
**Bath & North East
Somerset Council**

Improving People's Lives

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

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Executive Summary: Air Quality in Our Area

Air Quality in Bath and North East Somerset 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

Bath and North East Somerset (B&NES) is a mainly rural district with Bath as the major urban area, together with the small towns of Keynsham, Radstock and Midsomer Norton. The main air pollutant source within the area is from road traffic. This is exacerbated in Bath with the city being set in a valley surrounded by hills which can trap the pollution within the city.

As the source of air pollution in Bath and North East Somerset is overwhelmingly from traffic, the approach to improving air pollution is by traffic and transport improvement measures. There is a collaboration between the four West of England authorities in transport terms through the West of England Combined Authority and the Travel West brand, which acknowledges that commuters don't think in terms of authority boundaries.

In Bath, through traffic travels into the Air Quality Management Area (AQMA) on four main corridors:

- M4 junction 18 to A36 south;
- M4 junction 18 to A367;
- A4 west (Bristol) to A36 south; and
- A4 west to A4 east (with 7.5t weight limit).

The lack of alternative routes and a restricted number of River Avon crossing points means that the streets are often congested during peak periods, despite a very high proportion of employed Bath residents using sustainable modes for travel to work. The 2021 census³ indicated that only 28% of employed Bath residents drive to work, compared to 40% across the whole district. This has been supported by substantial investments in cycling and walking infrastructure. In 2021 the census also showed approximately 40% of people worked mainly from home. The census was carried out in March 2021 and the results may have been impacted by changes in working practices influenced by the COVID pandemic.

In Bath and North East Somerset, three Air Quality Management Areas (AQMA) have been declared for nitrogen dioxide (NO₂), including the major road network within Bath, and sections of the A37 in Temple Cloud and Farrington Gurney. Details of the AQMA

³ UK 2021 Census results <https://www.ons.gov.uk/census/maps?lad=E06000022>

are given in Table 2.1 and maps of the AQMAs are in Appendix D. Details of the AQMAs can also be found on the [Council's Air Quality Webpage](#).

There is no clear evidence of a safe level of exposure to particulate matter (PM) or NO₂ below which there is no risk of adverse health effects. This means that further reduction of PM or NO₂ concentrations below air quality standards is likely to bring additional health benefits⁴. In recognition of this and the World Health Organisation (WHO) guidelines published in 2021⁵, in a [Cabinet Report](#)⁶ Bath and North East Somerset Council referenced it's ambition to creating its own reducing local target for NO₂, reinforcing the aspiration that reducing pollution should be an aim in all decision-making. By introducing a local NO₂ objective level for example, where all monitoring locations would aim to achieve an annual average level at, or below, 36 µg/m³ by 2025, it demonstrates a will to be aspirational in further protecting public health.

Bath and North East Somerset Council had 169 NO₂ monitoring sites and 3 particulate matter monitoring sites in 2023. At the end of every year, the Council reviews the information which it has collected throughout the year and applies a correction factor. Corrected data is then compared to the national air quality objectives which are detailed in Appendix E.

Headlines from the 2023 continuous analysers are:

- Bath and North East Somerset Council has monitors at 4 locations in 2023, including 4 NO₂, 2 PM₁₀ and 1 PM_{2.5} analyser, detailed in Table A.1, Appendix A.
- NO₂ – all monitoring results were below the annual average objective of 40 µg/m³ and there were no exceedances of the 1-hour objective (18 exceedances allowed). NO₂ remained at similar levels compared to results in 2022 with all sites decreasing slightly; this is similar to the levels across the National Automatic Urban and Rural Network (AURN). Overall, the decrease from 2022 was 6% which is slightly lower than average decrease across the AURN which was 9%.
- PM₁₀ – all monitoring results were below the annual average objective of 40 µg/m³ and there were 23 exceedances of the 24-hour mean objective (35 exceedances

⁴Public Health England. Air Quality: A Briefing for Directors of Public Health, 2017

⁵[WHO global air quality guidelines: particulate matter \(PM2.5 and PM10\), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide, 2021](#)

⁶[Bath and North East Somerset Cabinet report E3339](#) – Clean Air Plan Annual Report 2021

allowed) at CM3 (Windsor Bridge). The results were higher at CM3 (Windsor Bridge) than in 2022, this and the exceedances of the 24-hour mean objective are due to construction work next to the monitoring site.

- PM_{2.5} – monitoring was below the annual average objective of 20 µg/m³. The results were slightly lower than in 2022.
- There was a peak in both PM₁₀ and PM_{2.5} on Bonfire Night but it was short lived and did not cause an exceedance of the 24-hour objective.

A summary of NO₂ results from diffusion tubes across B&NES:

- Bath & North East Somerset has monitored NO₂ at 165 locations with 43 of these locations using triplicate diffusion tubes in 2023. A triplicate site is where 3 diffusion tubes are located at one site, this makes the data more robust as a fault with one tube (e.g., spider's nest in a tube, water ingress etc.) will not lead to loss of monitoring data for the month.
- The average decrease across the long-term sites was 9% compared with 2022 monitoring data. There was a general decrease across the network with only a few sites increasing, this is likely to have been due to roadworks
- Bath – All sites were below the objective of 40 µg/m³ in 2023.
- Keynsham – All sites were below the objective of 40 µg/m³ in 2023.
- Salford – All sites were below the objective of 40 µg/m³ in 2023.
- Temple Cloud – Monitoring remains above the objective of 40 µg/m³ at one location with concentrations decreasing (when adjusted to the building façade).
- Farrington Gurney – All sites were below the objective of 40 µg/m³ in 2023.
- Marksbury – All sites were below the objective of 40 µg/m³ in 2023.
- Whitchurch – All sites were below the objective of 40 µg/m³ in 2023.
- Batheaston and Bathampton – All sites were below the objective of 40 µg/m³ in 2023.
- Midsomer Norton, Radstock and Westfield – All sites were below the objective of 40 µg/m³ in 2023.
- 1-hour objective – All sites in Bath & North East Somerset are below 60 µg/m³ – this suggests that the 1-hour NO₂ objective is unlikely to be exceeded.

Summary of the monitoring using Zephyr analysers:

- Indicative monitoring was carried out at Gay St, Windsor Bridge, Kingsmead Car Park (Bath), High Street (Keynsham), Vandyck Avenue (Keynsham), near the canal (Bath), Frome Road (Bath), Bath Road (Saltford) and Lansdown Road (Bath) using three Zephyrs. (Full details in Appendix F)
- The monitor at Gay Street is linked with the traffic lights in Queen Square, where a high 15-minute concentration would trigger a change in the traffic light sequence to discourage traffic and lower pollution. The 15-minute concentrations remained below the trigger level during 2023.
- The monitor at Gay Street had annual average NO₂ concentrations of 19 µg/m³, PM₁₀ 9 µg/m³ and PM_{2.5} 5 µg/m³ which are below the objectives.

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 Plan⁷ 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 of most harmful to human health. The Air Quality Strategy⁸ provides more information on local authorities' responsibilities to work towards these new targets and reduce fine particulate matter in their areas.

The Road to Zero⁹ 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

⁷ Defra. Environmental Improvement Plan 2023, January 2023

⁸ Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

⁹ DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018

personal travel, and the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.



The core actions are:

Bath Clean Air Plan

- Average 2023 annual nitrogen dioxide (NO₂) concentrations within the CAZ are 32% lower than the 2019 baseline, representing a reduction of 10.5 µg/m³. There has also been a reduction of 34%, or 8.7 µg/m³, in the area immediately surrounding the CAZ.
- Additionally, NO₂ concentrations have continued to decrease when compared to 2022. Concentrations within the CAZ have decreased a further 8% when compared to 2022, with reductions also being seen in the CAZ Boundary (9%).
- The percentage of chargeable non-compliant vehicles (as per cent of total traffic) entering the zone each week reduced from 6% in the launch week, to an average of 1% by the end of 2023.
- In total, the Council's Financial Assistance Scheme enabled 947 vehicles to be upgraded by the end December 2023, including 110 taxis, 22 coaches, 781 LGVs and 32 HGVs.
- Compliance percentages rose between launch week and the end of 2023 from 63% to 86% for Van/LGVs; 67% to 95% for Taxi/PHVs; 73% to 98% for buses (as a result of the CAZ bus retrofit scheme); 86% to 94% for smaller HGVs and 93% to 96% for larger HGVs.

- In addition to the Bus Retrofit Scheme and Financial Assistance Scheme, the Government awarded Implementation Fund and Clean Air Fund helped in the delivery of the following:
 - Setting up of a team of travel advisors to deliver and promote sustainable travel and behavioural change and encourage the uptake of various CAZ-related mitigation schemes by impacted groups
 - Setting up of a team of business support officers to oversee the processing of CAZ penalty charge notices with the aim of engaging customers to promote behaviour change and signpost them to the mitigation schemes which are available.
 - Piloting a scheme for community anti-idling signage and development of a toolkit to support community activities.

Other measures

- Revocation of the Keynsham and Saltford Air Quality Management Areas following more than 3 years of measured concentrations below objective levels.
- The West of England Combined Authority (WECA) coordinated Future Transport Zone new technology trials included the launch of an e-scooter hire scheme in October 2020, trialling 50 scooters in Bath. Due to the success of the scheme, the e-scooter contract changed to Tier in September 2023 where there were 300 e-scooters and 150 e-bikes available in the Bath fleet. To date, there have been over 86,000 e-scooter rides and 34,000 e-bike rides, averaging at around 3,700 rides per week.
- A webform was successfully launched in 2022 to report allegations of breaches of vehicle weight restrictions, particularly within the CAZ. Throughout 2023, Trading Standards have carried out proactive monitoring of roads carrying weight restrictions, with 17 cases of contravention reported to date.
- Following on from local trials, the 'Kick the Habit' campaign was developed and launched in 2022 to raise awareness of anti-idling within local communities. Throughout 2023, B&NES engaged with all primary and secondary schools across the district to roll out the campaign.

- The Journey to Net Zero (JNZ) and Local Plan were both adopted in 2022. Throughout 2023, B&NES began to progress those measures identified in the JNZ, including the recent move to emissions-based parking in Council carparks, and the role out of the Liveable Neighbourhoods Scheme.
- Development of the Council's air quality web pages to improve the display of live air quality data and user visualisations.
- Following a public consultation, Experimental Traffic Orders at Kingsmead Square and Milsom Street were both made permanent in 2023.
- A pilot project was developed and completed in early 2023 which focused on Farrington Gurney and Temple Cloud to capture learning relating to effective community engagement and behaviour change around air quality.
- Throughout 2023, the Clean Air Schools Toolkit was made available to all schools throughout B&NES and has been regularly promoted.
- Following sign-off in 2023, Temple Cloud and Farrington Gurney Action Plan is progressing as planned.



Conclusions and Priorities

In 2023, monitoring at existing locations showed a decrease in concentrations at most locations compared with 2022. There was 1 exceedance of the annual average NO₂ objective, this was located within an existing AQMA.

Bath and North East Somerset Council expects the following actions to be taken forward over the course of the next reporting year:

- Liveable neighbourhoods are an important part of the Council's plan to tackle the Climate and Ecological Emergency, and in 2023 B&NES introduced 3 trial through-traffic restrictions, and 7 residents parking zones to help deliver the aims. A decision about whether to make these schemes permanent will be made in early 2024.
- The repairs surrounding Cleveland Bridge were completed in October 2022, and the bridge fully reopened subject to an 18-tonne weight restriction. The bridge structure is being monitored, the results of which will determine a review of the associated weight restriction.
- Development of Air Quality Strategy that connects the broad air quality related measures to ensure effective co-ordination and collaboration with neighbouring authorities.
- The first phase of parking formalisation under the TIER e-scooter scheme, including 10 painted bays is due to be delivered by June 2024. The second phase of the scheme, to include additional parking formalisation and expansion of the area is planned for August 2024.

Bath & North East Somerset Council's priorities for the coming year are:

- Continuing to progress along JAQU's road map to success in relation to continuing compliance with nitrogen dioxide concentrations within the Clean Air Zone.
- Close cooperation with the Sustainability Team on the declared Climate Emergency and planned carbon neutrality by 2030 across the authority area.
- Continue to provide mobile automatic air quality monitoring to respond to monitoring requests following the purchase of Zephyr electro-chemical automatic monitors.
- Development of an Air Quality Strategy.
- The rollout of Liveable Neighbourhoods schemes and supporting Residents Parking Zone schemes.

- To develop and publish a Supplementary Planning Document which aims to introduce guidance surrounding non-road mobile machinery.
- The publication of an updated Air Quality Action Plan for the Bath Air Quality Management Area.

The principal challenges and barriers to implementation that Bath and North East Somerset Council anticipates facing are:

- A change in working patterns and flexibility due to the long-lasting changes brought about by Covid-19.
- National and international factors affecting economic vibrancy and supply chains that impact the ability of fleet operators to upgrade their vehicles.

Progress on certain measures has been slower than expected for the following reasons:

- The installation of Electric Vehicle Infrastructure (EVI) under the GULW project has been delayed due to rapid charger global supply chain problems. The Green Recovery Fund release has also been delayed due to political discourse.

Local Engagement and How to get Involved

As the main source of air pollution in Bath and North East Somerset is from road sources, the Council wishes to encourage a greater amount of active travel across the district. The cycling infrastructure in Bath and North East Somerset is improving all the time and there are more opportunities to hire electric bikes being developed. There is also an ongoing e-Scooter trial.

We recommend that people visit the [‘Travel West’ website](#), as this provides live data on public transport (bus checker app) for journey planning as well as route information for walkers and cyclists. The webpage is administered by the West of England Combined Authority and also includes information on car clubs, traffic reports, electric vehicle charging infrastructure; alongside other information that simplifies travel choices.

Further information relating to the Council led improvements to air quality in Bath and North East Somerset as part of the National Air Quality Plan and local engagement events can be found at the [Clean Air Zone website](#).

The Council has an ambitious programme of improving residential streets and encouraging safe, active, and more sustainable forms of travel, such as walking, wheeling and cycling by developing suggestions from the community through its Liveable

Neighbourhoods programme. More information on the programme can be found on the [Liveable Neighbourhoods website](#).

Further information on current and historic air quality data can be found at the [Council's Air Quality website](#).

Local Responsibilities and Commitment

This ASR was prepared by the Environmental Monitoring Team of Bath and North East Somerset Council with the support and agreement of the following officers and departments:

- Climate and Environmental Sustainability
- Planning & Conservation
- Planning Policy
- Traffic Management and Network
- Human Resources
- Active Travel
- Green Infrastructure & Nature Recovery
- Transport Development & Policy
- Parking Services
- Public Health & Prevention
- CAZ Project Team
- Trading Standards
- Waste and Fleet operations

This ASR has been approved by:

Head of City and Town Centre Management (Lynda Deane); Environmental Protection and Licensing Manager (Aled Williams); Head of Highways Delivery Parking and Passenger Transport (Gary Peacock); CAZ Manager (Dan Arthur).

This ASR has been signed off by the Director of Public Health & Prevention, Rebecca Reynolds.

If you have any comments on this ASR, please send them to Environmental Monitoring at:

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1 Local Air Quality Management

This report provides an overview of air quality in Bath and North East Somerset 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 Bath and North East Somerset 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 Bath and North East Somerset Council can be found in Table 2.1. The table presents a description of the 3 AQMAs that are currently designated within Bath and North East Somerset Council. Appendix D: Map(s) of Monitoring Locations and AQMAs provides maps of AQMAs and also the air quality monitoring locations in relation to the AQMAs. The air quality objectives pertinent to the current AQMA designations are as follows:

- NO₂ annual mean;
- NO₂ hourly mean.

In 2022 we proposed to revoke The Keynsham High Street Air Quality Management Area 2010 and The Salford Air Quality Management Area 2013 AQMAs, this was consulted on in early 2024 and the areas revoked in June 2024.

The monitoring in the Farrington Gurney AQMA also shows concentrations continuing to remain below the objective, however there are currently no plans to review the Farrington Gurney AQMA as there are development proposals which could affect the area.

The Action Plan for the Bath AQMA is currently being updated and a consultation draft will be published in late 2024. This will complement the Clean Air Plan.

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
The Bath London Road Air Quality Management Area – 2013	Declared 1 February 2002, amended v1 19 August 2005, amended v2 30 July 2008, amended v3 18 July 2013	NO ₂ Annual Mean	The area covers the major road network in Bath, encompassing any buildings whose facades are within the area.	YES	London Road AURN 2001 - 57 µg/m ³	Walcot Parade 2 2023 – 35.9 µg/m ³	2	Bath Air Quality Action Plan (2011)	Visit the AQAP for Bath London Road AQMA
The Bath London Road Air Quality Management Area – 2013	Declared 18 July 2013	NO ₂ 1 Hour Mean	The area covers the major road network in Bath, encompassing any buildings whose facades are within the area.	YES	Lambridge - 2012 – 62 µg/m ³	Walcot Parade 2 2023 – 35.9 µg/m ³		Bath Air Quality Action Plan (2011)	Visit the AQAP for Bath London Road AQMA
Temple Cloud Air Quality Management Area 2018	Declared 20 August 2018	NO ₂ Annual Mean	The area starts approximately 245 metres north of the A37/Temple Inn Lane junction and runs along the A37 to approximately 150 metres south of the A37/Eastcourt Road junction.	NO	Temple Cloud 1 2017 – 67 µg/m ³	Temple Cloud 10 2023 – 40.8 µg/m ³	0	Farrington Gurney and Temple Cloud Air Quality Action Plan (April 2023)	Visit the AQAP for Temple Cloud AQMA

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
Temple Cloud Air Quality Management Area 2018	Declared 20 August 2018	NO ₂ 1 Hour Mean	The area starts approximately 245 metres north of the A37/Temple Inn Lane junction and runs along the A37 to approximately 150 metres south of the A37/Eastcourt Road junction.	NO	Temple Cloud 1 2017 – 67 µg/m ³	Temple Cloud 10 2023 – 40.8 µg/m ³		Farrington Gurney and Temple Cloud Air Quality Action Plan (April 2023)	Visit the AQAP for Temple Cloud AQMA
Farrington Gurney Air Quality Management Area 2018	Declared 20 August 2018	NO ₂ Annual Mean	The area starts approximately 165 metres north of the A37/Church Lane junction and runs south along the A37 to the Bath and North East Somerset Council boundary, and additionally extends approximately 100 metres east along the A362 from the A37/A362 junction.	NO	Farrington Gurney 2 2017 - 52 µg/m ³	Farrington Gurney 2 2023 – 25.1 µg/m ³	6	Farrington Gurney and Temple Cloud Air Quality Action Plan (April 2023)	Visit the AQAP for Farrington Gurney AQMA

Bath & North East Somerset Council confirm the information on UK-Air regarding their AQMA(s) is up to date.

Bath & North East Somerset Council confirm that all current AQAPs have been submitted to Defra.

2.2 Progress and Impact of Measures to address Air Quality in Bath and North East Somerset Council

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

The report is well structured, detailed, and provides the information specified in the Guidance. The following comments are designed to help inform future reports:

1. It would be a little easier to follow, if the details of the non-automatic sites were ordering sequentially

The non-automatic sites have been ordered by geographical area as requested by a previous review. This keeps all the sites within the smaller AQMAs together. The sites have been ordered within local places within the tables and discussion in section 3.2.1 is also broken down by area. The graphs also show locations by place (or ward within Bath where there are too many sites to put on one graph). As sites are numbered numerically for each new addition this does mean that they may not be in numerical order when shown by area. The order has not been changed this year.

2. Continue with Reference to the Public Health Outcomes Framework, following the positive work made in this submission.
3. Continue analysis of trends in the air quality data in comparison to the Air Quality Objectives.
4. Continue maintaining high standards of QA/QC procedures with sufficient supporting evidence provided., with robust analysis shown in this submission.
5. It would be useful to have a mention in text of the total number of air quality measures, I counted 87 in total.

The number of actions was stated in commentary point 5 (87) is incorrect, the text on page 7 of the ASR states that there are 83 actions within Table 2.2. The total number of actions will continue to be stated.

Bath and North East Somerset 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. 51 measures are included within Table 2.2, with the type of measure and the progress Bath and North East Somerset Council have made during the reporting year of 2023 presented. Where there

have 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 their respective Action Plans; Clean Air Plan: Full Business Case (2020), Bath AQAP (2011), and AQAP for Temple Cloud and Farrington Gurney (2023).

Key completed measures are:

Bath Clean Air Plan

- The Clean Air Zone launched within Bath on 15 March 2021. Average 2023 annual nitrogen dioxide (NO₂) concentrations within the CAZ are 32% lower than the 2019 baseline, representing a reduction of 10.5 µg/m³. There has also been a reduction of 34%, or 8.7 µg/m³, in the area immediately surrounding the CAZ. (Note that the CAZ has a greater actual NO₂ reduction despite the percentage change being marginally lower).
- Additionally, NO₂ concentrations have continued to decrease when compared to 2022. Concentrations within the CAZ have decreased a further 8% when compared to 2022, with reductions also being seen in the CAZ_Boundary (9%).
- The percentage of chargeable non-compliant vehicles (as percentage of total traffic) entering the zone each week reduced from 6% in the launch week, to an average of 1% by the end of 2023.
- The Council's Financial Assistance Scheme (FAS), introduced as part of the Clean Air Fund, has enabled 947 vehicles to be upgraded by the end of 2023. This includes 110 taxis, 22 coaches, 781 LGVs and 32 HGVs.
- Compliance percentages rose between launch week and the end of 2023 from 63% to 86% for Vans/LGVs; 67% to 95% for Taxi/PHVs; 73% to 98% for buses (a result of the CAZ Bus Retrofit Programme); 86% to 94% for smaller HGVs and 93% to 96% for larger HGVs.

Other measures

- The Keynsham and Saltford Air Quality Management Areas were revoked in June 2024 following more than 3 years of measured NO₂ concentrations below objective levels.
- The West of England Combined Authority (WECA) Future Transport Zone new technology trials included the launch of an e-scooter hire scheme in October 2020, trialling 50 scooters within Bath. Due to the success of the scheme, the e-scooter

contract changed to TIER in September 2023, with there being around 300 e-scooters and 150 e-bikes available in the Bath fleet. To date, there have been over 86,000 e-scooter trips and 34,000 e-bike trips, an average of around 3,700 rides per week. The first phase of parking formalisation is due to be delivered by June 2024, with the second phase of parking formalisation and expansion of the area planned for autumn 2024.

- A webform was successfully launched in 2022 to report allegations of breaches of vehicle weight restrictions, particularly within the CAZ. Trading Standards have carried out proactive monitoring of the roads carrying weight restrictions, and to date seventeen cases of contravention have been reported, with five further cases detected based on observation. After further investigation, four vehicles were found to be exempt for loading, eight cases remain ongoing, and ten warning letters have been sent out to the remaining vehicles/operators.
- Following on from local trials, the 'Kick the Habit' campaign was developed and launched in 2022 to raise awareness of anti-idling within local communities. Throughout 2023 the Council have engaged with all primary, junior, and secondary schools in B&NES, delivering 3 workshops, 21 banners, 25 signs and 1850 postcards through 16 schools.
- The Journey to Net Zero (JNZ) and the Local Plan Partial Update were both adopted in 2022. Throughout 2023, B&NES began to progress those measures identified in the JNZ including the recent move to emissions-based parking in Council car parks and the roll out of the Liveable Neighbourhoods scheme. To help deliver the Council's ambitions, B&NES have been awarded grant funding of £120 million from WECA, for six schemes which will significantly improve public transport and active travel infrastructure.
- Development of the Council's air quality web pages to improve the display of live air quality data, whilst providing user friendly data visualisations.
- Throughout 2023, the Clean Air Schools toolkit (which was refreshed in 2022) has been made available to all schools throughout B&NES and has been regularly promoted throughout the school's newsletter and Hub website so it is easier to navigate.
- Following a public consultation, an Experimental Traffic Regulation Order was made permanent in Kingsmead Square, Bath. This order stops motor vehicles accessing the square between the hours of 11am and midnight.

- Additionally, Milsom Street has been under an Experimental Traffic Regulation Order since July 2020 that has seen only local buses being allowed to use the road from the junction of George Street and Quiet Street between 10am and 6pm. This experimental TRO was made permanent in 2023.
- Within Temple Cloud a Vehicle Activated Sign (VAS) was successfully installed, using height sensors to alert vehicles of HGVs oncoming in the middle of the road. This aims to reduce emissions on the A37 by reducing stop-starting, particularly by larger vehicles. Data from this VAS, including speed and vehicle counts, continues to be reviewed into 2024.
- A pilot project was developed and completed in early 2023 which focused on Farrington Gurney and Temple Cloud to capture learning relating to effective community engagement and behaviour change around air quality.
- Following sign-off in 2023, Temple Cloud and Farrington Gurney Air Quality Action Plan is progressing as planned.

Bath and North East Somerset Council expects the following measures to be completed over the course of the next reporting year:

- Liveable Neighbourhoods (LN) are an important part of the Council's plan to tackle the Climate and Ecological Emergency, and in 2023 B&NES introduced 3 trial through-traffic restrictions. To help deliver the aims of LN, 7 residents parking zones were additionally introduced in 2023. A decision about whether to make these schemes permanent will be made in early 2024. Work will continue in 2024 to finalise a full business case to unlock allocated funding from the City Regional Sustainable Transport Scheme (CRSTS) to deliver the wider measures for each area.
- The repairs surrounding Cleveland Bridge were completed in October 2022, and the bridge fully reopened subject to an 18-tonne weight restriction. This remained in place throughout 2023. The bridge structure is being monitored, the results of which will determine a review of the associated weight restriction.
- Development of an Air Quality Strategy that connects the broad air quality related measures more to ensure effective co-ordination and collaboration with neighbouring authorities and Climate and Ecological Emergency related actions.

Bath and North East Somerset Council's priorities for the coming year are:

- Continuing to progress along JAQU's road map to success in terms of continued compliance with nitrogen dioxide concentrations within the Clean air zone.
- Close cooperation with the Sustainability Team on the declared Climate Emergency and planned carbon neutrality by 2030 across the authority area.
- Continue to provide mobile automatic air quality monitoring to respond to monitoring requests following purchase of Zephyr electro-chemical automatic monitor.
- Development of an Air Quality Strategy.
- The roll out of Liveable Neighbourhoods and supporting Residents Parking Zone scheme.
- To develop and publish a Supplementary Planning Document which aims to introduce guidance surrounding non-road mobile machinery.
- The publication of an updated Air Quality Action Plan to support the Bath Air Quality Management Area.

Bath and North East Somerset Council worked to implement these measures in partnership with the following stakeholders during 2023:

- Joint Air Quality Unit
- West of England Combined Authority
- Bus operators
- E-cargo bike operators; and
- Local communities.

The principal challenges and barriers to implementation that Bath and North East Somerset Council anticipates facing are:

- National and international factors affecting economic vibrancy and supply chains that impact the ability of fleet operators to upgrade their vehicles.

Progress on the following measures has been slower than expected due to:

- The installation of Electric Vehicle Infrastructure (EVI) under the GULW project has been delayed due to rapid charger global supply chain problems. The Green Recovery Fund release has also been delayed due to political discourse.

Bath & North East Somerset Council anticipates that the measures stated above and in Table 2.2 will achieve compliance in the Farrington Gurney, Bath, and Temple Cloud AQMAs.

