



2024 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995
Local Air Quality Management, as amended by the
Environment Act 2021

Date: June, 2024

Information	Eastleigh Borough Council Details
Local Authority Officer	Oxana Waite
Department	Environment Health
Address	Eastleigh House, Upper Market Street, Eastleigh, Hampshire, SO50 9YN
Telephone	02380 683353
E-mail	oxana.waite@eastleigh.gov.uk
Report Reference Number	EBCASR2024/01
Date	28 June 2024

Executive Summary: Air Quality in Our Area

Air Quality in Eastleigh Borough Council

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. In the UK, it is estimated that the reduction in healthy life expectancy caused by air pollution is equivalent to 29,000 to 43,000 deaths a year¹.

Air pollution particularly affects the most vulnerable in society, children, the elderly, and those with existing heart and lung conditions. Additionally, people living in less affluent areas are most exposed to dangerous levels of air pollution².

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})	<p>Particulate matter is everything in the air that is not a gas.</p> <p>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.</p> <p>PM₁₀ refers to particles under 10 micrometres. Fine particulate matter or PM_{2.5} are particles under 2.5 micrometres.</p>

¹ UK Health Security Agency. Chemical Hazards and Poisons Report, Issue 28, 2022.

² Defra. Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006

As part of the Council's responsibility to review and assess air quality across the Borough there is a long history of monitoring and delivering initiatives to tackle air quality issues. Air pollution levels are compared to objective levels set by the government, and where pollutant concentrations exceed these levels an Air Quality Management Area (AQMA) must be declared, and an Air Quality Action Plan (AQAP) produced³. AQAPs detail actions aimed at reducing pollutant levels to below the objective.

In Eastleigh Borough there are four AQMAs⁴, all of which were declared due to the levels of nitrogen dioxide (NO₂) exceeding the annual objective of 40µg/m³. Two of these AQMAs have been subsequently extended since their declaration and the current details of all AQMAs can be found on the [DEFRA website](#). Due to these declarations, the main pollutant of concern in the borough is NO₂, although particulate matter (PM) is related and is also monitored by the Council. This is split further by size with both PM₁₀ and PM_{2.5} measurements taken in 2023. However, due to some technical issues with the monitor, the data capture was lower than 75% (69.9%) and required annualisation (para 7.140 and Box 7-10 of TG22⁵, to be compared against long-term annual mean objective). This adjustment decreased the reported values as described in [Automatic Monitoring Annualisation](#) section by 17 for PM₁₀ and 23% for PM_{2.5}.

During 2023 a reduction in concentration of nitrogen dioxide was measured at all monitoring locations and no exceedances of objective levels were recorded. Results from 2023 continue a falling trend in pollution which had been identified at the majority of locations. The trend was noticed when compared with 3 and 5-year averages as well as pre-pandemic (2019) levels, assuming that the main contributing factor would be the level of traffic and its diurnal spread between pre and post-pandemic years, as well as upgrades in the local fleet following various Council incentives regarding air quality, transportation and climate.

The current AQAP is a Borough-wide document that covers all declared AQMAs and was adopted and published in February 2020. It contains actions to improve air quality in the Borough of Eastleigh from 2020 to 2025 and has been kept updated throughout this period before undergoing a full review when it comes to an end. The completed measures were

³ [Executive summary \(eastleigh.gov.uk\)](#)

⁴ [Local Authority Details - Defra, UK](#)

⁵ [LAQM-TG22-August-22-v1.0.pdf \(defra.gov.uk\)](#)

excluded in reporting but can be reviewed upon request. Eastleigh's position at the heart of major transport routes through Hampshire impacts the air quality, as many businesses are attracted to the area, including manufacturing and distribution. To recognise this, actions are mainly based on reducing vehicle emissions and encouraging other methods of travel.

Actions to Improve Air Quality

Whilst air quality has improved significantly in recent decades, there are some areas where local action is needed to protect people and the environment from the effects of air pollution.

The Environmental Improvement Plan⁶ sets out actions that will drive continued improvements to air quality and to meet the new national interim and long-term targets for fine particulate matter (PM_{2.5}), the pollutant most harmful to human health. The Air Quality Strategy⁷ provides more information on local authorities' responsibilities to work towards these new targets and reduce fine particulate matter in their areas.

The Road to Zero⁸ details the Government's approach to reduce exhaust emissions from road transport through a number of mechanisms, in balance with the needs of the local community. This is extremely important given that cars are the most popular mode of personal travel, and the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

DEFRA AQ Grant Project – Solid Fuel Burning Engagement

Funded by the DEFRA Air Quality Grant Scheme 2023-2024, this is a joint project with neighbouring authorities Southampton City Council, Winchester City Council and New Forest District Council. It aims to reduce emissions, in particular of particulate matter, from domestic burning through provision of information and engagement with the public on the relevant issues. The project was launched in 2020 in collaboration with an external contractor who designed and co-ordinated communication campaigns across the partner authorities. The bid extended beyond the original timeframe and project scope, continuing throughout the entirety of 2023 and beyond. For example, when the burning season started in 2023 up to December, it included engagement with the public via Eastleigh

⁶ Defra. Environmental Improvement Plan 2023, January 2023

⁷ Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

⁸ DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018

Borough Council's social media (Facebook 6,782 (reach) 799 (engagements) and the Council's website^{9&10}.

DEFRA AQ Grant Project 2021-2022 – MyLearney (Sustrans)

Approved in March 2022 this project combines direct engagement with local schools and wider reaching communications campaigns to improve knowledge and information on air quality issues, aiming to influence behaviour changes that will result in reduced exposure to air pollution. Due to staffing issues this campaign was delayed until May 2023. In August, a secondary school received payments for a bike shed to promote cycling along with information campaigns¹¹.

Eastleigh Walking and Cycling Strategy 2023-2026

The Eastleigh Walking and Cycling Strategy was adopted in July 2023. The document sets out the Council's approach to active travel and will support the key objectives of shaping places, protecting our environment and enabling a healthier Eastleigh, as set out in the Corporate Plan 2023-2026¹².

Eastleigh Town Centre Cycle Route

In 2023 Hampshire County Council delivered a new cycle route between Eastleigh Railway Station and Southampton Airport Parkway. The route travels through the town centre and along quieter residential roads on a mix of on and off-road provision. The scheme includes a new Toucan crossing on Chestnut Avenue and a new modal filter on Desborough Road. The new facility has been popular, especially with students travelling to Eastleigh and Barton Peveril Colleges and evaluation work is currently underway¹³.

Conclusions and Priorities

The fall in pollution concentrations which had been previously identified at the majority of sites continues in 2023 and no exceedances were identified at any monitoring locations.

⁹ [Council supports campaign for cleaner air \(eastleigh.gov.uk\)](https://www.eastleigh.gov.uk)

¹⁰ [Air quality | Eastleigh Borough Council](https://www.eastleigh.gov.uk)

¹¹ [Schools award scheme promotes clean air \(eastleigh.gov.uk\)](https://www.eastleigh.gov.uk)

¹² [eastleigh-walking-and-cycling-strategy-app-1.pdf](#)

¹³ [Eastleigh Town Centre - Cycle Route Improvements | Transport and roads | Hampshire County Council \(hants.gov.uk\)](https://www.hants.gov.uk)

Changes in traffic patterns, caused by shifts in diurnal behaviours primarily driven by the widespread adoption of flexible working arrangements, fleet evolution, and the implementation of improvement measures across the area, are likely to have influenced the improvements in pollutant concentration.

The positive trend in nitrogen dioxide reduction continued following the long-term effects of the pandemic.

The Eastleigh Borough-wide AQAP was adopted in February 2020 and contains actions aimed at improving air quality across the Borough, and tailored actions for individual locations. The plan spans from 2020 to 2025 undergoes regular updates throughout this timeframe and is reviewed by the responsible colleagues

The above proceedings lead to 5 year compliance of two AQMAs which were identified for revocation and are discussed later on.

Local Engagement and How to get Involved

Local engagement is an important instrument in effectively tackling air pollution across the Borough. Our residents, businesses and other local groups and organisations all have a role to play. Everyone can help to improve air quality with their actions, including:

Leave your car at home. Use your car less by choosing to walk, cycle or use public transport for some journeys.

Reduce your vehicle emissions. Minimise the emissions from your car by driving efficiently and turning your engine off when stationary. Consider going electric when you upgrade your car, join a car club to use a low-emission vehicle.

Help to reduce congestion. Reduce the number of single occupancy cars on the road by arranging a car share.

Burn less wood. Minimise use of wood burning stoves and bonfires. Follow the DEFRA guide on appropriate appliances and fuel to reduce your emissions.

Reduce your exposure to air pollution. Plan your routes to use side streets and avoid heavily congested areas. Sign up to airAlert to receive pollution forecasts.

Useful Websites

www.eastleigh.gov.uk/airquality - Eastleigh Borough Council's air quality website

[Eastleigh Borough Council - Air Quality monitoring service \(airqualityengland.co.uk\)](http://airqualityengland.co.uk) – continuous Air quality monitoring data from the Borough

[Diffusion Tube Data | Eastleigh \(my-air.uk\)](#) – Diffusion tubes (passive, indicative method) results

[Car Share: Co Wheels Car Club | Co Wheels | Co Wheels \(co-wheels.org.uk\)](#) - Car club operating in the Borough

www.myjourneyhampshire.com - Information on sustainable transport options and journey planning

[uBreathe \(ricardo.com\)](http://uBreathe (ricardo.com)) - air pollution health advice

[Open fires and wood-burning stoves - a practical guide \(defra.gov.uk\)](#) - DEFRA guidance on wood burning

environmentcentre.com/wood-burning/ - Solid fuel burning campaign page

[Home - Sustrans.org.uk](#) - Support on walking and cycling

[Cycling in Eastleigh | Eastleigh Borough Council](#) – Cycling and walking in Eastleigh

Local Responsibilities and Commitment

This ASR was prepared by the Pollution Control Specialist within Planning and Environment Directorate of Eastleigh Borough Council with the support and agreement of the following officers and departments:

- Cali Sparks, Sustainable Transport Planner
- Andy Brennan, Climate Change Manager
- Dawn Heppell, Principal Planning Policy Officer

Senior Public Health officers of HCC were consulted, however, the approval not received before the deadline.

This ASR has been approved by: James Howe, Head of Regulatory Services

If you have any comments on this ASR please send them to Oxana Waite at:

Pollution Team
Eastleigh House,
Upper Market Street,
Eastleigh,
SO50 9YN

07393761951/ 023 8068 8000, Ext.: 3353

oxana.waite@eastleigh.gov.uk

Table of Contents

Executive Summary: Air Quality in Our Area	i
Air Quality in Eastleigh Borough Council	i
Actions to Improve Air Quality	iv
Conclusions and Priorities	v
Local Engagement and How to get Involved.....	vi
Local Responsibilities and Commitment	vii
1 Local Air Quality Management	1
2 Actions to Improve Air Quality	2
2.1 Air Quality Management Areas	2
2.2 Progress and Impact of Measures to address Air Quality in Eastleigh Borough Council	5
2.3 PM_{2.5} – Local Authority Approach to Reducing Emissions and/or Concentrations	18
3 Air Quality Monitoring Data and Comparison with Air Quality Objectives and National Compliance	21
3.1 Summary of Monitoring Undertaken	21
3.1.1 Automatic Monitoring Sites	21
3.1.2 Non-Automatic Monitoring Sites	21
3.2 Individual Pollutants	22
3.2.1 Nitrogen Dioxide (NO ₂)	22
3.2.2 Particulate Matter (PM ₁₀)	25
3.2.3 Particulate Matter (PM _{2.5}).....	26
Appendix A: Monitoring Results	27
Appendix B: Full Monthly Diffusion Tube Results for 2023	47
Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC	51
New or Changed Sources Identified Within Eastleigh Borough Council During 2023.....	51
Additional Air Quality Works Undertaken by Eastleigh Borough Council During 2023.....	51
QA/QC of Diffusion Tube Monitoring	51
Diffusion Tube Annualisation	51
Diffusion Tube Bias Adjustment Factors	52
NO ₂ Fall-off with Distance from the Road.....	53
QA/QC of Automatic Monitoring	53
PM ₁₀ and PM _{2.5} Monitoring Adjustment	53
Automatic Monitoring Annualisation	54
NO ₂ Fall-off with Distance from the Road.....	54
Appendix D: Map(s) of Monitoring Locations and AQMAs	55
Appendix E: Summary of Air Quality Objectives in England	61

Glossary of Terms62

References63

Figures

Figure A.1 – Trends in Annual Mean NO ₂ Concentrations, AQMA 1	37
Figure A.2 – Trends in Annual Mean NO ₂ Concentrations, AQMA 2	38
Figure A.3 – Trends in Annual Mean NO ₂ Concentrations, AQMA 3	39
Figure A.4 – Trends in Annual Mean NO ₂ Concentrations, AQMA 4	40
Figure A.5 – Trends in Annual Mean PM ₁₀ Concentrations	43
Figure A.6 – Trends in Annual Mean PM _{2.5} Concentrations	46
Figure D.1 – Map of Non-Automatic Monitoring Sites across the Borough	55
Figure D.2 – Map of Automatic, Non-Automatic Monitoring Site and AQMAs across the Borough	56
Figure D.3 – Eastleigh AQMA No.1 (A335) and diffusion tubes locations	57
Figure D.4 – Eastleigh AQMA No.2 (M3) and diffusion tubes locations	58
Figure D.5 – Hamble Lane Area AQMA No. 3 and Bursledon/Hamble north diffusion tube locations.....	59
Figure D.6 – High Street Botley AQMA 4 and diffusion tube locations	60

Tables

Table 2.1 – Declared Air Quality Management Areas	3
Table 2.2 – Progress on Measures to Improve Air Quality	10
Table 2-3: Measures which are expected to contribute towards reduction of PM _{2.5} emissions.....	19
Table 3-1: 5-year trend and comparison within AQMA 1	23
Table 3-2: 5-year trend and comparison within AQMA 2	24
Table 3-3: 5-year trend and comparison within AQMA 3	24
Table 3-4: 5-year trend and comparison within AQMA 4	25
Table A.1 – Details of Automatic Monitoring Sites	27
Table A.2 – Details of Non-Automatic Monitoring Sites	28
Table A.3 – Annual Mean NO ₂ Monitoring Results: Automatic Monitoring (µg/m ³)	33
Table A.4 – Annual Mean NO ₂ Monitoring Results: Non-Automatic Monitoring (µg/m ³)	34
Table A.5 – 1-Hour Mean NO ₂ Monitoring Results, Number of 1-Hour Means > 200µg/m ³	41
Table A.6 – Annual Mean PM ₁₀ Monitoring Results (µg/m ³)	42

Table A.7 – 24-Hour Mean PM₁₀ Monitoring Results, Number of PM₁₀ 24-Hour Means > 50µg/m³44

Table A.8 – Annual Mean PM_{2.5} Monitoring Results (µg/m³).....45

Table B.1 – NO₂ 2023 Diffusion Tube Results (µg/m³)47

Table C.1 – Annualisation Summary (concentrations presented in µg/m³).....51

Table C.2 – Bias Adjustment Factor52

Table E.1 – Air Quality Objectives in England61

1 Local Air Quality Management

This report provides an overview of air quality in Eastleigh Borough Council during 2023. 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 Eastleigh Borough Council to improve air quality and any progress that has been made.

The statutory air quality objectives applicable to LAQM in England are presented 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.

A summary of AQMAs declared by Eastleigh Borough Council can be found in Table 2.1. The table presents a description of the 4 AQMA(s) that are currently designated within Eastleigh Borough Council. Appendix D: Map(s) of Monitoring Locations and AQMAs provides maps of AQMA(s) and also the air quality monitoring locations in relation to the AQMA(s). The air quality objectives pertinent to the current AQMA designation are as follows:

- NO₂ annual mean

We propose to revoke AQMA 2 (M3) and AQMA 4 (Botley) (see Appendix A: Monitoring Results section), and will be confirmed with the stakeholders.

Table 2.1 – 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
Eastleigh AQMA No.1 (A335)	Declared 16/02/2005, Amended 03/02/2015	NO2 Annual Mean	Follows the A335 Southampton Rd, Romsey Rd & Leigh Rd. Amended to extend a short way along Woodside Ave, Twyford Rd & Bishopstoke Rd. It includes a number of properties on each road.	YES	>40 µg/m ³	32.4	>3 year	Eastleigh Borough Council Air Quality Action Plan 2020 - 2025, February 2020	https://eastleigh.gov.uk/media/7200/ebc1-aqap-2020-2025.pdf
Eastleigh AQMA No.2 (M3)	Declared 03/07/2006	NO2 Annual Mean	An area extending either side of the M3 motorway from junctions 12 to 14.	YES	>40 µg/m ³	24.7	>5 years	Eastleigh Borough Council Air Quality Action Plan 2020 - 2025, February 2020	https://eastleigh.gov.uk/media/7200/ebc1-aqap-2020-2025.pdf

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Number of Years Compliant with Air Quality Objective	Name and Date of AQAP Publication	Web Link to AQAP
Hamble Lane Area AQMA No. 3	Declared 03/07/2006, Amended 20/06/2011, Amended 30/08/2019	NO2 Annual Mean	Follows the B3397 Hamble Lane from its junction with the A3025 Portsmouth Rd to the Windhover roundabout, encompasses the roundabout and follows the A27 south east to the Borough boundary with a 30m corridor on either side.	YES	>40 µg/m ³	33.7	>3 year	Eastleigh Borough Council Air Quality Action Plan 2020 - 2025, February 2020	https://eastleigh.gov.uk/media/7200/ebc1-aqap-2020-2025.pdf
High Street Botley AQMA No. 4	Declared 20/06/2011	NO2 Annual Mean	An area encompassing a number of properties along High Street from Maypole roundabout to the Winchester Street junction.	YES	>40 µg/m ³	22.6	>5 years	Eastleigh Borough Council Air Quality Action Plan 2020 - 2025, February 2020	https://eastleigh.gov.uk/media/7200/ebc1-aqap-2020-2025.pdf

Eastleigh Borough Council **confirm the information on UK-Air regarding their AQMA(s) is up to date.**

Eastleigh Borough Council **confirm that all current AQAPs have been submitted to Defra.**

2.2 Progress and Impact of Measures to address Air Quality in Eastleigh Borough Council

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

- *The Council have robust QA/QC procedures, which were applied appropriately and accurately to the 2022 automatic and non-automatic monitoring data.*
- *Comments from last year's ASR have been mentioned and addressed.*
- *All graphs and maps are well presented and are clear to read. The Council have also provided a detailed discussion of the trends.*
- *The Council provides several useful websites to engage residents, businesses and local groups in tackling air pollution across the borough. They aim at reducing congestion and vehicle emissions by promoting car sharing and the use of EVs, respectively, minimising use of wood burning following DEFRA's guide and reducing exposure to air pollution by encouraging pedestrians to avoid congested areas.*

The following will be addressed in 2025 report.

