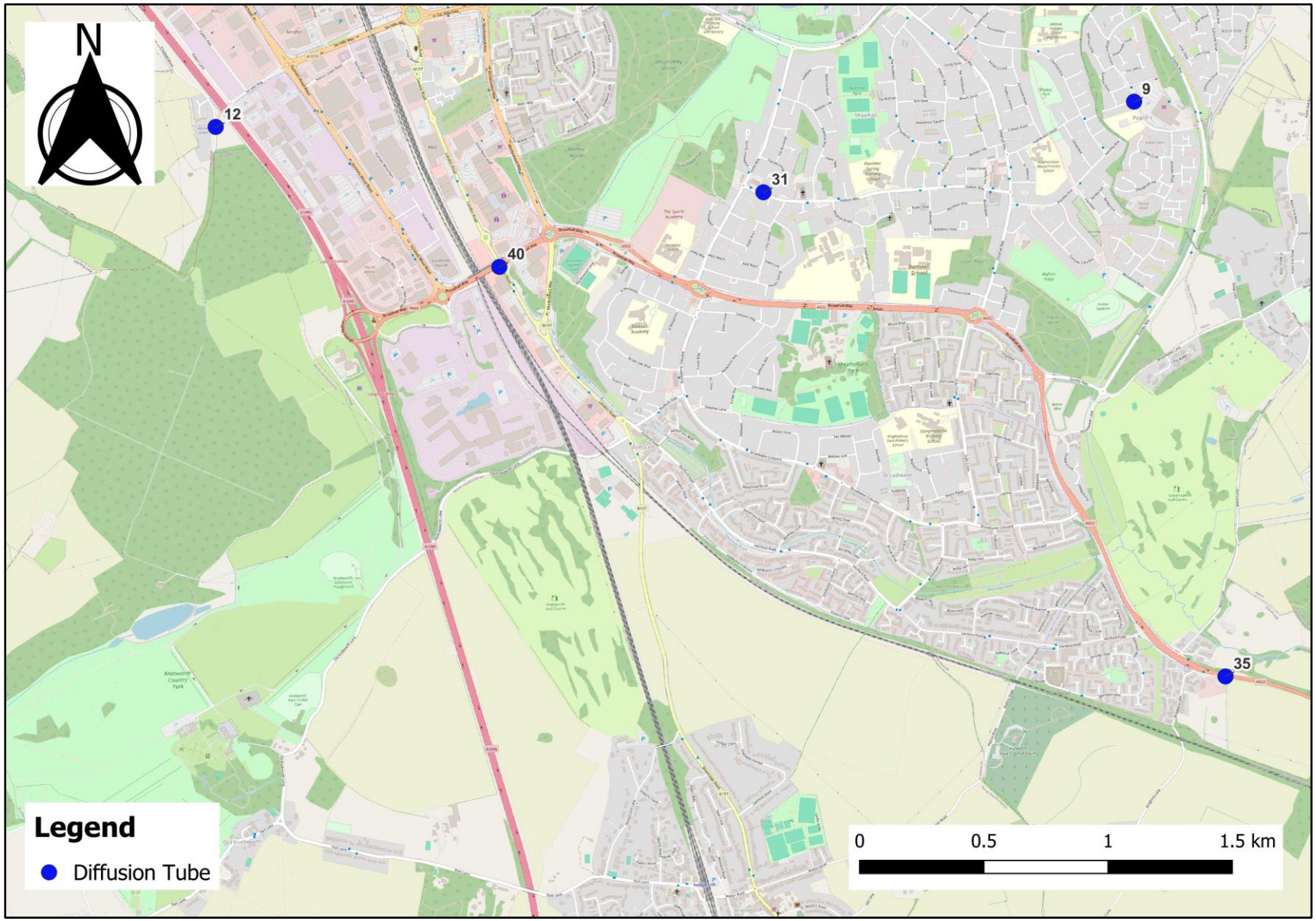


Figure D.3 – Map of Monitoring Sites (East of the Borough)