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
BATH CAP 2	Bath Charging Clean Air Zone	Traffic Management	Emission based road user charging	2021	2021	Bath and North East Somerset Council	Joint Air Quality Unit CAZ Implementation Fund	No	Fully funded	£1m-£10m	Implementation	4 µg/m ³ (at key locations)	Measured annual average concentrations of NO ₂ . Number of monitoring sites (PCM and LAQM with façade adjustments) measuring above 40µg/m ³ .	Came into operation 15 th March 2021. B&NES passed the State 3 Assessment outlined by JAQU in 2022, defining the CAZ as having maintained success.	EXPECTED HIGH EFFECTIVENESS. Start date was delayed due to Covid-19.
BATH 20	Journey To Net Zero	Transport Planning and Infrastructure	Other	2020	2030	WECA and Bath and North East Somerset Council	WECA & DfT	No	Fully funded.	tbc	Implementation	tbc	tbc	The JNZ was adopted in 2022 with B&NES progressing those measures identified in the policy throughout 2023. These measures include the introduction of emissions-based parking for vehicles parking in Council owned carparks, and the continued role out of the Liveable Neighbourhoods programme. To help deliver the council's ambitions, B&NES have been awarded grant funding of £120 million from WECA. The Council continues to build upon the JNZ with the development of the Circulation Plan for Bath and the Transport Action Plan for B&NES.	EXPECTED HIGH EFFECTIVENESS.
TC10	The use of Vehicle Activated Signs (VAS) to help smooth traffic flows and reduce emissions.	Traffic Management	Other	2022	2022	B&NES Highways	Capital Funding	No	Fully Funded	£10k - £50k	Implementation	This action would focus on preventing a deterioration in the quality of the air locally	HGV crossing in the tight section. (Causes stop-start)	Vehicle Activated Signs were installed in April 2022	EXPECTED MEDIUM EFFECTIVENESS. This measure will help avoid HGV crossing in the tight section of the A37, the main cause of traffic in that section and the higher concentration of NO ₂ .
BATH CAP 1	Reduced residents parking permit charges for ULEVs	Promoting Low Emission Transport	Other	Apr-21	2022	Bath and North East Somerset Council	JAQU CAZ Early Measures Fund.	No	Fully funded	£50-£100k	Completed	Not known	Number of permits for ULEVs as %age of total	As planned, this trial scheme ended in March 2022. Overall uptake was low, with 43 permits issued within the 2021/2022 financial year.	EXPECTED MEDIUM EFFECTIVENESS. Uptake and affordability of ULEVs.
BATH CAP 3	Retrofitting buses	Vehicle Fleet Efficiency	Vehicle Retrofitting programmes	2020	2022	Bath and North East Somerset Council; bus operators and Energy Saving Trust	Joint Air Quality Unit CAZ Clean Air Fund	No	Fully funded	£1m-£10m	Completed	Tbc	Overall NO ₂ emissions reduction	Completed in June 2022, with all 88 vehicles successfully retrofitted.	EXPECTED HIGH EFFECTIVENESS.

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BATH CAP 4	Financial Assistance Scheme	Vehicle Fleet Efficiency	Other	2020	2021	Bath and North East Somerset Council	Joint Air Quality Unit CAZ Clean Air Fund	No	Partially funded.	£1m-£10m	Completed	Tbc	Measured annual average concentrations of NO ₂ . Number of vehicles registered for the scheme. Number of vehicles fitted with telematics. Number of vehicles upgraded.	947 vehicles upgraded by the end of December 2023 (22 buses/coaches, 2 minibuses, 32 HGVs, 781 LGVs and 110 taxis/PHVs). This scheme is now complete with all funding allocated.	EXPECTED HIGH EFFECTIVENESS. Economic conditions and business solvency. Private vehicle and campervans difficult to replace and often low number of journeys in zone to justify change.
BATH CAP 5	E-cargo bike distribution measure. Previously known as: 'Support and facilities for alternative delivery and servicing options for businesses'	Freight and Delivery Management	Delivery and Service Plans	2021	2022	Bath and North East Somerset Council	Joint Air Quality Unit CAZ Clean Air Fund	No	Fully funded.	£500k-£1m	Aborted	Tbc	Number of deliveries made by e-cargo bikes – new journeys and those formerly by other couriers or methods.	Scheme was aborted due to low uptake rates; the courier delivery market remains competitive and evolving. Other E-cargo projects are planned locally and are to be delivered by WECA.	EXPECTED MEDIUM EFFECTIVENESS. Delivery and Service Plans aborted and replaced with only/last mile.
BATH CAP 6	Sustainable Travel and Transport Team	Promoting Low Emission Transport / Promoting Travel Alternatives	Other	2020	2025	Bath and North East Somerset Council	Joint Air Quality Unit CAZ Clean Air Fund	No	Fully funded.	£500k-£1m	Completed	Tbc	Number of vehicle operators advised. KPI for Bath CAP 4	Approximately 2000 people spoken to by the end of December 2022, with an additional 100 online questionnaires completed for the second phase of the Financial Assistance Scheme (FAS). The FAS has now closed with all funding allocated.	EXPECTED HIGH EFFECTIVENESS. Difficult to measure impact. Not as important as Bath CAP 4.
BATH CAP 7	Weight restriction enforcement	Traffic Management	Other	2021	2025	Bath and North East Somerset Council	Joint Air Quality Unit CAZ Clean Air Fund	No	Fully funded.	£10-£50k	Implementation	Tbc	Number of vehicles exceeding weight limit before and after.	A webform to report allegations of breaches of vehicle weight restrictions was launched in 2022. Officers within Trading Standards are responding to complaints and carrying out proactive monitoring of roads carrying weight restriction limits. To date, seventeen cases of weight restriction contravention has been reported, with five further cases detected based on observation.	EXPECTED LOW EFFECTIVENESS. Some delay due to emerging moving traffic offences legislation.
BATH CAP 8	Anti-idling education and enforcement.	Traffic Management	Anti-idling enforcement.	2021	2025	Bath and North East Somerset Council	Joint Air Quality Unit CAZ Clean Air Fund	No	Fully funded.	£10-£50k	Implementation	Not known	Number of signs erected.	Following on from some local trials, the 'Kick the Habit' campaign was developed and launched in 2022. Throughout 2023, we have engaged with all primary, infant, junior and secondary schools in the authority about the campaign. Thus far, the offer of printed resources as well as time to deliver in-school workshops has been taken up by 16 schools. In addition, we have engaged with local community groups with a remit that includes anti-idling, resident's associations and individual residents who have reported idling issues to us directly.	EXPECTED LOW EFFECTIVENESS. Difficult to measure impact. Engine and vehicle technology increasingly automatically switches engines off. Practically difficult to enforce and an educative approach is favoured

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
BATH CAP 9	Queen Square Urban Traffic Management Control	Traffic Management	UTC	2021	-	Bath and North East Somerset Council	Joint Air Quality Unit CAZ Clean Air Fund	No	Fully funded.	£500k - £1m	Implementation	4µg/m ³	Gay St NO ₂	The UTMC at Gay Street was reinstated following the full reopening of Cleveland Bridge in October 2022. Throughout 2023, concentrations of NO ₂ did not exceed the objective.	EXPECTED HIGH EFFECTIVENESS. Part and full closure of Cleveland Bridge has impacted the operation.
BATH 1	Bath Transport Package	Traffic Management	Other	2015	Substantially Complete.	Bath and North East Somerset Council	DfT	No	Partially funded.	£1m - £10m	Completed	Not known	Park & Ride (P&R) bus patronage and vehicles using the P&R	890 additional P&R spaces between 2012 and 2015. Patronage at the 3 P&R sites overall grew by 16% between 2008/09-2016/17. 4 EV charging sockets installed at each P&R site. Bus infrastructure works included: Raised pavements at 375 stops to ease access on and off buses; 169 Real Time Passenger Information displays; Replacement of existing shelters and the addition of new bus shelters. There are live VMS, 7 on the edge of the city and 6 in the City Centre for parking info and P&R promotion. Extension of 10am to 6pm traffic restrictions in Stall Street and Lower Borough Walls. Seven Dials shared space and cycle scheme. Closure of Saw Close car park (22 spaces).	MEDIUM EFFECTIVENESS
BATH 2	Cleveland Bridge area restrictions. (Originally: Cleveland Bridge area restrictions feasibility study [& Low Emission Zone Feasibility Study])	Traffic Management	Strategic highway improvements, congestion management and traffic reduction.	2011 and new weight restrictions 2020	2022	Local Authority Traffic Management and Network	Department for Transport	No	Partially funded.	£1m - £10m	Implementation/ completed	n/a	Measured NO ₂ levels.	Cleveland Bridge repairs started in June 2021, with the condition of the bridge being much worse than previously identified. Traffic signal shuttle working with width restriction remained in place until October 2022. The bridge fully reopened in October 2022 subject to an 18-tonne weight restriction. This remains in place into 2024. The condition of the bridge is being monitored, the results of which will determine a review of the associated 18-tonne weight restriction. Air quality at locations within the vicinity of the bridge will continue to be monitored as traffic volumes return to normal.	EXPECTED MEDIUM EFFECTIVENESS.2020 works were delayed due to Covid-19.

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
BATH 3	Low Carbon Bus Trial (CIVITAS 1.3)	Vehicle Fleet Efficiency	Promoting Low Emission Public Transport	2010	Complete.	Local Authority Environmental Health, Local Authority Transport Dept.	Local Authority, Funding: Defra Air Quality Grant	No	Partially funded.	£100k - £1m	Completed	0.2 µg/m ³	Fuel usage / costs.	Complete. As a result, 8 hybrid electric buses were in operation for 10 years on park and ride services. Now superseded by Bath CAP 3 (CAZ retrofitting).	LOW EFFECTIVENESS.39% improved fuel economy (mpg). 28% fuel saving (l/100km). Overall operating cost increase of £0.03/km (but due in part to prototype status). NO _x comparison unavailable. ORIGINAL MEASURE COMPLETE BUT NEW DEVELOPMENTS RE CAZ FUNDED RETROFITTING
BATH 4	Urban Freight Transhipment (CIVITAS 7.2)	Freight and Delivery Management	Freight Consolidation Centre	2011	Complete (funding ceased).	Bath and North East Somerset Council, DHL, Bristol City Council and retail outlets in Bath	Local Authority, Funding and CIVITAS (EU)	No	Partially funded.	£100k - £1m	Aborted	Reduced vehicle emissions	Number of deliveries transferred from LGV / HGV to E-cargo bike. Number of participating businesses. NOx emissions	See Bath CAP 5 and Bath 18: E-Cargo Bike last-mile delivery service funding was provided in 2019. Pilot scheme to subsidise delivery costs for businesses. Bath CAP 5	High level of subsidy required and no funding available – replaced with new E-cargo bike last-mile delivery (see 'Bath 18' below')
BATH 5	Improved Enforcement of TROs (CIVITAS 3.4 - Demand Management Strategies)	Freight and Delivery Management	Route Management Plans/ Strategic routing strategy for HGV's	2010	Complete.	Bath and North East Somerset Council	Bath and North East Somerset Council	No	Fully funded.	£10k – 50k	Completed	n/a	HGV traffic flows. NO ₂ levels.	See Bath CAP 7	The trial indicated that identifying breaches of the 7.5 tonne weight limit and informally contacting the relevant operators led to a reduction in HGV volumes. For details see 2016 ASR.
BATH 6	Bicycle Hire including Electric Bikes (CIVITAS 6.4 and 6.5)	Transport Planning and Infrastructure	Public Cycle Hire Scheme	2015	2018	Bath and North East Somerset Council and 'Next Bike'	Local Sustainable Transport Fund and Access Fund	No	Fully funded.	£100k - £1m	Completed/ Aborted	Not known.	Vehicle mix (% bikes). No. of hires.	Superseded by e-scooter hire – see BATH 19. New cycle hire facility launched 2014 with PAYG at 9 stations across Bath. 5 further hire stations added to total 14 in 2016. Contract expired in 2019 and a new electric cycle hire scheme was tendered in 2019 but no contract was awarded. The focus has now shifted to an e-scooter trial.	Over 15,000 hires between June 2014 and June 2016. 877 users per month. Electric cycle hire scheme was tendered in 2019. Original hire scheme cancelled because non-profitable.an e-bikes more suitable.
BATH 7	Electric Vehicle Charging Infrastructure (EVI)	Promoting Low Emission Transport	EV charging	2014	2023	West of England Combined Authority, OZEV, Revive Network, LEVI tender winning CPO.	Local Sustainable Transport Fund, Access Fund, OZEV GULW, ULEV Taxi Infrastructure and WECA Green Recovery Fund, DfT Local Electric Vehicle Infrastructure (LEVI) fund.	No	Fully funded	£1m - £10m	Implementation	Not known	Number of charging devices per 100k population (DfT metric), number of charge points, number of EVs registered, number of charger events, number of Revive network users	A growing number of charger sessions across the Revive West of England Network. 14 chargers were in place by the end of 2022 across Bath, Midsomer Norton and Radstock. By the end of 2023, under the GULW scheme, 5 further chargers will be installed. The WECA Green Recovery Fund plans to install 27 sites with 44 chargers as part of a 3-year project.	EXPECTED MEDIUM EFFECTIVENESS. GULW project delayed by rapid charger global supply chain problems. GRF funding release delayed by political discourse (WECA/BCC) and legal financial issues around Subsidy Control Act 2022.
BATH 8	Improve Building Emission Assessments	Policy Guidance and Development Control	Other policy	n/a	n/a	Bath and North East Somerset Council	n/a	No	n/a	n/a	Aborted	n/a	Number of air quality assessments including spreadsheet tool.	No progress	Lack of resource and low priority due to low %age source apportionment.

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BATH 9	ECO Stars Vehicle Recognition Scheme	Vehicle Fleet Efficiency	Fleet efficiency and recognition schemes	n/a	n/a	Bath and North East Somerset Council	n/a	No	n/a	n/a	Aborted	n/a	Number of haulage operators & vehicles audited. HGV vehicle mix survey (number plate and engine standard).	No progress	Low priority due to limited reported effectiveness and lack of resource.
BATH 10	Review Council and Emergency Service Vehicle Fleet	Vehicle Fleet Efficiency	Fleet efficiency and recognition schemes	2016	2021	Bath and North East Somerset Council	OZEV Go Ultra Low West Scheme	No	n/a	n/a	Implementation/ completed	Not known	Euro engine standard survey	Review undertaken by Energy Saving Trust for successful GULW Bid. The Council pledged to change 25% of light duty fleet to ULEVs by 2021. At the beginning of 2024, 50% of the light duty fleet (45 vehicles) are electric. Additionally, all large lorries that are a part of the fleet are Euro 6 or meet equivalent standards. An additional 4 electric hire pool cars and are 1 hybrid vehicle are also being used within B&NES.	EXPECTED MEDIUM EFFECTIVENESS. MoU signed by emergency services as a roadmap for meeting Euro 6 compliance for all but cars by 2021. Council fleet also compliant.
BATH 11	Monitoring of Bus Fleet Quality	Vehicle Fleet Efficiency	Fleet efficiency and recognition schemes	AQAP from 2011 & CAP from 2017	2021	Bath and North East Somerset Council and bus operators	CAP Clean Air Fund	No	n/a	n/a	Completed	Critical measure in delivering compliance according to Full Business Case for Clean Air Zone	Euro engine standard survey. Number of emissions abatement retrofit / original design.	Superseded by Bath CAP3. OZEV Low Emission Bus Scheme bid unsuccessful. Pre-CVRAS Clean Bus Technology Fund relatively ineffective with some retrofitting unable to meet certification requirements. The Clean Air Fund bid as part of the CAP and CBTF extension means that theoretically all public bus services will be upgraded to CVRAS Euro VI by the end of 2020. Additionally, WECA will ensure that as part of its local bus service contract, Euro 6 buses are used on all contracted routes by 31 st December 2023. See Bath CAP 3.	Superseded by Bath CAP3. Full audit of fleet planned as part of CAZ proposals. Bus upgrade programme agreed with operators most retrofits completed at time of writing.
BATH 12	Transport & Travel Information	Public Information	Other	2014	Complete.	Bath and North East Somerset Council	DfT	No	n/a	n/a	Completed	Not known	Number of signs. Contribute to achieving a target increase in bus passenger journeys per annum of 3% on a 2001/2 base level of 9.184m.	248 real time bus passenger information displays installed across B&NES. Overall bus passenger satisfaction in 2016 stood at 41% very satisfied and 47% satisfied, in 2016.	Bus checker app implemented as part of LSTF West of England project and available via the Travel West website.
BATH 13	Alternative Exhaust Emissions Abatement	Vehicle Fleet Efficiency	Fleet efficiency and recognition schemes	2019 (as part of CAP)	Nov 2020	Bath and North East Somerset Council	CAP Clean Air Fund 2020 (subject to award)	No	n/a	n/a	Completed	Not known	Number of retrofitted HGVs. Number of buses retrofitted.	Superseded by BATH CAP 3. Clean Bus Technology Fund used for retrofitting of 35 buses across the West of England to Euro 5/6. Also, Clean Vehicle Technology Fund award (joint bid) enabled Thermal Management Technology (TMT) to 42 buses across the West of England fitted as standard with Selective Catalytic Reduction (SCR). CAP CAF bid for 117 fully funded vehicle retrofits, 13 repowers and 26 CBTF Extension funded retrofits.	Availability of CVRAS (Clean Vehicle Retrofit Accreditation Scheme) accredited retrofit solutions.

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
BATH 14	Rossiter Road Traffic Management Measures	Traffic Management	Strategic highway improvements	2015	Complete.	Bath and North East Somerset Council	DfT / B&NES Highways budget	No	n/a	n/a	Completed	Moving traffic from receptors.	Traffic flows. NO ₂ levels.	Completed 2015 and annual mean NO ₂ levels reduced from 49 in 2014 to 28 µg/m ³ in 2016 on Widcombe Parade.	HIGH EFFECTIVENESS
BATH 15	Promotional Website	Public Information	Via the internet	2016	2022	Bath and North East Somerset Council	Initially DEFRA AQ Grant, then B&NES budget and Clean Air Plan Implementation Fund	Yes	Fully funded.	£6,5k original budget.	Completed	Not known	Number of hits	Power BI visualisation with an interactive map showing annual data from 2014 to 2022 remains operational. A live feed from the automatic analyser sites is available to view on the UK-AIR website. The locations of the analysers can be viewed on an interactive map, where data is also available to download.	LOW EFFECTIVENESS
BATH 16	B&NES Corporate Travel Plan	Vehicle Fleet Efficiency	Fleet efficiency and recognition schemes	2015	2020	Bath and North East Somerset Council	Council budget	No	Fully funded.	n/a	Implementation	Not known	Business mileage. Modal shift (e.g., number of employees transferred from private car to bike, walking or public transport bus)	The reduction in business miles has continued significantly from the baseline and 2019/20 (pre-covid). 2022/23 has seen an increase of 37% from 2021-22, however, this was predictable as both B&NES and the wider district recover. When comparing 23/24 to 22/23 there has however been a 6% reduction. In late 2022, B&NES reprocurd their managed corporate pool car fleet of 11 low emission cars. For the financial year 2022/23, 86k miles were transferred from grey fleet miles.	MEDIUM EFFECTIVENESS. 1 car is ringfenced for the Peasedown communities HUB. New CTP in development for 2021-2024
BATH 17	Clean Air Schools Kit	Promoting Travel Alternatives	School Travel Plans / Other	2019	2025 (anticipated lifecycle)	Local Authority and Primary Schools	B&NES budget	No	Fully funded.	n/a	Implementation	Not known	School uptake numbers.	Launched in 2019 and being used by several schools, the toolkit was refreshed in 2022. The toolkit has been made available to all schools across B&NES and has been further promoted through the school's newsletter on a regular basis and Hub website, so it is easier to navigate.	LOW EFFECTIVENESS. Despite low immediate effect, a necessary component part of a suite of measures to nudge long term change.
Bath 18	e-cargo and ULEV delivery scheme	Freight and Delivery Management	Freight Partnerships for city centre deliveries	2020	2025	Bath and North East Somerset Council and WeGo	OZEV GULW SCHEME	No	Partially funded	£100k - £500k	Aborted	tbc	Number of deliveries transferred from previous method	In February 2021 the revised bid was approved resulting in £500,000 to begin the project. Existing pilot terminated in January 2022, enabling the subsidised delivery trial to commence. Measure now taken forward as 'BATH CAP 5' above, however, this was aborted in 2022 due to low uptake.	EXPECTED HIGH EFFECTIVENESS. Real focus on e-cargo delivery in terms of funding. To subsidise delivery to discourage regular courier. Big impact for some businesses.

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
BATH 19	Future Transport Zone new technology trials (MaaS & e-scooters)	Transport Planning and Infrastructure	Other	2020	2023	WECA; DfT Bath and North East Somerset Council; and VOI	WECA & DfT	No	Partially funded	£1m - £10m	Implementation	Not known	Mobility as a Service & e-scooter technology uptake numbers	Originally a 12-month trial launched in October 2020, the PAYG scheme originally included 50 e-scooters that could be picked up from various locations across Bath. The e-scooter contract changed to TIER in September 2023, with there now being around 300 e-scooters and 150 e-bikes available in the Bath fleet. To date, there have been over 86,000 e-scooter rides and 34,000 e-bike rides.	EXPECTED HIGH EFFECTIVENESS. Experimental. Short-trip replacement only. Safety concerns and difficulty enforcing against use on pedestrian only footways. The use of privately-owned e-scooters on public land remains illegal. Expansion of the scheme is dependent on Bristol and South Gloucester operations and agreeing for B&NES to expand.
BATH 21	Public Realm and Movement	Traffic Management	Re-prioritising road space away from cars	2020	2021	WECA and Bath and North East Somerset Council	WECA and Bath and North East Somerset Council	No	Fully funded.	tbc	Completed	tbc	Active travel count on road space and vehicular ATC	Experimental access restrictions in Kingsmead Square, stopping motor vehicles between 11am and midnight, were in place throughout 2022. Following a public consultation, this Experimental Traffic Regulation Order was made permanent in 2023.	EXPECTED HIGH EFFECTIVENESS.
BATH 22	Clean Air Day	Public Information	Leaflets, TV, internet, etc.	2018	Annual ongoing	Bath and North East Somerset Council and Global Action Plan	Bath and North East Somerset Council, and Global Action Plan	No	Not funded	tbc	Aborted	Not known	Number of pledges and interactions	This was aborted in 2020 due to Covid-19 lockdown.	EXPECTED LOW EFFECTIVENESS. Impossible to measure effectiveness.
BATH 23	Liveable Neighbourhoods	Traffic Management	Re-prioritising road space away from cars	2020	tbc	West of England Mayoral Combined Authority (MCA) and Bath and North East Somerset Council	City Regional Sustainable Transport Scheme (CRSTS) and Bath and North East Somerset Council (Transport Improvement Programme & Council Capital Programme)	No	Fully funded	£1m - £10m	Planning/ implementation	tbc	Active travel count on road space and vehicular ATC and/or ANPR data	In 2021, B&NES prioritised the development of 15 Liveable Neighbourhoods and throughout 2022, worked collaboratively with communities to identify existing issues and gather people's ideas for measures that could bring improvements to their area. 3 trial through-traffic restrictions were introduced in November 2022. In 2023, 7 residents parking zones were introduced in addition to ongoing monitoring of the Liveable Neighbourhood trial schemes. A decision about whether to make these schemes permanent will be made in the first quarter of 2024 and monitoring data will be published via the Council's webpages.	EXPECTED HIGH EFFECTIVENESS Possible improvements in residential streets with potential worsening on main routes, although data so far is not showing any significant impacts.
BATH 24	Electric-Brompton hire scheme	Transport Planning and Infrastructure	Public (e)Cycle Hire Scheme	2020		WECA and Bath and North East Somerset Council	WECA and Bath and North East Somerset Council				Aborted	tbc	Uptake number	Aborted	

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BATH 25	Milsom St access restrictions	Traffic Management	Re-prioritising road space away from cars	2020	2021	Bath and North East Somerset Council	Bath and North East Somerset Council	No	Fully funded	£10k - £50k	Completed	tbc	Pedestrian footfall.	Milsom Street was under an experimental traffic order from July 2020 that saw only buses being allowed to use the road from the junction of George Street and Quiet Street between 10am and 6pm. Restrictions were introduced as part of various measures across Bath to help with social distancing, whilst keeping pedestrians and cyclists safe in the city. However, following a consultation, this experimental TRO was made permanent in 2023.	EXPECTED MEDIUM EFFECTIVENESS.
TC1	Determine feasibility of vehicle width restriction through Temple Cloud	Traffic Management	Other	2027	Not known	B&NES Highways	Not funded	No	Not funded	£50k-£100k	Further assessment required before this can be established.	18 µg/m ³ at worst case receptor if the study recommends that we go forward with the width restriction	Reduction in nitrogen dioxide concentrations	Officer advice is that we could undertake further assessment including obtaining origin and destination data across a wide area and complete further modelling across a wider area.	Legal advice suggests that a width restriction without support from neighbouring authorities and other statutory consultees would be problematic and potentially jeopardise highway infrastructure bids to the Department for Transport.
TC2	Undertake significant 'cutting back' of the high hedge/vegetation on the eastern side of the narrow section to allow more effective use of the existing carriageway by HGVs.	Traffic Management	Other	2020	2021	B&NES Public Protection	B&NES Public Protection	No	Fully funded	<£10k	Completed	3 µg/m ³ at worst case receptor	Reduction in nitrogen dioxide concentrations	Hedges and some Ash trees have been cut back just before the line of the road. Some cut back had been done previously for safety reasons.	Some of the residents were initially against it, of fear from the garden wall being struck by larger vehicles and by the walls falling apart after the removal of vegetation. But with assistance of our specialists, we managed to reverse fears.
TC 3	New public footpath bypass	Promoting Travel Alternatives	Promotion of walking	2022	2026	B&NES Highways, Public Rights of Way	Been identified for 2021 Capital Program	No	Fully funded	£10k-£100k	Planning	No reduction in concentration in Nitrogen Dioxide, however there would be an exposure reduction for residents.	Public footpath link built	Change the PROW closer to the edge of the field	LOW EFFECTIVENESS. There are some legal constraints with the owner of the field impeding the progression of the work
TC 4	Advice and information for residents	Public Information	Via the Internet, via other mechanisms	2022	2028	B&NES Public Protection	Local Authority (Public Health)	No	Fully funded	<£10k	Planning	No reduction in concentration in Nitrogen Dioxide, however there would be an exposure reduction for residents.	Number of hits on website, number of people engaged with	Throughout 2022, work commenced on collating advice and distributing a leaflet to residents in areas of higher air pollution. The leaflets were delivered by hand which allowed opportunistic conversations positively framed around what actions could realistically be taken to reduce exposure to poorer air quality. These measures included keeping road facing windows closed and maintaining protective vegetation near the road to act as a protective barrier.	Limited resources and lowering of nitrogen dioxide concentrations resulted in it being a low priority.