- *AQMA No.2 and AQMA No.4 are now more than five years compliant with the concentrations in the majority of the sites constantly decreasing during the last five years. The Council should revoke the AQMAs.*

The Council's air quality officer has prepared a report to inform council leaders and other stakeholders about the plan to revoke AQMA 2 (M3) and AQMA 4 (Botley Road).

However, a difference between legislative (national objective) and health (WHO guidance) remains as an inspiration for further improvements and reduce levels of the pollutant within the council, therefore addressed in setting up priorities and actions.

Eastleigh Borough Council has taken forward a number of direct measures during the current reporting year of 2023 in pursuit of improving local air quality. Details of all measures completed, in progress or planned, are set out in Table 2.2. Fifty four measures are included within Table 2.2, with the type of measure and the progress Eastleigh Borough Council has made during the reporting year of 2023 presented. Where there has been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.2.

More detail on these measures can be found in the Eastleigh Borough Council Air Quality Action Plan 2020 – 2025. Key completed and the grant extended measures are:

DEFRA AQ Grant Project 2021-2022 – MyLearney (Sustrans)¹⁴

The school engagement project (RDEL – the revenue element) is set to be completed in May 2024. This project includes various activities, such as awarding Clean Air Aware flag and certificate, providing online tool kits, and introducing monitoring tools like diffusion tubes. Additionally, it promotes active travel through events and facilitates this through bike storage installation. The EBC marketing team assists in promoting the messaging of this project within the Borough.

DEFRA AQ Grant Project – Solid Fuel Burning Engagement

As mentioned above the project addressing information on particulates emissions (PM₁₀ and PM_{2.5} from domestic burning) continued for another year. The next stage of the project started in June 2023 and ran until the end of September 2023. It was only operational through MappAir due to delays in funding confirmation. This is to be used as a tool for schools and healthcare projects. It is restarted as a winter campaign.

- Similarly to previous years a communications campaign was launched in the last quarter of the year and included information on the impacts of using solid fuel stoves and ways of improving practices, comparing the use of different fuels as sources of heat, bonfires etc. among the communities using the Council and tEC medias¹⁵.
- Activities in Eastleigh Borough include messaging on social media, the Council website, newsletters, and public engagements. In particular, social media and website winter campaign (January-March 2023) reach and engagement figures were: 8,431 (reach) and 148 (engagement) web page as clicks of 99. From the start of autumn to the end of December, 2,984 leaflets were delivered in targeted postcodes. The project has had coverage in the press which assists with further spreading awareness. The contractor has also carried out direct engagements with relevant companies and groups, in Eastleigh this has included stove installers, community groups and charities. Regular reports are provided to Local Authority

¹⁴ [Schools awards scheme promotes clean air \(eastleigh.gov.uk\)](https://www.eastleigh.gov.uk)

¹⁵ [the Environment Centre \(tEC\) – Bringing the benefits of sustainability to everyone](#)

partners, detailing the activities which have been carried out and feedback and comments which have been received.

Eastleigh Borough Council expects the following measures to be completed over the course of the next reporting year:

- **Upgrade of Monitoring Equipment.** This project was scheduled to be completed during the reporting year to arrange for the site move at Steele Close. Steel Close, as a background location, appears to be acceptable and the decision was made to keep it at the same location. The work to deliver Hable Lane monitoring equipment has started and a few locations were reviewed. The quote to install the equipment was received.
- **Re-establishing Partnership Working.** Following delays in previous years due to redirection of resource, the Council will work to re-establish regular links with partnership organisations.
- **Walking and Cycling Strategy.** This was adopted in July 2023
- **School Streets Events.** Following school streets trials carried out in 2022/23 in other areas of the County, Hampshire County Council has decided not to fund school streets in future. Any new school streets events will have to be funded by the participating school.
- **DEFRA AQ Grant Project – Solid Fuel Burning Engagement.** Continued delivery of the project along with our partners, including the project extension which was successfully funded in 2021. We are planning to house 2 (one indoor and 1 outdoor) Zephyr monitors.

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

- To follow up and complete the installation of PM_{2.5} monitor in the Borough as part of the national compliance (EA) monitoring network. The commencement will enable the Council to establish some background concentrations within the Borough.
- Continue working with the various parties, neighbouring and higher tier councils and transport (National Highways and SW Railway & Network Rail) representatives involved in the development of Eastleigh Transport Strategy and Action Plan to promote measures beneficial for local air quality.
- Develop closer working ties with Public Health colleagues on work promoting the impact of air quality to health, carry on working on Solid Fuel Burning Engagement and participate in Clean Air Night 2023.

- Further consider if research on possible locations to relocate continuous monitor equipment at Steele Close is needed.
- Carry on monitoring using passive, indicative and reference methods of monitoring to investigate the current trend in air quality readings which could be impacted by the economic downturn reducing the local traffic. The traffic might increase in the future due to completion of M3 and M27 and other roadworks in the area.
- Retain a permanent member of staff responsible for air quality to continue the established line of work and develop further projects beneficial for local air quality.
- EV charging points - continue delivery and connection of electric vehicle charging points in accordance with the Council's Climate Change Action Plan.
- Car Club – increase the number of parking bays and car club locations within the Borough, including provision on the One Horton Heath development site, and increase the staff uptake of the car club scheme.
- Eastleigh Travel Hubs – work with Hampshire County Council will continue to install travel hubs with the ELAC (Eastleigh Central) area, these will include bike share facilities operated by Beryl bikes and car club vehicles operated by Co-Wheels.
- Anti Idling/Single Occupancy Campaigns – start looking for possible partners.

Eastleigh Borough Council worked to implement these measures in partnership with the following stakeholders during 2023:

- Other Eastleigh Borough Departments, Local Area Managers, Hampshire County Council, neighbouring councils and Highways England

The principal challenges and barriers to implementation that Eastleigh Borough Council anticipates facing are:

Funding and resourcing

Insufficient funding is a common barrier to implementation of any measure, therefore it is crucial to continue working with partners and stakeholders to engage them early on potential new projects and submit applications for joint funding.

An example of the resourcing challenge includes the co-wheels (electric) car club, which was planned for 2021 & 2022 but has been delayed and now new locations will be considered after the contract is renewed.

Similarly, measures BHH7 and ENV2 set out in [Table 2.2](#) were put on hold for the same reason.

In addition to the ongoing challenges described above, the continuing effects of the Covid-19 pandemic in the previous reporting year have contributed to slower progress with actions than expected. Issues included postponement or cancellation of planned events, reallocation of resources to pandemic response, external partners not operating as normal and certain activities not being possible during lockdown creating a delay in subsequent years. The impacts were far reaching, but where a measure has been particularly affected this has been noted in [Table 2.2](#).

The measures stated above and in [Table 2.2](#) will help to contribute towards compliance, and Eastleigh Borough Council does not anticipate further exceedances in the Eastleigh AQMA No.2 (M3) and High Street Botley AQMA during this AQAP period. These AQMAs are proposed to be revoked however while the large-scale highway projects in these areas are completed they might need to remain in place. The situation in Eastleigh AQMA No.1 (A335) and Hamble Lane Area AQMA is less clear and requires further confirmation of compliance.

The information and advice on the use of solid fuel burners through a joint project with neighbouring authorities will be carried out for at least another year.

Eastleigh Borough Council's priorities for the coming year are to install a continuous monitoring station in Hamble and complete installations of bike storage facilities in schools to promote active travel.

Eastleigh Borough Council worked to implement these measures in partnership with the following stakeholders during 2023:

- Winchester City Council,
- Southampton City Council,
- New Forest District Council
- University of Southampton,
- the Environment Centre (tEC),
- Sutrans

Progress on the following measures has been slower than expected due to lack of resources.

Eastleigh Borough Council anticipates that the measures stated above and in [Table 2.2](#) will achieve compliance in AQMAs 1&3.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
HS2.2	Work with HCC to include EBC schools in expansion of Facilitate at least three 'School Streets' events per year, organising temporary road closures outside schools	Traffic Management	Other	2020	2022	EBC / HCC	EBC / HCC	NO	Funded	< £10k	Planning	Reduced vehicle emissions	3 events held per year	HCC are planning a trial of these events for 3 schools in autumn 2021 but none in EBC have been selected. Following this it is hoped the scheme will be expanded across the county and EBC have registered interest in participating.	Started 2023 Still in progress In 2023 HCC concluded the School Streets trial and adopted a new School Street Policy in Feb 2024. HCC will support the introduction of school streets although the full costs of new sites is required to be funded by the school. Initially estimated completion year 2022.
CFH1.1	Move location of continuous monitoring station currently at Steele Close and upgrade equipment	Other	Other	2019	2022	EBC	EBC	NO	Funded	£10k - 50k	Planning	-	Site move completed	Supplier and quote for site move and new analysers arranged.	Difficulties securing landowners permission for relocation of site at Steele Close resulted in a delay. Considered as acceptable location for background monitoring.
TR4.4	Engage with companies running non-service buses (school buses, learner drivers, rail replacement etc.) to explore upgrade options	Vehicle Fleet Efficiency	Promoting Low Emission Public Transport	2021	2023	EBC / Bus Companies	Not Identified	NO	Not Funded	Not Identified	Planning	Reduced vehicle emissions	Increase proportion of buses classed as EURO VI or better to 100%	2024 start	This measure has been added in the latest update of the AQAP as a follow on from TR4.3. Timescale may be adjusted when finalised plan has been identified.
TR7	Increase availability of bicycle hire schemes	Promoting Travel Alternatives	Promotion of cycling	2020	2023	EBC / External Partners	EBC / External Partners / Transforming Cities	NO	Not Funded	< £10k	Planning	Reduced vehicle emissions	Increase availability of hire schemes	Started 2023 - Ongoing - funded for 3 yrs HCC have awarded contracts for a cycle hire scheme for the Eastleigh town area to Beryl as part of the travel hub project funded through the transforming cities fund are, with sites being installed in May/June 2024	Scheme arranged with Yo Bikes in 2019 aborted when they pulled out of the area in August 2019.
TR8	Consult on incentivising ownership of low emission vehicles through differential parking charges	Traffic Management	Emission based parking or permit charges	2020	2023	EBC	EBC	NO	Not Funded		Implementation	Reduced vehicle emissions	Consultation completed	The measure aims to consult on the introduction of such a scheme and following these plans will be made for any implementation. The draft is complete: https://www.eastleigh.gov.uk/media/13264/parkingstandards-spd-consultation-draft.pdf	
HS1.2	Increase uptake of air quality alert service to help people manage their health in relation to air pollution	Public Information	Other	2015	2023	EBC	EBC	NO	Not Funded		Planning	-	Increase number of alert subscriptions	The change of the supplier resulted in the different alerts available through the monitoring page	The previous comment included as potential to be included as part of measure HS1.3.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
HOU1.1	Update planning guidance to require EV charging in new developments	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2020	2023	EBC	EBC	NO	Funded		Planning	Reduced vehicle emissions	Updated planning SPD for air quality produced	Draft for Consultation for Parking Standards CPD was issued in July 2023, the final version taken to Cabinet for adoption in 2024	
HOU1.2	Update resident parking policies to incentivise low emission vehicles	Promoting Low Emission Transport	Priority parking for LEV's	2020	2023	EBC	EBC	NO	Funded		Planning	Reduced vehicle emissions	Parking policies updated	Draft for Consultation for Parking Standards CPD was issued in July 2023, the final version taken to Cabinet for adoption in 2024	
HOU1.3	Update planning guidance to require low NOx boilers to be installed in new developments	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2020	2023	EBC	EBC	NO	Funded		Planning	Reduced emissions from boilers	Updated planning SPD for air quality produced	-	Dependant on adoption of Local Plan
HOU1.4	Update planning guidance to require new developments to employ use of green infrastructure to mitigate air quality impacts	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2020	2023	EBC	EBC	NO	Funded		Planning	Reduced pollutant concentrations	Updated planning SPD for air quality produced	-	Draft for Consultation for Parking Standards CPD was issued in July 2023, the final version taken to Cabinet for adoption in 2024
HOU1.5	Update planning guidance to require new developments are well served with sustainable transport facilities, to include walking, cycling and public transport	Transport Planning and Infrastructure	Other	2020	2023	EBC	EBC	NO	Funded		Planning	Reduced vehicle emissions	Updated planning SPD for air quality produced	Delayed	To be considered in 2024
CFH1.2	Carry out focussed sampling exercises targeted at areas of local community concern	Other	Other	2020	2023	EBC	EBC	NO	Funded	< £10k	Planning	-	Better coverage of diffusion tube data and improved representation of exposure	Potential locations identified.	Due to progress to compliance of DT data across the existing monitoring location, previous consideration of relocation of passive methods deemed irrelevant to initiatives within the team. No further public concern received to act upon.
CFH4	Investigate expanding Co-Wheels electric vehicle locations to Chandler's Ford	Alternatives to private vehicle use	Car Clubs	2020	2023	EBC / External Partners	EBC / External Partners	NO	Not Funded	£10k - 50k	Planning	Reduced vehicle emissions	Add 1 new Co-Wheels location	not started yet - The new contract will enable LAC to pump prime new locations across the Borough	This will be dependent on local funding being available.
ELAC4.1	Explore options for maintaining elements of pedestrianisation in Eastleigh Town Centre	Traffic Management	Other	2021	2023	EBC / HCC	EBC	NO	Not Funded	£10k - 50k	Planning	Reduced vehicle emissions	Ongoing scheme for management of High Street and Market Street adopted	Started 2023, in progress. The UKSPF project for Eastleigh Town Centre is now out to tender, with the deadline for submissions on the 23/6/24. The project will gather community and business feedback on pedestrianisation and, if sufficient support is secured, will include a trial event in 2025.	This measure has been added in the latest update of the AQAP as a follow on from ELAC4. Timescale may be adjusted when

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
															finalised plan has been identified.
ELAC7	Improve and extend the cycle network to include upgraded cycle routes and facilities in Eastleigh town centre	Transport Planning and Infrastructure	Cycle network	2021	2023	EBC / SCC / HCC / Developers / Transforming Cities	EBC / SCC / HCC / Developer Contributions / Transforming Cities Fund	NO	Funded	£1 million - £10 million	Implementation	Reduced vehicle emissions	Increase length of cycle path available Add publicly available charging points for electric bikes	Completed in 2023 - evaluation in 2024 The HCC Town Centre Cycle Route scheme is now complete and HCC are running engagement sessions to gather feedback on the scheme.	This measure has been added to cover Transforming Cities projects in Eastleigh.
ELAC8	Create two mobility hubs to offer multi-modal transport options and facilities at key locations in Eastleigh	Promoting Low Emission Transport	Other	2021	2023	EBC / SCC / HCC	EBC / SCC / HCC / Developer Contributions / Transforming Cities Fund	NO	Funded	£1 million - £10 million	Implementation	Reduced vehicle emissions	Mobility hubs completed	Started 2023 - in progress, delivery to be in 2024. HCC have commissioned Beryl Bikes to deliver 10 cycle hubs across the Eastleigh town area, 3 of which will be located on EBC land. The bikes will be available to the public in May / June 2024.	This measure has been added to cover Transforming Cities projects in Eastleigh.
HEWEB1	Investigate expanding Co-Wheels electric vehicle locations to Botley	Alternatives to private vehicle use	Car Clubs	2020	2023	EBC / External Partners	EBC / External Partners	NO	Not Funded	£10k - 50k	Planning	Reduced vehicle emissions	Add 1 new Co-Wheels location	not started yet - The new contract will enable LAC to pump prime new locations across the Borough	This will be dependent on local funding being available.
HEWEB3	Delivery of Botley Bypass scheme	Transport Planning and Infrastructure	Other	2012	2023	HCC	HCC	NO	Funded	> £10 million	Implementation	Reduced vehicle emissions	Completion of bypass	Work on delivering this scheme is ongoing by HCC. HCC leading - delivery in 2027/2028	-
BHH1.1	Install new continuous analyser to monitor NO2 in the AQMA	Other	Other	2020	2023	EBC	EBC	NO	Funded	£10k - 50k	Implementation	-	New site installed	The monitoring locations reviewed. Installation cost verified.	Under development 2024/25.
BHH5	Investigate expanding Co-Wheels electric vehicle locations to the local area	Alternatives to private vehicle use	Car Clubs	2020	2023	EBC / External Partners	EBC / External Partners	NO	Not Funded	£10k - 50k	Planning	Reduced vehicle emissions	Add 1 new Co-Wheels location	not started yet - The new contract will enable LAC to pump prime new locations across the Borough	This will be dependent on local funding being available.
HS3	Provide information and advice on the use of solid fuel burners through joint project with neighbouring authorities	Public Information	Other	2020	2024	EBC / SCC / NFDC / WCC	DEFRA AQ Grant 2019-20	YES	Funded	£100k - £500k	Implementation	Reduced emissions from burning	Project completed and findings reported to DEFRA	Communications campaign in progress, involving regular promotion of messages across a range of platforms and in conjunction with partner authorities to provide consistency for residents across a wider area. The University of Southampton contributing to data analysis for further facilitation of messages	-
ENV1.1	Monitor pollutant concentrations within AQMAs and across the Borough, including NO2 and PM	Other	Other	2010	2025	EBC	EBC / Developer Contributions / DEFRA AQ Grant 2010-11	YES	Funded	£10k - 50k	Implementation	-	>85% data capture for each calendar year	Monitoring ongoing, both with automatic analysers and diffusion tubes. See Section 3 for details and results.	Data available at www.eastleigh.my-air.uk
ENV2	Work in partnership with other Councils and key groups	Policy Guidance and Development Control	Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduce emissions and improve air quality	2012	2025	EBC / other Hampshire authorities	EBC	NO	Funded		Implementation	-	Attend 4 meetings per year of the Hampshire Air Quality sub-group	20 July 2023 UoS & Local Authority Air Quality Workshop, agreement on further actions and research lead to data processing for small sensors analysers installed for Wood burning project across 4 LAs	