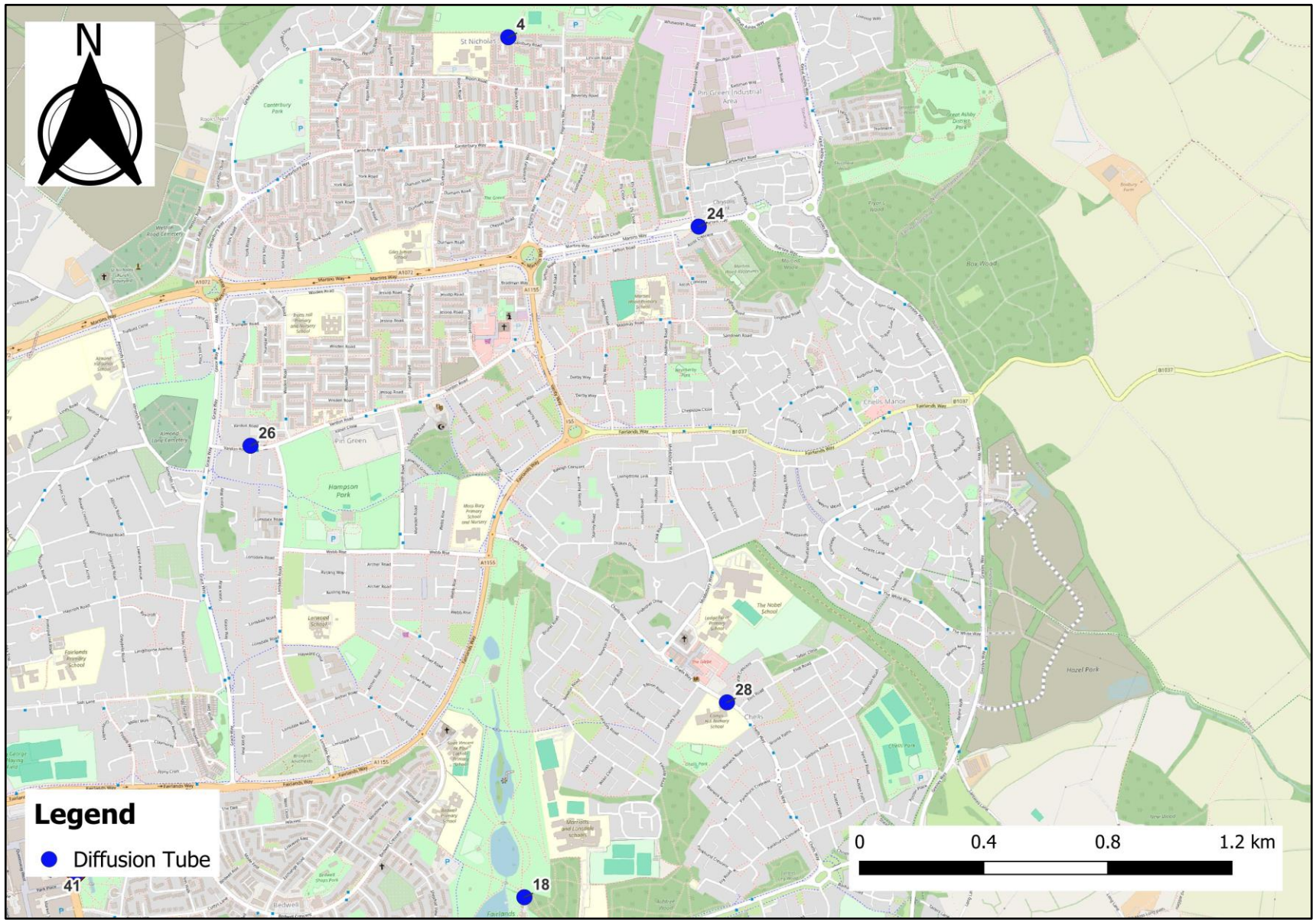
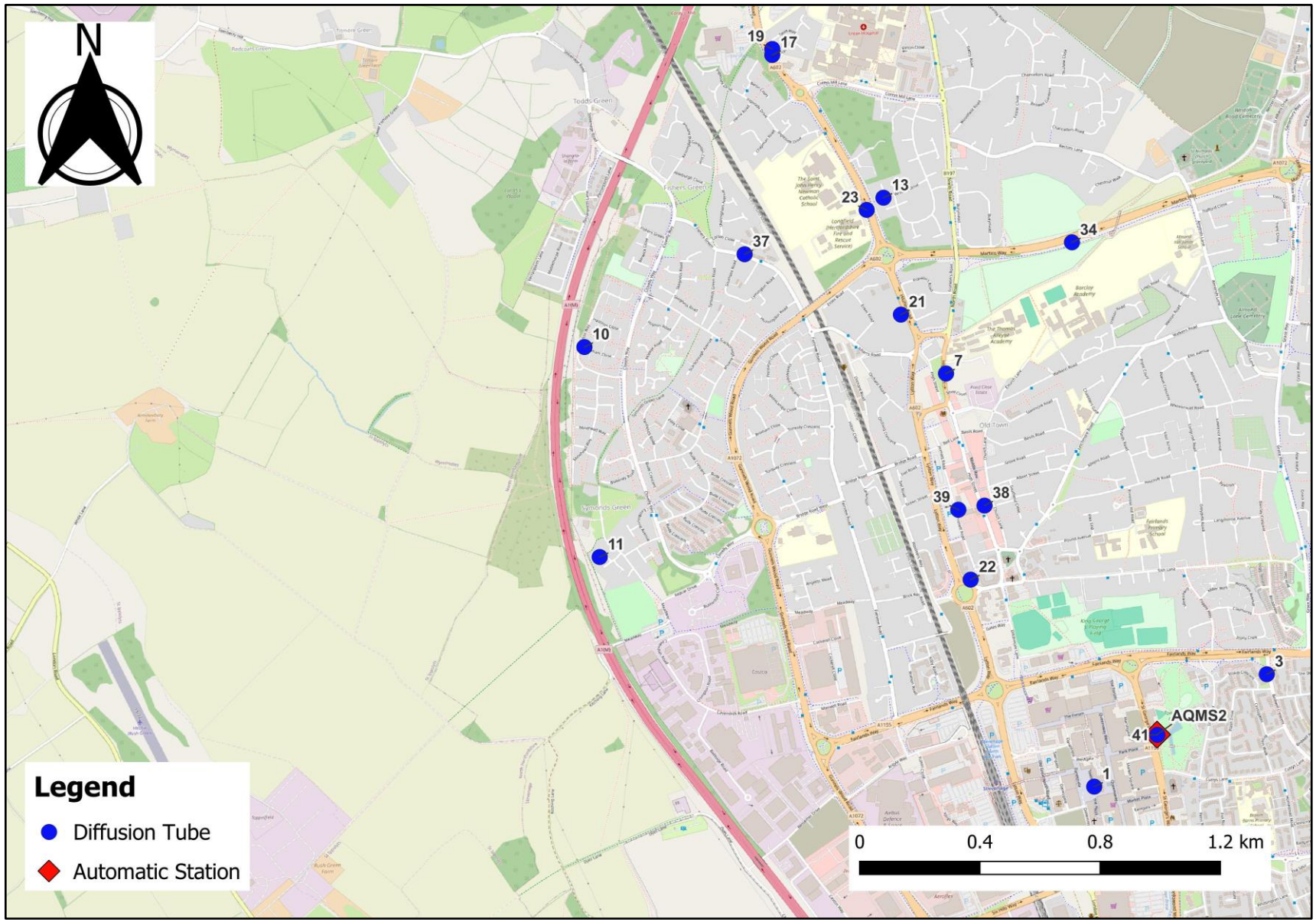


Figure D.4 – Map of Monitoring Sites (West of the Borough)



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England[4]

Pollutant	Air Quality Objective: Concentration	Air Quality Objective: Measured as
Nitrogen Dioxide (NO_2)	200µg/m^3 not to be exceeded more than 18 times a year	1-hour mean
Nitrogen Dioxide (NO_2)	40µg/m^3	Annual mean
Particulate Matter (PM_{10})	50µg/m^3, not to be exceeded more than 35 times a year	24-hour mean
Particulate Matter (PM_{10})	40µg/m^3	Annual mean
Sulphur Dioxide (SO_2)	350µg/m^3, not to be exceeded more than 24 times a year	1-hour mean
Sulphur Dioxide (SO_2)	125µg/m^3, not to be exceeded more than 3 times a year	24-hour mean
Sulphur Dioxide (SO_2)	266µg/m^3, not to be exceeded more than 35 times a year	15-minute mean

[4] The units are in microgrammes of pollutant per cubic metre of air (µg/m^3).

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
LAQM	Local Air Quality Management
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO_2	Sulphur Dioxide

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- Beryl Bikes – Stevenage. October 2024.
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- Local Air Quality Management Technical Guidance LAQM.TG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
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