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TC 5	School travel plan (Modeshift STARS)	Promoting Travel Alternatives	School Travel Plans	2020	2028	B&NES Sustainable Travel	Local Authority (Active Travel)	No	Fully funded	<£10k	Implementation	No reduction in concentrations in Nitrogen Dioxide, however there would be an exposure reduction for residents	Hand's up data	School is signed up for Modeshift STARS	LOW EFFECTIVENESS. Despite low immediate effect, a necessary component part of a suite of measures to nudge long term change.	
TC 6	Clean Air Schools Toolkit	Public Information	Other (Education)	2020	2028	B&NES Public Health	Local Authority (Public Health)	No	Fully funded	<£10k	Implementation	No reduction in concentrations, exposure reduction, but would also deliver emission reduction through anti idling scheme etc.	School uptake numbers	Introduced in 2020 and being used by several schools, the toolkit was refreshed in 2022. It was utilised for Clean Air Day by at least 2 focussed schools as part of a community engagement project. The toolkit has been made available to all schools across B&NES and has been further promoted through the school's newsletter and Hub website, so it is easier to navigate.	LOW EFFECTIVENESS. Despite low immediate effect, a necessary component part of a suite of measures to nudge long term change.	
TC 7	Influence planning decisions for any development within 200 metres of an AQMA boundary	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2022	2028	B&NES Planning, Public Protection	Local Authority (Planning, Public Protection)	No	Fully funded	<£10k	Implementation	No reduction in concentration in Nitrogen Dioxide, however there would be an exposure reduction for residents.	Number of decisions consulted on	On going		
TC 8	Targeted information campaign for the most vulnerable groups	Public Information	Via other mechanisms	2022	2028	B&NES Public Health	Local Authority (Public Health)	No	Fully funded	<£10k	Implementation	No reduction in concentration in Nitrogen Dioxide, however there would be an exposure reduction for residents.	Uptake of information by organisations and individuals	A bespoke made 0-5 information leaflet was made available to GP's, pharmacies, health visitors, with some information leaflets being delivered to care homes and local businesses. Patient waiting room screen slide set with primary care staff training slides.	LOW EFFECTIVENESS	
TC9	Investigate the potential technology and its feasibility in air pollution cleaning	Technology	Other		n/a	B&NES Public Protection	Local Authority (Public Protection)	No	n/a	<£10k	Research	Further research required	Reduction in concentration of nitrogen dioxide		Further work needs to be undertaken to establish what technology exists and whether it would be suitable for this setting.	
FG 2	School travel plan (Modeshift STARS)	Promoting Travel Alternatives	School Travel Plans	2022	2028	B&NES Sustainable Travel	Local Authority (Active Travel)	No	Fully funded	<£10k	Implementation	No reduction in concentrations in Nitrogen Dioxide, however there would be an exposure reduction for residents	Hand's up data	School is signed up for Modeshift STARS	LOW EFFECTIVENESS. Despite low immediate effect, a necessary component part of a suite of measures to nudge long term change.	

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	
FG 3	Clean Air Schools Toolkit	Public Information	Other (Education)	2022	2028	B&NES Public Health	Local Authority (Public Health)	No	Fully funded	<£10k	Implementation	No reduction in concentrations, exposure reduction, but would also deliver emission reduction through anti idling scheme etc.	School uptake numbers	Introduced in 2020 and being used by several schools, the toolkit was refreshed in 2022. It was utilised for Clean Air Day by at least 2 focussed schools as part of a community engagement project. The toolkit has been made available to all schools across B&NES and has been further promoted through the school's newsletter and Hub website, so it is easier to navigate.	LOW EFFECTIVENESS. Despite low immediate effect, a necessary component part of a suite of measures to nudge long term change.	
FG 4	Influence planning decisions for any development within 200 metres of an AQMA boundary	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2022	2028	B&NES Planning, Public Protection	Local Authority (Planning, Public Protection)	No	Fully funded	<£10k	Implementation	No reduction in concentration in Nitrogen Dioxide, however there would be an exposure reduction for residents.	Number of decisions consulted on	On going		
FG 5	Targeted information campaign for the most vulnerable groups	Public Information	Via other mechanisms	2022	2028	B&NES Public Health	Local Authority (Public Health)	No	Fully funded	<£10k	Implementation	No reduction in concentration in Nitrogen Dioxide, however there would be an exposure reduction for residents.	Uptake of information by organisations and individuals	A bespoke made 0-5 information leaflet was made available to GP's, pharmacies, health visitors, with some information leaflets being delivered to care homes and local businesses. Patient waiting room screen slide set with primary care staff training slides.	LOW EFFECTIVENESS	
FG 6	If necessary: Construction of an additional lane on the A37 southbound approach to the A37/A362 signals utilising the existing verge and possibly the existing footway or hatchway if required.	Traffic Management	Strategic highway improvements	Review, if necessary, upon annual completion of Annual Status Report	n/a	B&NES	n/a	No	n/a	£1 million - £10 million	On Hold	Reductions in concentrations predicted of up to 8.4µg/m ³		Concentration of NO ₂ currently under 40µg/m ³ so it is not needed	Currently it is not necessary.	
FG 7	Tree planting along the right-hand side of the A362 approaching the A37	Transport Planning and Infrastructure	other	2022	2022	B&NES Neighbourhood Environmental Services	Trees for Climate funding	No	Fully funded	<£10k	Completed	No reduction in concentration in Nitrogen Dioxide, however there would be an exposure reduction for residents.	Number of trees planted, reduction of noise and PM	Trees have been planted in January 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 Strategy¹⁰, 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 Office for Health Improvement & Disparities (OHID) 'Public Health Outcomes Framework' indicator 'D01 Fraction of mortality attributable to particulate air pollution'¹¹ (particulates under 2.5 micrometres in diameter as opposed to nitrogen dioxide) for Bath & North East Somerset Council in 2022 (the most recent year available) is 5.1%. This is similar to the values across the South West region of 4.6% and 5.8% nationally.

In 2015 Bath & North East Somerset Council started to monitor PM_{2.5} at Chelsea House, London Road, Bath (CM4), this a roadside site set 15 m back from the road. Monitoring from this location shows concentrations of PM_{2.5} remaining constant over the last 3 years. Due to its small size PM_{2.5} can travel large distances in the air. 40-50% of PM_{2.5} levels can be from sources outside the local authority boundary (LAQM.TG22)¹².

Bath & North East Somerset Council is working on a Clean Air Plan which includes introducing a Clean Air Zone to tackle the worst polluting vehicles. These measures will also address PM_{2.5} including BATH CAP 2 (Charging Clean Air Zone), BATH CAP 3 (Retrofitting Buses) and BATH CAP 8 (anti-idling).

Within Bath and North East Somerset, the area depicted by the city of Bath is a Smoke Control Area. Details of this area can be found at [Bath & North East Somerset Council Smoke Control Website](#). Within this area the Council works to ensure that only authorised fuels or appliances are used.

¹⁰ Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

¹¹ OHID Health Outcomes Framework

¹² Local Air Quality Management - Technical Guidance (TG22), April 2021

The Environment Act 2021 introduced new enforcement provisions that apply to premises that emit smoke from a chimney within a Smoke Control Area. The Council will be looking to implement the powers and enforcement in accordance with their enforcement policies.

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

This section sets out the monitoring undertaken within 2023 by Bath and North East Somerset 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

Bath and North East Somerset Council undertook automatic (continuous) monitoring at 4 sites during 2023. Table A.1 in Appendix A shows the details of the automatic monitoring sites.

The [UK Air Quality](#) webpage presents automatic monitoring results for Bath & North East Somerset Council automatic sites, with automatic monitoring results also available through the [UK-Air website](#) (the London Road Continuous NO₂ analysers is listed as Bath Roadside (until June 2019) and Bath A4 Roadside (from October 2019)).

Local authorities do not have to report annually on the following pollutants: 1,3 butadiene, benzene, carbon monoxide and lead, unless local circumstances indicate there is a problem. Whilst we are fully compliant with the national air quality objective with respect to benzene, Bath & North East Somerset Council has a benzene monitor which is part of the national non-automatic hydrocarbon network located at the London Road continuous site (CM1) until June 2019 and then moved to Bath A4 Roadside (CM8) in October 2019. Results from this site are available at [UK-AIR Non Automatic Hydrocarbon Website](#) listed as Bath A4 Roadside and details are also given in Appendix F.

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

Bath and North East Somerset Council undertook non- automatic (i.e. passive) monitoring of NO₂ at 165 sites during 2023. Table A.2 in Appendix A presents the details of the non-automatic sites.

10 new sites were introduced in 2023, 2 sites were in Radstock as a high concentration had been identified, 4 sites were for Liveable Neighbourhood projects and a further 4 monitors to respond to public requests and to check other key locations. A further site was added in November 2023, this will be reported on in 2025. The new monitoring sites were:

- Radstock
 - DT306 – Radstock – Bath New Road 2
 - DT307 – Radstock – Bath New Road 3
- Liveable Neighbourhoods
 - DT312 – Bath – Sydney Place 2
 - DT313 – Bath – Sham Castle Lane
 - DT314 – Bath – Catherine Place
 - DT315 – Bath – Sion Hill
- Other sites
 - DT308 – Marksbury
 - DT309 – Midsomer Norton – Station Road
 - DT310 – Keynsham – Vandyke Avenue
 - DT311 – Westfield – Welton Road
- Sites added at the end of 2023 which will be reported on in 2025
 - DT316 – Bath – Midland Road

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including bias adjustments and any other adjustments applied (e.g. annualisation and/or distance correction), are included in Appendix C.

An interactive map showing diffusion tube locations and monitoring trends is available at Bath & North East Somerset Council – Nitrogen dioxide Monitoring Data.

3.1.3 Indicative Monitoring Sites

During 2023 Bath & North East Somerset also carried out monitoring using 3 Zephyr samplers (Appendix F).

- Bath – Windsor Bridge (co-location)

- Gay Street
- Kingsmead Car Park (Bath)
- High Street (Keynsham)
- Vandyck Avenue (Keynsham)
- near the canal (Bath)
- Frome Road (Bath)
- Bath Road (Saltford)
- Lansdown Road (Bath)

These samplers are indicative and monitor NO₂ using electrochemical sensors, PM₁₀ and PM_{2.5} using optical particle count sensors giving real-time results every 15 minutes.

Results are shown in Appendix F.

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 40 µg/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.

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 200 µg/m³, not to be exceeded more than 18 times per year.

Automatic Monitoring Data

The trend data shows that 2023 was not a peak year for NO₂, with monitoring results being similar to 2022 at all sites (Table A.3 and Figure A.1, Appendix A). All continuous analyser monitoring results were below the annual average objective of 40 µg/m³ and there were no exceedances of the 1-hour objective (18 exceedances allowed).

NO₂ reduced by an average of 6% compared to results in 2022; this is less than the average 9% reduction in levels across the National AURN network.

Due to continued monitoring of low concentrations at the Guildhall (CM2), monitoring ceased at this site at the end of 2023.

Diffusion Tube Monitoring Data

The trends in diffusion tube monitoring since 2019 are shown in Table A.4 and Figure A.2-A.19 in Appendix A. Monitoring results of NO₂ in 2023 were lower than in 2022 by an average of 9% across the network, this is similar to the results across the AURN. Results are showing a downward trend since 2019. Some locations were slightly higher in 2023 than in 2022.

No monitoring sites were at or above 60 µg/m³, indicating the 1-hour objective has not been exceeded. There are currently no plans to amend the AQMA to remove the 1-hour objective from the Bath AQMA or Temple Cloud AQMA.

Bath

Monitoring continued at 129 sites in Bath (Figure D.2-D.4 in Appendix D). The results from monitoring sites in Bath show that in 2023 the annual average objective was not exceeded in Bath (Figures A.2-A.14 in Appendix A).

There are 2 sites in Bath (identified below) having levels which are between 36-40 µg/m³. Both sites were below 36 µg/m³ when adjusted to the façade (Table B.1). These monitoring sites are within the Bath AQMA. Monitoring will continue at all these locations to ensure concentrations do not increase above the objective.

- DT224 – Walcot Parade 2
- DT304 – Walcot Parade 4

There are a large number of sites which have been below 30 µg/m³ for at least 2 years, monitoring ceased at a number of these sites in April 2024 and some triplicate sites were

reduced to single tubes in January 2024. Some sites below $30 \mu\text{g}/\text{m}^3$ will remain for ongoing monitoring of the Clean Air Plan and Liveable Neighbourhood projects.

Bathampton

Monitoring continued along Bathampton High Street and on A36 in Bathampton (Figure D.5 in Appendix D). The results from 2023 show that levels in Bathampton were below $40 \mu\text{g}/\text{m}^3$ (Figure A.15 in Appendix A) with concentrations decreasing. Monitoring will continue in Bathampton as part of the Clean Air Plan.

Batheaston

Monitoring continued along London Road West in Batheaston, on the A4 in Batheaston, and on the Toll Bridge linking Batheaston with Bathampton (Figure D.5 in Appendix D). The results from 2023 show that levels at all locations were below $40 \mu\text{g}/\text{m}^3$ (Figure A.15 in Appendix A) and were similar to 2022. Monitoring will continue in Batheaston as part of the Clean Air Plan.

Farrington Gurney

In 2023 monitoring continued at 3 key locations in Farrington Gurney (Figure D.6 in Appendix D). The results in 2023 remained below the objective of $40 \mu\text{g}/\text{m}^3$ with concentrations decreasing (Figure A.16 in Appendix A). Monitoring has remained below $36 \mu\text{g}/\text{m}^3$ for 4 years, however there are currently no plans to review the Farrington Gurney AQMA as there are a number of development proposals which could affect the area. Monitoring is continuing in Farrington Gurney.

Keynsham

In 2023 monitoring continued at 6 locations in Keynsham (Figure D.7 in Appendix D). An additional site was added for a short period due to a resident's concern.

In 2023 the results show that all the monitoring locations were below $40 \mu\text{g}/\text{m}^3$ with concentrations decreasing (Figure A.17 in Appendix A).

The Keynsham AQMA was revoked in June 2024 following 6 years of monitoring below $36 \mu\text{g}/\text{m}^3$. ([insert link to decision](#))

Marksbury

In 2023 a monitoring site was added in Marksbury for 6 months at a potential hot spot on the A39 (Figure D.8 in Appendix D).

The results for monitoring location in Marksbury show that the levels in 2023 were below $40 \mu\text{g}/\text{m}^3$ (Figure A.16 in Appendix A).

Midsomer Norton

Monitoring in Midsomer Norton was carried out 1 location for 6 months due to concerns of concentrations (Figure D.9 in Appendix D). The results from 2023 show that levels were below $40 \mu\text{g}/\text{m}^3$ (Figure A.16 in Appendix A).

Old Mills

Monitoring in Old Mills was carried out 1 location close to a proposed development (Figure D.6 in Appendix D). The results from 2023 show that levels were below $40 \mu\text{g}/\text{m}^3$ (Figure A.16 in Appendix A).

Radstock

Monitoring was carried out in Radstock at 3 locations (Figure D.9 in Appendix D). The results from 2023 showed that all locations were below $40 \mu\text{g}/\text{m}^3$. There is one site in Radstock (DT295) having levels which are between $36\text{-}40 \mu\text{g}/\text{m}^3$ (Figure A.16 in Appendix A). Monitoring continues in Radstock.

Saltford

In 2023 monitoring was carried out at 2 locations within Saltford (Figure D.10 in Appendix D). The results from 2023 show that levels at both locations were below $40 \mu\text{g}/\text{m}^3$ with concentrations decreasing (Figure A.18 in Appendix A). Monitoring will continue at 2 sites in Saltford.

The Saltford AQMA was revoked in June 2024 following 7 years of monitoring below $36 \mu\text{g}/\text{m}^3$. (insert link to decision)

Temple Cloud

In 2023 monitoring continued at 6 locations within Temple Cloud (Figure D.11 in Appendix D). The 2023 results show that concentrations are decreasing (Figure A.19 in Appendix A). One monitoring location on the A37 remains above $40 \mu\text{g}/\text{m}^3$ when adjusted to the façade which is closer to the road than the monitor (DT253 – Temple Cloud 10) (Table B.1 in Appendix B). There is a further site in Temple Cloud (DT096) having levels which are between $36\text{-}40 \mu\text{g}/\text{m}^3$. Both monitoring sites are within the Temple Cloud AQMA. In 2023 all sites were below $60 \mu\text{g}/\text{m}^3$, this indicates the 1-hour objective was not exceeded.

Monitoring continues in Temple Cloud.

Westfield

Monitoring was carried out at 1 site in Westfield 2023 for 3 months due to a resident's concern (Figure D.9 in Appendix D). The results from 2023 show that levels were below $40 \mu\text{g}/\text{m}^3$ and no further action is required (Figure A.16 in Appendix A).

Whitchurch

In 2023 monitoring was carried out at 4 locations in Whitchurch (Figure D.12 in Appendix D). The results from 2023 show that levels at all locations were below $40 \mu\text{g}/\text{m}^3$ with decreasing concentrations (Figure A.18 in Appendix A). Monitoring will continue at 4 sites in Whitchurch.

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 $40 \mu\text{g}/\text{m}^3$.

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 $50 \mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times per year.

Monitoring for PM₁₀ has been carried out at 2 sites during 2023 using BAM1020 analysers. The data has been corrected to Gravimetric equivalent by multiplying by 0.833 and annualised where appropriate. QA/QC procedures are described in Appendix C.

Windsor Bridge (CM3) is at a worst-case location on the opposite side of the junction to the residential properties. Bath A4 Roadside enclosure (CM8) is located on London Road, this moved from Chelsea House (CM4) in September 2019. The analyser is closer to the road than when it was located at Chelsea House.

The results show that the annual average objective was not exceeded during 2023 and the number of exceedances of the 24-hour objective ($50 \mu\text{g}/\text{m}^3$) were below 35 at all sites.

The results at the Bath A4 Roadside decreased compared with 2022 but the annual average results were higher at CM3 (Windsor Bridge) than in 2022 and there were also 23 exceedances of the 24-hour objective, this was due to a large construction site next to the analyser (Figure A.20 and Figure A.21) and is unlikely to cause on-going high concentrations.

There was also a peak in PM₁₀ on Bonfire Night, but it was short lived and did not cause an exceedance of the 24-hour objective.

3.2.3 Particulate Matter (PM_{2.5})

Bath & North East Somerset Council started monitoring PM_{2.5} in July 2015 at Chelsea House (CM4). Table A.8 and Figure A.22 in Appendix A present the ratified and adjusted monitored PM_{2.5} annual mean concentrations for the past five years.

The results show slightly lower concentrations of PM_{2.5} compared to previous years, with the annual average concentration below the air quality objective of 20 µg/m³. The results show that there were 0 days with moderate (24-hour average concentrations >35 µg/m³) levels of PM_{2.5} in Bath & North East Somerset

There was a peak in PM_{2.5} on Bonfire Night but it was short lived and did not cause a moderate concentration.

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)
CM2	Guildhall	Roadside	375111	164857	NO ₂	YES (Bath)	Chemiluminescent	1	2	1.3
CM3	Windsor Bridge	Roadside	373593	164861	NO ₂ , PM ₁₀	YES (Bath)	Chemiluminescent BAM1020	2	4	2.0
CM4	Chelsea House	Roadside	375419	165853	NO ₂ , PM _{2.5}	YES (Bath)	Chemiluminescent BAM1020 (smart heated)	0	15	2.0
CM8	Bath A4 Roadside	Roadside	375394	165824	NO ₂ Benzene PM ₁₀	YES (Bath)	Chemiluminescent Pumped BTX tubes BAM1020	3.5	3.5	1.9

Notes:

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

(2) N/A if not applicable

Table A.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)
DT003	Bath - Broad St	Roadside	374992	165173	NO2	Yes (Bath)	1.7	1.3	No	2.6
DT004	Bath - George St	Kerbside	374899	165159	NO2	Yes (Bath)	3.0	1.0	No	2.3
DT005	Bath - Gay St - Top	Roadside	374797	165161	NO2	Yes (Bath)	3.0	1.0	No	2.6
DT008	Bath - Windsor Bridge	Roadside	373518	165124	NO2	Yes (Bath)	0.0	3.5	No	2.3
DT009	Bath - Upper Bristol Rd	Roadside	373993	165174	NO2	Yes (Bath)	5.0	1.0	No	2.6
DT014	Bath - Bathwick St	Roadside	375602	165365	NO2	Yes (Bath)	1.0	1.0	No	2.5
DT015	Bath - Beckford Rd	Roadside	375733	165414	NO2	Yes (Bath)	7.0	1.0	No	2.7
DT016	Bath - Warminster Rd	Roadside	376063	165492	NO2	Yes (Bath)	18.0	4.0	No	2.4
DT017a, DT017b, DT017c	Bath - Widcombe School	Roadside	375634	164406	NO2	Yes (Bath)	5.0	1.0	No	2.6
DT018	Bath - Widcombe High St	Roadside	375414	164216	NO2	Yes (Bath)	0.0	5.0	No	2.5
DT020a, DT020b, DT020c	Bath - Wells Rd	Roadside	374760	164310	NO2	Yes (Bath)	0.0	1.5	No	2.3
DT021	Bath - Wells Rd /Upper Oldfield Park	Roadside	374454	164202	NO2	Yes (Bath)	3.0	1.0	No	2.7

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT023	Bath - Alexandra Park	Urban Background	375105	163991	NO2	No	n/a	n/a	No	3.3
DT026	Bath - Upper Wellsway	Roadside	373576	161908	NO2	No	0.0	3.0	No	2.0
DT034	Bath - Newbridge Rd	Roadside	373092	165106	NO2	Yes (Bath)	5.0	1.0	No	2.3
DT037a, DT037b, DT037c	Bath - Charlotte St	Roadside	374622	164994	NO2	Yes (Bath)	3.0	1.0	No	2.7
DT039	Bath - Manvers St	Roadside	375247	164591	NO2	Yes (Bath)	3.0	2.0	No	2.3
DT042	Bath - Dorchester St	Kerbside	375230	164383	NO2	Yes (Bath)	1.5	1.0	No	2.4
DT043	Bath - St. James Parade	Kerbside	375053	164426	NO2	Yes (Bath)	2.6	0.9	No	2.9
DT045	Bath - James St West	Roadside	374697	164763	NO2	Yes (Bath)	0.0	5.0	No	2.7
DT052, DT053, DT054	Bath - Walcot Terrace	Roadside	375462	165843	NO2	Yes (Bath)	0.0	3.0	No	2.5
DT055	Bath - Lambridge	Roadside	376451	166502	NO2	Yes (Bath)	-1.5	2.6	No	2.6
DT060	Bath - Victoria Buildings	Roadside	374039	164760	NO2	Yes (Bath)	3.7	0.5	No	2.5
DT062	Bath - Argyle Terrace	Roadside	373211	164743	NO2	Yes (Bath)	4.0	3.0	No	2.8

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)
DT084	Bath - Bear Flat	Roadside	374604	163806	NO2	No	5.7	1.9	No	2.3
DT085	Bath - RUH – North	Roadside	373073	165983	NO2	No	7.0	1.5	No	2.3
DT087	Bath - Oak Street	Roadside	374702	164414	NO2	Yes (Bath)	0.0	2.7	No	2.3
DT090a, DT090b, DT090c	Bath - Anglo Terrace	Roadside	375288	165758	NO2	Yes (Bath)	2.5	1.6	No	2.3
DT142	Bath - Prior Park Road	Kerbside	375513	164194	NO2	No	0.3	0.8	No	2.5
DT143	Bath - Rackfield Place	Roadside	372644	164738	NO2	No	0.3	3.6	No	2.6
DT145	Bath - Lansdown Road	Kerbside	374930	165550	NO2	Yes (Bath)	2.5	0.7	No	2.5
DT147	Bath - Terrace Walk	Roadside	375195	164735	NO2	No	0.3	1.7	No	2.7
DT148a, DT148b, DT148c	Bath - Julian Road	Roadside	374573	165523	NO2	No	0.4	2.2	No	2.5
DT149	Bath - Camden 3	Kerbside	375038	165838	NO2	No	2.0	0.4	No	2.6
DT150	Bath - Brougham Hayes	Roadside	373955	164590	NO2	No	1.9	1.3	No	2.6
DT151	Bath - Widcombe Hill	Kerbside	375598	164190	NO2	No	3.9	0.8	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)
DT152	Bath - Bathwick Hill	Roadside	375800	164912	NO2	No	2.0	1.0	No	2.6
DT153	Bath - North Road	Roadside	376069	165356	NO2	No	3.0	1.9	No	2.4
DT154	Bath - Bradford Road	Roadside	375529	162389	NO2	No	0.4	2.2	No	2.4
DT155	Bath - Newbridge Hill 2	Roadside	372696	165488	NO2	No	7.0	1.8	No	2.5
DT156	Bath - Corn Street	Roadside	374827	164531	NO2	No	2.4	2.6	No	2.5
DT157	Bath - Charles Street	Roadside	374664	164815	NO2	No	1.5	3.2	No	2.4
DT158	Bath - Paragon 2	Roadside	375051	165350	NO2	Yes (Bath)	5.4	1.1	No	3.0
DT159	Bath - Walcot Street	Roadside	375075	165287	NO2	No	3.0	2.5	No	2.7
DT160	Bath - North Parade Road	Roadside	375284	164694	NO2	No	6.3	1.3	No	2.6
DT165	Bath - Brassknocker Hill	Kerbside	377960	162736	NO2	No	7.0	0.8	No	2.5
DT167	Bath - Weston High Street	Roadside	372587	166629	NO2	No	0.4	1.0	No	2.5
DT168	Bath - Englishcombe Lane	Roadside	373207	163339	NO2	No	3.4	1.6	No	2.5
DT169	Bath - Eastbourne Avenue	Roadside	375667	166369	NO2	No	5.1	2.0	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)
DT171	Bath - Frome Road/Upper Bloomfield	Roadside	373706	162411	NO2	No	0.4	4.2	No	2.4
DT172a, DT172b, DT172c	Bath - London Road 2	Roadside	375374	165813	NO2	Yes (Bath)	0.6	3.6	No	2.5
DT173	Bath - Upper Bristol Road 2	Roadside	374362	165016	NO2	Yes (Bath)	0.6	2.2	No	2.4
DT179a, DT179b, DT179c	Bath - Upper Bristol Road 3	Roadside	373299	165093	NO2	Yes (Bath)	0.0	1.5	No	2.0
DT180a, DT180b, DT180c	Bath - Wells Road 2	Roadside	374537	163968	NO2	No	0.7	1.7	No	2.4
DT181	Bath - Wellsway	Roadside	374618	163494	NO2	No	15.0	1.2	No	2.5
DT182a, DT182b, DT182c	Bath - Gay Street - Lower	Roadside	374796	165123	NO2	Yes (Bath)	3.7	1.1	No	2.3
DT183	Bath - Chapel Row	Roadside	374712	164913	NO2	No	0.0	2.1	No	2.5
DT185	Bath - Greenway Lane	Kerbside	374712	163417	NO2	No	0.5	0.7	No	2.4
DT186	Bath - Coronation Avenue	Roadside	373170	163416	NO2	No	3.3	1.4	No	2.4
DT187	Bath - Stanley Road West	Roadside	373835	164438	NO2	No	0.2	1.7	No	2.3
DT188	Bath - Moorland Road	Roadside	373696	164343	NO2	No	0.5	3.4	No	2.6