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
ENV3	Promote the use of electric vehicles by investigating incentives and developing a network of publicly available electric vehicle charge points across the Borough in both public and business locations	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2012	2025	EBC / HCC / External Partners / Developers	EBC / HCC / OLEV / External Partners / Developer Contributions	NO	Partially Funded	£50k - £100k	Implementation	Reduced vehicle emissions	Increase number of publicly available EV charging points Collect data on total number of kWh used	Several EV charging points installed https://www.eastleigh.gov.uk/parking-travel-and-roads/parking/electric-vehicle-charging-points Additional 28 changepoints https://www.hants.gov.uk/transport/electric-vehicles/pilot-schemes/eastleigh	-
TR2.1	Continue to improve and extend the walking network in line with the new walking and cycling strategy, including running pedestrianisation events	Promoting Travel Alternatives	Promotion of walking	2012	2025	EBC / HCC / Developers	EBC / HCC / Developer Contributions / Reopening High Streets Safely Fund	NO	Partially Funded	£10k - 50k	Implementation	Reduced vehicle emissions	Increase number of pedestrian improvement schemes completed	Started 2023, in progress. The UKSPF project for Eastleigh Town Centre is now out to tender, with the deadline for submissions on the 23/6/24.	The project will gather community and business feedback on pedestrianisation and, if sufficient support is secured, will include a trial event in 2025.
TR2.2	Improve and extend the cycle network in line with the new walking and cycling strategy, including: - maintenance of existing cycle paths - addition of new cycle routes - promotion of electric bicycles	Transport Planning and Infrastructure	Cycle network	2012	2025	EBC / SCC / HCC / Developers / Transforming Cities	EBC / SCC / HCC / Developer Contributions / Transforming Cities Fund	NO	Partially Funded	£1 million - £10 million	Implementation	Reduced vehicle emissions	Increase length of cycle path available Add publicly available charging points for electric bikes	Completed in 2023 - evaluation in 2024 The HCC Town Centre Cycle Route scheme is now complete and HCC are running engagement sessions to gather feedback on the scheme.	-
TR3	Run campaigns aimed at reducing vehicle emissions, including: - reducing the number of single occupancy cars - reducing idling of stationary vehicles	Public Information	Other	2020	2025	EBC	EBC	NO	Not Funded	£10k - 50k	Planning	Reduced vehicle emissions	Run 2 campaigns Increase number of people engaged		The events facilitated by Sustrans project is a contribution. Additional events could be run
TR5.2	Implement a requirement for taxis to meet specified EURO standards in order to be licensed in EBC	Promoting Low Emission Transport	Taxi Licensing conditions	2020	2025	EBC / SCC	EBC	NO	Not Funded		Planning	Reduced vehicle emissions	100% of taxis meet specified EURO standards	Licencing conditions changed so that as of 01/01/2022 new diesel vehicles will not be licenced unless they are of EURO VI standard.	This measure will follow TR5.1 and is planned for implementation in 2025.
TR6	Promote and expand car clubs	Alternatives to private vehicle use	Car Clubs	2020	2025	EBC / External Partners	EBC / Developer Contributions	NO	Not Funded		Planning	Reduced vehicle emissions	Increase number of car club locations to 6	Only started in ELAC (Measure ELAC8). not started yet (see BHH5, CFH4 and HEWEB1) - The new contract will enable LAC to pump prime new locations across the Borough but this will be dependent on local funding being available.	-
TR10	Engage with HCC and HE on their highways improvements	Traffic Management	UTC, Congestion management,	2012	2025	HCC / HE	EBC / HCC / HE	NO	Funded		Implementation	Reduced vehicle emissions	2 meetings per year with	HCC Eastleigh Movement Strategy Engagement Event	Other events and meetings attended by Sustainable Transport Planner

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
	schemes, such as the SMART motorways project, to ensure they support our work on air quality		traffic reduction										highways authorities		and Pollution Team Manger (e.g. Southampton Airport planning meetings)
HS1.3	Run regular public awareness campaigns to provide information and advice, and to promote services available	Public Information	Other	2012	2025	EBC	EBC	NO	Not Funded		Planning	-	Campaigns run annually	Publication on Clean Air Night plans discussed as part of Hants AQ sub-group (see measure ENV2).	Affected by lack of resource.
HS1.4	Integrate AQ into our Health & Wellbeing engagement campaigns	Public Information	Via the Internet	2020	2025	EBC	EBC	NO	Not Funded		Planning	-	Increase number of people reached by campaigns	Sustrans project included diffusion tube monitoring. tEC (part of wood burning project) is planning an event in 2024 in Eastleigh Southern Parishes Network	
HS1.5	Work with local health professionals, health awareness groups and social prescribers to disseminate air quality information, particularly about airAlert	Public Information	Other	2020	2025	EBC	EBC	NO	Not Funded		Planning	-	Increase number of people reached Increase the number of airAlert subscriptions	More likely no be aborted due to change of provider where similar service available through uBreathe Eastleigh Borough Council - Air Quality monitoring service (airqualityengland.co.uk)	Due to a change of provider, this option was changed to uBreathe option available through the automatic monitoring page
HS2.1	Annually engage with schools in the borough for travel planning and to run clean air campaigns and local monitoring exercises	Promoting Travel Alternatives	School Travel Plans	2015	2025	EBC / SCC	EBC / SCC / Access Fund	NO	Funded	£10k - 50k	Implementation	Reduced vehicle emissions	Increase number of schools participating per year	Schools work includes online resources and competitions for schools, linked to Clean Air Day in June 2021. Promotion of active travel in schools also ongoing, particularly at 'feeder' schools for the new Deer Park Secondary. Following the end of the Access Funding schools work decreased, with HCC travel planning staff still running clean air projects but these are not currently focussed in any Eastleigh schools. EBC entered a bid to the DEFRA Air Quality Fund in October 2021, applying for funding to carry out projects specifically in Eastleigh schools.	Affected by pandemic-related school closures.
EC1.1	Update the EBC travel plan annually	Promoting Travel Alternatives	Workplace Travel Planning	2020	2025	EBC	EBC	NO	Funded		Implementation	Reduced vehicle emissions	Annual travel survey completed and plan updated	EBC TP last updated in 2023	
EC1.4	Upgrade EBC's internal fleet to low emissions vehicles	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	2020	2025	EBC	EBC / Low Emission Grant	NO	Partially Funded	£500k - £1 million	Implementation	Reduced vehicle emissions	Increase proportion of fleet made up of LEVs	An electric road sweeper and RCV are being trialled with the aim of phasing into the fleet as part of the vehicle replacement programme. Over 50 petrol powered hand held tools have been replaced with electric models saving over 1600L of fuel in six months.	-
EC2.1	Engage with businesses in the borough to do travel planning	Promoting Travel Alternatives	Workplace Travel Planning	2012	2025	EBC / SCC / Local Businesses	Developer Contributions	NO	Partially Funded	£10k - 50k	Planning	Reduced vehicle emissions	Increase number of businesses engaged with Appointment		Recruitment of staff has been put on hold whilst a review of all S106 funds held by EBC is carried out.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
													of new Travel Planner post		
EC2.2	Investigate adopting and promoting the ECO Stars Fleet Recognition Scheme to encourage local businesses to upgrade LGV fleets	Vehicle Fleet Efficiency	Fleet efficiency and recognition schemes	2020	2025	EBC	EBC	NO	Not Funded	£50k - £100k	Planning	Reduced vehicle emissions	Increase number of businesses with ECO Stars accreditation	-	Planned for 2024.
EC2.3	Work with local businesses to encourage use of last mile electric scheme	Freight and Delivery Management	Other	2020	2025	EBC / External Partners / Local Businesses / E-Cargo Bike Grant Fund	EBC	NO	Partially Funded	£10k - 50k	Implementation	Reduced vehicle emissions	Number of businesses using a 'last mile' scheme		SCC have continued to engage with businesses in the Eastleigh area, however uptake has reduced since EBC funding was withdrawn.
EC3	Support and encourage businesses to adopt flexible working practices	Promoting Travel Alternatives	Encourage / Facilitate home-working	2012	2025	EBC / Local Businesses	EBC	NO	Not Funded		Planning	Reduced vehicle emissions	Increase number of businesses engaged with	-	Due to resourcing issues this measures will be removed.
EC4	Work with Southampton Airport to minimise the impact of their ground operations on air quality	Promoting Low Emission Transport	Other	2020	2025	EBC / Southampton Airport	EBC	NO	Funded		Implementation	Reduced vehicle emissions	Updated surface access strategy in place		The Airport have adopted their surface access strategy (their travel plan for the site) and are delivering a number of travel plan measures. The airport will be carrying out TRICS monitoring of the site. At present the number of passengers travelling through the airport is significantly lower than pre pandemic levels.
CFH3	Consider potential locations and funding sources to install electric vehicle charging points	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2020	2025	EBC / External Partners / Developers	EBC / External Partners / Developers	NO	Not Funded	£10k - 50k	Planning	Reduced vehicle emissions	Increase number of available EV charging points	-	
ELAC6	Continue to seek approval and funding for the Chickenhall Lane Link Road	Transport Planning and Infrastructure	Other	2015	2025	EBC / HCC	Not Identified	NO	Not Funded	> £10 million	Planning	Reduced vehicle emissions	Delivery of link road	-	Long term aspiration.

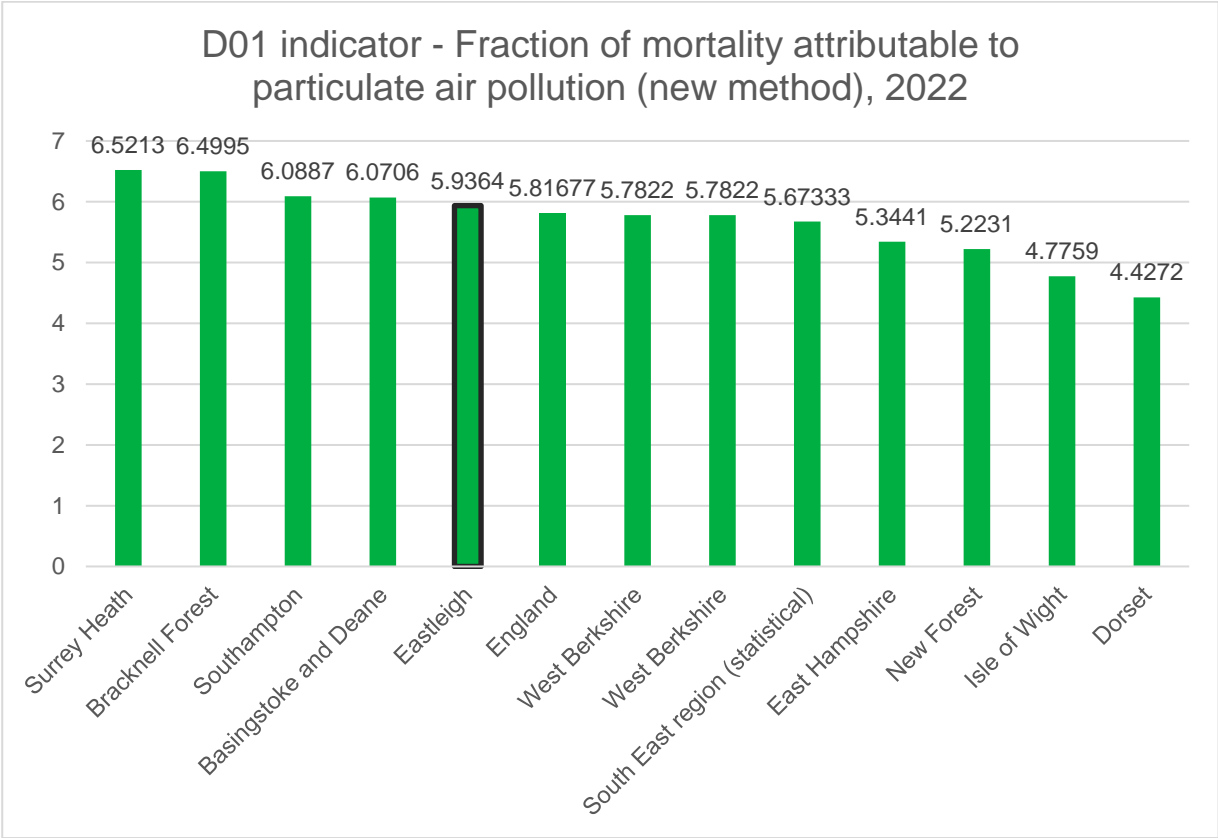
Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
BIFOHH1	Improve traffic flow and increase facilities for active travel along Bishopstoke Road	Transport Planning and Infrastructure	Other	2019	2025	EBC / HCC	EBC / HCC / Transforming Cities / New Homes Bonus	NO	Funded	£1 million - £10 million	Planning	Reduced vehicle emissions	Bus priority scheme in place		The TCF funding window has expired for this scheme, HCC have been given special dispensation to move the funds into the capital works programme. The scheme is still in design and will be subject to a planning application. Delivery is expected in either 2004/25 or 2025/26.
BIFOHH2	Consider potential locations and funding sources to install electric vehicle charging points	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2020	2025	EBC / External Partners / Developers	EBC / External Partners / Developers	NO	Not Funded	£10k - 50k	Planning	Reduced vehicle emissions	Increase number of available EV charging points	-	-
BIFOHH3	Use the development at Horton Heath as an opportunity to promote sustainable practices	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2019	2025	EBC	EBC	NO	Funded		Implementation	Reduced vehicle emissions	Maximise sustainable initiatives implemented in development		Advice has been provided to the OHH team through pre app discussions and via feedback on the latest planning applications. Provision for people who walk and cycle are improving as a result.
HEWEB2	Consider potential locations and funding sources to install electric vehicle charging points	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2020	2025	EBC / External Partners / Developers	EBC / External Partners / Developers	NO	Not Funded	£10k - 50k	Planning	Reduced vehicle emissions	Increase number of available EV charging points	100 kW charge point installed in Mortimer Road car park	
HEWEB4	Following completion of Botley Bypass, reduce HGVs using High Street	Traffic Management	Strategic highway improvements, Re-prioritising road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	2012	2025	EBC / HCC	EBC / HCC	NO	Not Funded		Planning	Reduced vehicle emissions	Reduce number of HGVs using Botley High Street	Awaiting completion of Botley Bypass.	Requires completion of measure HEWEB3.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
BHH3	Liaise with neighbouring authorities on their activities on the A27	Policy Guidance and Development Control	Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduce emissions and improve air quality	2020	2025	EBC / FBC / SCC	EBC / FBC / SCC	NO	Funded		Planning	-	Information sharing	-	-
BHH6	Engage with HCC on the Hamble Lane improvement scheme to ensure it supports our objectives	Traffic Management	UTC, Congestion management, traffic reduction	2012	2025	HCC	EBC / HCC	NO	Not Funded		Implementation	Reduced vehicle emissions	Completion of scheme	-	Affected by lack of resource due to pandemic response. Scheme is on hold while funding is identified.
BHH7	Engage with HE on the M3 Junction 8 / Windhover Roundabout improvements to ensure our objectives are supported	Traffic Management	UTC, Congestion management, traffic reduction	2012	2025	HE	EBC / HE	NO	Funded		Implementation	Reduced vehicle emissions	Completion of scheme	2023 update: the HE compulsory purchase was dismissed by the inspector and the scheme is currently on hold while NH consider alternative flood mitigation options. National Highways are still assessing the financial viability of the scheme. EBC provided feedback to support this process highlighting the level of development in the surrounding area that has been permitted under the assumption that the scheme is committed.	Affected by lack of resources.
BHH8	Consider potential locations and funding sources to install electric vehicle charging points	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2020	2025	EBC / External Partners / Developers	EBC / External Partners / Developers	NO	Not Funded	£10k - 50k	Planning	Reduced vehicle emissions	Increase number of available EV charging points	22kW charge points installed at New Road car park, Netley and 75kW at Hamble Square.	
BHH9	Improve air circulation along Hamble Lane and the A27 through the management of trees	Other	Other	2020	2025	EBC / HCC	EBC / HCC	NO	Not Funded		Planning	Reduced pollutant concentrations	Completion of scheme	Overall progress achieved through fleet evolution and diurnal pattern change (WFH option)	Planned for 2024.
TR4.1	Work in partnership with bus companies to: - improve routes and services - increase patronage - develop a multi-operator ticketing system	Transport Planning and Infrastructure	Bus route improvements	2012	2026	EBC / HCC / Bus Service Operators Grant / Bus Companies / Transforming Cities	EBC / HCC	NO	Partially Funded	£1 million - £10 million	Implementation	Reduced vehicle emissions	Maintain number of supported services Increase bus patronage	Transforming Cities funding received March 2020 includes provision of bus infrastructure, see measures BIFOHH1 and ELAC7 for more details.	Started 2023 HCC have sought permission from DfT to move the Bishopstoke Road scheme and TCF grant into the capital works programme, delivery is now expected to commence in 2025/26. Initial completion year 2022

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 Strategy¹⁶, 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.

The Public Health Outcomes Framework¹⁷ contains the indicator ‘D01 – Fraction of mortality attributable to particulate air pollution’. For Eastleigh the most recent available summary for this indicator was 2022 and is slightly below the indicator estimated within nearby cities of Portsmouth and Southampton and slightly higher than nearby New Forest, West Berkshire, East Hampshire, South East region and whole of England (see below).



¹⁶ Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

¹⁷ [Public Health Outcomes Framework - OHID \(phe.org.uk\)](https://www.phe.org.uk/public-health-outcomes-framework)

Eastleigh Borough Council is taking the following measures to address PM_{2.5}:

- The Council established particulates monitoring in Southampton road in February 2020, which includes PM_{2.5} in addition to PM₁₀. This was detailed in measures ENV1.3 and ELAC1 (now completed) in Table 2.2. Due to instrument issues at the station in 2021 and the data capture in 2022 which for PM_{2.5} was low (19.8%) and below what is required for an annualisation minimum of 25%, the data is excluded from reporting.
- Measure HS3, see Table 2.2, is targeted specifically at solid fuel burning as the biggest source of PM_{2.5} and aims directly to reduce emissions of this pollutant. See the Section ‘Progress and Impact of Measures to address Air Quality in ’ for more information on this project.
- The majority of measures in the Action Plan are targeted at vehicle emissions which is the main source of NO₂, the pollutant which is the basis for all the Borough’s AQMA declarations. However, these measures will also contribute to the reduction of PM_{2.5} which is also emitted by road transport. Those listed in Table 2-3 are expected to reduce PM_{2.5} emissions, as specified by the Technical Guidance LAQM TG22 action toolbox.
- In addition, any work based around reducing exposure to air pollution will have a positive influence on public health, including reducing effects associated with PM_{2.5}. Example measures from Table 2.2.

There are no Smoke Control Areas in the borough.