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)
DT189	Bath - Old Newbridge Hill	Roadside	372251	165686	NO2	No	10.0	2.1	No	2.5
DT190	Bath - Church Street	Kerbside	375814	164027	NO2	No	0.0	0.9	No	2.5
DT192	Bath - Fairfield Road	Roadside	375505	166428	NO2	No	3.6	1.3	No	2.5
DT193	Bath - Granville Road	Roadside	374260	167661	NO2	No	4.5	1.5	No	2.5
DT194	Bath - Brooklyn Road	Roadside	376096	166878	NO2	No	3.5	1.0	No	2.6
DT195	Bath - Lansdown Lane	Roadside	372537	167235	NO2	No	11.0	1.9	No	2.5
DT196	Bath - Oakley	Kerbside	377133	164045	NO2	No	2.0	0.8	No	2.5
DT197	Bath - Rush Hill	Roadside	372703	162983	NO2	No	5.5	2.0	No	2.4
DT198a, DT198b, DT198c	Bath - Walcot Parade	Kerbside	375240	165739	NO2	Yes (Bath)	0.4	1.0	No	3.3
DT199	Bath - Hensley Road	Roadside	374353	163504	NO2	No	8.0	1.1	No	2.4
DT200	Bath - Millmead Road	Roadside	373375	164307	NO2	No	3.4	1.6	No	2.4
DT201	Bath - The Hollow	Roadside	373003	164250	NO2	No	1.3	2.4	No	2.5
DT202	Bath - Charlcombe	Kerbside	374636	166701	NO2	No	5.0	0.4	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)
DT206a, DT206b, DT206c	Bath - Park Lane	Roadside	373742	165305	NO2	No	0.5	1.8	No	2.5
DT207	Bath - Darlington Street	Roadside	375630	165132	NO2	No	4.0	1.1	No	2.5
DT209	Bath - Bellots Road	Roadside	373490	164804	NO2	No	3.5	1.5	No	2.5
DT210	Bath - Red Lion Roundabout	Roadside	373895	162254	NO2	No	0.4	1.5	No	2.4
DT211	Bath - St John's Road	Roadside	375218	165290	NO2	No	0.0	2.0	No	2.5
DT212	Bath - Oldfield Road	Roadside	374356	163985	NO2	No	5.0	1.8	No	2.4
DT213a, DT213b, DT213c	Bath - Marlborough Lane	Roadside	374262	165127	NO2	No	6.0	3.0	No	2.5
DT214a, DT214b, DT214c	Bath - Marlborough Buildings	Roadside	374354	165448	NO2	No	2.6	1.0	No	2.5
DT215a, DT215b, DT215c	Bath - Queen Parade Place	Roadside	374758	165096	NO2	No	0.3	2.6	No	2.6
DT216a, DT216b, DT216c	Bath - Monmouth Place	Roadside	374574	164958	NO2	Yes (Bath)	0.3	1.5	No	2.4
DT217a, DT217b, DT217c	Bath - Cavendish Road	Roadside	374335	165990	NO2	No	1.2	1.0	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)
DT218	Bath - Weston Road	Roadside	373668	165697	NO2	No	3.0	1.4	No	2.5
DT219	Bath - Morford Street	Roadside	374872	165570	NO2	No	0.0	1.5	No	2.5
DT221	Bath - Gay Street - façade	Roadside	374793	165119	NO2	No	0.2	4.4	No	2.7
DT222a, DT222b, DT222c	Bath - Anglo Terrace façade	Roadside	375322	165778	NO2	Yes (Bath)	0.5	1.8	No	2.4
DT223a, DT223b, DT223c	Bath - Canton Place	Roadside	375322	165759	NO2	Yes (Bath)	2.4	4.0	No	2.3
DT224a, DT224b, DT224c	Bath - Walcot Parade 2	Roadside	375207	165726	NO2	Yes (Bath)	0.4	1.1	No	2.4
DT225a, DT225b, DT225c	Bath - Cleveland Terrace	Kerbside	375203	165708	NO2	Yes (Bath)	2.8	0.7	No	2.4
DT226a, DT226b, DT226c	Bath - AURN	Roadside	375394	165824	NO2	Yes (Bath)	3.5	3.5	Yes	1.9
DT227a, DT227b, DT227c	Bath - Wells Road 3	Kerbside	374580	163979	NO2	No	1.1	0.4	No	2..25
DT228a, DT228b, DT228c	Bath - Lower Bristol Road 2	Roadside	374002	164754	NO2	Yes (Bath)	1.4	3.0	No	2.4
DT229a, DT229b, DT229c	Bath - Lower Bristol Road 3	Kerbside	373936	164779	NO2	Yes (Bath)	10.8	0.2	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)
DT230a, DT230b, DT230c	Bath - Upper Bristol Road 4	Roadside	373439	165098	NO2	Yes (Bath)	3.7	1.2	No	2.4
DT231a, DT231b, DT231c	Bath - Upper Bristol Road 5	Kerbside	373480	165125	NO2	Yes (Bath)	4.7	0.3	No	2.4
DT232a, DT232b, DT232c	Bath - Lansdown Road 3	Kerbside	374942	165391	NO2	Yes (Bath)	4.3	0.6	No	2.4
DT233a, DT233b, DT233c	Bath - Lansdown Road 4	Kerbside	374956	165359	NO2	Yes (Bath)	6.7	0.9	No	2.5
DT234a, DT234b, DT234c	Bath - Gay Street 2	Kerbside	374806	165084	NO2	Yes (Bath)	2.2	0.5	No	2.4
DT235a, DT235b, DT235c	Bath - Wells Road 4	Roadside	374694	164288	NO2	Yes (Bath)	6.0	1.3	No	2.4
DT236a, DT236b, DT236c	Bath - Pulteney Terrace	Roadside	375668	164493	NO2	No	4.7	1.6	No	2.4
DT237	Bath - Broad Street 2	Roadside	375000	165179	NO2	Yes (Bath)	0.5	1.5	No	2.4
DT238a, DT238b, DT238c	Bath - Broad Street 3	Roadside	375001	165140	NO2	Yes (Bath)	0.2	2.2	No	2.4
DT239a, DT239b, DT239c	Bath - Broad Street 4	Kerbside	375008	165145	NO2	Yes (Bath)	1.9	0.4	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)
DT240a, DT240b, DT240c	Bath - Bathwick Street 2	Roadside	375489	165450	NO2	Yes (Bath)	2.6	1.7	No	2.4
DT241a, DT241b, DT241c	Bath - Bathwick Street 3	Roadside	375520	165446	NO2	Yes (Bath)	2.0	1.8	No	2.5
DT242a, DT242b, DT242c	Bath - Charlotte Street 2	Roadside	374583	164974	NO2	Yes (Bath)	2.1	1.7	No	2.4
DT243a, DT243b, DT243c	Bath - Sydney Place	Roadside	375625	165312	NO2	Yes (Bath)	7.8	1.1	No	2.4
DT244	Bath - Whiteway	Roadside	372494	163165	NO2	No	3.0	1.5	No	2.3
DT245	Bath - Whiteway 2	Roadside	372401	163212	NO2	No	0.5	1.4	No	2.4
DT246a, DT246b, DT246c	Bath - Dorchester Street 2	Roadside	375186	164372	NO2	Yes (Bath)	23.0	4.9	No	2.4
DT247a, DT247b, DT247c	Bath - Monmouth Place 2	Roadside	374627	164924	NO2	Yes (Bath)	0.3	1.1	No	2.6
DT248a, DT248b, DT248c	Bath - Chapel Row 2	Roadside	374711	164931	NO2	No	0.4	1.6	No	2.4
DT288	Bath - Victoria Buildings - façade	Roadside	374045	164760	NO2	Yes (Bath)	0.0	4.1	No	2.4
DT294	Bath - Walcot Parade 3	Roadside	375207	165726	NO2	Yes (Bath)	7.6	1.1	No	5.5

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)
DT298	Bath - Tennyson Road	Roadside	373625	165307	NO2	No	3.5	1.1	No	2.5
DT299	Bath - Upper Bristol Road 6	Kerbside	373731	165238	NO2	Yes (Bath)	1.3	0.4	No	2.5
DT300	Bath - Penn Hill Road	Roadside	372663	166274	NO2	No	7.5	1.7	No	2.5
DT301	Bath - Southlands	Roadside	372612	166457	NO2	No	4.7	4.2	No	2.5
DT302	Bath - Anchor Road	Roadside	372851	166390	NO2	No	7.6	1.9	No	2.7
DT303	Bath - Prior Park Road 2	Kerbside	375819	163764	NO2	No	0.4	0.5	No	2.2
DT304	Bath - Walcot Parade 4	Roadside	375202	165724	NO2	Yes (Bath)	0.8	1.6	No	2.1
DT305	Bath - Wells Road 5	Kerbside	374790	164309	NO2	Yes (Bath)	2.1	3.2	No	2.7
DT312	Bath - Sydney Place 2	Roadside	375721	165169	NO2	No	8.3	1.2	No	2.5
DT313	Bath - Sham Castle Lane	Roadside	375943	165107	NO2	No	12.0	1.6	No	2.7
DT314	Bath - Catherine Place	Kerbside	374653	165402	NO2	No	4.3	0.5	No	2.5
DT315	Bath - Sion Hill	Roadside	374148	166052	NO2	No	0.5	1.6	No	2.4
DT091	Bathampton High Street	Roadside	377683	166408	NO2	No	0.0	1.1	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)
DT166	Bathampton, A36	Roadside	377543	165924	NO2	No	23.0	1.2	No	2.4
DT058	Batheaston – London Road West A	Roadside	377643	167365	NO2	No	0.0	1.0	No	2.5
DT094	Batheaston - London Road West B	Roadside	377290	167097	NO2	No	0.0	1.3	No	2.5
DT130	Batheaston - London Road West C	Roadside	377802	167456	NO2	No	0.0	1.4	No	2.5
DT163	Batheaston, A4 Box Road	Roadside	378911	167259	NO2	No	2.4	1.8	No	2.4
DT191	Batheaston - Mill Lane	Roadside	377339	167065	NO2	No	4.0	1.0	No	2.5
DT134	Farrington Gurney 2	Roadside	362891	155485	NO2	Yes (Farrington Gurney)	0.0	4.5	No	2.5
DT136	Farrington Gurney 3	Roadside	362884	155790	NO2	Yes (Farrington Gurney)	0.0	1.2	No	2.1
DT138	Farrington Gurney 5	Roadside	362983	155459	NO2	Yes (Farrington Gurney)	3.0	1.9	No	2.5
DT033	Keynsham	Urban Background	364803	168237	NO2	No	8.0	1.0	No	2.6
DT065	Keynsham - Charlton Rd A	Roadside	365399	168701	NO2	Yes (Keynsham)	3.0	1.0	No	2.7

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT066	Keynsham – High Street A	Roadside	365360	168815	NO2	Yes (Keynsham)	1.0	1.0	No	2.5
DT067	Keynsham - Somerfield	Roadside	365457	168496	NO2	Yes (Keynsham)	2.0	1.0	No	2.8
DT107	Keynsham - Bath Hill South	Roadside	365710	168339	NO2	No	0.0	1.3	No	2.5
DT141	Keynsham A4	Roadside	366921	168096	NO2	No	13.0	1.4	No	2.4
DT310	Keynsham - Vandyck Avenue	Roadside	365863	168586	NO2	No	5.2	1.7	No	1.9
DT308	Marksbury	Kerbside	366597	162270	NO2	No	3.8	0.8	No	2.4
DT309	Midsomer Norton - Station Road	Roadside	366774	154662	NO2	No	5.2	1.7	No	2.2
DT296	Old Mills	Roadside	364748	155000	NO2	No	0.0	1.8	No	2.0
DT295	Radstock - Bath New Road	Roadside	368825	155080	NO2	No	0.7	2.3	No	2.3
DT306	Radstock - Bath New Road 2	Kerbside	368869	155008	NO2	No	3.9	0.9	No	2.5
DT307	Radstock - Bath New Road 3	Roadside	368810	155122	NO2	No	9.8	2.3	No	2.3
DT075	Saltford - The Crown	Roadside	368375	166988	NO2	Yes (Saltford)	0.0	3.0	No	2.6
DT077	Saltford - Bath Road	Roadside	368778	166687	NO2	Yes (Saltford)	0.0	2.0	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)
DT096a, DT096b, DT096c	Temple Cloud 1	Roadside	362219	157923	NO2	Yes (Temple Cloud)	0.0	1.5	No	2.4
DT108a	Temple Cloud 2	Roadside	362179	158055	NO2	Yes (Temple Cloud)	6.2	1.3	No	2.6
DT109a	Temple Cloud 3	Roadside	362344	157658	NO2	Yes (Temple Cloud)	2.0	1.7	No	2.6
DT252a	Temple Cloud 9	Roadside	362195	158007	NO2	Yes (Temple Cloud)	0.0	1.1	No	2.4
DT253a, DT253b, DT253c	Temple Cloud 10	Roadside	362243	157846	NO2	Yes (Temple Cloud)	-2.1	3.6	No	2.3
DT255a	Temple Cloud 12	Roadside	362284	157741	NO2	Yes (Temple Cloud)	0.0	1.2	No	2.2
DT311	Westfield - Welton Road	Roadside	368119	154733	NO2	No	10.0	1.8	No	2.2
DT032	Whitchurch	Roadside	361242	167652	NO2	No	2.7	2.1	No	2.3
DT098	Whitchurch 2	Roadside	361276	167555	NO2	No	0.0	1.3	No	2.3
DT100	Whitchurch 4	Roadside	361326	167606	NO2	No	6.0	1.6	No	2.3
DT101	Whitchurch 5	Roadside	361235	167824	NO2	No	4.0	1.6	No	2.5

Notes:

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

(2) N/A if not applicable.

Table A.3 – Annual Mean NO₂ Monitoring Results: Automatic Monitoring (µg/m³)

Site ID	Site Name	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
CM2	Guildhall	375111	164857	Roadside	99.0	99.0	27	19	20	20	19.5
CM3	Windsor Bridge	373593	164861	Roadside	98.6	98.6	29	23	23	21	18.8
CM4	Chelsea House	375419	165853	Roadside	98.9	98.9	22	20	18	18	17.0
CM8	Bath A4 Roadside	375394	165824	Roadside	97.8	62	29	28	27	25	24.0

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%).

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

Diffusion Tube ID	Site Name	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
DT003	Bath - Broad St	374992	165173	Roadside	92.3	92.3	37.0	27.0	28.8	27.6	25.7
DT004	Bath - George St	374899	165159	Kerbside	92.3	92.3	30.0	22.3	22.2	22.6	19.8
DT005	Bath - Gay St - Top	374797	165161	Roadside	100	100.0	31.0	21.9	23.0	20.8	18.0
DT008	Bath - Windsor Bridge	373518	165124	Roadside	84.6	84.6	28.0	22.8	22.5	19.7	19.0
DT009	Bath - Upper Bristol Rd	373993	165174	Roadside	90.4	90.4	31.0	25.7	24.3	23.4	21.2
DT014	Bath - Bathwick St	375602	165365	Roadside	100	100.0	33.0	28.5	19.7	19.5	19.8
DT015	Bath - Beckford Rd	375733	165414	Roadside	100	100.0	27.0	21.7	19.7	17.8	17.8
DT016	Bath - Warminster Rd	376063	165492	Roadside	100	100.0	31.0	24.2	21.8	20.1	18.3
DT017a, DT017b, DT017c	Bath - Widcombe School	375634	164406	Roadside	100	100.0	29.0	23.3	20.3	19.3	18.4
DT018	Bath - Widcombe High St	375414	164216	Roadside	100	100.0	23.0	17.9	17.4	16.6	14.8
DT020a, DT020b, DT020c	Bath - Wells Rd	374760	164310	Roadside	100	100.0	45.0	39.7	42.6	38.5	34.9
DT021	Bath - Wells Rd /Upper Oldfield Park	374454	164202	Roadside	100	100.0	37.0	25.9	27.6	26.7	22.3
DT023	Bath - Alexandra Park	375105	163991	Urban Background	100	100.0	11.0	8.4	8.5	8.2	7.0
DT026	Bath - Upper Wellsway	373576	161908	Roadside	92.3	92.3	27.0	20.8	22.5	21.7	18.4
DT034	Bath - Newbridge Rd	373092	165106	Roadside	100	100.0	31.0	23.3	21.6	20.6	19.6
DT037a, DT037b, DT037c	Bath - Charlotte St	374622	164994	Roadside	100	100.0	31.0	25.9	24.3	22.0	19.3
DT039	Bath - Manvers St	375247	164591	Roadside	100	100.0	33.0	23.8	25.0	23.1	21.8
DT042	Bath - Dorchester St	375230	164383	Kerbside	100	100.0	48.0	36.2	40.5	34.9	32.7
DT043	Bath - St. James Parade	375053	164426	Kerbside	100	100.0	39.0	31.0	34.5	30.2	29.6
DT045	Bath - James St West	374697	164763	Roadside	100	100.0	28.0	21.8	24.0	22.4	19.9

Diffusion Tube ID	Site Name	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
DT052, DT053, DT054	Bath - Walcot Terrace	375462	165843	Roadside	100	100.0	36.0	28.9	25.3	24.0	23.1
DT055	Bath - Lambridge	376451	166502	Roadside	100	100.0	36.0	29.4	27.9	25.8	25.4
DT060	Bath - Victoria Buildings	374039	164760	Roadside	100	100.0	44.0	37.5	40.0	33.4	29.9
DT062	Bath - Argyle Terrace	373211	164743	Roadside	100	100.0	37.0	32.7	33.5	29.5	26.6
DT084	Bath - Bear Flat	374604	163806	Roadside	82.7	82.7	30.0	23.1	23.5	23.4	20.6
DT085	Bath - RUH – North	373073	165983	Roadside	82.7	82.7	26.0	23.1	22.2	19.7	19.4
DT087	Bath - Oak Street	374702	164414	Roadside	90.4	90.4	29.0	22.6	21.5	21.1	18.8
DT090a, DT090b, DT090c	Bath - Anglo Terrace	375288	165758	Roadside	100	100.0	50.0	37.5	33.2	32.7	29.9
DT142	Bath - Prior Park Road	375513	164194	Kerbside	100	100.0	33.0	26.5	23.3	22.5	21.7
DT143	Bath - Rackfield Place	372644	164738	Roadside	100	100.0	26.0	21.9	21.4	21.0	19.2
DT145	Bath - Lansdown Road	374930	165550	Kerbside	100	100.0	26.0	21.0	20.1	19.3	17.8
DT147	Bath - Terrace Walk	375195	164735	Roadside	92.3	92.3	29.0	20.0	19.8	18.2	17.9
DT148a, DT148b, DT148c	Bath - Julian Road	374573	165523	Roadside	100	100.0	26.0	20.4	19.6	18.9	17.4
DT149	Bath - Camden 3	375038	165838	Kerbside	100	100.0	25.0	20.7	19.0	17.5	15.4
DT150	Bath - Brougham Hayes	373955	164590	Roadside	100	100.0	29.0	22.5	22.2	21.1	20.0
DT151	Bath - Widcombe Hill	375598	164190	Kerbside	84.6	84.6	27.0	20.7	19.2	17.3	15.7
DT152	Bath - Bathwick Hill	375800	164912	Roadside	100	100.0	25.0	19.0	18.3	16.5	15.9
DT153	Bath - North Road	376069	165356	Roadside	100	100.0	17.0	13.3	12.9	13.3	12.1
DT154	Bath - Bradford Road	375529	162389	Roadside	100	100.0	28.0	21.2	21.0	20.8	18.4
DT155	Bath - Newbridge Hill 2	372696	165488	Roadside	100	100.0	18.0	12.4	12.4	12.8	10.5
DT156	Bath - Corn Street	374827	164531	Roadside	75	75.0	28.0	21.1	21.8	18.4	18.2

Diffusion Tube ID	Site Name	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
DT157	Bath - Charles Street	374664	164815	Roadside	92.3	92.3	27.0	21.6	22.4	22.3	18.9
DT158	Bath - Paragon 2	375051	165350	Roadside	100	100.0	32.0	24.0	24.5	22.1	19.6
DT159	Bath - Walcot Street	375075	165287	Roadside	100	100.0	26.0	20.0	19.1	18.1	16.8
DT160	Bath - North Parade Road	375284	164694	Roadside	92.3	92.3	34.0	23.3	23.1	23.4	22.8
DT165	Bath - Brassknocker Hill	377960	162736	Kerbside	100	100.0	37.0	28.0	26.1	24.8	22.0
DT167	Bath - Weston High Street	372587	166629	Roadside	100	100.0	22.0	17.4	18.4	16.5	15.9
DT168	Bath - Englishcombe Lane	373207	163339	Roadside	100	100.0	14.0	11.4	10.9	10.9	9.2
DT169	Bath - Eastbourne Avenue	375667	166369	Roadside	100	100.0	23.0	18.1	17.5	16.5	14.9
DT171	Bath - Frome Road/Upper Bloomfield	373706	162411	Roadside	90.4	90.4	27.0	22.2	23.2	20.8	17.9
DT172a, DT172b, DT172c	Bath - London Road 2	375374	165813	Roadside	100	100.0	42.0	34.8	31.1	29.6	27.6
DT173	Bath - Upper Bristol Road 2	374362	165016	Roadside	100	100.0	33.0	27.9	25.7	25.4	23.6
DT179a, DT179b, DT179c	Bath - Upper Bristol Road 3	373299	165093	Roadside	100	100.0	37.0	27.0	26.9	23.9	22.1
DT180a, DT180b, DT180c	Bath - Wells Road 2	374537	163968	Roadside	100	100.0	35.0	31.2	30.3	27.6	24.6
DT181	Bath - Wellsway	374618	163494	Roadside	92.3	92.3	33.0	26.5	25.0	24.8	22.1
DT182a, DT182b, DT182c	Bath - Gay Street - Lower	374796	165123	Roadside	100	100.0	42.0	30.4	32.9	31.1	27.1
DT183	Bath - Chapel Row	374712	164913	Roadside	100	100.0	30.0	21.5	25.7	24.1	20.6
DT185	Bath - Greenway Lane	374712	163417	Kerbside	90.4	90.4	16.0	11.7	10.9	11.4	9.7
DT186	Bath - Coronation Avenue	373170	163416	Roadside	92.3	92.3	20.0	16.1	15.4	14.5	13.2
DT187	Bath - Stanley Road West	373835	164438	Roadside	100	100.0	23.0	19.3	18.1	17.5	15.5
DT188	Bath - Moorland Road	373696	164343	Roadside	82.7	82.7	22.0	19.3	16.7	16.5	15.1

Diffusion Tube ID	Site Name	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
DT189	Bath - Old Newbridge Hill	372251	165686	Roadside	100	100.0	29.0	23.4	25.2	23.0	19.9
DT190	Bath - Church Street	375814	164027	Kerbside	100	100.0	13.0	10.7	10.6	9.5	8.1
DT192	Bath - Fairfield Road	375505	166428	Roadside	90.4	90.4	16.0	14.1	12.3	11.8	10.6
DT193	Bath - Granville Road	374260	167661	Roadside	92.3	92.3	9.0	7.2	7.9	6.0	5.7
DT194	Bath - Brooklyn Road	376096	166878	Roadside	100	100.0	16.0	12.6	12.4	11.3	10.5
DT195	Bath - Lansdown Lane	372537	167235	Roadside	100	100.0	21.0	16.5	18.5	18.3	17.3
DT196	Bath - Oakley	377133	164045	Kerbside	100	100.0	28.0	20.2	17.6	17.9	15.1
DT197	Bath - Rush Hill	372703	162983	Roadside	100	100.0	24.0	19.2	19.5	18.1	16.3
DT198a, DT198b, DT198c	Bath - Walcot Parade	375240	165739	Kerbside	100	100.0	50.0	40.6	37.8	35.9	34.1
DT199	Bath - Hensley Road	374353	163504	Roadside	100	100.0	13.0	9.9	9.7	9.1	8.3
DT200	Bath - Millmead Road	373375	164307	Roadside	100	100.0	15.0	12.9	13.0	12.2	10.8
DT201	Bath - The Hollow	373003	164250	Roadside	82.7	82.7	24.0	21.2	20.5	18.9	16.2
DT202	Bath - Charlcombe	374636	166701	Kerbside	92.3	92.3	14.0	11.3	10.3	10.5	9.0
DT206a, DT206b, DT206c	Bath - Park Lane	373742	165305	Roadside	92.3	92.3	31.0	23.2	24.1	23.2	21.3
DT207	Bath - Darlington Street	375630	165132	Roadside	92.3	92.3	38.0	31.9	26.7	25.3	25.2
DT209	Bath - Bellots Road	373490	164804	Roadside	90.4	90.4	19.0	15.4	15.1	14.1	13.6
DT210	Bath - Red Lion Roundabout	373895	162254	Roadside	100	100.0	33.0	28.3	28.2	26.8	23.6
DT211	Bath - St John's Road	375218	165290	Roadside	82.7	82.7	21.0	15.6	14.0	13.1	12.7
DT212	Bath - Oldfield Road	374356	163985	Roadside	92.3	92.3	19.0	13.8	14.2	13.5	11.4
DT213a, DT213b, DT213c	Bath - Marlborough Lane	374262	165127	Roadside	100	100.0	21.0	18.5	18.2	17.7	14.2

Diffusion Tube ID	Site Name	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
DT214a, DT214b, DT214c	Bath - Marlborough Buildings	374354	165448	Roadside	100	100.0	20.0	17.5	16.1	15.2	13.2
DT215a, DT215b, DT215c	Bath - Queen Parade Place	374758	165096	Roadside	100	100.0	18.0	14.4	15.3	14.7	13.0
DT216a, DT216b, DT216c	Bath - Monmouth Place	374574	164958	Roadside	100	100.0	26.0	25.6	24.4	23.1	19.6
DT217a, DT217b, DT217c	Bath - Cavendish Road	374335	165990	Roadside	100	100.0	17.0	15.5	13.6	12.9	11.3
DT218	Bath - Weston Road	373668	165697	Roadside	92.3	92.3	19.0	16.9	15.1	14.8	13.7
DT219	Bath - Morford Street	374872	165570	Roadside	100	100.0	21.0	18.5	17.7	17.6	15.7
DT221	Bath - Gay Street - façade	374793	165119	Roadside	100	100.0	36.0	25.0	27.7	27.5	23.1
DT222a, DT222b, DT222c	Bath - Anglo Terrace façade	375322	165778	Roadside	100	100.0	49.0	41.4	38.1	36.6	33.5
DT223a, DT223b, DT223c	Bath - Canton Place	375322	165759	Roadside	90.4	90.4	37.0	33.2	25.6	25.6	24.2
DT224a, DT224b, DT224c	Bath - Walcot Parade 2	375207	165726	Roadside	100	100.0	55.0	44.2	43.1	39.7	37.7
DT225a, DT225b, DT225c	Bath - Cleveland Terrace	375203	165708	Kerbside	90.4	90.4	37.0	32.4	32.2	28.7	27.6

Diffusion Tube ID	Site Name	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
DT226a, DT226b, DT226c	Bath - AURN	375394	165824	Roadside	100	100.0	32.0	28.7	26.9	24.9	23.6
DT227a, DT227b, DT227c	Bath - Wells Road 3	374580	163979	Kerbside	100	100.0	40.0	31.4	32.4	30.1	27.8
DT228a, DT228b, DT228c	Bath - Lower Bristol Road 2	374002	164754	Roadside	100	100.0	29.0	27.1	24.7	22.2	20.1
DT229a, DT229b, DT229c	Bath - Lower Bristol Road 3	373936	164779	Kerbside	100	100.0	36.0	28.0	30.1	25.5	23.5
DT230a, DT230b, DT230c	Bath - Upper Bristol Road 4	373439	165098	Roadside	100	100.0	50.0	34.6	35.2	31.9	29.3
DT231a, DT231b, DT231c	Bath - Upper Bristol Road 5	373480	165125	Kerbside	92.3	92.3	41.0	33.4	32.1	29.4	26.5
DT232a, DT232b, DT232c	Bath - Lansdown Road 3	374942	165391	Kerbside	100	100.0	29.0	23.9	23.2	22.3	20.9
DT233a, DT233b, DT233c	Bath - Lansdown Road 4	374956	165359	Kerbside	90.4	90.4	28.0	21.8	22.9	22.4	20.3
DT234a, DT234b, DT234c	Bath - Gay Street 2	374806	165084	Kerbside	100	100.0	39.8	32.0	36.0	33.2	28.2

Diffusion Tube ID	Site Name	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
DT235a, DT235b, DT235c	Bath - Wells Road 4	374694	164288	Roadside	100	100.0	37.0	32.0	35.1	31.0	30.4
DT236a, DT236b, DT236c	Bath - Pulteney Terrace	375668	164493	Roadside	100	100.0	30.0	23.4	21.0	19.9	18.6
DT237	Bath - Broad Street 2	375000	165179	Roadside	100	100.0	35.0	25.3	30.8	29.2	28.0
DT238a, DT238b, DT238c	Bath - Broad Street 3	375001	165140	Roadside	48.1	48.1	34.0	25.6	28.6	26.5	26.5
DT239a, DT239b, DT239c	Bath - Broad Street 4	375008	165145	Kerbside	90.4	90.4	37.0	26.5	31.8	29.3	28.9
DT240a, DT240b, DT240c	Bath - Bathwick Street 2	375489	165450	Roadside	100	100.0	30.0	22.5	18.1	19.5	16.8
DT241a, DT241b, DT241c	Bath - Bathwick Street 3	375520	165446	Roadside	100	100.0	24.0	18.4	15.0	14.9	13.6
DT242a, DT242b, DT242c	Bath - Charlotte Street 2	374583	164974	Roadside	100	100.0	24.0	20.9	18.8	17.7	15.5
DT243a, DT243b, DT243c	Bath - Sydney Place	375625	165312	Roadside	100	100.0	30.0	24.7	20.9	19.3	19.7
DT244	Bath - Whiteway	372494	163165	Roadside	100	100.0	18.0	16.1	16.9	15.9	13.4
DT245	Bath - Whiteway 2	372401	163212	Roadside	100	100.0	25.0	19.9	19.5	18.3	16.1

Diffusion Tube ID	Site Name	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
DT246a, DT246b, DT246c	Bath - Dorchester Street 2	375186	164372	Roadside	75	75.0	39.0	30.1	31.1	29.7	30.0
DT247a, DT247b, DT247c	Bath - Monmouth Place 2	374627	164924	Roadside	100	100.0	30.0	27.0	26.1	23.0	21.5
DT248a, DT248b, DT248c	Bath - Chapel Row 2	374711	164931	Roadside	100	100.0	38.0	29.0	36.6	34.5	28.4
DT288	Bath - Victoria Buildings - façade	374045	164760	Roadside	100	100.0	-	-	29.1	28.7	26.5
DT294	Bath - Walcot Parade 3	375207	165726	Roadside	100	100.0	-	-	-	26.9	25.3
DT298	Bath - Tennyson Road	373625	165307	Roadside	100	32.7	-	-	-	9.7	9.3
DT299	Bath - Upper Bristol Road 6	373731	165238	Kerbside	100	32.7	-	-	-	30.1	22.1
DT300	Bath - Penn Hill Road	372663	166274	Roadside	92.3	92.3	-	-	-	13.8	12.0
DT301	Bath - Southlands	372612	166457	Roadside	100	100.0	-	-	-	9.5	7.7
DT302	Bath - Anchor Road	372851	166390	Roadside	92.3	92.3	-	-	-	21.3	19.2
DT303	Bath - Prior Park Road 2	375819	163764	Kerbside	100	92.3	-	-	-	13.9	11.9
DT304	Bath - Walcot Parade 4	375202	165724	Roadside	100	100.0	-	-	-	40.4	36.4
DT305	Bath - Wells Road 5	374790	164309	Kerbside	100	100.0	-	-	-	38.0	33.1
DT312	Bath - Sydney Place 2	375721	165169	Roadside	100	25.0	-	-	-	-	16.2
DT313	Bath - Sham Castle Lane	375943	165107	Roadside	100	25.0	-	-	-	-	9.3
DT314	Bath - Catherine Place	374653	165402	Kerbside	100	25.0	-	-	-	-	11.1
DT315	Bath - Sion Hill	374148	166052	Roadside	100	25.0	-	-	-	-	7.4
DT091	Bathampton High Street	377683	166408	Roadside	100	100.0	23.0	16.8	18.4	18.1	15.9
DT166	Bathampton, A36	377543	165924	Roadside	100	100.0	28.0	20.8	18.8	17.2	16.1
DT058	Batheaston – London Road West A	377643	167365	Roadside	100	100.0	25.0	19.8	20.9	16.2	16.2
DT094	Batheaston - London Road West B	377290	167097	Roadside	92.3	92.3	25.0	20.3	20.0	18.5	17.3

Diffusion Tube ID	Site Name	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
DT130	Batheaston - London Road West C	377802	167456	Roadside	100	100.0	26.0	21.5	19.7	17.3	17.0
DT163	Batheaston, A4 Box Road	378911	167259	Roadside	100	100.0	23.0	17.6	13.9	13.7	13.8
DT191	Batheaston - Mill Lane	377339	167065	Roadside	100	100.0	19.0	14.7	15.3	15.1	13.0
DT134	Farrington Gurney 2	362891	155485	Roadside	76.9	76.9	39.0	31.1	32.1	29.7	25.1
DT136	Farrington Gurney 3	362884	155790	Roadside	92.3	92.3	37.0	27.9	29.2	27.6	24.0
DT138	Farrington Gurney 5	362983	155459	Roadside	100	100.0	36.0	27.1	28.4	26.6	23.2
DT033	Keynsham	364803	168237	Urban Background	100	100.0	12.0	9.7	9.6	8.8	7.9
DT065	Keynsham - Charlton Rd A	365399	168701	Roadside	100	100.0	27.0	21.3	22.5	20.5	17.5
DT066	Keynsham – High Street A	365360	168815	Roadside	100	100.0	32.0	26.8	27.5	26.4	22.4
DT067	Keynsham - Somerfield	365457	168496	Roadside	82.7	82.7	31.0	24.1	24.6	22.5	20.0
DT107	Keynsham - Bath Hill South	365710	168339	Roadside	100	100.0	33.0	29.0	28.4	25.1	22.4
DT141	Keynsham A4	366921	168096	Roadside	90.4	90.4	31.0	23.4	25.2	24.2	20.7
DT310	Keynsham - Vandyck Avenue	365863	168586	Roadside	25	25.0	-	-	-	-	12.2
DT308	Marksbury	366597	162270	Kerbside	50	50.0	-	-	-	-	17.6
DT309	Midsomer Norton - Station Road	366774	154662	Roadside	83	42.3	-	-	-	-	22.4
DT296	Old Mills	364748	155000	Roadside	100	100.0	-	-	-	21.5	18.7
DT295	Radstock - Bath New Road	368825	155080	Roadside	92.3	92.3	-	-	-	40.2	36.7
DT306	Radstock - Bath New Road 2	368869	155008	Kerbside	100	100.0	-	-	-	-	22.2
DT307	Radstock - Bath New Road 3	368810	155122	Roadside	92.3	92.3	-	-	-	-	31.2
DT075	Saltford - The Crown	368375	166988	Roadside	92.3	92.3	30.0	23.3	23.0	21.4	20.0
DT077	Saltford - Bath Road	368778	166687	Roadside	100	100.0	26.0	21.0	19.3	18.7	17.1
DT096a, DT096b, DT096c	Temple Cloud 1	362219	157923	Roadside	100	100.0	56.0	44.8	44.2	41.6	39.0
DT108a	Temple Cloud 2	362179	158055	Roadside	90.4	90.4	39.0	30.3	30.3	28.6	27.1
DT109a	Temple Cloud 3	362344	157658	Roadside	82.7	82.7	36.0	27.9	29.4	25.4	24.7
DT252a	Temple Cloud 9	362195	158007	Roadside	100	100.0	-	32.1	34.0	32.6	30.1

Diffusion Tube ID	Site Name	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
DT253a, DT253b, DT253c	Temple Cloud 10	362243	157846	Roadside	100	100.0	-	37.2	39.4	35.1	34.0
DT255a	Temple Cloud 12	362284	157741	Roadside	100	100.0	-	36.2	37.5	35.5	34.6
DT311	Westfield - Welton Road	368119	154733	Roadside	100	25.0	-	-	-	-	12.5
DT032	Whitchurch	361242	167652	Roadside	100	100.0	33.0	27.8	28.1	27.4	24.4
DT098	Whitchurch 2	361276	167555	Roadside	100	100.0	30.0	23.3	23.7	22.4	19.6
DT100	Whitchurch 4	361326	167606	Roadside	100	100.0	25.0	19.6	21.3	19.7	16.6
DT101	Whitchurch 5	361235	167824	Roadside	100	100.0	36.0	30.5	30.4	28.9	26.5

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**.

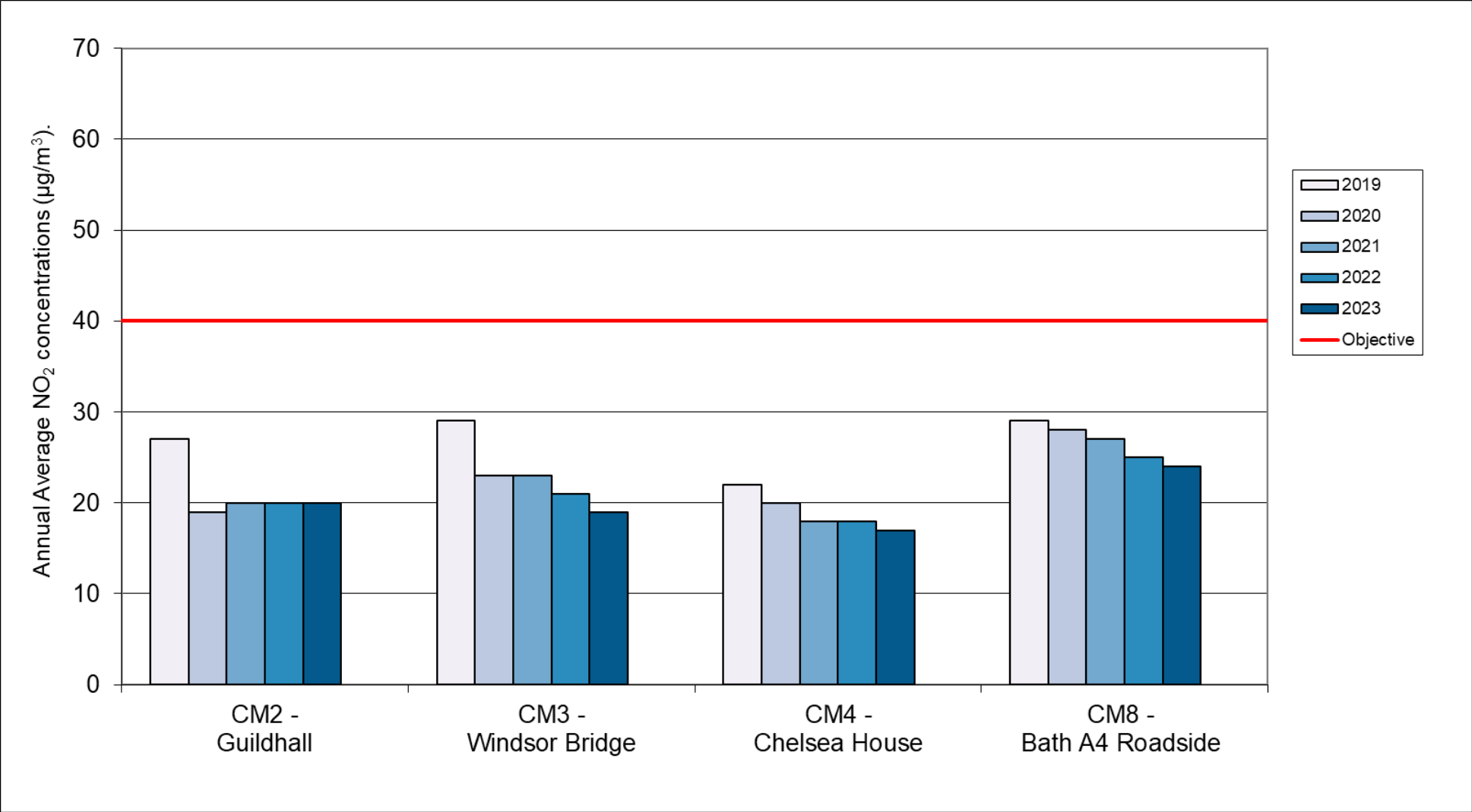
Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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.

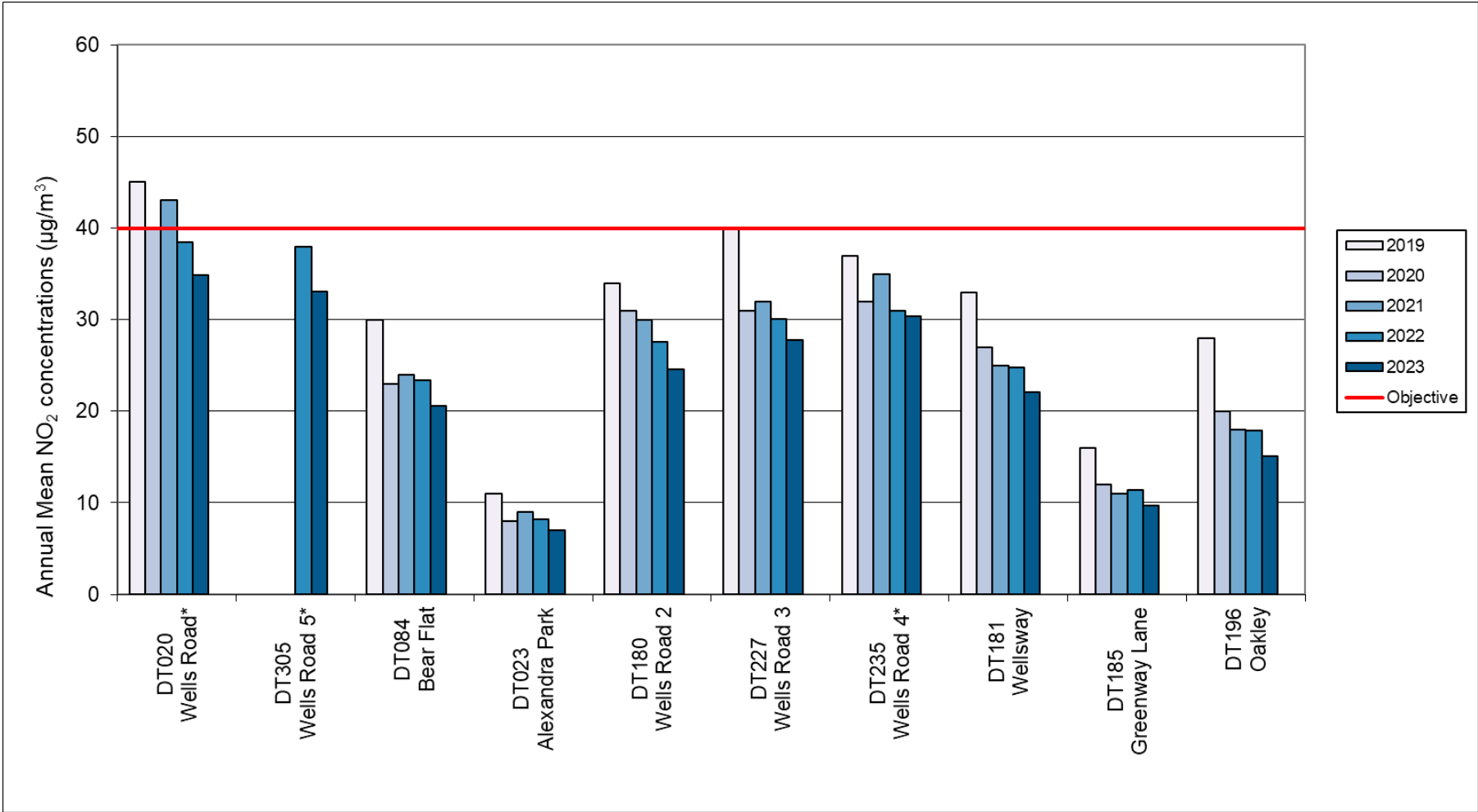
(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Figure A.1 – Trends in Annual Mean NO₂ Concentrations Measured at the Automatic Monitoring Sites



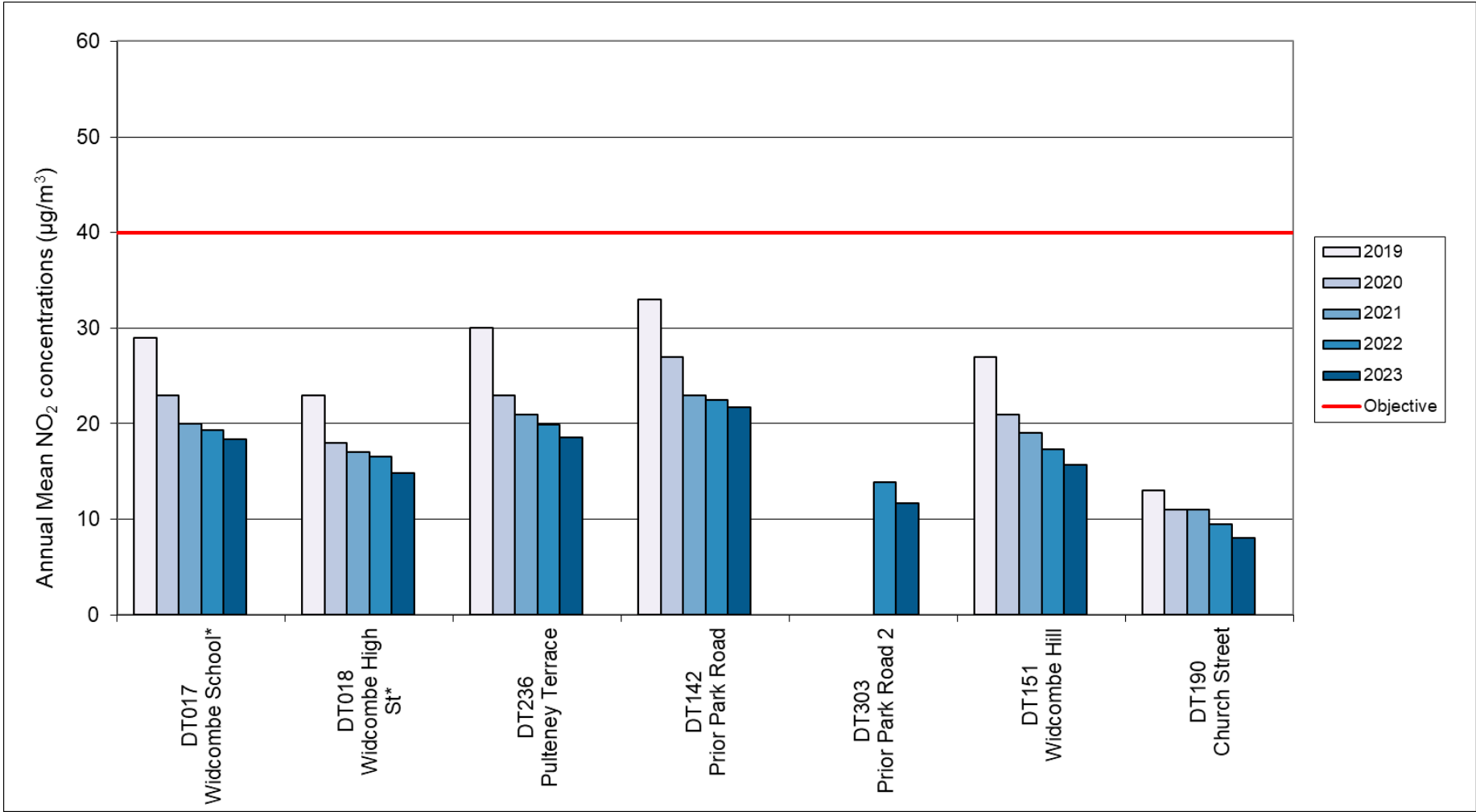
Note: All sites are within the Bath AQMA

Figure A.2 – Trends in Annual Mean NO₂ Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Widcombe and Lyncombe (1)



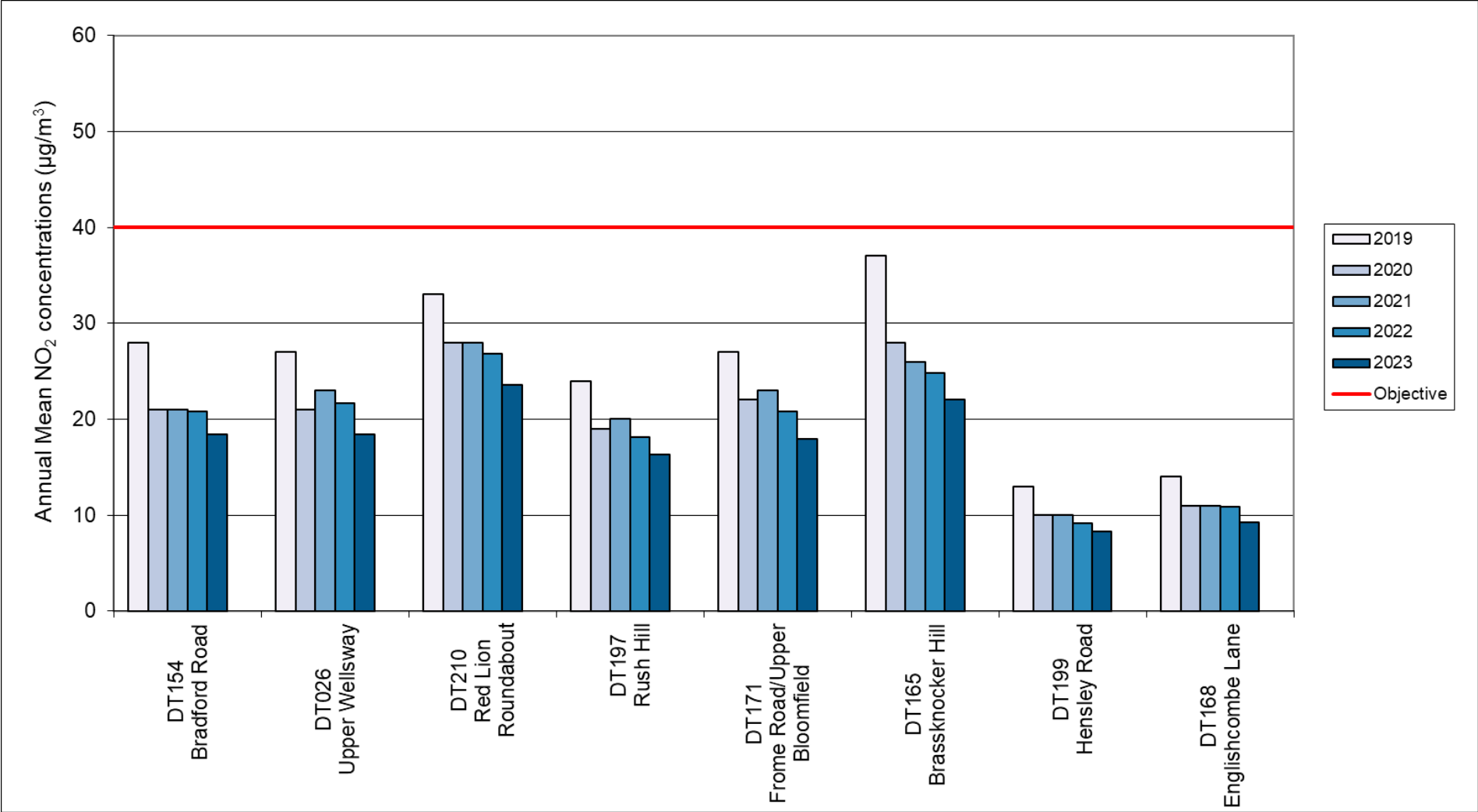
Note: * indicates that sites are within the Bath AQMA.

Figure A.3 – Trends in Annual Mean NO₂ Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Widcombe and Lyncombe (2)



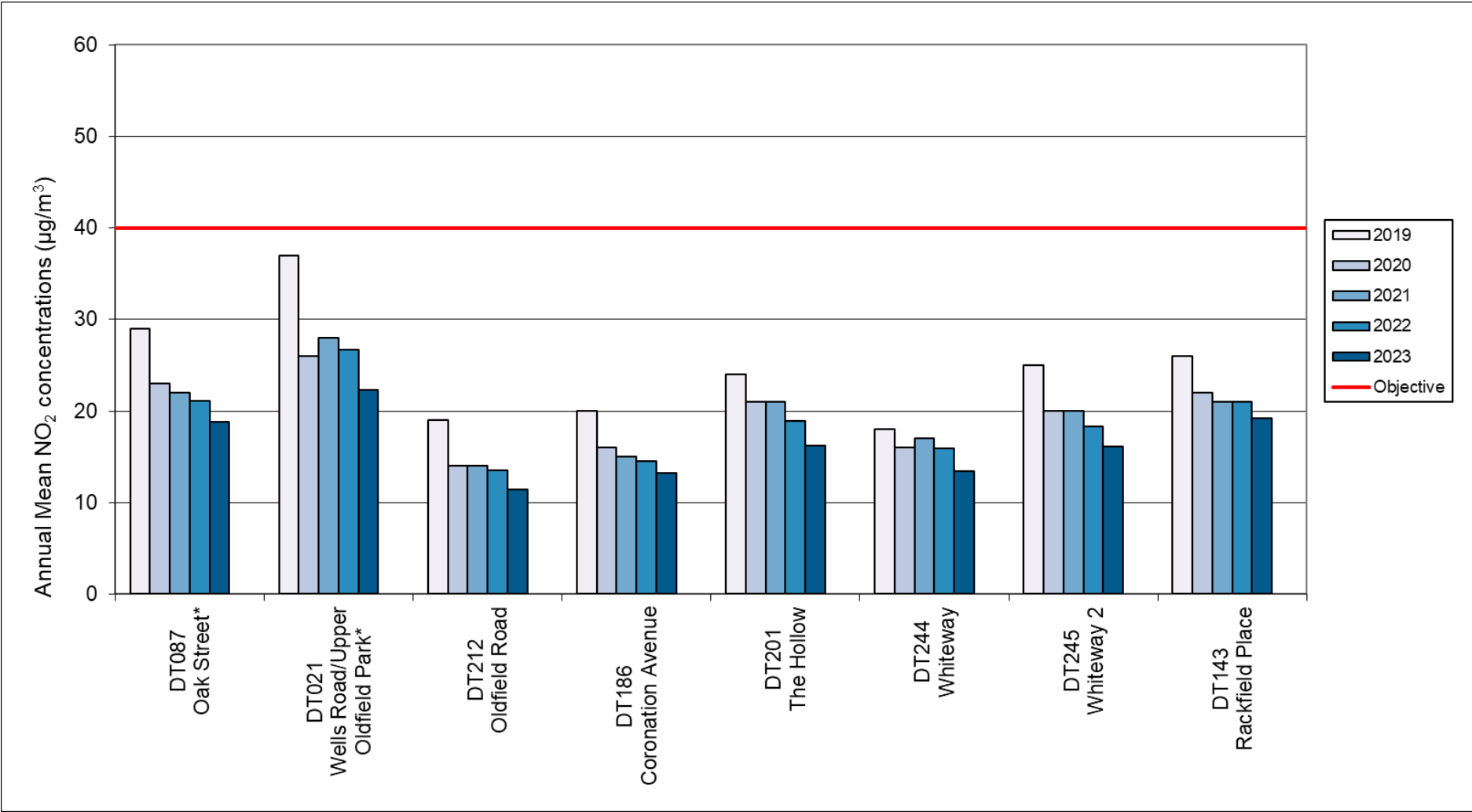
Note: * indicates that sites are within the Bath AQMA.