Table 2-3: Measures which are expected to contribute towards reduction of PM_{2.5} emissions

Group	Measure No.	Measure Summary
Environment	ENV3	Promote the use of electric vehicles
Transport	TR2.1	Improve and extend the walking network
	TR2.2	Improve and extend the cycle network
	TR4.1	Improve bus services
	TR4.2	Improve rail services
	TR4.3	<i>Low emission buses (completed)</i>
	TR5.1	Low emission taxis
	TR5.2	Taxi licensing conditions
	TR6	Promote and expand car club
	TR7	Bicycle hire schemes

Group	Measure No.	Measure Summary
	TR9	<i>Use of low cost sensors for traffic improvements for future road designs (completed in 2021)</i>
	TR10	Highways improvement schemes
Health & Social Policy	HS2.1	School travel planning
Housing	HOU1.2	Resident parking policies
Economy & Regeneration	EC1.1	EBC travel planning
	EC1.4	Upgrade EBC fleet to low emission vehicles
	EC2.1	Workplace travel planning
	EC2.2	ECO Stars fleet recognition scheme
	EC3	Support and encourage flexible working
Local Area: Chandler's Ford & Hiltlingbury	CFH3	Electric vehicle charging points
	CFH4	Expand car club locations
Local Area: Eastleigh	ELAC5	Electric vehicle charging points - complete
Local Area: Bishopstoke, Fair Oak & Horton Heath	BIFOHH2	Electric vehicle charging points
Local Area: Hedge End, West End & Botley	HEWEB1	Expand car club locations
	HEWEB2	Electric vehicle charging points
Local Area: Bursledon, Hamble-le-Rice & Hound	BHH4.1	Railway station improvements - completed
	BHH5	Expand car club locations
	BHH6	Hamble Lane highways improvements
	BHH7	Junction 8 / Windhover highways improvements
	BHH8	Electric vehicle charging points

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

This section sets out the monitoring undertaken in 2023 by Eastleigh Borough Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2019 and 2023 to allow monitoring trends to be identified and discussed.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Eastleigh Borough Council undertook automatic (continuous) monitoring at 3 sites during 2023. Table A.1 in Appendix A shows the details of the automatic monitoring sites. The [Eastleigh Borough Council - Air Quality monitoring service \(airqualityengland.co.uk\)](https://airqualityengland.co.uk) page presents automatic monitoring results for Eastleigh Borough Council, with automatic monitoring results also available through the UK-Air website.

Maps showing the location of the monitoring sites 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

Eastleigh Borough Council undertook non-automatic (i.e. passive) monitoring of NO₂ at 54 sites during 2023. Table A.2 in Appendix A presents the details of the non-automatic sites.

Maps showing the location of the monitoring sites are provided in Appendix D: Map(s) of Monitoring Locations and AQMAs. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes (DT), 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 (NO₂)

Table A.3 and Table A.4 in Appendix A compare the ratified and adjusted monitored NO₂ annual mean concentrations for the past five years with the air quality objective of 40µg/m³. 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).

For diffusion tubes, the full 2023 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

The annual mean objective was not exceeded at any monitoring locations in the Borough during 2023.

Concentrations and trends at key monitoring locations within each AQMA are discussed in turn below with supporting data and figures in Appendix A: Monitoring Results. To assess long-term trends, the focus has been on sites with more than 5 years of data available and it is recognised that some annual fluctuations will be caused by factors such as meteorological conditions. When considering the 2023 results in this context they have been compared to the average concentration measured at the site over the previous years. Some analysis has also been done looking at the rate of change in measured levels to estimate the significance of trends. Overall, there was a sharp drop in concentrations between pre- and post-pandemic years and specifically 2019 and 2023 results.

Eastleigh AQMA No.1 (A335) – see Figure A.1

In this AQMA, all monitored sites demonstrated a substantial decrease in measured concentrations for 2023 compared to pre-pandemic levels in 2019. Over a five-year period, there was a significant drop and, in some instances, such as at Leigh Road/Pluto Road, concentrations decreased by 36.3%, which demonstrated a similarly significant reduction

with 5 and 3-year averages of 24.4% and 15.3% respectively. The three-year trend across this AQMA is less apparent at some locations within this AQMA. Specifically, at Southampton Road 1 demonstrated only 0.4% decrease when compared with 3-year annual averages Table 3-1. This location also demonstrated the least reduction when compared with 5-year averages.

Table 3-1: 5-year trend and comparison within AQMA 1

Site Name	Monitoring	Site Type	2019	2020	2021	2022	2023	3-year (2021-23) Average	2023 and 2019 difference, %	A comparison between 2023 and 3&5-year average	
			µg/m ³						%		
Bishopstoke Road 2	DT	Roadside	31.3	26.8	26.6	27.2	24.7	26.2	-21.1	-5.9	-10.6
Leigh Road / J13			39.0	30.7	32.5	32.9	29.6	31.7	-24.2	-7.0	-11.3
Leigh Road / Pluto Road			31.6	23.9	24.8	24.6	20.1	23.2	-36.3	-15.3	-24.4
Southampton Road 1			43.6	33.1	28.9	36.3	32.4	32.6	-25.5	-0.4	-7.5
SR2-Southampton Road 2			37.6	31.7	36.1	34.2	30.6	33.6	-18.6	-9.8	-11.2
SRAN(17)(A), SRAN(17)(B), SRAN(17)(C)-Southampton Road Analyser (A)(B)(C)			36.6	29.4	33.1	28.9	26.7	29.5	-27.2	-10.8	-16.0
TP(A), TP(B), TP(C)-The Point (A)(B)(C)			22.9	18.6	20.3	19.7	17.4	19.2	-23.8	-9.9	-13.5
ES1, Southampton Road, continuous	Continuous		34.1	26.3	-	28.2	25.7	26.9	-24.7	-4.9	-11.2
ES3, The Point, continuous		25.6	20.0	22.6	19.2	19.1	20.3	-25.4	-6.4	-11.6	
Bournemouth	AURN	Urban Traffic	11.3	9.4	10.0	9.9	8.7	9.5	-23.2	-10.0	-13.7
Portsmouth			17.2	16.9	13.8	14.6	13.5	13.9	-21.9	-3.4	-12.7
Reading New Town			24.1	15.3	19.6	25.8	13.7	19.7	-43.4	-44.1	-44.2
Southampton Centre			27.5	22.5	25.3	23.7	22.4	23.8	-18.5	-6.1	-8.3

These results align with the prevailing downward trend observed in the Air Quality Management Area (AQMA) and magnified by the unique circumstances of 2020.

This AQMA can be considered for revocation if compliance is confirmed by next year's results.

Eastleigh AQMA No.2 (M3) – see Figure A.2

All sites in this AQMA also showed a significant drop in measured concentrations when compared to average levels over the previous years. The greatest reduction demonstrated between 2019 and 2023 of 36.5% at Dove Dale and the comparatively smallest reduction of 24.2% at Sparrow Square.

2023 ASR appraisal recommended to revoke this AQMA despite the M3 Smart Motorway work being incomplete. The revocation is being proposed for assessment with the stakeholders.

Table 3-2: 5-year trend and comparison within AQMA 2

Site Name	Monitoring	Site Type	2019	2020	2021	2022	2023	3-year (2021-23) average	2023 and 2019 difference, %			
			µg/m ³						%			
Dove Dale (A), DT	DT	Urban Background	24.4	20.8	20.1	18.6	16.5	20.1	-36.6	-11.3	-21.4	
Medina Close, DT			26.0	22.0	22.7	20.6	16.5	21.5	-34.5	-20.7	-30.6	
Porteous Crescent (A), DT			24.4	19.4	20.1	18.8	16.0	19.7	-35.8	-14.4	-23.5	
Sparrow Square, DT			24.0	17.8	19.5	18.1	15.4	19.0	-24.2	-14.7	-23.1	

Hamble Lane Area AQMA No.3 – see Figure A.3

Table 3-3: 5-year trend and comparison within AQMA 3

Site Name	Monitoring	Site Type	2019	2020	2021	2022	2023	3-year (2021-23) average	2023 and 2019 difference, %			
			µg/m ³						%			
Hamble Lane	DT	Roadside	29.9	25.8	25.0	24.5	23.8	24.4	-20.6	-2.8	-8.6	
Hamble Lane 2			38.2	29.6	33.6	32.4	29.5	31.8	-22.9	-8.0	-10.8	
Oak Hill			38.3	29.4	30.8	30.6	27.1	29.5	-29.2	-8.6	-15.1	
Oak Hill 2			48.4	39.7	41.5	38.6	33.7	37.9	-30.4	-12.6	-19.9	
Providence Hill 2			51.6	35.7	40.1	37.5	29.6	35.7	-42.6	-20.6	-31.3	

A decline in concentration levels (Table 3-3) was observed across all monitoring sites compared to the pre-pandemic period. The data illustrated in Appendix A: Monitoring Results shows a reduction and an evident downward trend in nitrogen dioxide concentrations within this AQMA. As presented below, 2023 concentrations are lower than in previous years and also when compared with 3 and 5-year averages. The most significant reduction in comparison to the pre-pandemic year was observed at Providence Hill 2, with a 42.6% reduction, which previously demonstrated the highest annual average concentration across the AQMA. The Hamble Lane location exhibited the smallest reduction at 20.6% compared to 2019. All sites showed reductions in annual average

concentrations when compared to 3- and 5-year averages. We will continue to review the trend to suggest the revocation of the AQMA.

High Street Botley AQMA – see Figure A.4

In the High Street Botley AQMA both sites showed a drop in measured concentrations in 2023 (Due to long-term compliance, this AQMA is proposed for revocation.

Table 3-4) when compared to average levels over the three and five-year period. The DT monitoring demonstrated a more evident downward trend in nitrogen dioxide concentration when compared with 5-year averages. Due to long-term compliance, this AQMA is proposed for revocation.

Table 3-4: 5-year trend and comparison within AQMA 4

Site Name	Monitoring	Site Type	2019	2020	2021	2022	2023	3-year (2021-23) Average	2023 and 2019 difference, %	A comparison between 2023 and 3&5-year average	
			µg/m ³						%		
High Street Botley, DT	DT	Roadside	31.2	26.4	28.6	28.4	25.8	27.6	-17.1	-7.0	-8.7
High Street Botley 2 (A), DT			28.5	22.6	24.7	25.3	22.6	24.2	-20.4	-7.0	-9.4

Table A.5 in Appendix A compares the ratified continuous monitored NO₂ hourly mean concentrations for the past five years with the air quality objective of 200µg/m³, not to be exceeded more than 18 times per year. No short-term (1-hour) exceedances were recorded.

3.2.2 Particulate Matter (PM₁₀)

Table A.6 in Appendix A: Monitoring Results compares the ratified and adjusted monitored PM₁₀ annual mean concentrations for the past five years with the air quality objective of 40µg/m³.

Table A.7 in Appendix A compares the ratified continuous monitored PM₁₀ daily mean concentrations for the past five years with the air quality objective of 50µg/m³, not to be exceeded more than 35 times per year.

3.2.3 Particulate Matter (PM_{2.5})

Table A.8 in Appendix A presents the ratified and adjusted monitored PM_{2.5} annual mean concentrations for the past five years.

The instrument was installed in 2020 at Southampton Road analyser, when the data became available. Since then in 2021 there was a technical fault that carried over to 2022, resulting in poor data capture for representation in the report. At the same time, there is a clear reduction in PM_{2.5} concentrations between 2020 and 2023 once the data capture improved.

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?	Monitoring Technique	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Inlet Height (m)
ES1	Southampton Road	Roadside	445495	118237	NO ₂ , PM ₁₀ , PM _{2.5}	YES (Eastleigh AQMA No.1 (A335))	Chemiluminescent; Optical	17.6	2	1.9
ES2	Steele Close	Urban Background	443959	119673	NO ₂	NO	Chemiluminescent	16.0	2.4	2.2
ES3	The Point	Roadside	445310	119148	NO ₂	YES (Eastleigh AQMA No.1 (A335))	Chemiluminescent	42.8	8.2	3.6

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.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)
AL	Allington Lane	Roadside	445908	115544	NO ₂	No	55.7	2.6	No	2.4
AR	Ashdown Road	Urban Background	443291	122842	NO ₂	No	9.6	1.3	No	1.5
BDG	Bridge Road	Roadside	449099	109864	NO ₂	Yes, Hamble Lane AQMA (3)	2.2	1.7	No	2.5
BDG2	Bridge Road 2	Roadside	448914	110033	NO ₂	Yes, Hamble Lane AQMA (3)	32.2	1.1	No	2.3
BEL	Belmont Road	Urban Background	443778	119303	NO ₂	Yes, M3 AQMA (2)	10.7	2.1	No	2.2
BOT	Botley Road	Roadside	449634	117382	NO ₂	No	4.5	1.9	No	2.4
BR	Bishopstoke Road	Roadside	446604	119149	NO ₂	No	11.5	1.8	No	2.4
BR2	Bishopstoke Road 2	Roadside	446051	119171	NO ₂	No	0.3	2.2	No	2.1
CA(15)	Chestnut Avenue (15)	Roadside	445339	118111	NO ₂	No	3.8	2.7	No	2.4
CC	Chestnut Close	Roadside	443054	118962	NO ₂	No	9.9	1.5	No	2.1
CR	Campbell Road	Industrial	445750	118111	NO ₂	No	12.9	2.2	No	2.1
CR3	Campbell Road 3	Industrial	446117	117846	NO ₂	No	2.7	2.7	No	2.2
CR4	Campbell Road 4	Industrial	445841	118086	NO ₂	No	19.0	0.5	No	1.9
DD(A)	Dove Dale (A)	Urban Background	443559	118751	NO ₂	Yes, M3 AQMA (2)	7.7	2.9	No	2.7
FOR	Fair Oak Road	Roadside	447427	118780	NO ₂	No	5.8	5.6	No	2.5

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
FORSL	Fair Oak Road / Sandy Lane	Roadside	448788	118553	NO ₂	No	33.0	1.0	No	1.5
GR	Grange Road	Roadside	449867	113250	NO ₂	No	10.0	1.7	No	2.5
HCF	Hound Corner Fruit Farm	Roadside	447378	108836	NO ₂	No	86.8	0.6	No	2.2
HG	Hadleigh Gardens	Urban Background	445347	120367	NO ₂	No	5.9	1.9	No	2.7
HL	Hamble Lane	Roadside	447717	110359	NO ₂	Yes, Hamble Lane AQMA (3)	38.0	1.7	No	2.3
HL2	Hamble Lane 2	Roadside	447745	110478	NO ₂	Yes, Hamble Lane AQMA (3)	9.9	1.4	No	2.3
HL4	Hamble Lane 4	Roadside	447357	108543	NO ₂	No	25.0	3.0	No	2.2
HPO	Hound Parish Office	Roadside	445715	108448	NO ₂	No	0.0	6.0	No	2.2
HPS	Hamble Primary School	Roadside	447430	107552	NO ₂	No	60.0	0.6	No	2.1
HSB	High Street Botley	Roadside	451431	113025	NO ₂	Yes, High Street Botley AQMA (4)	4.8	2.1	No	2.3
HSB2(A)	High Street Botley 2 (A)	Roadside	451184	113030	NO ₂	Yes, High Street Botley AQMA (4)	5.7	1.3	No	2.5
JW	Jukes Walk	Roadside	447690	114912	NO ₂	No	19.0	1.6	No	1.5
KCA(18)	Kings Copse Avenue (18)	Roadside	449935	113146	NO ₂	No	0.5	1.6	No	2.4

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
LR13	Leigh Road / J13	Roadside	443842	119526	NO ₂	Yes, Eastleigh AQMA (1)	7.5	1.7	No	2.5
LRPR	Leigh Road / Pluto Road (as replaced)	Roadside	444864	119174	NO ₂	Yes, Eastleigh AQMA (1)	7.3	1.7	No	2.2
MC	Medina Close	Urban Background	444239	120060	NO ₂	Yes, M3 AQMA (2)	7.6	1.5	No	1.5
MS	Mill Street	Roadside	445707	119619	NO ₂	No	2.1	1.5	No	2.8
NH	Nuffield Hospital	Urban Background	445121	122183	NO ₂	No	10.1	1.0	No	2.2
OH	Oak Hill	Roadside	448653	110280	NO ₂	Yes, Hamble Lane AQMA (3)	9.4	1.9	No	2.3
OH2	Oak Hill 2	Roadside	448736	110213	NO ₂	Yes, Hamble Lane AQMA (3)	4.6	1.2	No	2.3
OX	Oxburgh Close	Urban Background	444543	120187	NO ₂	No	11.4	1.9	No	2.3
PA	Passfield Avenue	Roadside	444340	118696	NO ₂	No	24.7	1.4	No	1.5
PAV	Pavilion Road	Roadside	450061	113452	NO ₂	No	12.8	2.0	No	1.9
PC	Porteous Crescent (A)	Urban Background	444656	120775	NO ₂	Yes, M3 AQMA (2)	13.8	1.0	No	2.5
PH1	Providence Hill 1	Roadside	448237	110610	NO ₂	Yes, Hamble Lane AQMA (3)	14.8	3.4	No	2.3

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
PH2	Providence Hill 2	Roadside	448330	110532	NO ₂	Yes, Hamble Lane AQMA (3)	2.9	2.4	No	2.3
PH3	Providence Hill 3	Roadside	448249	110627	NO ₂	Yes, Hamble Lane AQMA (3)	29.2	1.1	No	2.3
SC(A), SC(B), SC(C)	Steele Close (C)	Urban Background	443959	119673	NO ₂	No	16.0	2.1	Yes	2.0
SR1	Southampton Road 1	Roadside	445450	118144	NO ₂	Yes, Eastleigh AQMA (1)	4.3	2.0	No	2.0
SR2	Southampton Road 2	Roadside	445651	118634	NO ₂	Yes, Eastleigh AQMA (1)	5.2	1.7	No	2.4
SRAN(17)(A), SRAN(17)(B), SRAN(17)(C)	Southampton Road Analyser (17) (C)	Roadside	445495	118237	NO ₂	Yes, Eastleigh AQMA (1)	17.6	1.6	Yes	1.9
SSQ	Sparrow Square	Urban Background	443483	118612	NO ₂	Yes, M3 AQMA (2)	9.0	1.7	No	2.6
SWA	Swaythling Road	Roadside	446170	114603	NO ₂	No	4.1	2.7	No	2.4
TP(A), TP(B), TP(C)	The Point (C)	Roadside	445310	119148	NO ₂	Yes, Eastleigh AQMA (1)	42.8	8.1	No	2.3
TW	Twyford Road	Roadside	445739	119856	NO ₂	No	3.6	1.5	No	2.1
UNC	Upper Northam Close	Urban Background	448090	112635	NO ₂	No	12.9	2.5	No	2.2
WA	Woodside Avenue	Roadside	444483	119443	NO ₂	No	7.2	1.9	No	2.2

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
WSRB	Winchester Street Railway Bridge	Roadside	450815	114091	NO ₂	No	32.7	0.3	No	2.3
WYV	Wyvern School	Roadside	449577	118165	NO ₂	No	4.5	1.9	No	2.3

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 NO₂ Monitoring Results: Automatic Monitoring (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
ES1	445495	118237	Roadside	99.1	99.1	34.1	26.3	-	28.2	25.7
ES2	443959	119673	Urban Background	98.7	98.7	26.1	19.1	19.8	19.2	16.1*
ES3	445310	119148	Roadside	18.1	18.1	25.6	20.0	22.6	21.5	19.1

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 NO₂ 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 2023.