Figure A.4 – Trends in Annual Mean NO₂ Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Combe Down, Odd Down, Bathavon South and Moorlands



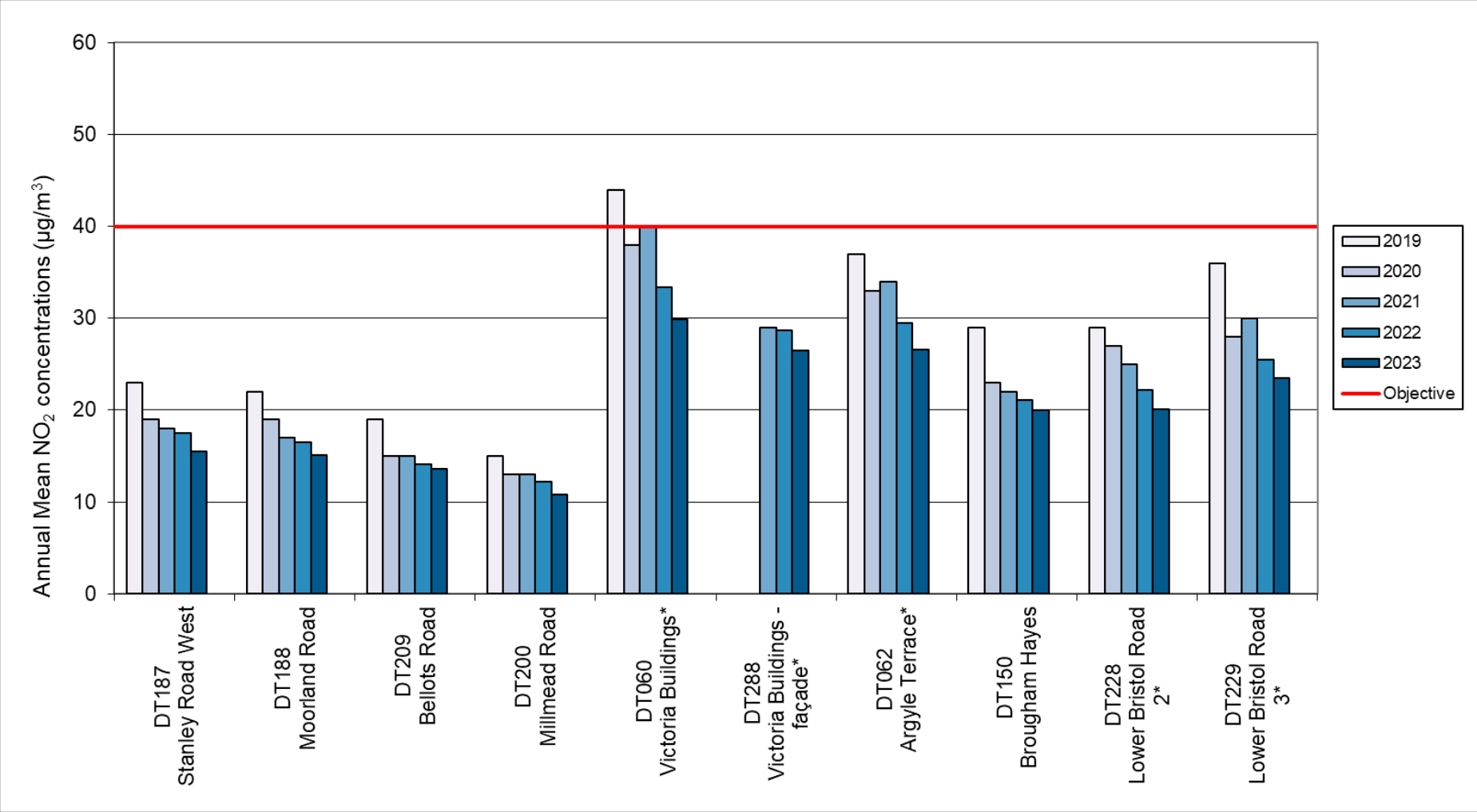
Note: No sites are within an AQMA

Figure A.5 – Trends in Annual Mean NO₂ Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Oldfield Park, Southdown and Twerton



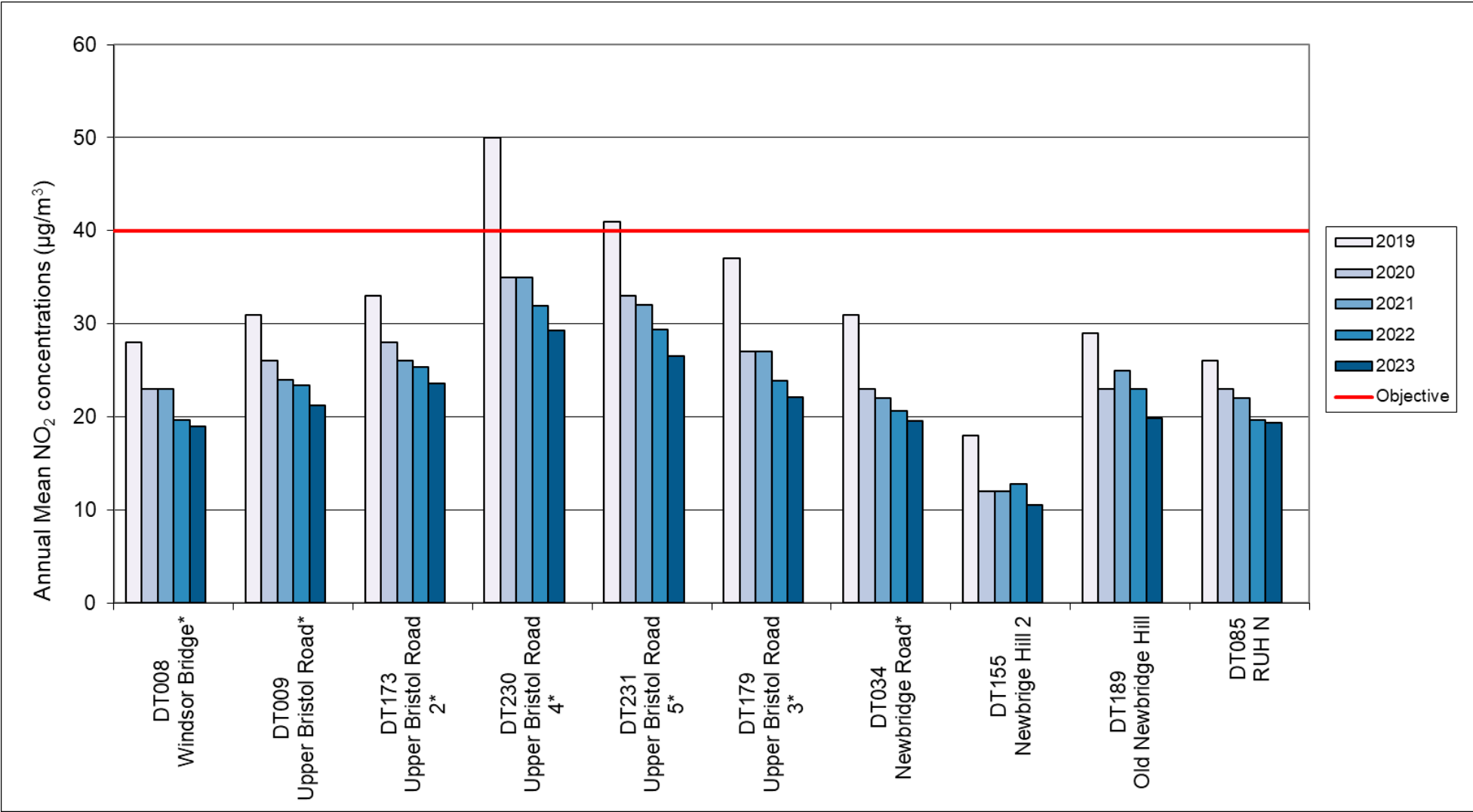
Note: * indicates that sites are within the Bath AQMA.

Figure A.6 – Trends in Annual Mean NO₂ Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Westmoreland



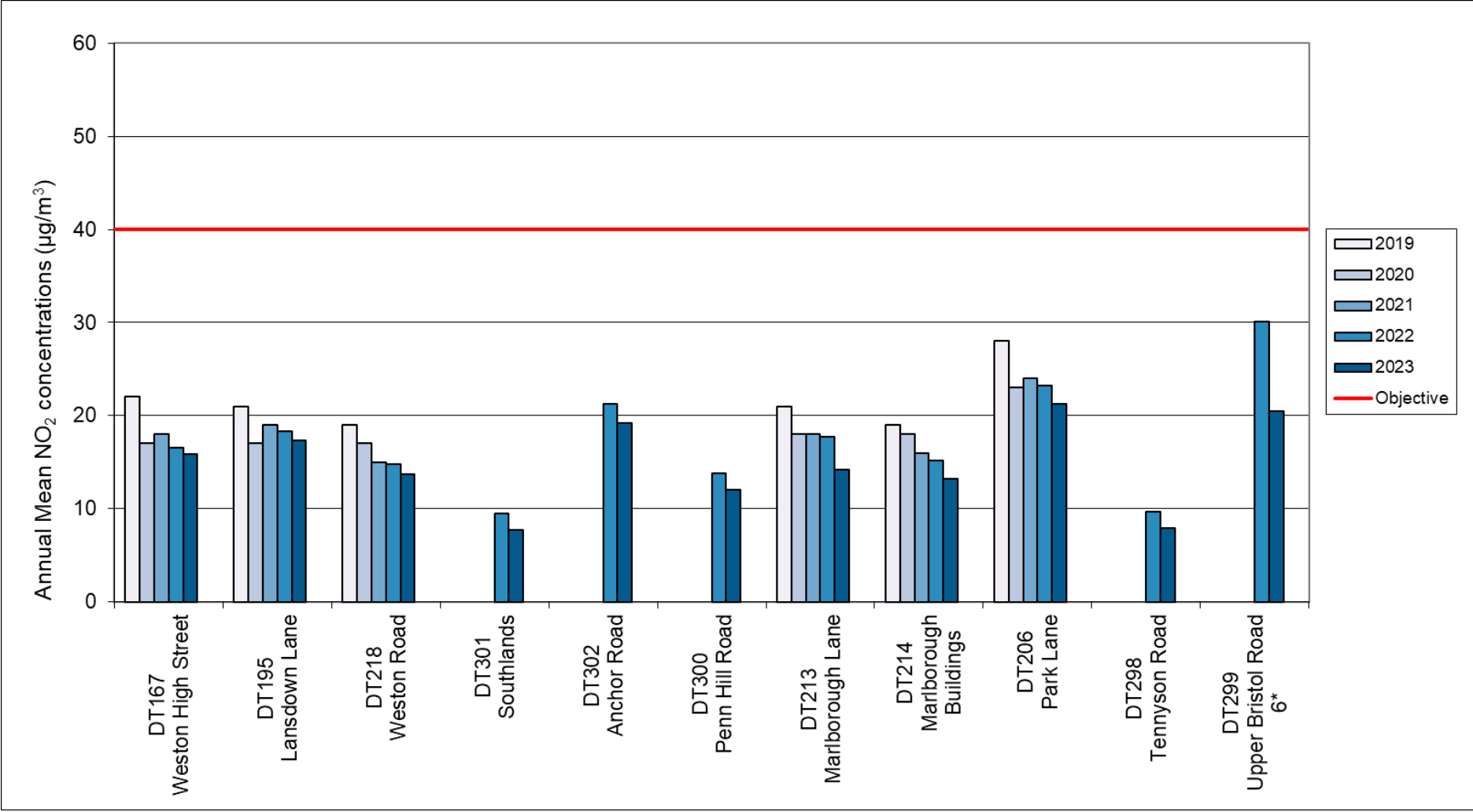
Note: * indicates that sites are within the Bath AQMA.

Figure A.7 – Trends in Annual Mean NO₂ Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Newbridge and Kingsmead



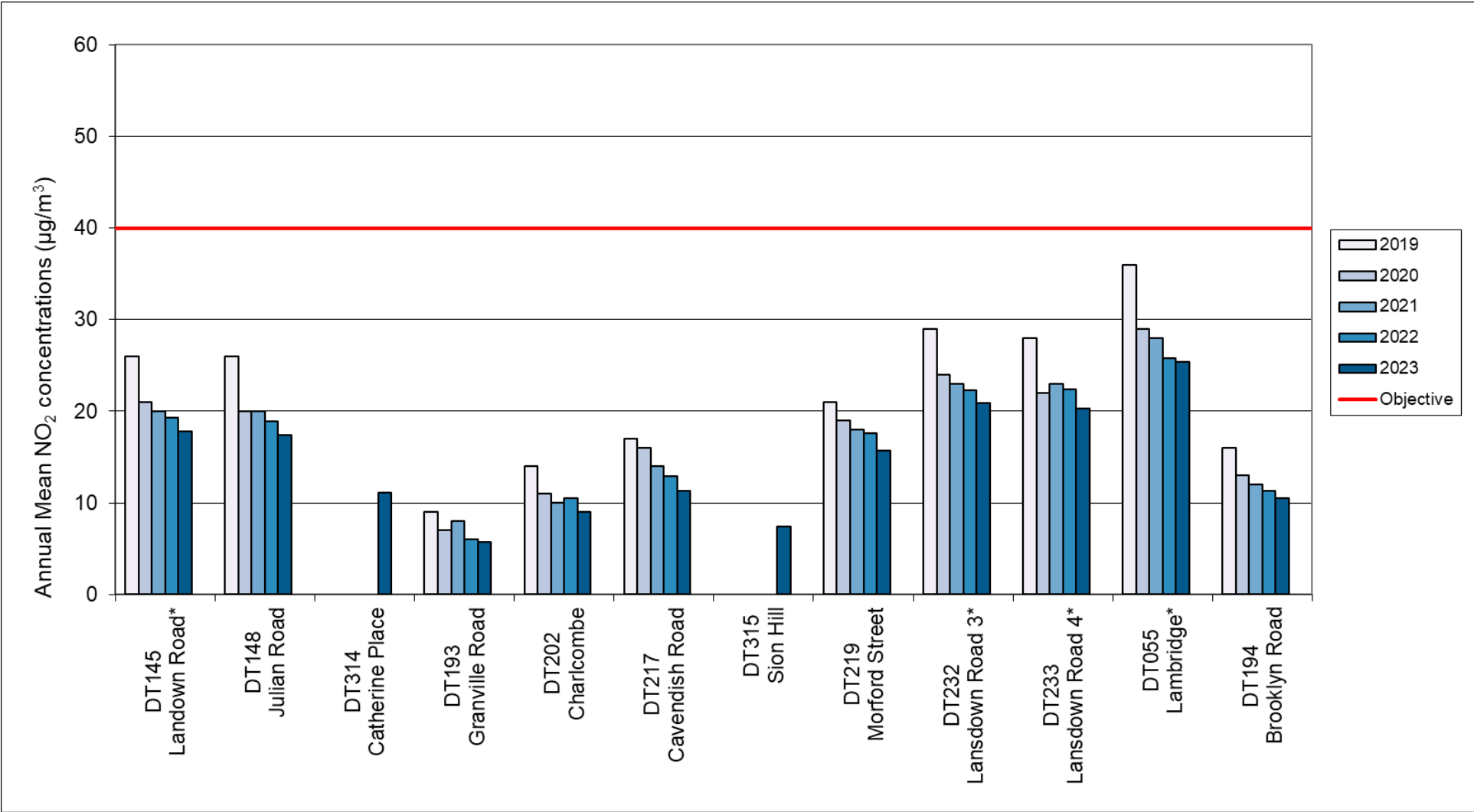
Note: * indicates that sites are within the Bath AQMA.

Figure A.8 – Trends in Annual Mean NO₂ Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Weston and Kingsmead



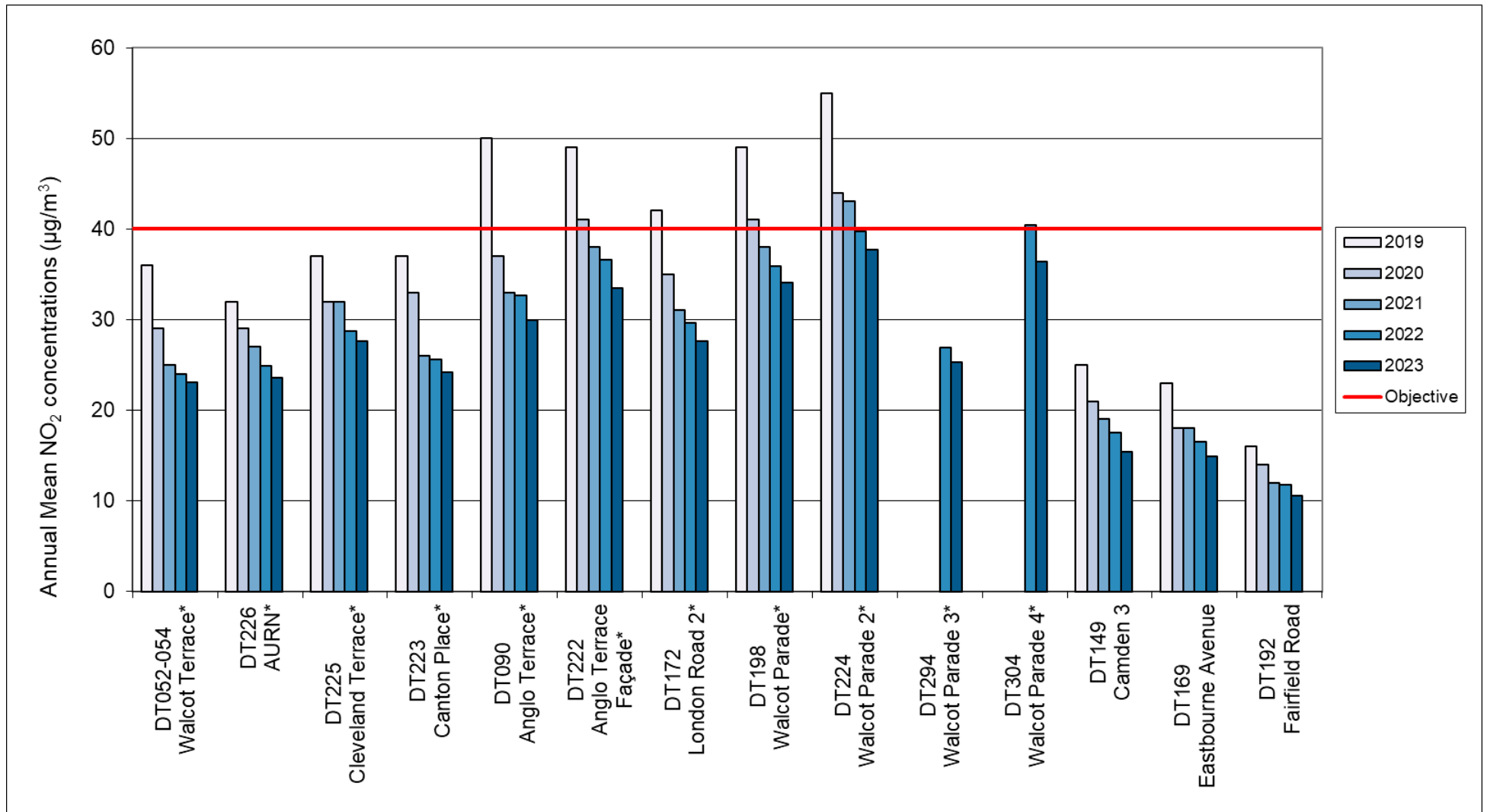
Note: * indicates that sites are within the Bath AQMA.

Figure A.9 – Trends in Annual Mean NO₂ Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Lansdown and Lambridge



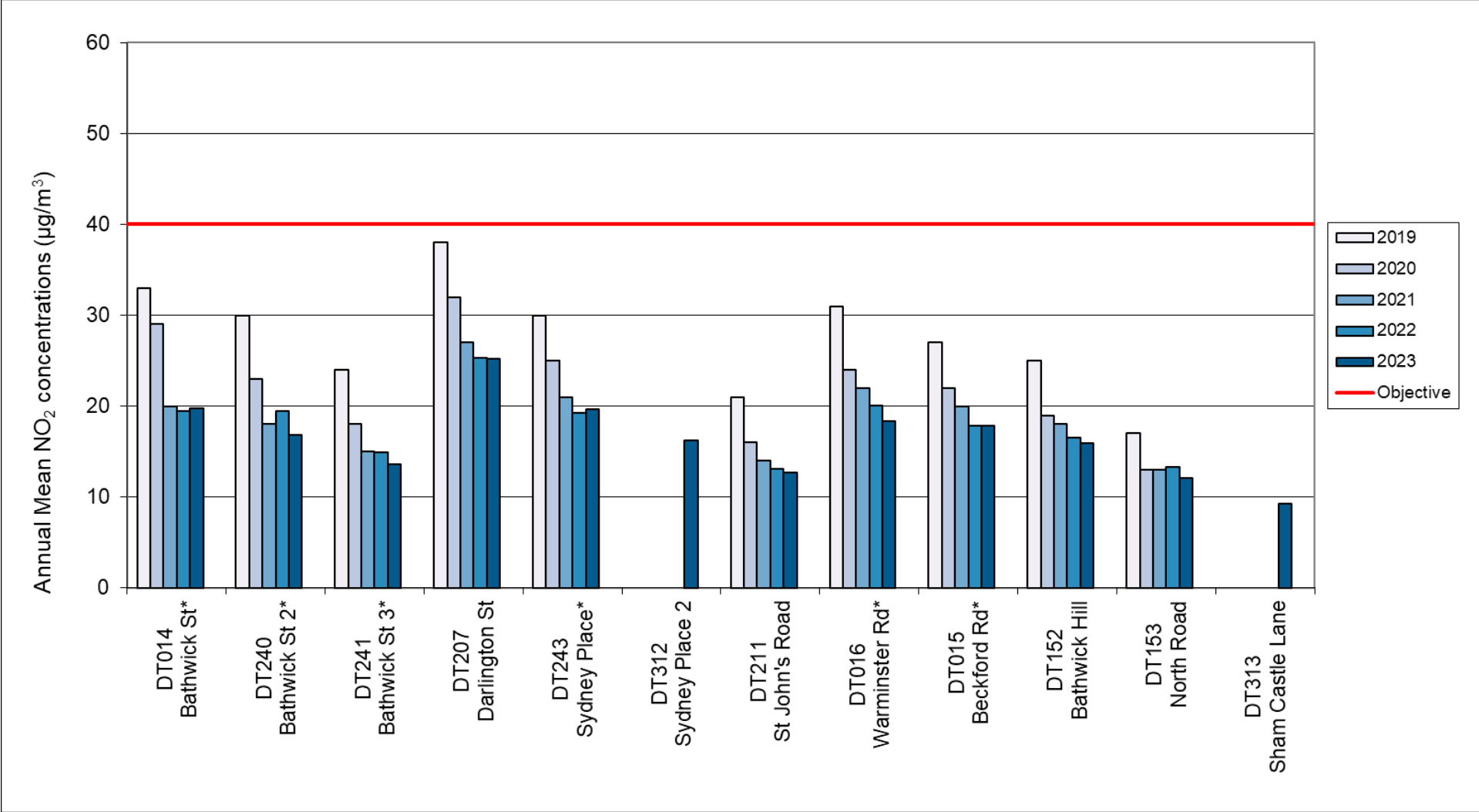
Note: * indicates that sites are within the Bath AQMA.

Figure A.10 – Trends in Annual Mean NO₂ Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Walcot



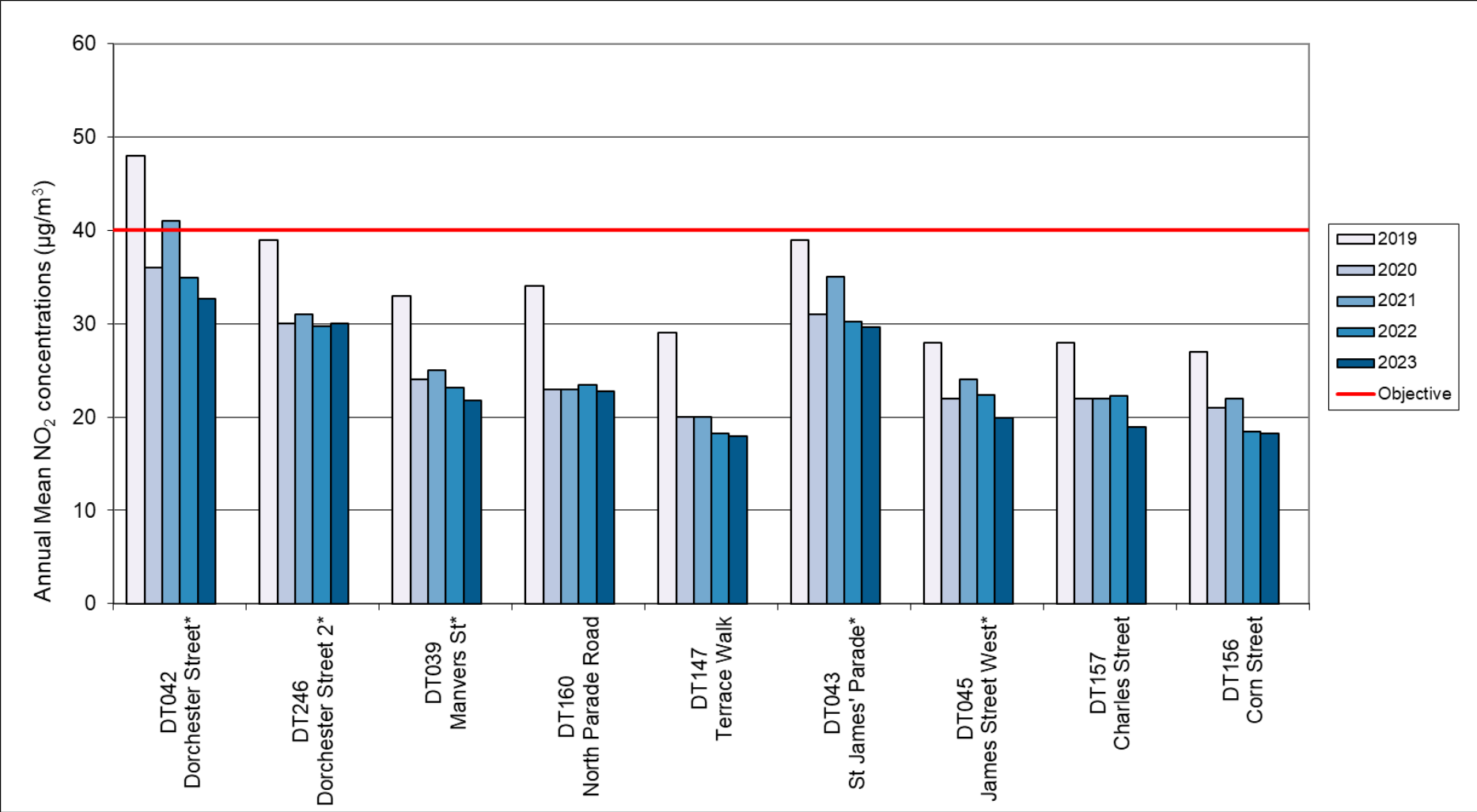
Note: * indicates that sites are within the Bath AQMA.

Figure A.11 – Trends in Annual Mean NO₂ Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Bathwick



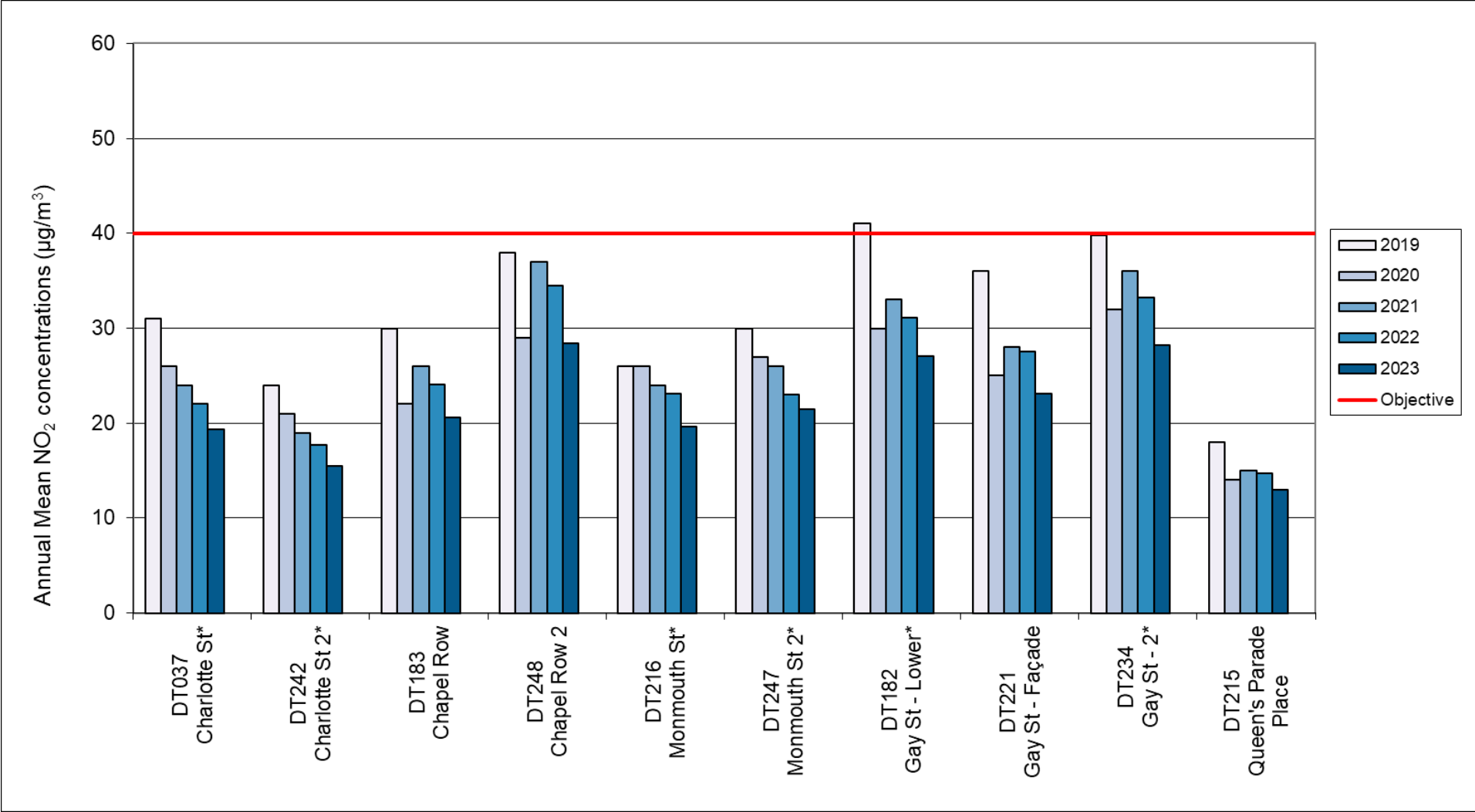
Note: * indicates that sites are within the Bath AQMA.

Figure A.12 – Trends in Annual Mean NO₂ Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Kingsmead (South)



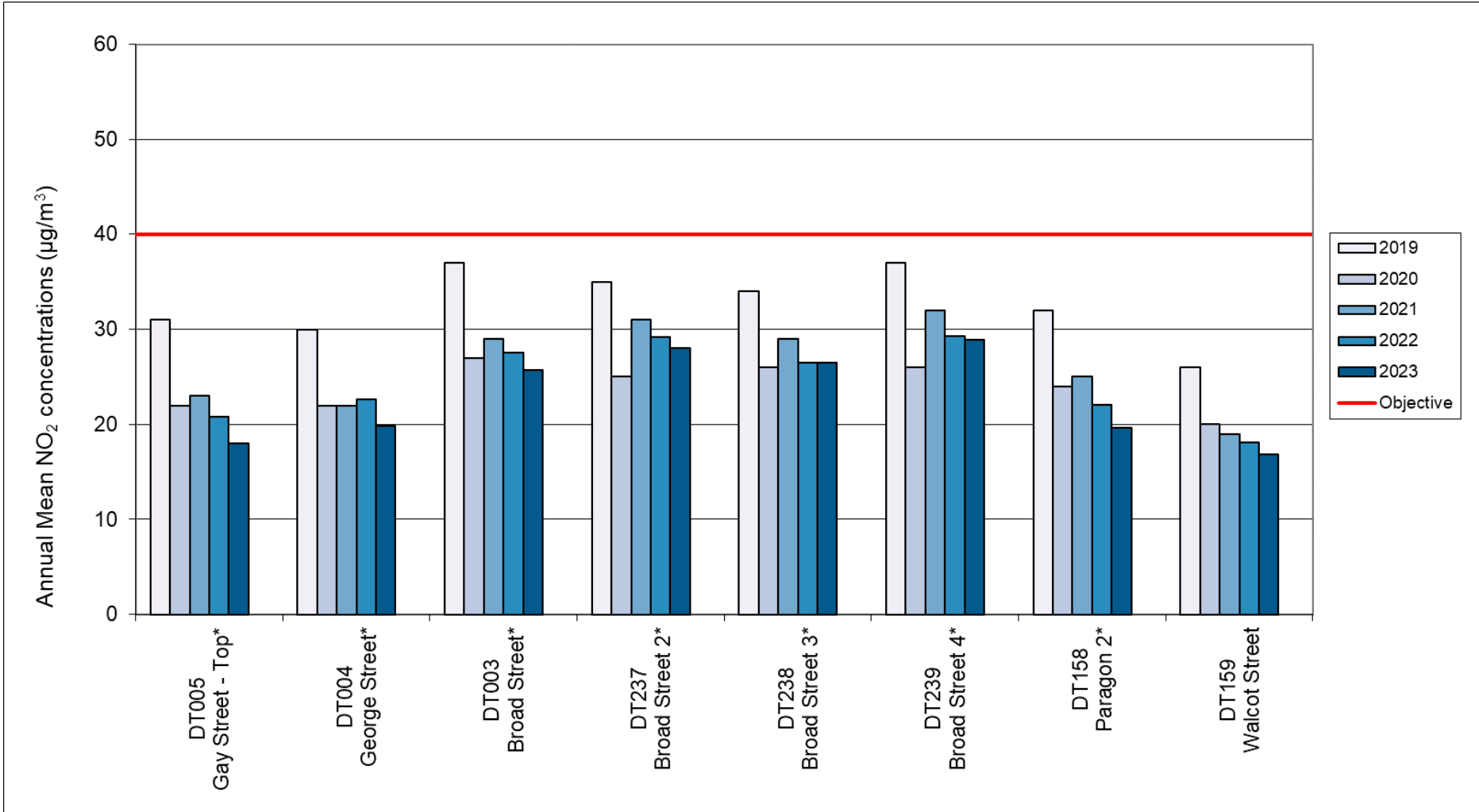
Note: * indicates that sites are within the Bath AQMA.

Figure A.13 – Trends in Annual Mean NO₂ Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Kingsmead (North West)



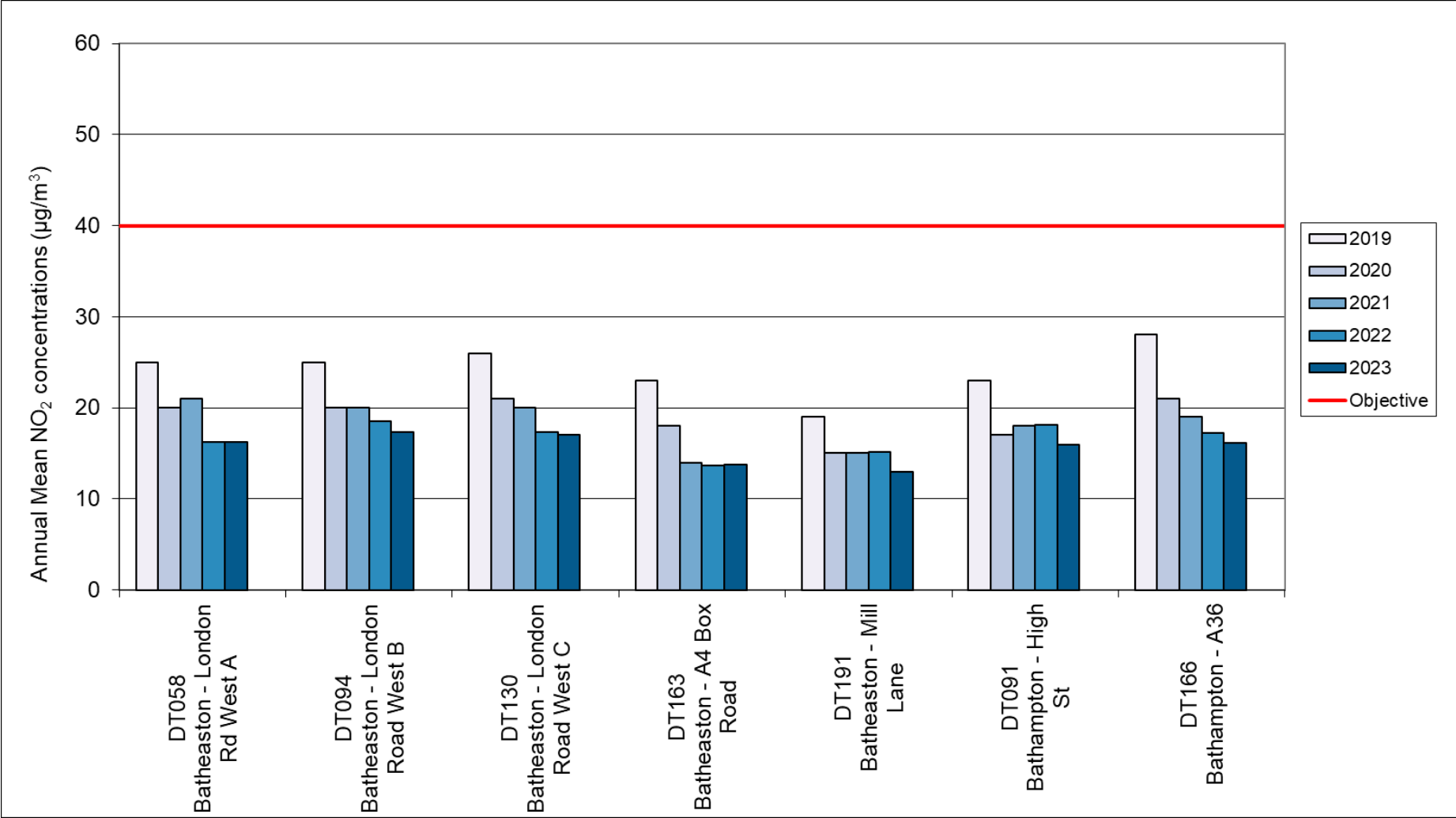
Note: * indicates that sites are within the Bath AQMA.

Figure A.14 – Trends in Annual Mean NO₂ Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Kingsmead (North East)



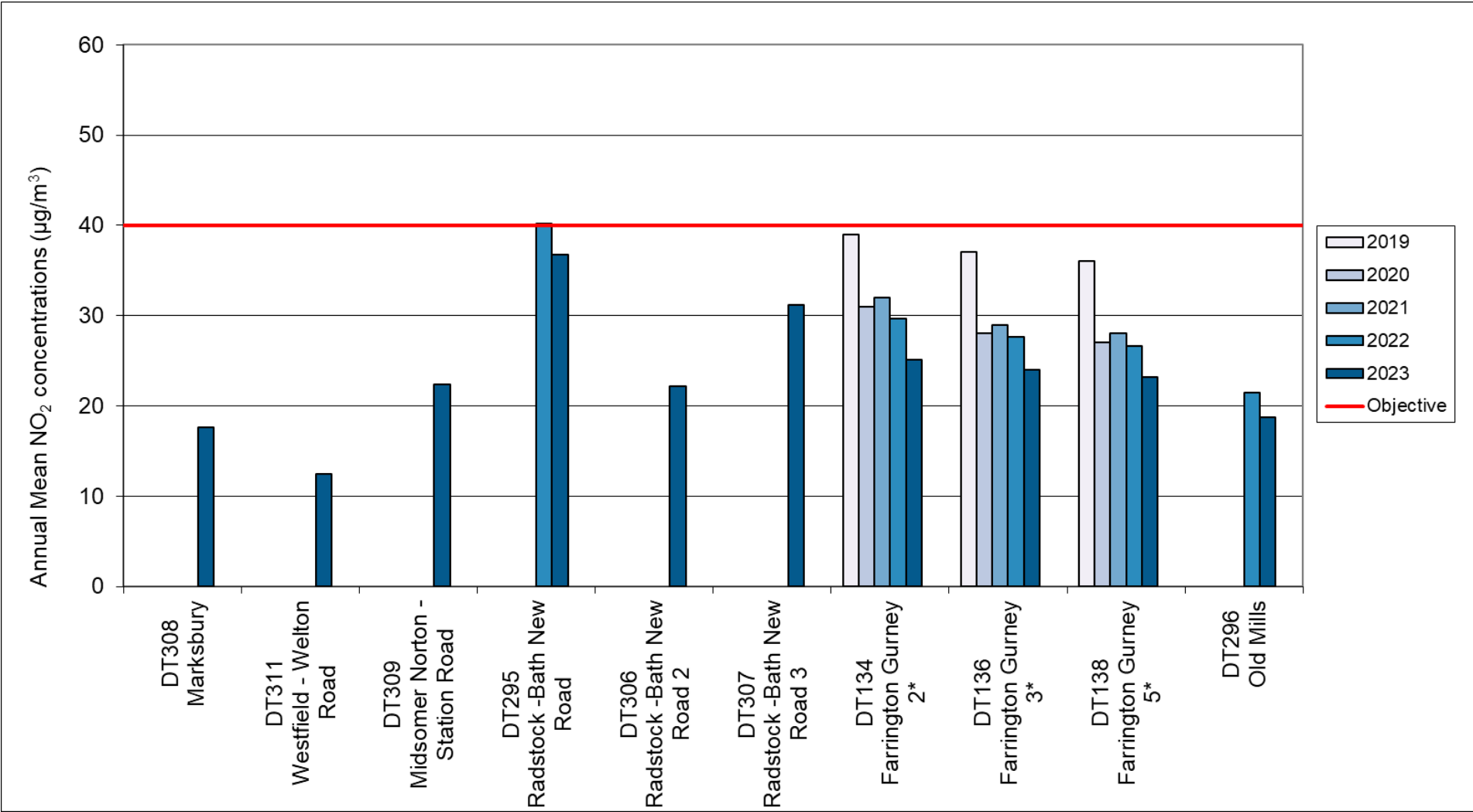
Note: * indicates that sites are within the Bath AQMA.

Figure A.15 – Trends in Annual Mean NO₂ Concentrations Measured at Diffusion Tube Monitoring Sites – Batheaston and Bathampton



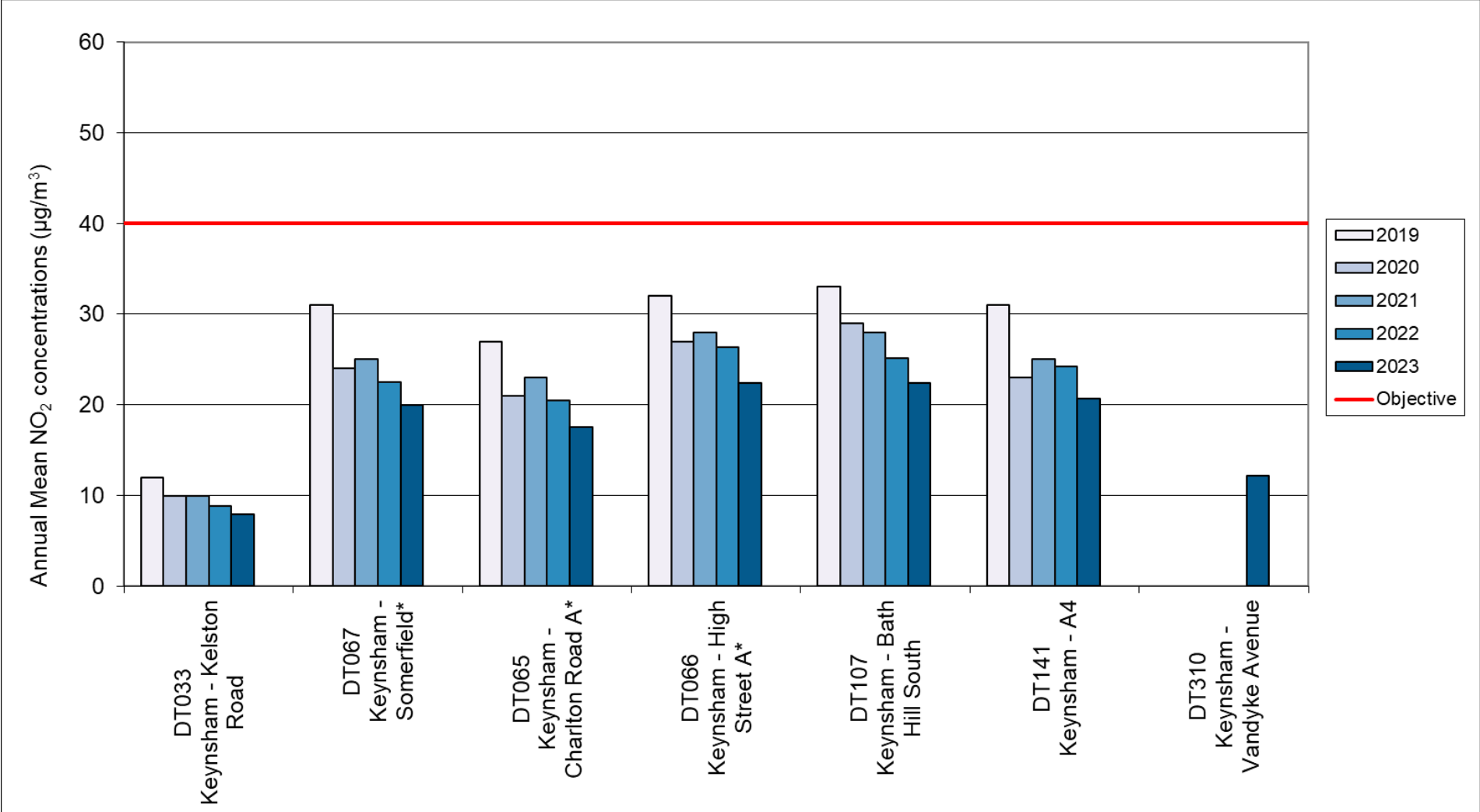
Note: No sites are within an AQMA

Figure A.16 – Trends in Annual Mean NO₂ Concentrations Measured at Diffusion Tube Monitoring Sites – Marksbury, Westfield, Midsomer Norton, Radstock, Old Mills and Farrington Gurney



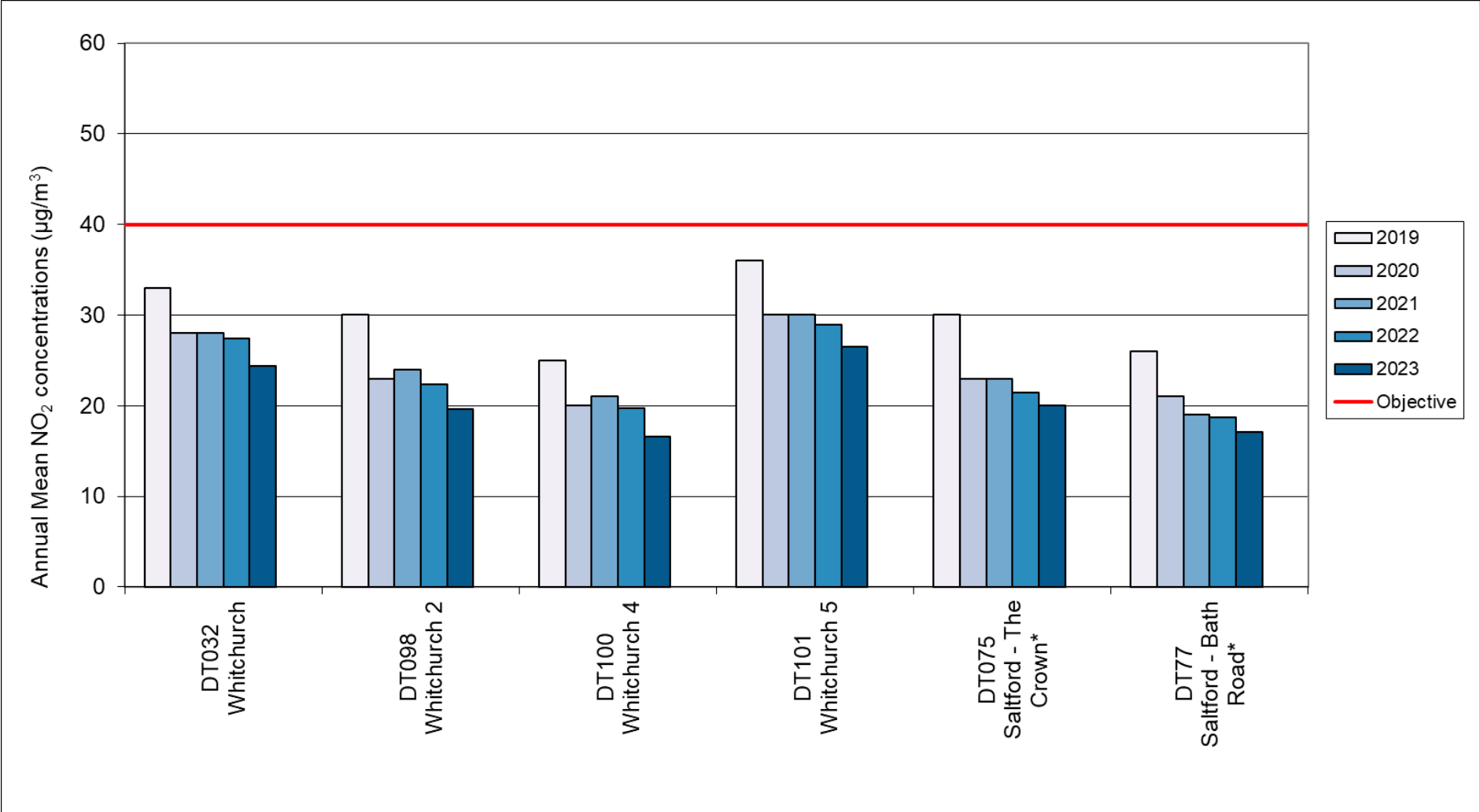
Note: * indicates that sites are within the Farrington Gurney AQMA.

Figure A.17 – Trends in Annual Mean NO₂ Concentrations Measured at Diffusion Tube Monitoring Sites – Keynsham



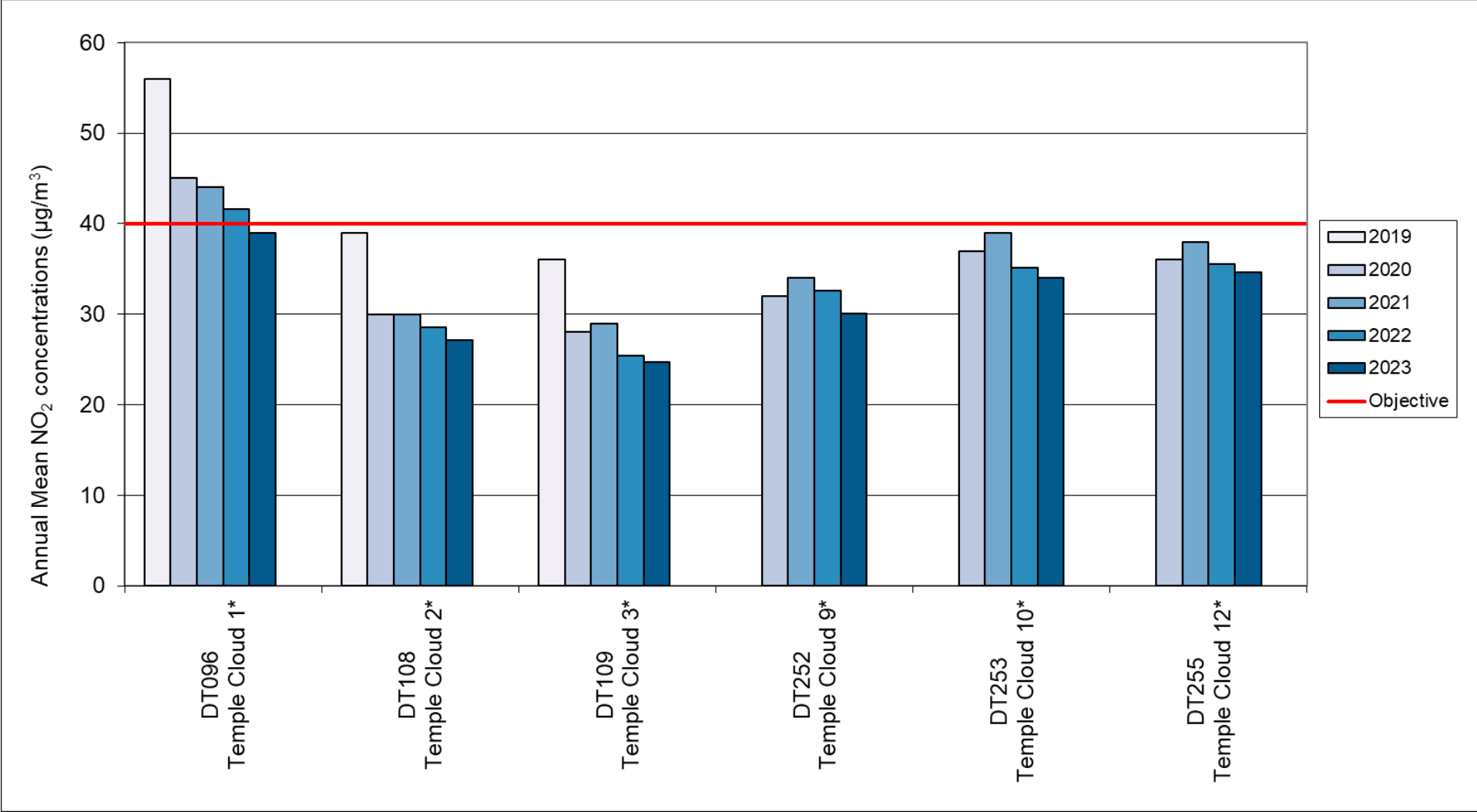
Note: * indicates that sites are within the Keynsham AQMA.

Figure A.18 – Trends in Annual Mean NO₂ Concentrations Measured at Diffusion Tube Monitoring Sites – Whitchurch and Saltford



Note: * indicates that sites are within the Saltford AQMA.

Figure A.19 – Trends in Annual Mean NO₂ Concentrations Measured at Diffusion Tube Monitoring Sites –Temple Cloud



Note: * indicates that sites are within the Temple Cloud AQMA.

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

Site ID	Site Name	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
CM2	Guildhall	375111	164857	Roadside	99.0	99.0	0	0	0	0	0
CM3	Windsor Bridge	373593	164861	Roadside	98.6	98.6	0	0	0	0	0
CM4	Chelsea House	375419	165853	Roadside	98.9	98.9	0	0	0	0	0
CM8	Bath A4 Roadside	375394	165824	Roadside	97.8	62	1 (125)	1	0	1	0 (82)

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.

(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	Site Name	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
CM3	Windsor Bridge	373593	164861	Roadside	98.5	98.5	22	19	18	21	29.2
CM8	Bath A4 Roadside	375394	165824	Roadside	79.8	65.8	21	18	18	19	15.1

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%).