Notes:

The annual mean concentrations are presented as µg/m³.

Exceedances of the NO₂ annual mean objective of 40µg/m³ 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%).

*The data provided for monitored part of the year from 17/10/2023 to 3/01/2024.

Table A.4 – Annual Mean NO₂ Monitoring Results: Non-Automatic Monitoring (µg/m³)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
AL	445908	115544	Roadside	92.3	92.3	23.5	19.0	19.8	20.7	18.8
AR	443291	122842	Urban Background	100	100.0	10.2	8.0	8.1	8.0	6.6
BDG	449099	109864	Roadside	90.4	90.4	26.4	21.1	22.4	21.0	20.1
BDG2	448914	110033	Roadside	100	100.0	54.1	36.3	34.9	35.5	29.8
BEL	443778	119303	Urban Background	100	100.0	24.4	20.8	20.1	18.8	16.5
BOT	449634	117382	Roadside	92.3	92.3	31.9	27.6	28.0	27.3	23.9
BR	446604	119149	Roadside	90.4	90.4	33.8	29.6	29.0	30.5	25.4
BR2	446051	119171	Roadside	80.8	80.8	31.3	26.8	26.6	27.2	24.7
CA(15)	445339	118111	Roadside	100	100.0	23.9	21.5	21.3	20.9	18.4
CC	443054	118962	Roadside	100	100.0	28.0	21.6	21.7	23.3	20.2
CR	445750	118111	Industrial	100	100.0	32.3	32.2	27.3	30.3	29.6
CR3	446117	117846	Industrial	92.3	92.3		13.8	15.9	14.3	13.0
CR4	445841	118086	Industrial	100	100.0		19.6	19.3	20.9	19.8
DD(A)	443559	118751	Urban Background	75.0	75.0	26.0	22.0	22.7	20.6	16.5
FOR	447427	118780	Roadside	100	100.0	20.1	17.6	17.3	16.8	16.5
FORSL	448788	118553	Roadside	92.3	92.3	28.0	23.4	23.9	24.6	23.6
GR	449867	113250	Roadside	90.4	90.4	26.6	23.3	24.0	23.5	21.5
HCF	447378	108836	Roadside	82.7	82.7				25.4	23.5
HG	445347	120367	Urban Background	82.7	82.7	17.1	14.8	15.1	14.5	12.9
HL	447717	110359	Roadside	100	100.0	29.9	25.8	25.0	24.5	23.8
HL2	447745	110478	Roadside	100	100.0	39.2	38.2	29.6	33.6	29.5
HL4	447357	108543	Roadside	55.8	55.8		17.5	17.6	18.2	15.3
HPO	445715	108448	Roadside	100	100.0		14.8	16.1	16.2	17.1

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 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
HPS	447430	107552	Roadside	84.6	84.6		18.5	21.0	19.4	18.1
HSB	451431	113025	Roadside	100	100.0	31.2	26.4	28.6	28.4	25.8
HSB2(A)	451184	113030	Roadside	100	100.0	28.5	22.6	24.7	25.3	22.6
JW	447690	114912	Roadside	100	100.0	21.3	16.5	17.4	18.6	16.2
KCA(18)	449935	113146	Roadside	100	100.0	28.1	24.5	26.3	25.1	23.0
LR13	443842	119526	Roadside	100	100.0	39.0	30.7	32.5	32.9	29.6
LRPR	444864	119174	Roadside	92.3	92.3	31.6	23.9	24.8	24.6	20.1
MC	444239	120060	Urban Background	100	100.0	24.4	19.4	20.1	18.8	16.0
MS	445707	119619	Roadside	90.4	90.4	26.4	22.9	24.2	25.0	22.4
NH	445121	122183	Urban Background	100	100.0	26.0	22.9	30.8	30.6	15.3
OH	448653	110280	Roadside	92.3	92.3	38.3	29.4	30.8	30.6	27.1
OH2	448736	110213	Roadside	90.4	90.4	48.4	39.7	41.5	38.6	33.7
OX	444543	120187	Urban Background	100	100.0	18.6	15.8	15.3	13.9	12.1
PA	444340	118696	Roadside	92.3	92.3	26.1	21.0	22.1	21.5	20.3
PAV	450061	113452	Roadside	32.7	32.7				16.4	11.2
PC	444656	120775	Urban Background	100	100.0	24.0	17.8	19.5	18.1	15.4
PH1	448237	110610	Roadside	100	100.0	38.8	25.0	26.6	26.9	23.9
PH2	448330	110532	Roadside	92.3	92.3	51.6	35.7	40.1	37.5	29.6
PH3	448249	110627	Roadside	100	100.0	29.6	23.1	22.2	23.3	20.6
SC(A), SC(B), SC(C)	443959	119673	Urban Background	100	100.0	22.7	18.0	18.7	18.6	15.9
SR1	445450	118144	Roadside	84.6	84.6	43.6	33.1	28.9	36.3	32.4
SR2	445651	118634	Roadside	100	100.0	37.6	31.7	36.1	34.2	30.6
SRAN(17)(A), SRAN(17)(B), SRAN(17)(C)	445495	118237	Roadside	100	100.0	36.6	29.4	33.1	28.9	26.7
SSQ	443483	118612	Urban Background	100	100.0	24.3	20.1	20.5	19.7	18.4
SWA	446170	114603	Roadside	100	100.0	28.6	24.1	23.6	24.5	21.7

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 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
TP(A), TP(B), TP(C)	445310	119148	Roadside	100	100.0	22.9	18.6	20.3	19.7	17.4
TW	445739	119856	Roadside	90.4	90.4	24.7	22.5	22.4	22.2	20.6
UNC	448090	112635	Urban Background	100	100.0	24.8	19.4	19.0	18.6	18.3
WA	444483	119443	Roadside	100	100.0	31.5	26.0	26.6	26.6	24.7
WSRB	450815	114091	Roadside	100	100.0					11.8
WYV	449577	118165	Roadside	76.9	76.9	24.1	23.4	24.7	23.6	21.1

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

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

NO₂ annual means exceeding $60\mu\text{g}/\text{m}^3$, indicating a potential exceedance of the NO₂ 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 – Trends in Annual Mean NO₂ Concentrations, AQMA 1

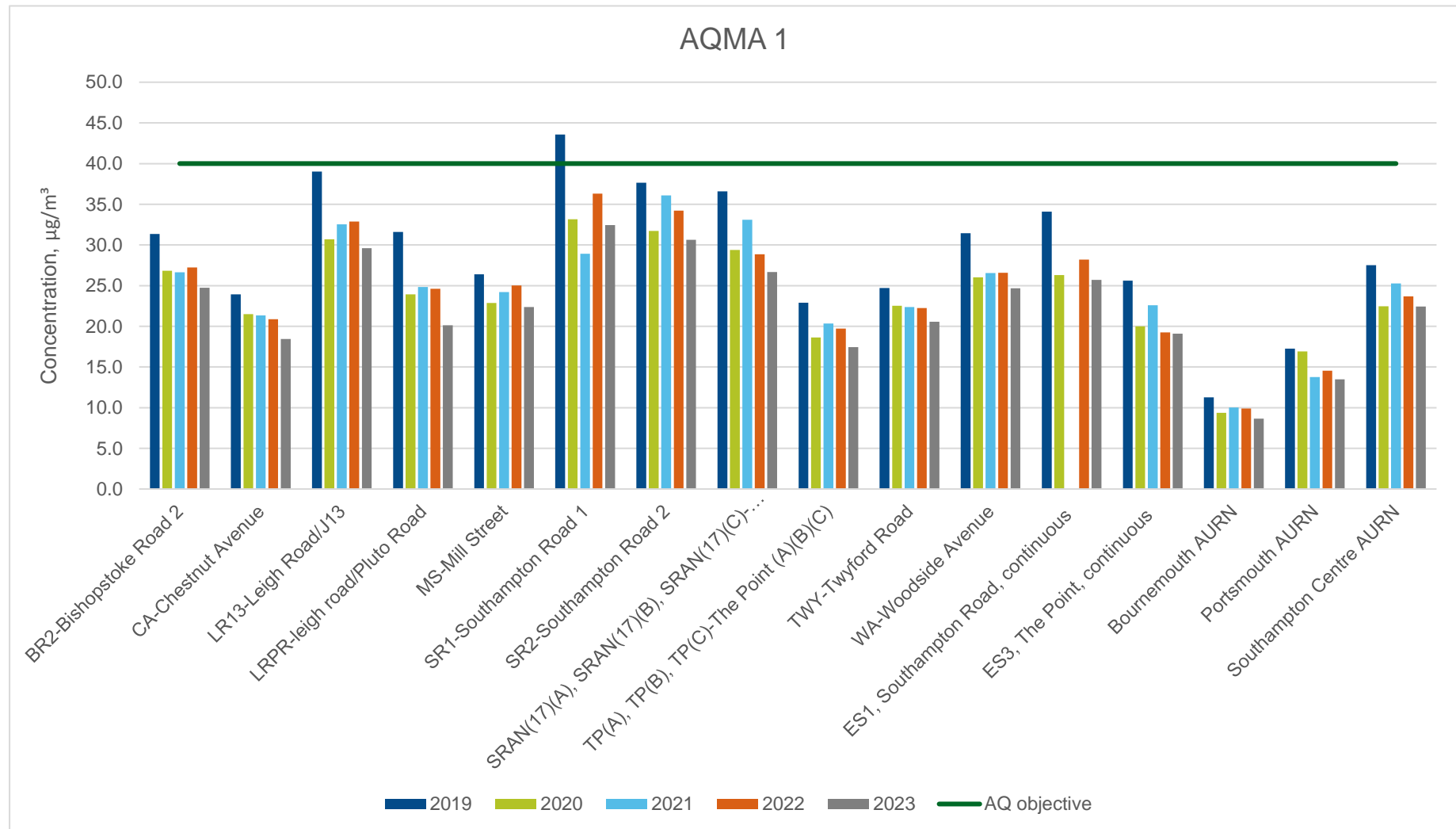


Figure A.2 – Trends in Annual Mean NO₂ Concentrations, AQMA 2

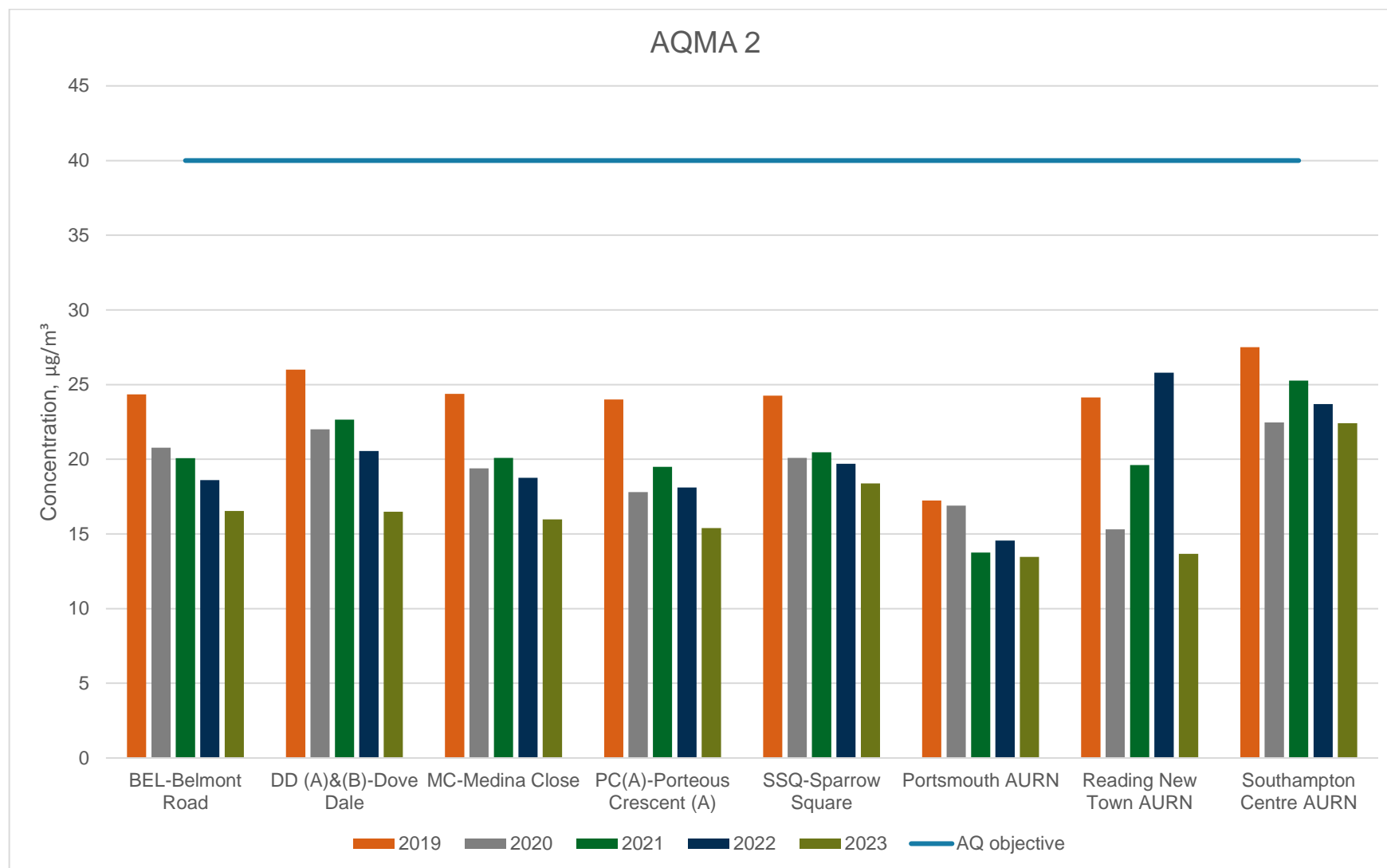


Figure A.3 – Trends in Annual Mean NO₂ Concentrations, AQMA 3

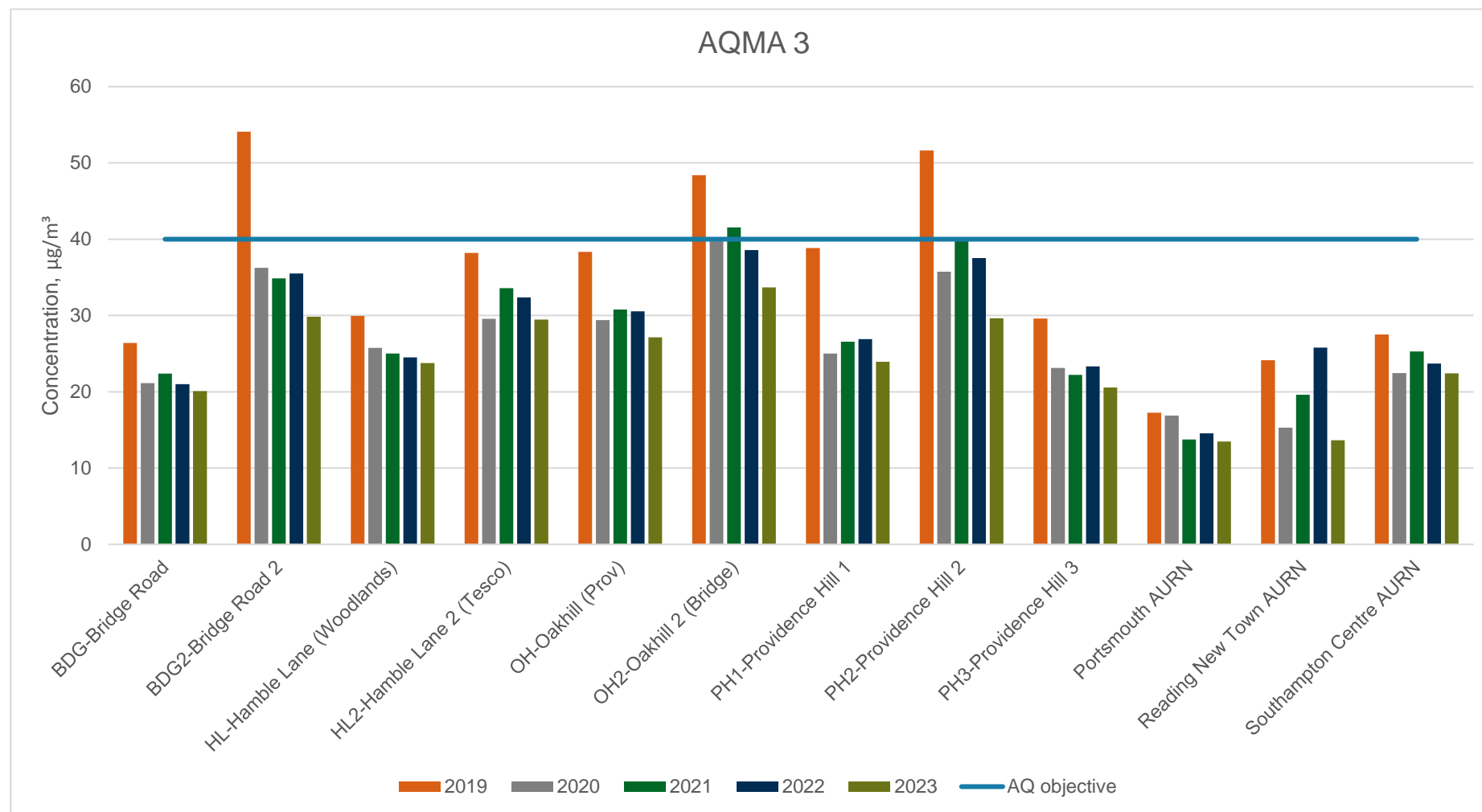


Figure A.4 – Trends in Annual Mean NO₂ Concentrations, AQMA 4

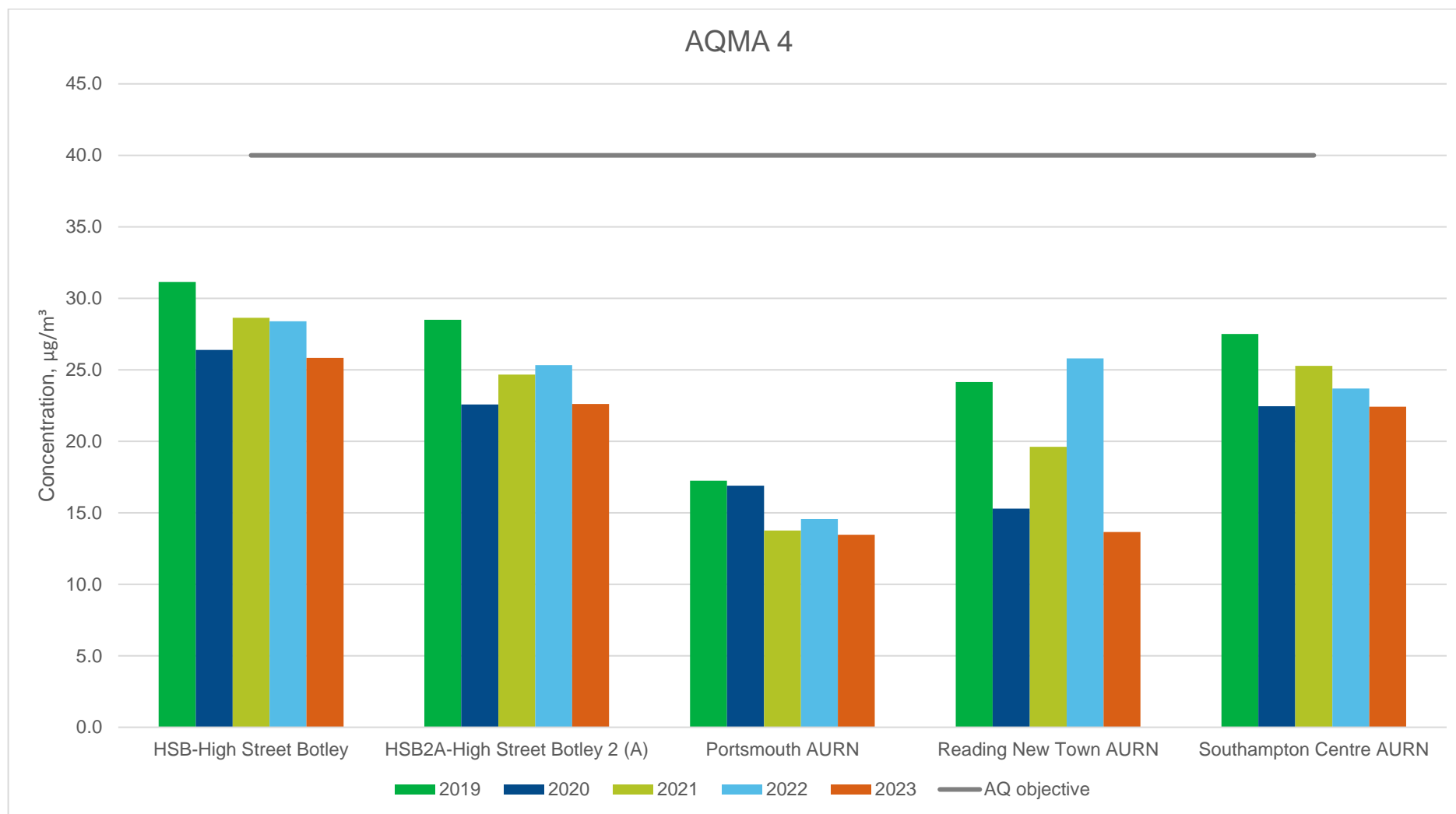


Table A.5 – 1-Hour Mean NO₂ Monitoring Results, Number of 1-Hour Means > 200µg/m³

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
ES1	445495	118237	Roadside	98.5	97.9	0	0	0	0	0
ES2	443959	119673	Urban Background	82.7	17.8	0	0	0	0	0
ES3	445310	119148	Roadside	99.1	98.8	0	0	0	0	0

Notes:

Results are presented as the number of 1-hour periods where concentrations greater than 200µg/m³ have been recorded.

Exceedances of the NO₂ 1-hour mean objective (200µg/m³ 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. For ES2 the period was from 17/10 at 8:00.

(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 PM₁₀ Monitoring Results (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ⁽²⁾⁽³⁾	2019	2020	2021	2022	2023
ES1	445495	118237	Roadside	69.9	69.9	21.1	16.9	-	-	13.7

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/m³.

Exceedances of the PM₁₀ annual mean objective of 40µg/m³ 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.

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

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

(3) The monitoring period was 12 months, however, to complete the annualisation it was split into 2 periods: January-March 2023 and April 2023 – 3rd January 2024 with data capture 51.1% and 75.7% respectively. Reading New Town, Oxford St Ebbes, Portsmouth & Southampton Centre AURN sites were included in the averages to establish 0.85 ratio for annualisation, as per advise received from the helpdesk. Before application of the factor, period averages were: 17.8 & 16.2 µg/m³ respectively, which would correspond to higher concentrations of PM10 in the winter period due to higher use of solid fuel stoves. Recommended by the helpdesk use of methodology brought the annual average to the reported 13.7 µg/m³, as above.

Figure A.5 – Trends in Annual Mean PM₁₀ Concentrations

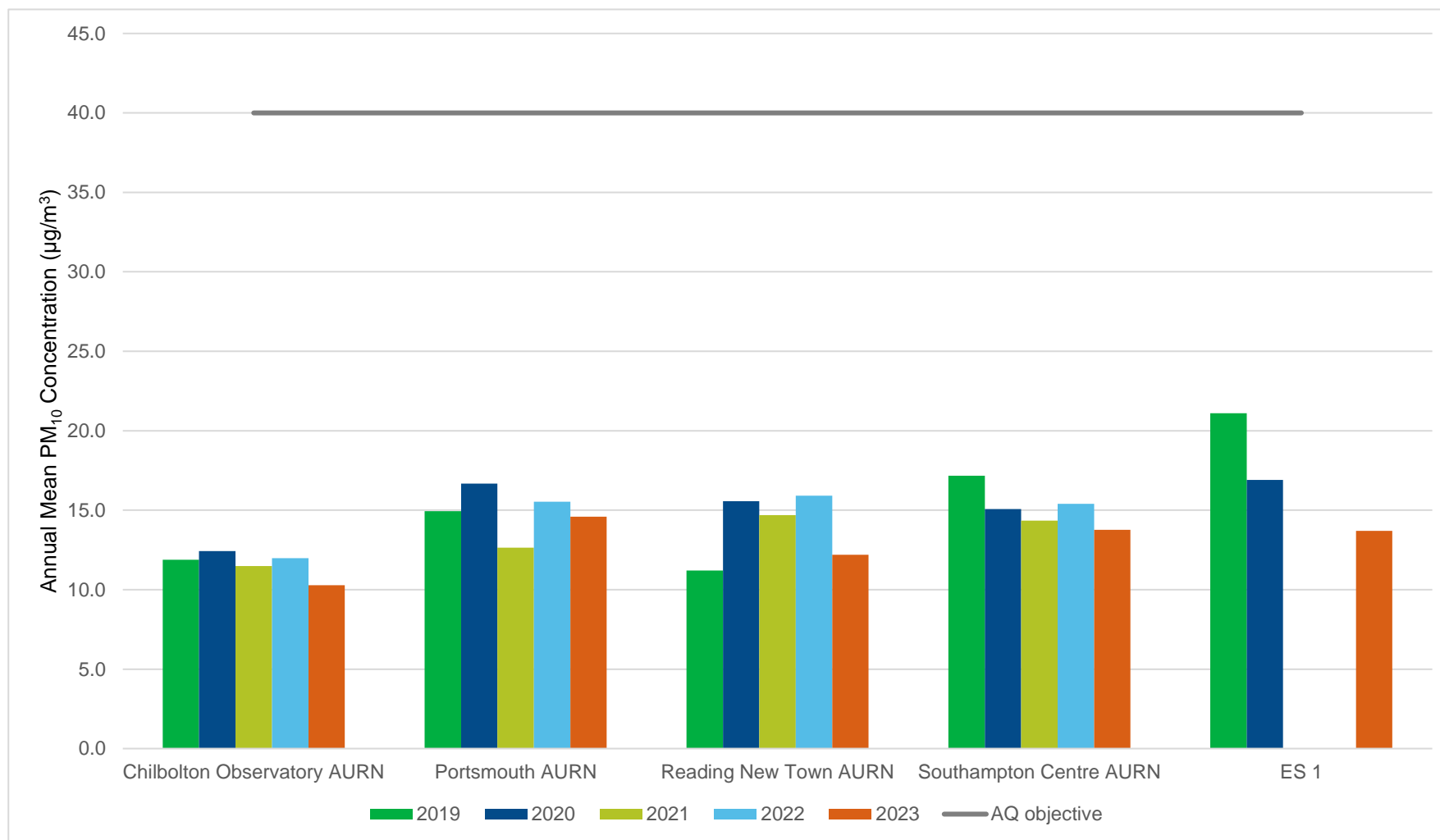


Table A.7 – 24-Hour Mean PM₁₀ Monitoring Results, Number of PM₁₀ 24-Hour Means > 50µg/m³

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
ES1	445495	118237	Roadside	69.9	69.9	4	0	-	0	0

Notes:

Results are presented as the number of 24-hour periods where daily mean concentrations greater than 50µg/m³ have been recorded.

Exceedances of the PM₁₀ 24-hour mean objective (50µg/m³ not to be exceeded more than 35 times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 90.4th percentile of 24-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.8 – Annual Mean PM_{2.5} Monitoring Results (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ^{(2),(3)}	2019	2020	2021	2022	2023
ES1	445495	118237	Roadside	69.9	69.9	-	8.7	-	-	6.4

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/m³.

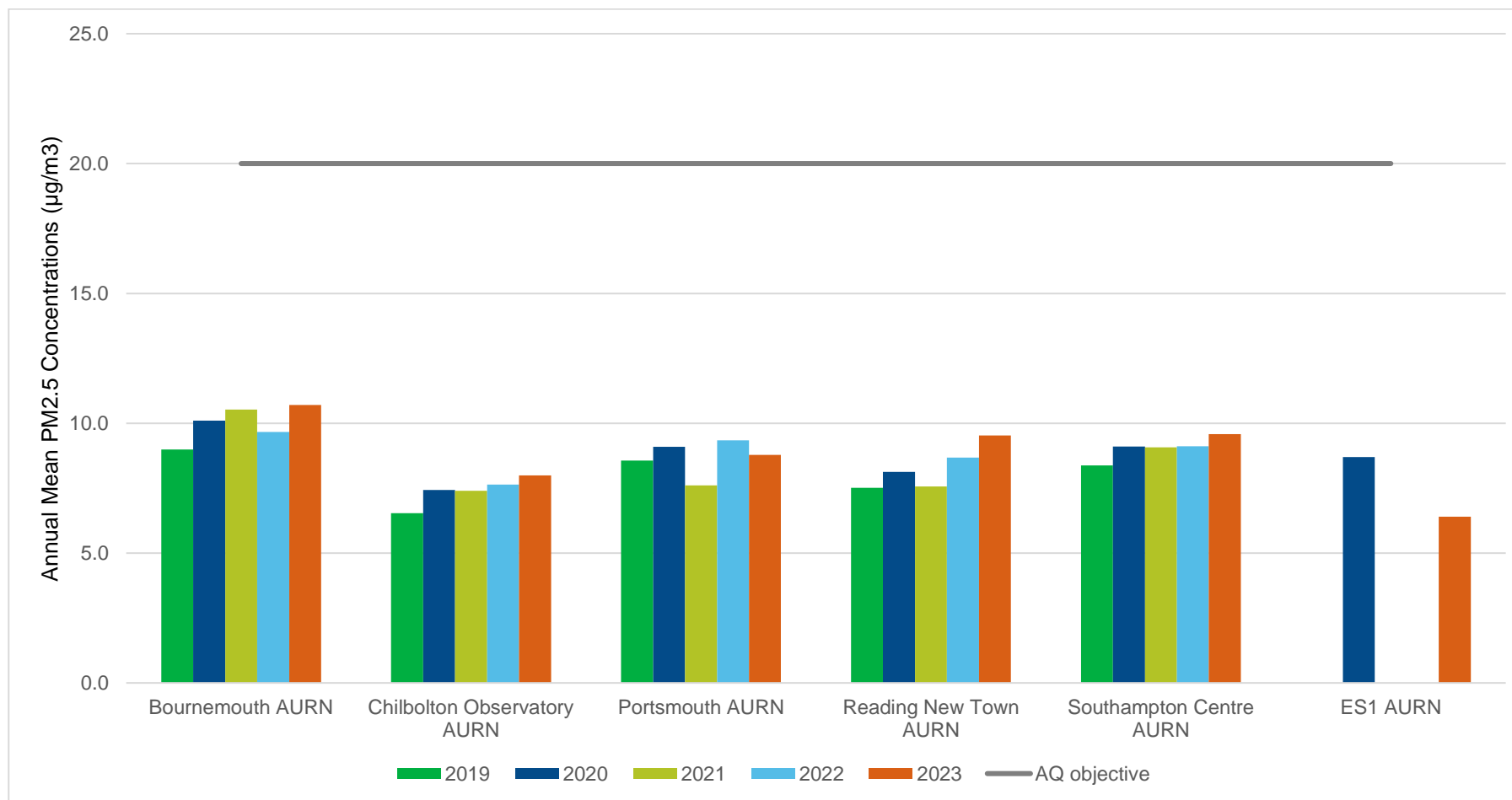
All means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(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%).

(3) The monitoring period was 12 months, however, to complete the annualisation it was split into 2 periods: January-March 2023 and April 2023 – 3rd January 2024 with data capture 51.1% and 75.7% respectively. Bournemouth, Reading New Town, Oxford St Ebbes, Portsmouth & Southampton Centre AURN sites were included in the averages to establish 0.77 ratio for annualisation, as per advice received from the helpdesk. Before application of the factor, period averages were: 8.6 & 8.1 µg/m³ respectively, which would correspond to higher concentrations of PM_{2.5} in the winter period due to higher use of solid fuel stoves. Recommended by the helpdesk use of methodology brought the annual average to the reported 6.4 µg/m³ and lower than the warmer period, where the average is 8.1 µg/m³, as above.

Figure A.6 – Trends in Annual Mean PM_{2.5} Concentrations



Appendix B: Full Monthly Diffusion Tube Results for 2023

Table B.1 – NO₂ 2023 Diffusion Tube Results (µg/m³)

DT 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 <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
AL	445908	115544	29.2	27.3	21.7		15.9	19.4	19.9	21.2	28.8	24.5	24.8	23.3	23.3	18.8	-	
AR	443291	122842	12.3	11.1	9.2	7.7	5.6	6.3	4.8	5.7	8.9	8.9	10.1	7.7	8.2	6.6	-	
BDG	449099	109864	30.7	31.7		23.9	18.6	19.5	32.2	19.7	26.2	24.2	26.8	19.5	24.8	20.1	-	
BDG2	448914	110033	39.6	44.1	35.3	40.7	38.7	40.3	17.9	36.0	41.2	39.2	37.6	31.6	36.9	29.8	-	
BEL	443778	119303	23.3	25.4	21.0	19.6	15.9	17.4	14.2	17.0	24.3	26.0	22.8	18.0	20.4	16.5	-	
BOT	449634	117382	37.5	35.5	28.5	29.5	27.3	28.9	22.7	24.0	30.4		31.9	28.1	29.5	23.9	-	
BR	446604	119149	37.6	38.0	32.0	26.2	23.8		23.7	27.4	37.0	34.3	33.5	30.8	31.3	25.4	-	
BR2	446051	119171	38.2	38.2		32.2	24.9		25.2	24.8	29.5	30.0	33.9	28.3	30.5	24.7	-	
CA (15)	445339	118111	29.1	29.7	22.9	22.8	18.0	18.4	17.7	16.2	26.7	26.5	25.5	19.7	22.8	18.4	-	
CC	443054	118962	28.6	28.4	23.4	22.3	17.0	23.4	24.1	23.3	32.3	29.9	24.9	21.3	24.9	20.2	-	
CR	445750	118111	44.5	39.7	40.6	32.5	21.9	27.7	42.1	29.2	33.4	35.1	36.4	55.9	36.6	29.6	-	
CR3	446117	117846	23.3	21.2	16.3		11.5	11.9	11.0	13.2	14.9	16.3	20.6	16.5	16.1	13.0	-	
CR4	445841	118086	32.9	28.3	25.4	22.3	15.3	18.8	20.9	18.7	21.5	24.6	27.9	37.1	24.5	19.8	-	
DD(A)	443559	118751	28.3	29.3	20.9	19.9	19.3	17.2	10.7				13.1	24.5	20.4	16.5	-	
FOR	447427	118780	23.5	24.5	19.5	17.8	13.6	15.6	16.5	29.6	20.9	21.6	22.1	19.4	20.4	16.5	-	
FORSL	448788	118553	36.4	32.3	26.8	27.4	20.7	26.1		25.2	32.6	31.3	32.9	28.9	29.2	23.6	-	
GR	449867	113250	34.6	33.6	25.2	28.9	24.4	22.5	17.9		23.4	24.3	30.5	27.3	26.6	21.5	-	
HCF	447378	108836	28.4	32.3		27.4	30.7	29.2		27.4	32.8	32.4	27.9	21.3	29.0	23.5	-	

DT 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 <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
HG	445347	120367	22.2	20.3			9.1	11.4	11.3	12.2	18.1	18.9	19.1	16.5	15.9	12.9	-	
HL	447717	110359	34.3	35.4	27.9	25.6	28.5	25.6	32.8	25.0	28.4	30.7	31.4	26.5	29.3	23.8	-	
HL2	447745	110478	38.9	44.1	33.2	36.2	41.6	34.7	25.5	31.6	41.4	40.8	38.7	29.9	36.4	29.5	-	
HL4	447357	108543	25.2	22.7		17.3	17.0		16.7	17.8		22.1			19.8	15.7	-	
HPO	445715	108448	21.1	22.8	16.8	17.3	14.4	16.5	13.2	15.7	21.0	61.0	18.8	14.5	21.1	17.1	-	
HPS	447430	107552	27.7	28.9	24.7			19.9	18.1	20.1	24.6	20.4	21.1	18.8	22.4	18.1	-	
HSB	451431	113025	33.7	35.6	30.7	30.9	30.1	30.8	28.5	29.4	35.1	34.6	35.2	28.2	31.9	25.8	-	
HSB2 (A)	451184	113030	31.0	35.2	25.3	29.2	25.1	27.1	21.2	25.0	30.3	31.4	30.7	23.3	27.9	22.6	-	
JW	447690	114912	25.7	28.0	18.1	22.5	17.7	18.0	12.7	16.2	21.1	21.1	23.4	16.1	20.1	16.2	-	
KCA (18)	449935	113146	36.9	33.5	29.5	29.4	26.1	25.2	20.2	23.5	29.2	29.7	33.1	24.1	28.4	23.0	-	
LR13	443842	119526	36.6	43.3	37.6	37.4	27.1	31.7	29.7	33.1	45.9	45.0	36.9	34.1	36.5	29.6	-	
LRPR	444864	119174	31.6	30.2	24.8		19.4	21.1	17.5	21.0	29.4	31.0	27.0	20.2	24.8	20.1	-	
MC	444239	120060	21.4	24.6	20.3	20.9	13.8	17.6	13.4	17.5	25.2	25.0	20.4	16.6	19.7	16.0	-	
MS	445707	119619	34.1	31.6		27.5	27.9	25.7	20.5	22.6	29.0	30.7	30.8	23.7	27.6	22.4	-	
NH	445121	122183	21.8	28.0	19.7	19.8	16.5	16.2	10.9	15.5	22.5	22.3	19.8	14.1	18.9	15.3	-	
OH	448653	110280	37.8	40.9	32.2	33.5		31.4	24.9	29.0	39.2	47.0	26.8	25.9	33.5	27.1	-	
OH2	448736	110213	48.8	51.6	42.6	44.9	22.2	45.2	37.0	40.0	47.5	36.5		41.1	41.6	33.7	-	
OX	444543	120187	21.1	20.3	14.5	13.8	10.2	9.7	11.8	12.2	15.6	18.1	16.5	15.5	14.9	12.1	-	
PA	444340	118696	27.6	30.6	24.5	26.6	20.4	22.5	15.9	21.6	29.6	29.0	27.6		25.1	20.3	-	
PAV	450061	113452	21.1	20.1	17.9	17.6									19.2	12.2	-	
PC	444656	120775	21.9	20.8	20.9	18.9	14.7	17.3	13.1	17.6	25.7	23.8	17.5	16.0	19.0	15.4	-	

DT 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 <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
PH1	448237	110610	31.5	34.3	35.5	28.1	25.2	26.5	22.9	22.2	32.0	43.9	32.5	20.1	29.5	23.9	-	
PH2	448330	110532	43.6	45.2	22.1	40.2	35.9	37.7	35.6	36.4		28.3	41.5	35.8	36.6	29.6	-	
PH3	448249	110627	32.8	31.6	25.2	24.4	17.7	18.8	18.7	26.2	27.2	28.5	29.7	23.7	25.4	20.6	-	
SC(A)	443959	119673	22.3	20.5	21.0	22.3	14.7	15.8	13.6	16.9	25.0	25.3	21.3	16.6	-	-	-	Triplicate Site with SC(A), SC(B) and SC(C) - Annual data provided for SC(C) only
SC(B)	443959	119673	21.0	23.2	20.9	22.7	14.1	16.6	13.2	17.6	24.5	24.0	21.8	16.6	-	-	-	Triplicate Site with SC(A), SC(B) and SC(C) - Annual data provided for SC(C) only
SC(C)	443959	119673	21.7	24.2	20.3			15.8	13.1	16.6	24.2	24.1	21.4	17.7	19.7	15.9	-	Triplicate Site with SC(A), SC(B) and SC(C) - Annual data provided for SC(C) only
SR1	445450	118144	48.7		49.6		34.7	37.2	38.4	32.4	42.9	44.8	34.6	37.2	40.0	32.4	-	
SR2	445651	118634	44.7	45.5	39.7	39.2	35.4	34.1	31.5	34.6	41.3	40.5	34.8	32.6	37.8	30.6	-	
SRAN (17)(A)	445495	118237	35.5	40.8	34.9	34.5	27.4	32.2	28.6	27.0	36.8	37.6	32.7	29.4	-	-	-	Triplicate Site with SRAN(17)(A), SRAN(17)(B) and SRAN(17)(C) - Annual data provided for SRAN(17)(C) only
SRAN (17)(B)	445495	118237	36.1	39.6	34.0	34.4	26.1	32.4	28.9	27.0	36.9	38.8	25.6	29.2	-	-	-	Triplicate Site with SRAN(17)(A), SRAN(17)(B) and SRAN(17)(C) - Annual data provided for SRAN(17)(C) only
SRAN (17)(C)	445495	118237	37.3	39.2	34.2	35.3	26.4	32.2	29.1	27.8	38.0	36.9	33.8	28.0	32.9	26.7	-	Triplicate Site with SRAN(17)(A), SRAN(17)(B) and SRAN(17)(C) - Annual data provided for SRAN(17)(C) only
SSQ	443483	118612	30.7	31.7	21.4	20.1	15.7	17.8	19.3	18.9	23.2	25.3	24.6	23.7	22.7	18.4	-	
SWA	446170	114603	32.5	32.9	23.9	26.8	19.6	21.0	22.7	23.0	31.8	32.7	27.7	26.5	26.8	21.7	-	
TP(A)	445310	119148	26.5	26.3	20.2	21.6	16.1	18.3	15.2	19.2	24.4	27.7	24.6	18.3	-	-	-	Triplicate Site with TP(A), TP(B) and TP(C) - Annual data provided for TP(C) only
TP(B)	445310	119148	26.7	29.7	19.8	22.3	16.5	18.1	16.0	19.4	25.1	27.7	24.6	18.0	-	-	-	Triplicate Site with TP(A), TP(B) and TP(C) - Annual data provided for TP(C) only
TP(C)	445310	119148	25.2	25.4	20.6	22.1	16.3	16.4	15.7	19.3	23.9	28.0	22.9	17.3	21.5	17.4	-	Triplicate Site with TP(A), TP(B) and TP(C) - Annual data provided for TP(C) only
TW	445739	119856	32.0	32.0	25.3	22.8	19.5		20.3	20.6	27.2	29.7	27.0	22.7	25.4	20.6	-	

DT 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 <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
UNC	448090	112635	30.5	28.4	22.5	20.5	15.5	18.5	21.4	20.2	24.2	24.9	21.0	23.8	22.6	18.3	-	
WA	444483	119443	39.2	36.0	30.3	27.5	25.3	26.4	26.7	24.6	33.8	32.9	35.7	27.2	30.5	24.7	-	
WSRB	450815	114091	22.2	20.7	14.1	14.5	11.5	11.7	8.9	9.4	12.9	15.1	18.6	14.6	14.5	11.8	-	
WYV	449577	118165	31.5	30.5	26.0	23.8	24.0	24.6		20.7			30.8	22.3	26.0	21.1	-	

- All erroneous data has been removed from the NO₂ 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.
- Eastleigh Borough Council confirm that all 2023 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.

Notes:

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

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

See Appendix C for details on bias adjustment and annualisation.

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

New or Changed Sources Identified Within Eastleigh Borough Council During 2023

Eastleigh Borough Council has not identified any new sources relating to air quality within the reporting year of 2023.

Additional Air Quality Works Undertaken by Eastleigh Borough Council During 2023

Eastleigh Borough Council has not completed any additional works within the reporting year of 2023.

QA/QC of Diffusion Tube Monitoring

All diffusion tubes for monitoring in 2023 were supplied by Gradko with a 20% TEA in water preparation method. Gradko holds UKAS accreditation for this analysis and also participated in four rounds of the AIR-PT laboratory proficiency testing scheme during 2023, with 100% of their results determined to be satisfactory^{18,19}.

All 2023 diffusion tube results reported were collected in adherence with the Diffusion Tube Monitoring Calendar.

Diffusion Tube Annualisation

Table C.1 – Annualisation Summary (concentrations presented in $\mu\text{g}/\text{m}^3$)

Site ID	Annualisation Factor Bournemouth	Annualisation Factor Portsmouth	Annualisation Factor Reading New Town	Annualisation Factor Southampton Centre	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
HL4	0.9811	0.9874	0.9289	1.0092	0.9766	19.8	19.4
PAV	0.7586	0.8156	0.6841	0.8896	0.7870	19.2	15.1

¹⁸ [WASP – Annual Performance Criteria for NO₂ Diffusion Tubes \(defra.gov.uk\)](https://www.defra.gov.uk/wasp/)

¹⁹ [Laboratory Analysis – Gradko](#)

Site ID	Annualisation Factor Bournemouth	Annualisation Factor Portsmouth	Annualisation Factor Reading New Town	Annualisation Factor Southampton Centre	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
ES1, PM ₁₀		0.886065197	0.737455	0.812486301	0.830383	16.5	13.7
ES1, PM _{2.5}	0.823219736	0.803837405	0.66794833	0.768178308	0.77347	8.2	6.4

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

National Diffusion Tube Bias Adjustment Factor Spreadsheet						Spreadsheet Version Number: 03/24				
Follow the steps below in the correct order to show the results of relevant co-location studies						This spreadsheet will be updated at the end of June 2024				
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods						LAQM Helpdesk Website				
Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet						Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.				
This spreadsheet will be updated every few months; the factors may therefore be subject to change. This should not discourage their immediate use.										
The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.										
Step 1:		Step 2:	Step 3:	Step 4:						
Select the Laboratory that Analyses Your Tubes from the Drop-Down List		Select a Preparation Method from the Drop-Down List	Select a Year from the Drop-Down List	Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor ² shown in blue at the foot of the final column.						
If a laboratory is not shown, we have no data for this laboratory.		If a preparation method is not shown, we have no data for this method at this laboratory.	If a year is not shown, we have no data ² .	If you have your own co-location study then see footnote ⁴ . If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953						
Analysed By ¹	Method	Year ²	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m ³)	Automatic Monitor Mean Conc. (Cm) (µg/m ³)	Bias (B)	Tube Precision ³	Bias Adjustment Factor (A) (Cm/Dm)
Gradko	20% TEA in water	2023		Overall Factor ² (23 studies)				Use	0.81	

Eastleigh Borough Council have applied a national bias adjustment factor of 0.81 to the 2023 monitoring data. A summary of bias adjustment factors used by Eastleigh Borough Council over the past five years is presented in Table C.2.

Table C.2 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2023	National	03/24	0.81
2022	National	06/23	0.84
2021	National	06/23	0.84
2020	National	03/21	0.81

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2019	National	03/20	0.93

NO₂ Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO₂ concentration at the nearest location relevant for exposure has been estimated using the Diffusion Tube Data Processing Tool/NO₂ fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO₂ concentrations corrected for distance are presented in Table B.1.

No diffusion tube NO₂ monitoring locations within Eastleigh Borough Council required distance correction during 2023.

QA/QC of Automatic Monitoring

Air quality measurements from automatic instruments are validated and ratified to the standards described in LAQM.TG22. Automatic monitoring sites are visited fortnightly by a trained Council officer to calibrate the instrument reading against gas standards of a known concentration obtained from a certified supplier. A comprehensive service and maintenance contract is maintained with an external organisation which includes 6-monthly servicing of the analysers and emergency call-outs. Data presented in the ASR has been validated and ratified by Imperial College London's Environmental Research Group as part of a data management contract. This contract includes a website displaying live and historic data, at [Eastleigh My-Air](#) and annual site audits carried out by the National Physical Laboratory. From January 2024 all recent and historic data moved to [Eastleigh Borough Council - Air Quality monitoring service \(airqualityengland.co.uk\)](#) administered by a new provider.

PM₁₀ and PM_{2.5} Monitoring Adjustment

Monitoring of PM₁₀ and PM_{2.5} has been carried out since February 2020 using a Fidas analyser, which does not require the application of a correction factor. Data validation and ratification, along with equipment maintenance and servicing, is also carried out for this analyser as detailed above.

Automatic Monitoring Annualisation

Due to instrument faults data capture for instruments at Southampton Road where the data capture for ES1 (by Fidas) was 69.9% for both PM₁₀ and PM_{2.5}. Data from these sites was annualised in accordance with Box 7.9 of LAQM.TG22. Input PM₁₀ data was from AURN sites at Portsmouth, Reading New Town and Southampton Centre, with additional Bournemouth AURN for PM_{2.5}. These sites were chosen as those geographically closest which are classified as urban background and had over 85% data capture for the period. Details of the annualisation process is presented in Table C.1. as required for any site with data capture less than 75% but greater than 25%.

NO₂ Fall-off with Distance from the Road

No automatic NO₂ monitoring locations within Eastleigh Borough Council required distance correction during 2023.

Appendix D: Map(s) of Monitoring Locations and AQMAs

Figure D.1 – Map of Non-Automatic Monitoring Sites across the Borough

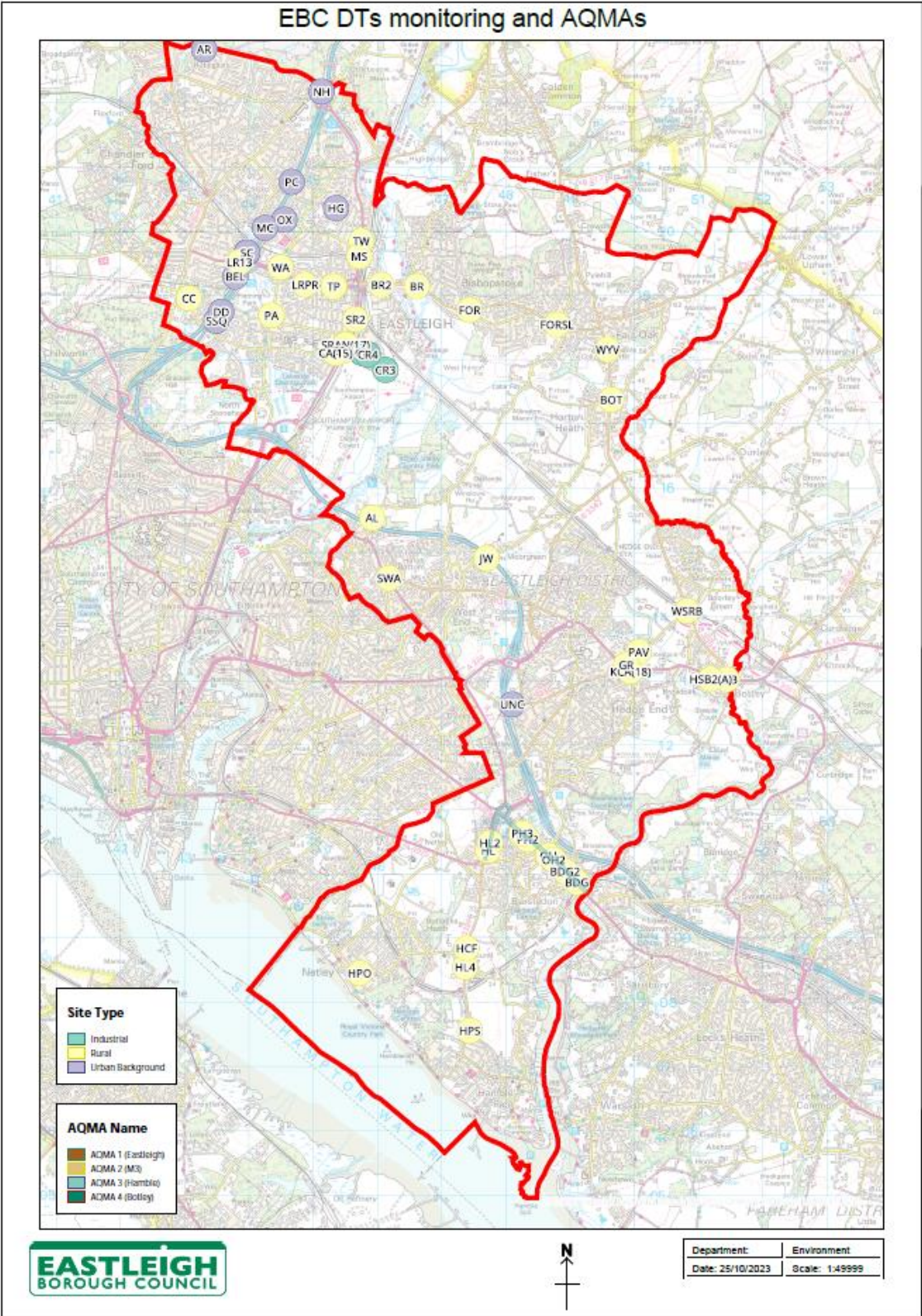


Figure D.2 – Map of Automatic, Non-Automatic Monitoring Site and AQMAs across the Borough

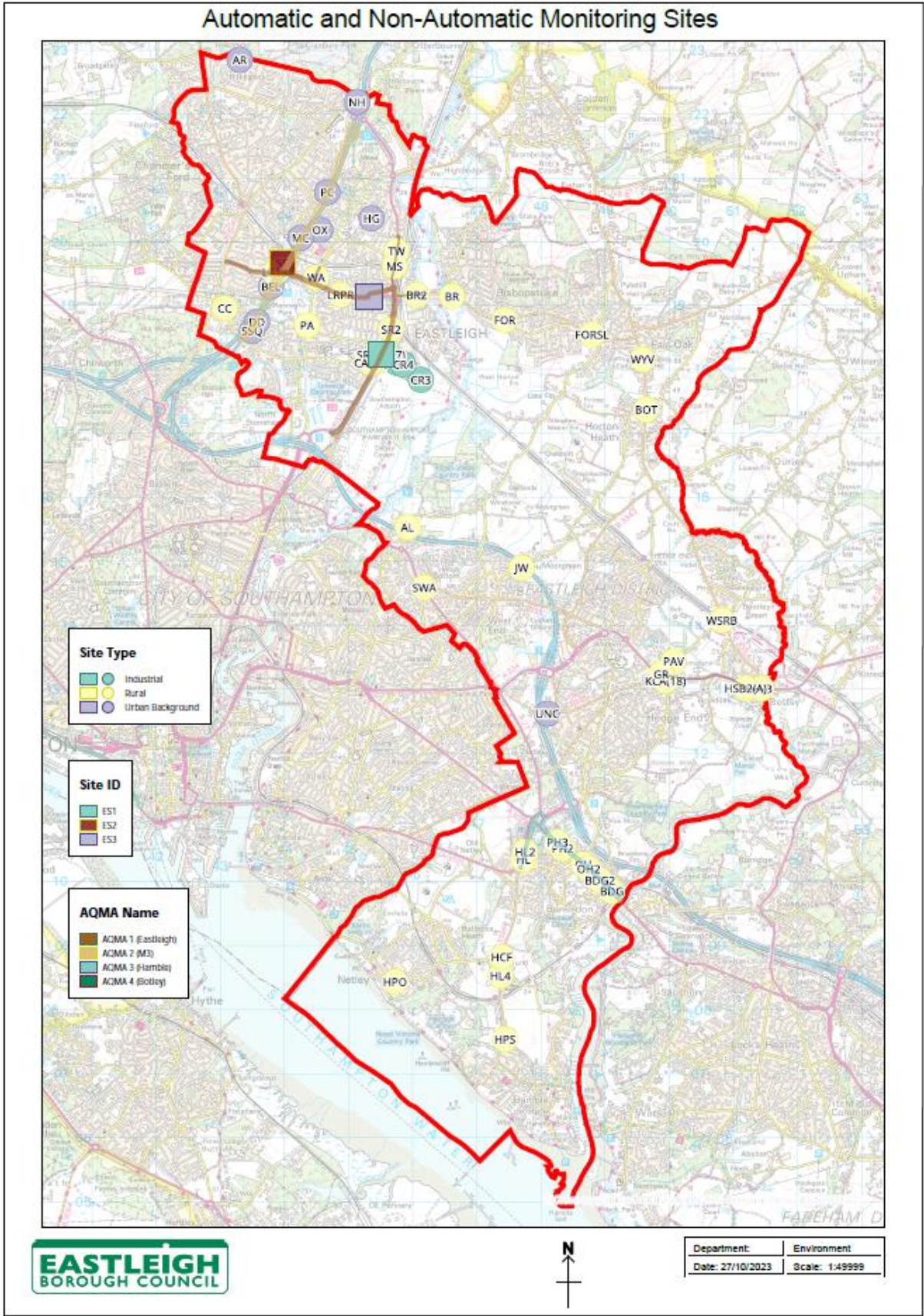


Figure D.3 – Eastleigh AQMA No.1 (A335) and diffusion tubes locations

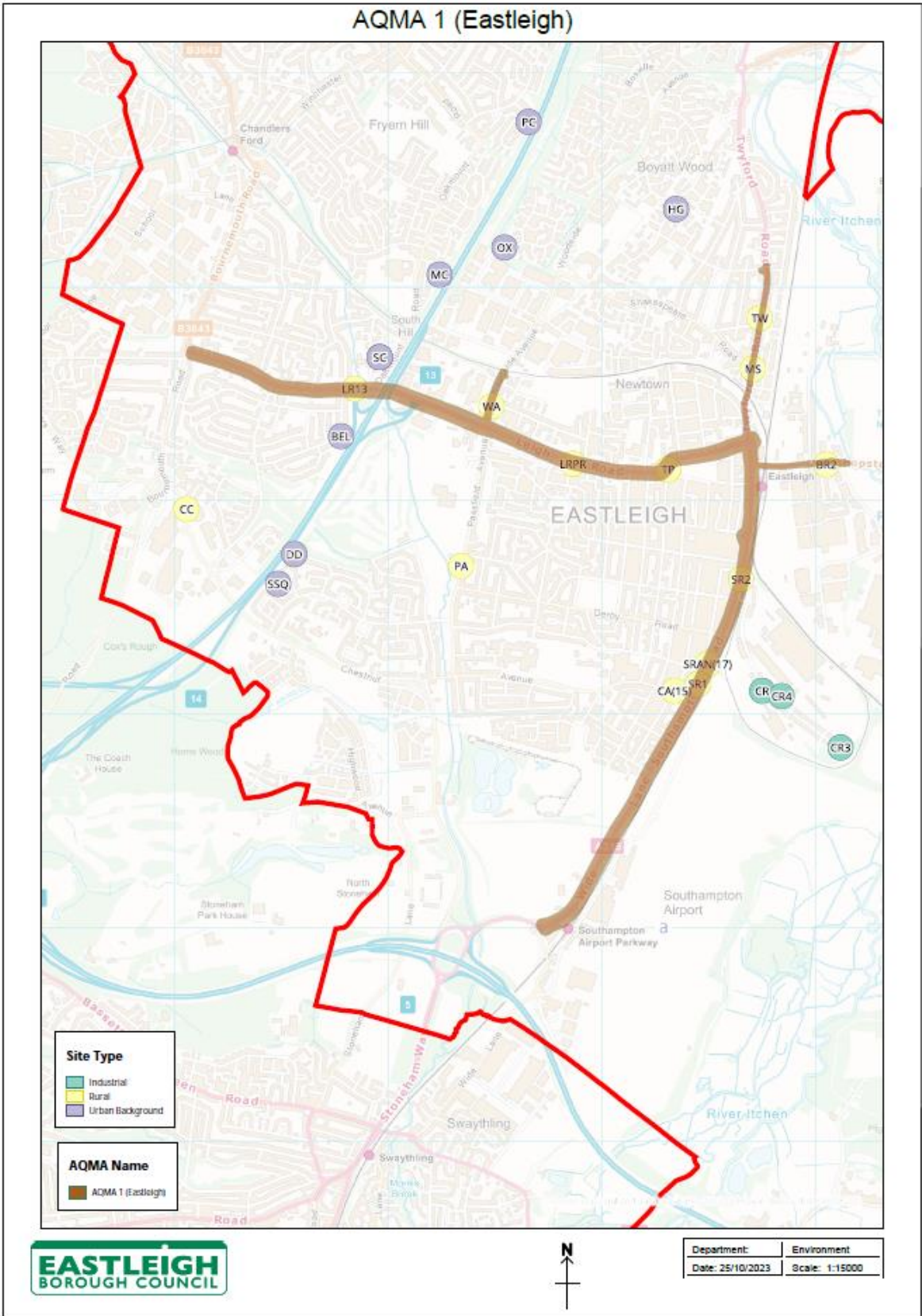


Figure D.4 – Eastleigh AQMA No.2 (M3) and diffusion tubes locations

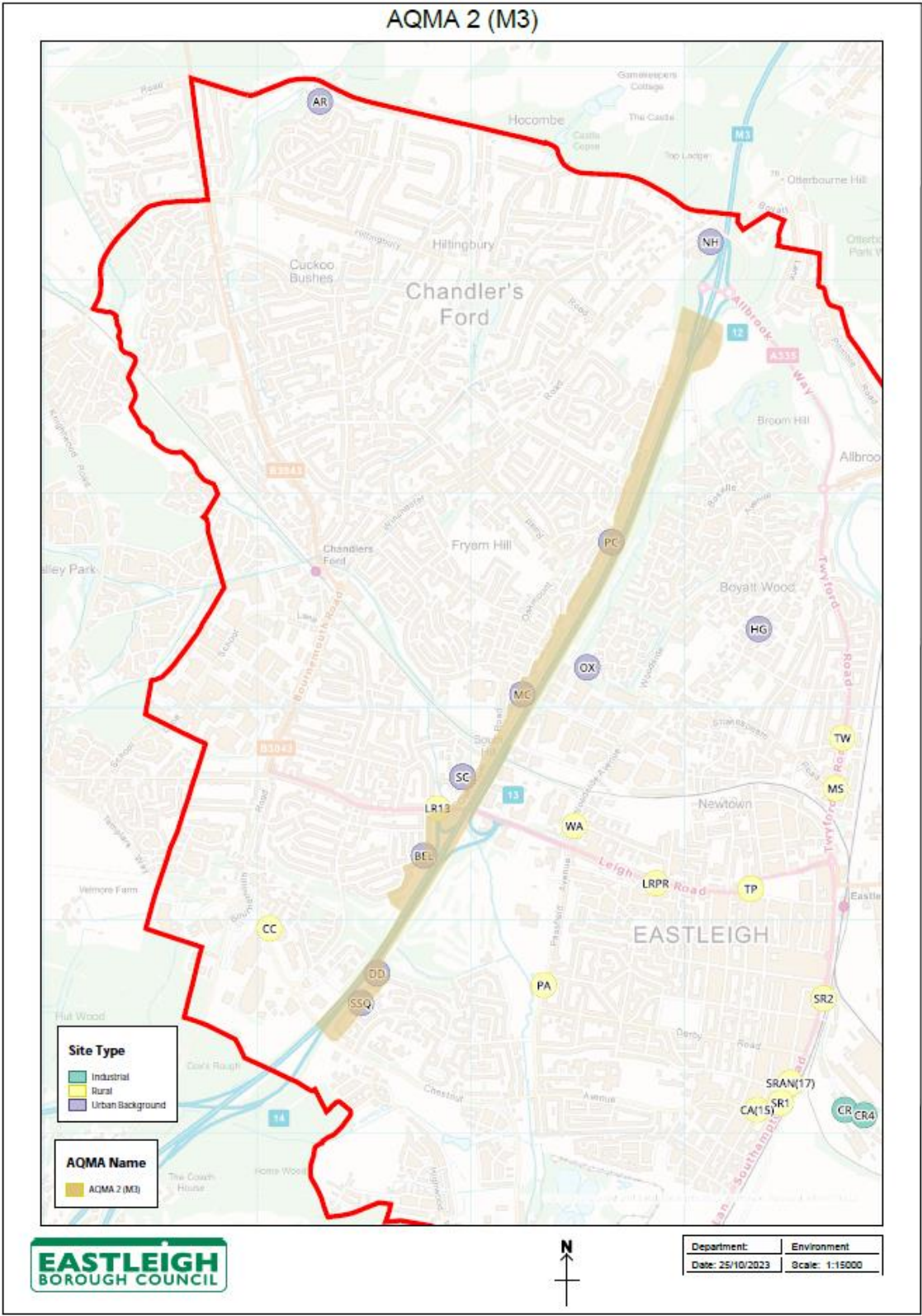


Figure D.5 – Hamble Lane Area AQMA No. 3 and Bursledon/Hamble north diffusion tube locations

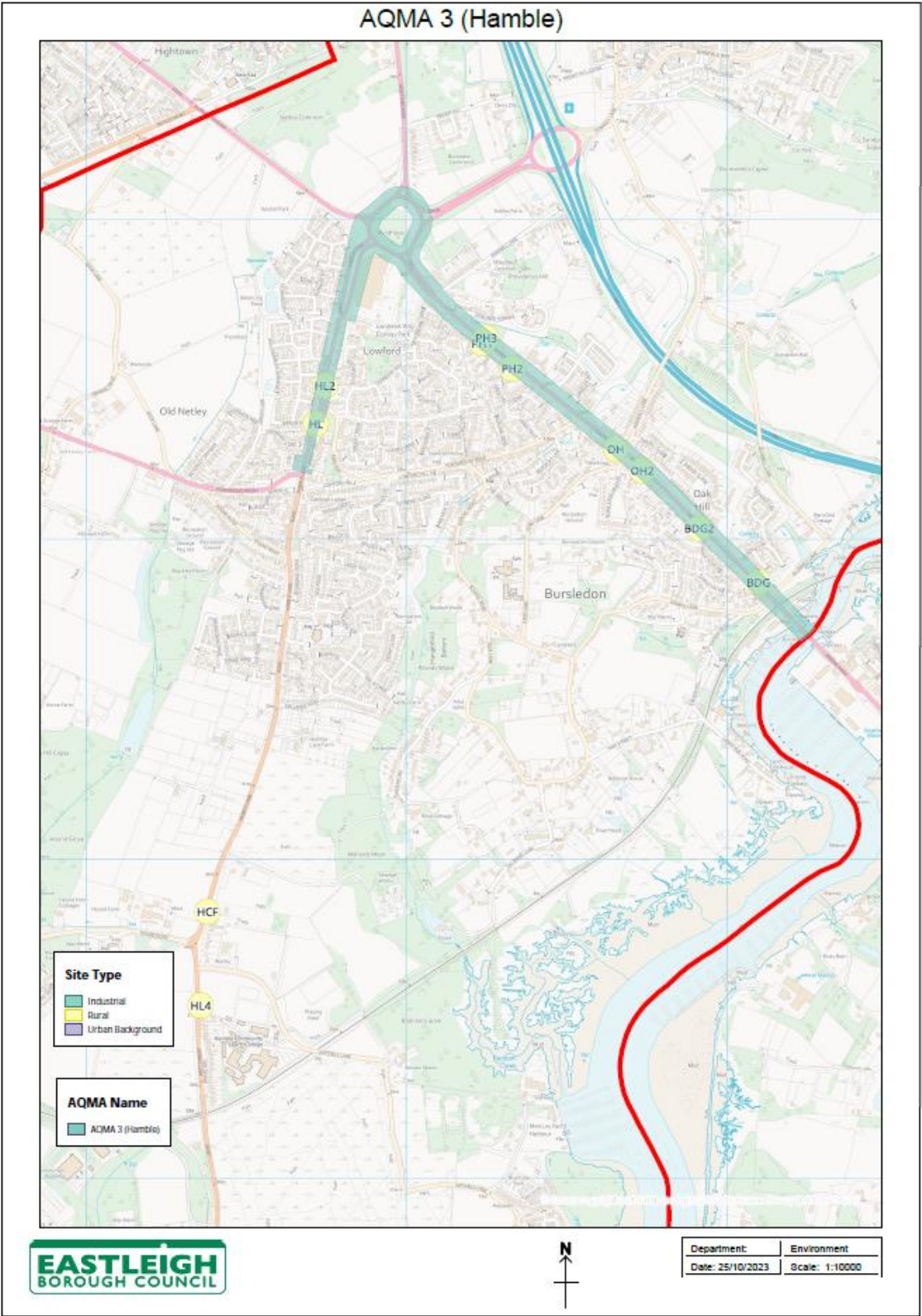
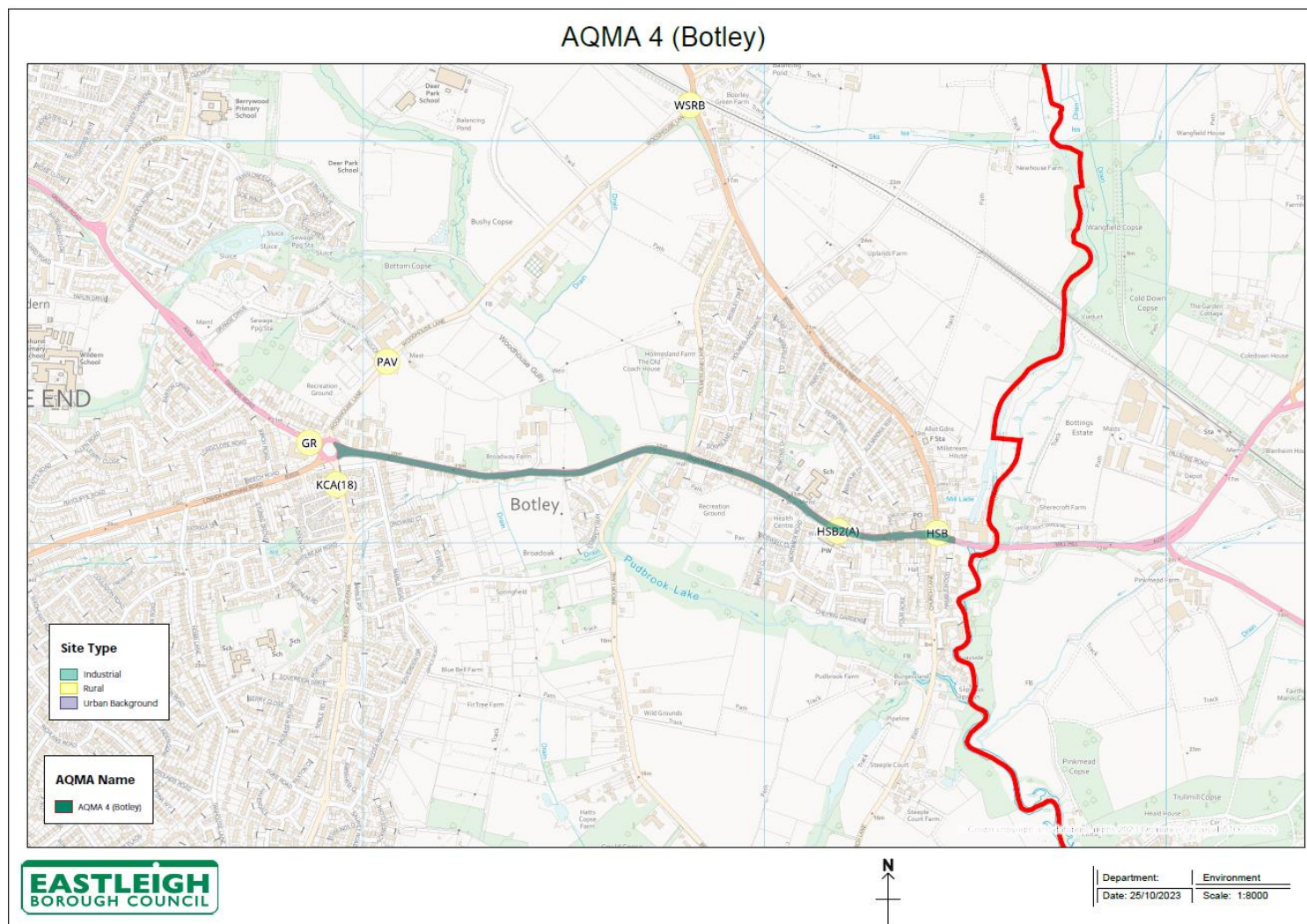


Figure D.6 – High Street Botley AQMA 4 and diffusion tube locations



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England²⁰

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

²⁰ The units are in microgrammes of pollutant per cubic metre of air (µg/m³).

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
EU	European Union
FDMS	Filter Dynamics Measurement System
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
BHH	Bursledon, Hamble-le-Rice & Hound
BIFOHH	Bishopstoke, Fair Oak & Horton Heath
CFH	Chandler's Ford & Hiltingbury
EC	Economy & Regeneration – including workplace schemes and travel planning
ELAC	Eastleigh
HEWEB	Hedge End, West End & Botley
HOU	Housing – including planning and policy guidance
HS	Health & Social Policy
TR	Transport

References

- 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.
- Local Air Quality Management Policy Guidance LAQM.PG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Chemical hazards and poisons report: Issue 28. June 2022. Published by UK Health Security Agency
- Air Quality Strategy – Framework for Local Authority Delivery. August 2023. Published by Defra.