Figure A.20 – Trends in Annual Mean PM10 Concentrations

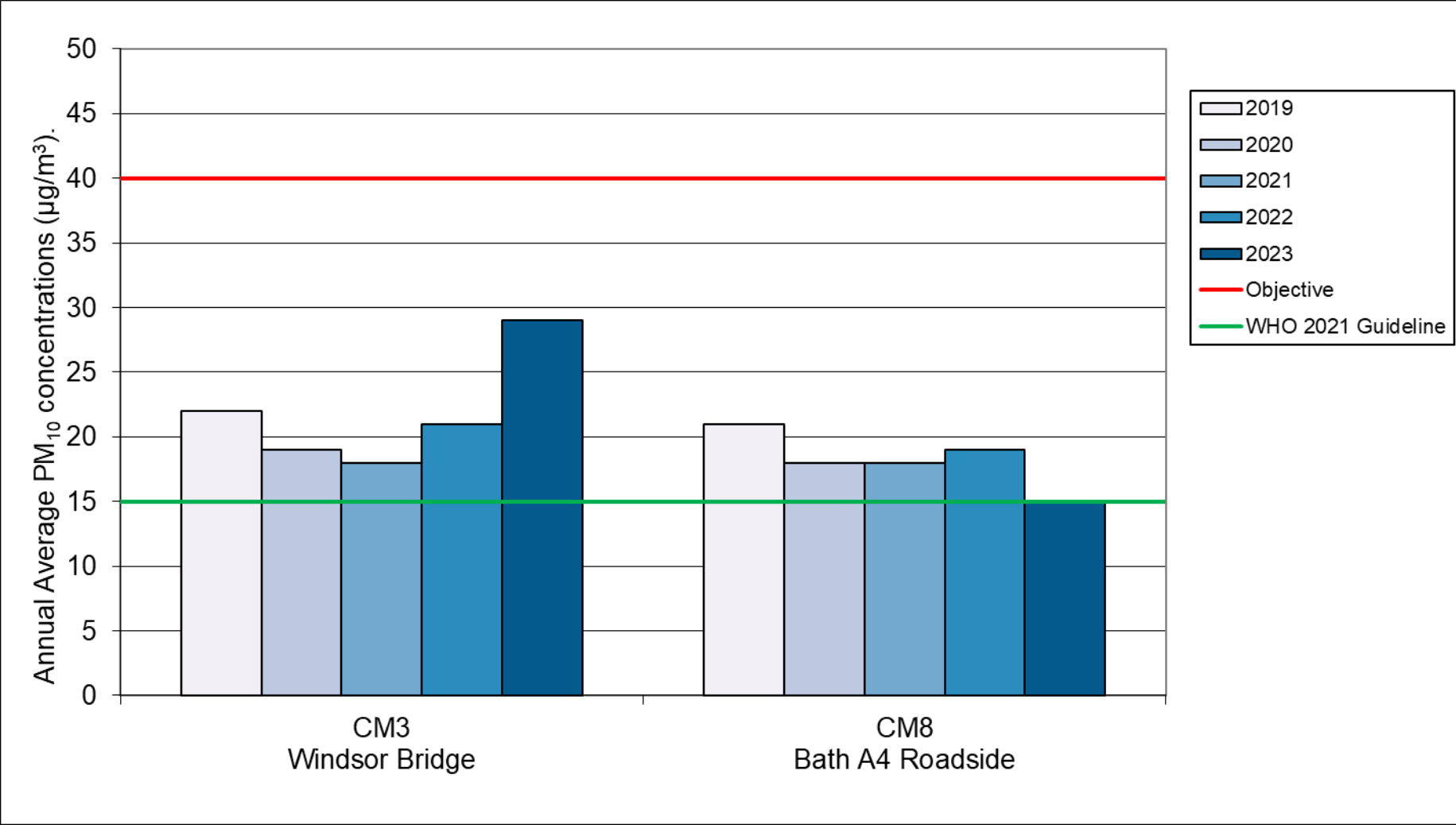


Table A.7 – 24-Hour Mean PM₁₀ Monitoring Results, Number of PM₁₀ 24-Hour Means > 50µg/m³

Site ID	Site Name	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
CM3	Windsor Bridge	373593	164861	Roadside	98.5	98.5	5	1	1	0	23
CM8	Bath A4 Roadside	375394	165824	Roadside	79.8	65.8	0 (26)	1	1	0	0 (24.6)

Notes:

Results are presented as the number of 24-hour periods where daily mean concentrations greater than 50 µg/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%).

Figure A.21 – Trends in Number of 24-Hour Mean PM10 Results > 50µg/m3

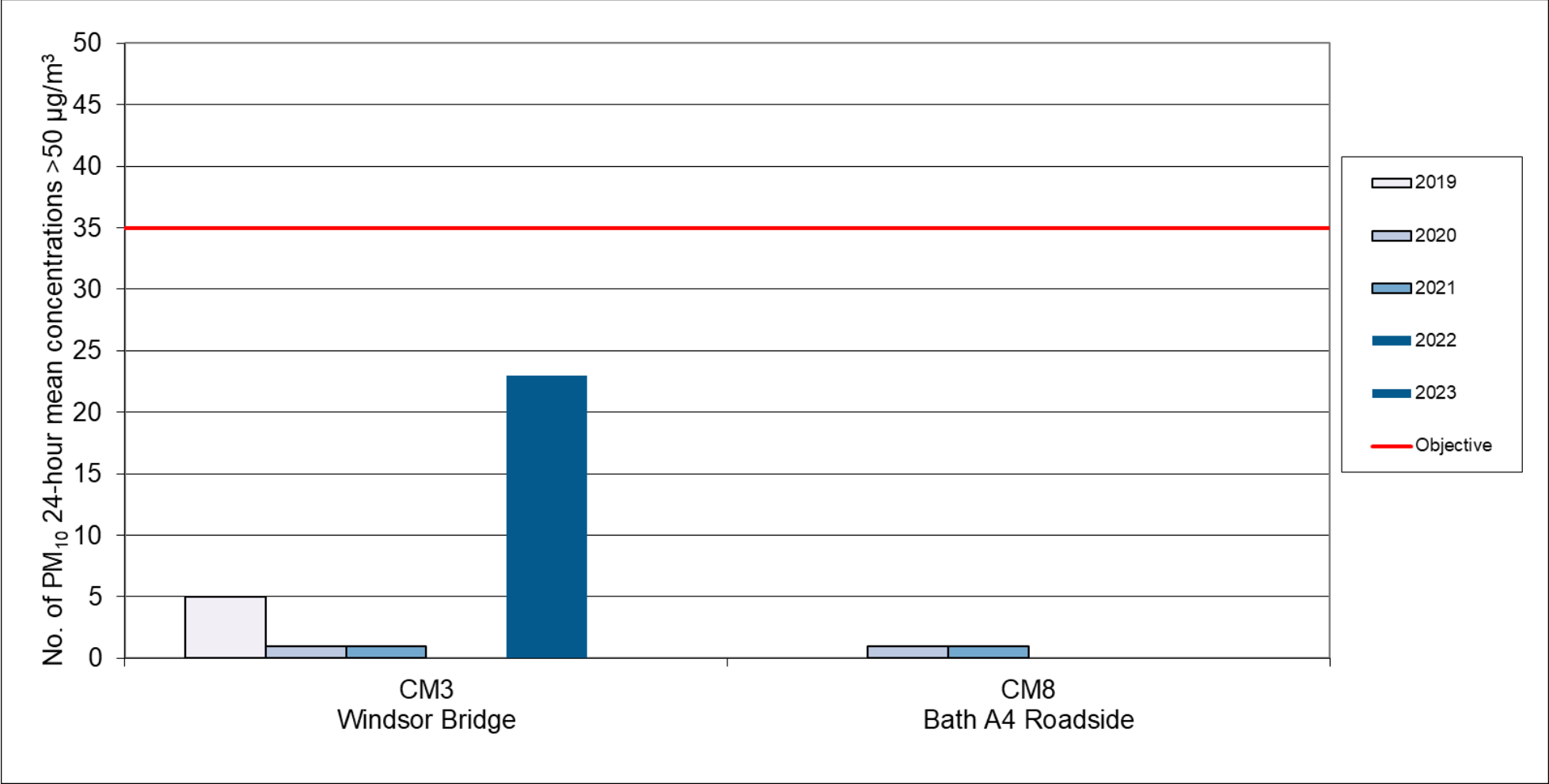


Table A.8 – Annual Mean PM_{2.5} Monitoring Results (µg/m³)

Site ID	Site Name	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
CM4	Chelsea House	375419	165853	Roadside	96.1	96.1	10	10	10	11	9.8

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

Notes:

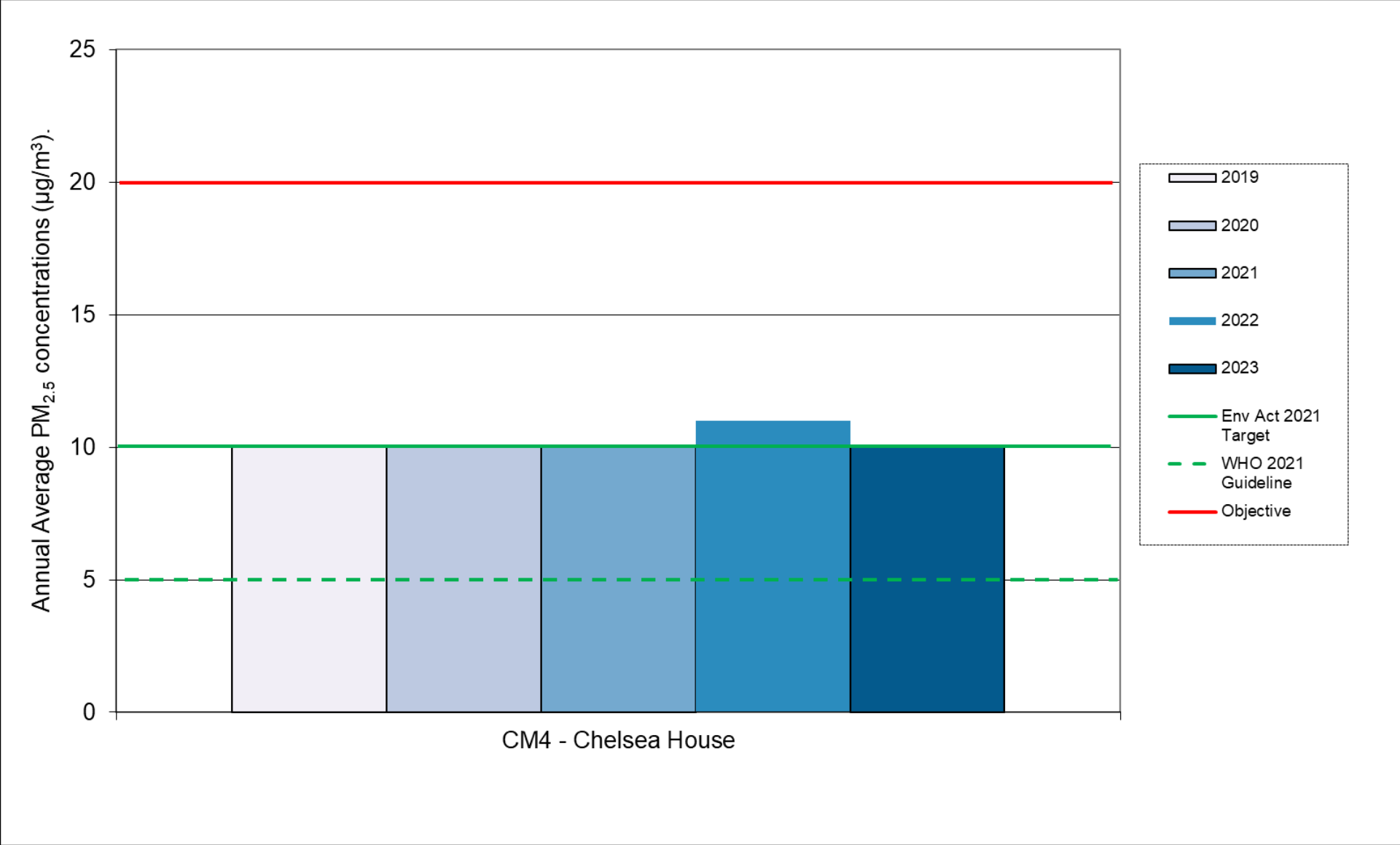
The annual mean concentrations are presented as µg/m³.

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%).

Figure A.22 – Trends in Annual Mean PM2.5 Concentrations



Appendix B: Full Monthly Diffusion Tube Results for 2023

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

DT ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.81)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT003	Bath - Broad St	374992	165173	42.5	36.6	33.1	28.8	26.5	27.3	28.2	24.1	32.2		36.4	33.1	31.7	25.7	-	
DT004	Bath - George St	374899	165159	29.2	29.4	23.9	26.1	21.3	21.9	17.4	20.0	24.5	25.4	29.5		24.4	19.8	-	
DT005	Bath - Gay St - Top	374797	165161	32.0	31.9	21.7	25.8	18.1	16.6	14.4	16.6	20.9	23.9	27.0	18.4	22.3	18.0	-	
DT008	Bath - Windsor Bridge	373518	165124	33.7		24.5	23.2		18.4	16.0	17.2	20.9	26.3	28.6	26.0	23.5	19.0	-	
DT009	Bath - Upper Bristol Rd	373993	165174	36.6	33.3	30.1	24.7	18.6	21.2	19.8		25.2	26.7	28.3	23.4	26.2	21.2	-	
DT014	Bath - Bathwick St	375602	165365	29.6	29.2	22.5	23.4	18.2	19.5	20.6	21.0	26.7	28.0	29.2	25.3	24.4	19.8	-	
DT015	Bath - Beckford Rd	375733	165414	27.4	27.4	19.0	23.6	19.7	20.5	13.9	19.0	24.6	24.5	26.1	17.6	21.9	17.8	-	
DT016	Bath - Warminster Rd	376063	165492	29.9	27.0	20.0	23.3	22.1	21.7	15.2	16.9	24.5	25.1	24.9	20.2	22.6	18.3	-	
DT017a	Bath - Widcombe School	375634	164406	31.7	28.9	20.6	20.2	18.4	19.1	17.2	17.8	22.9	23.6	26.0	20.3	-	-	-	Triplicate Site with DT017a, DT017b and DT017c - Annual data provided for DT017c only
DT017b	Bath - Widcombe School	375634	164406	33.0	30.7	21.3	19.6	19.1	19.7	17.6	18.4	22.3		28.0	21.5	-	-	-	Triplicate Site with DT017a, DT017b and DT017c - Annual data provided for DT017c only
DT017c	Bath - Widcombe School	375634	164406	31.7	31.4	20.8	20.5	18.9	19.4	15.8	18.9	24.1	24.2	28.0	20.1	22.7	18.4	-	Triplicate Site with DT017a, DT017b and DT017c - Annual data provided for DT017c only
DT018	Bath - Widcombe High St	375414	164216	22.9	24.0	16.6	17.6	14.6	13.8	13.3	15.8	17.7	19.4	25.9	18.2	18.3	14.8	-	
DT020a	Bath - Wells Rd	374760	164310	49.6	58.6	47.6	46.7	45.9	36.9	34.6	39.6	36.1	49.6	49.2	36.2	-	-	-	Triplicate Site with DT020a, DT020b and DT020c - Annual data provided for DT020c only
DT020b	Bath - Wells Rd	374760	164310	57.4	56.9	40.6	44.2	42.7	35.6	32.2	38.7	37.5		45.2	38.4	-	-	-	Triplicate Site with DT020a, DT020b and DT020c - Annual data provided for DT020c only

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DT020c	Bath - Wells Rd	374760	164310	49.3	55.6	43.2	42.6	41.2	34.2	35.6	39.3	36.3	44.9	43.8	37.3	43.1	34.9	-	Triplicate Site with DT020a, DT020b and DT020c - Annual data provided for DT020c only
DT021	Bath - Wells Rd /Upper Oldfield Park	374454	164202	35.4	36.3	28.7	31.5	28.3	26.5	14.8	23.2	26.7	31.4	30.6	16.4	27.5	22.3	-	
DT023	Bath - Alexandra Park	375105	163991	16.4	12.6	8.0	7.2	6.9	6.5	4.9	6.4	7.1	8.9	12.8	6.2	8.7	7.0	-	
DT026	Bath - Upper Wellsway	373576	161908	26.9	27.3	23.2	27.6	21.0	23.9	14.8	19.1	26.1		24.6	15.0	22.7	18.4	-	
DT034	Bath - Newbridge Rd	373092	165106	29.1	30.3	26.7	26.3	17.3	19.1	17.7	19.1	25.4	29.2	28.8	21.4	24.2	19.6	-	
DT037a	Bath - Charlotte St	374622	164994	36.0	34.6	23.7	24.7	20.6	18.7	14.5	18.9	20.1	23.9	29.3	18.9	-	-	-	Triplicate Site with DT037a, DT037b and DT037c - Annual data provided for DT037c only
DT037b	Bath - Charlotte St	374622	164994	36.3	34.2	23.1	25.5	22.4	18.1	14.6	19.1	21.3	25.4	30.5	19.3	-	-	-	Triplicate Site with DT037a, DT037b and DT037c - Annual data provided for DT037c only
DT037c	Bath - Charlotte St	374622	164994	27.0	33.9	24.3	25.3	22.0	20.1	14.2	20.0	21.3	25.0	28.8	20.1	23.8	19.3	-	Triplicate Site with DT037a, DT037b and DT037c - Annual data provided for DT037c only
DT039	Bath - Manvers St	375247	164591	31.3	32.6	27.7	25.5	22.5	22.4	20.0	22.5	27.7	31.4	33.4	25.7	26.9	21.8	-	
DT042	Bath - Dorchester St	375230	164383	49.6	48.4	38.9	41.3	37.5	38.8	34.8	35.3	41.0	38.7	44.1	35.7	40.4	32.7	-	
DT043	Bath - St. James Parade	375053	164426	42.9	41.9	33.1	37.8	36.2	34.6	28.1	31.8	40.1	41.1	39.3	31.2	36.5	29.6	-	
DT045	Bath - James St West	374697	164763	36.3	33.5	22.4	23.7	20.6	17.4	16.5	20.6	24.1	27.4	30.2	21.9	24.5	19.9	-	
DT052	Bath - Walcot Terrace	375462	165843	37.3	32.2		26.2	21.9	24.6	25.4	22.8	30.4	32.1	31.8	28.9	-	-	-	Triplicate Site with DT052, DT053 and DT054 - Annual data provided for DT054 only
DT053	Bath - Walcot Terrace	375462	165843	34.6	32.3	29.7	27.1	21.8	24.7		22.8	31.2	33.2	32.0	26.0	-	-	-	Triplicate Site with DT052, DT053 and DT054 - Annual data provided for DT054 only

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DT054	Bath - Walcot Terrace	375462	165843	36.9	30.9	30.3	27.5	22.1	24.3	25.7	22.4	30.7	32.5	32.6	27.8	28.6	23.1	-	Triplicate Site with DT052, DT053 and DT054 - Annual data provided for DT054 only
DT055	Bath - Lambridge	376451	166502	33.8	33.6	33.6	31.3	34.3	34.0	27.1	26.9	30.5	32.8	32.3	26.8	31.4	25.4	29.4	
DT060	Bath - Victoria Buildings	374039	164760	53.7	45.5	30.6	33.6	34.9	34.0	27.9	29.0	39.3	40.6	42.2	31.3	36.9	29.9	-	
DT062	Bath - Argyle Terrace	373211	164743	38.2	39.0	33.2	37.8	30.7	32.2	24.7	25.7	35.5	36.2	35.4	24.9	32.8	26.6	-	
DT084	Bath - Bear Flat	374604	163806	32.4	32.7	28.1	24.3	25.7			18.9	23.2	26.1	27.0	15.5	25.4	20.6	-	
DT085	Bath - RUH – North	373073	165983	28.8	29.2	24.9	22.1	20.1		19.8	20.3	24.1	25.2	25.0		24.0	19.4	-	
DT087	Bath - Oak Street	374702	164414	30.8	29.8	22.1	25.2	19.8	19.3	16.3	19.2	26.1	25.4		21.3	23.2	18.8	-	
DT090a	Bath - Anglo Terrace	375288	165758	36.6	44.6	38.7	39.5	39.6	34.9	27.3	29.8	37.8	39.0	43.8	28.2	-	-	-	Triplicate Site with DT090a, DT090b and DT090c - Annual data provided for DT090c only
DT090b	Bath - Anglo Terrace	375288	165758	42.2	43.7	40.8	38.6	36.7	34.4	27.4	32.0	40.1	40.3	46.1	29.7	-	-	-	Triplicate Site with DT090a, DT090b and DT090c - Annual data provided for DT090c only
DT090c	Bath - Anglo Terrace	375288	165758	37.9	43.6	39.7	36.3	36.2	35.4	27.7	28.5	39.6	40.1	42.0	30.9	36.9	29.9	-	Triplicate Site with DT090a, DT090b and DT090c - Annual data provided for DT090c only
DT142	Bath - Prior Park Road	375513	164194	31.3	31.1	25.3	27.8	19.3	25.8	20.9	22.5	30.4	28.9	32.7	24.8	26.7	21.7	-	
DT143	Bath - Rackfield Place	372644	164738	29.8	29.9	22.6	25.4	21.3	19.9	16.5	18.8	24.4	27.1	28.4	20.3	23.7	19.2	-	
DT145	Bath - Lansdown Road	374930	165550	30.3	29.8	20.5	23.7	19.5	19.7	14.4	16.8	21.3	22.5	26.6	18.7	22.0	17.8	-	
DT147	Bath - Terrace Walk	375195	164735	32.6	32.2	18.2		20.5	17.2	14.9	17.9	20.3	23.0	26.9	18.9	22.1	17.9	-	
DT148a	Bath - Julian Road	374573	165523	32.5	26.9	20.2	21.0	17.4	17.6		18.0	21.5	22.8	26.5	17.0	-	-	-	Triplicate Site with DT148a, DT148b and DT148c - Annual data provided for DT148c only
DT148b	Bath - Julian Road	374573	165523	31.8	27.0	21.1	21.9	18.5	18.0	13.9	18.6	23.1	25.0	26.0	17.5	-	-	-	Triplicate Site with DT148a, DT148b and DT148c - Annual data provided for DT148c only

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DT148c	Bath - Julian Road	374573	165523	29.5	28.3	18.1	21.0	16.7	17.7	15.2	18.0	22.2	25.0	25.0	17.5	21.5	17.4	-	Triplicate Site with DT148a, DT148b and DT148c - Annual data provided for DT148c only
DT149	Bath - Camden 3	375038	165838	18.6	24.2	19.6	18.4	14.8	15.6	14.8	15.0	19.2	22.7	25.8	20.0	19.1	15.4	-	
DT150	Bath - Brougham Hayes	373955	164590	33.4	32.7	23.5	23.7	23.1	21.2	15.9	19.3	25.0	28.0	29.9	20.4	24.7	20.0	-	
DT151	Bath - Widcombe Hill	375598	164190	21.1	24.8	17.8	19.2	22.5	18.5	11.0	16.1		17.4	25.6		19.4	15.7	-	
DT152	Bath - Bathwick Hill	375800	164912	30.2	27.5	17.4	18.7	15.4	14.0	12.8	14.9	21.4	20.9	23.9	18.1	19.6	15.9	-	
DT153	Bath - North Road	376069	165356	23.1	20.7	13.9	14.6	10.8	10.6	7.7	11.4	16.3	16.7	19.5	13.6	14.9	12.1	-	
DT154	Bath - Bradford Road	375529	162389	31.6	26.7	21.9	23.7	17.2	20.9	15.0	18.7	26.2	27.2	26.4	17.3	22.7	18.4	-	
DT155	Bath - Newbridge Hill 2	372696	165488	21.4	17.9	13.3	12.8	9.9	8.7	7.7	9.3	11.9	14.7	17.7	10.9	13.0	10.5	-	
DT156	Bath - Corn Street	374827	164531	31.6	28.9	20.7	23.1	21.7	19.4	15.5				26.6	15.1	22.5	18.2	-	
DT157	Bath - Charles Street	374664	164815	31.5	31.2	24.2	26.7	19.0	19.6	14.6	18.2		27.1	26.3	17.9	23.3	18.9	-	
DT158	Bath - Paragon 2	375051	165350	31.7	30.4	25.3	24.1	22.0	21.2	16.0	19.1	23.3	28.1	28.8	20.7	24.2	19.6	-	
DT159	Bath - Walcot Street	375075	165287	28.6	27.0	20.4	18.9	15.6	15.0	14.3	16.3	20.2	23.9	28.2	20.9	20.8	16.8	-	
DT160	Bath - North Parade Road	375284	164694	34.8	36.0	27.9		24.5	21.8	25.7	23.3	30.2	29.5	31.6	24.4	28.2	22.8	-	
DT165	Bath - Brassknocker Hill	377960	162736	25.5	28.7	26.8	25.5	27.0	27.4	21.5	25.5	33.0	30.9	29.5	25.4	27.2	22.0	-	
DT167	Bath - Weston High Street	372587	166629	23.9	24.3	22.8	22.1	17.4	19.6	12.5	15.1	20.6	20.0	21.7	16.0	19.7	15.9	-	
DT168	Bath - Englishcombe Lane	373207	163339	19.2	17.0	11.2	11.1	10.0	9.2	5.8	7.9	9.3	11.6	16.1	8.0	11.4	9.2	-	
DT169	Bath - Eastbourne Avenue	375667	166369	27.7	24.0	16.5	17.7	14.3	14.6	10.9	14.4	18.2	20.4	25.8	15.7	18.4	14.9	-	
DT171	Bath - Frome Road/Upper Bloomfield	373706	162411	27.1	29.2	22.0	26.3	24.7		13.2	19.7	21.0	22.9	23.9	12.9	22.1	17.9	-	

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DT172a	Bath - London Road 2	375374	165813	41.5	40.1	35.6	32.8	30.2	27.7	27.6	28.1	36.1	37.0	41.0	30.3	-	-	-	Triplicate Site with DT172a, DT172b and DT172c - Annual data provided for DT172c only	
DT172b	Bath - London Road 2	375374	165813	44.8	40.9	36.6	34.3	30.9	32.0	26.0	27.9	35.3	37.0	39.8	30.3	-	-	-	Triplicate Site with DT172a, DT172b and DT172c - Annual data provided for DT172c only	
DT172c	Bath - London Road 2	375374	165813	39.4	41.6	35.0	33.0	31.3	29.8	27.2	26.0	34.6	37.0	39.7	29.5	34.1	27.6	-	Triplicate Site with DT172a, DT172b and DT172c - Annual data provided for DT172c only	
DT173	Bath - Upper Bristol Road 2	374362	165016	37.7	40.9	30.4	28.9	20.9	20.2	23.8	25.7	30.4	30.4	33.5	27.2	29.2	23.6	-		
DT179a	Bath - Upper Bristol Road 3	373299	165093	29.9	35.6	29.0	28.4	29.1	24.1	16.7	20.2	23.9		31.1	18.4	-	-	-	Triplicate Site with DT179a, DT179b and DT179c - Annual data provided for DT179c only	
DT179b	Bath - Upper Bristol Road 3	373299	165093	35.0	32.4	30.0	31.9	26.8	27.2	14.0	21.9	26.2		32.2	17.7	-	-	-	Triplicate Site with DT179a, DT179b and DT179c - Annual data provided for DT179c only	
DT179c	Bath - Upper Bristol Road 3	373299	165093	31.0	38.6	28.9	34.6	24.4	28.4	15.7	23.4	28.1	31.6	32.5	19.4	27.3	22.1	-	Triplicate Site with DT179a, DT179b and DT179c - Annual data provided for DT179c only	
DT180a	Bath - Wells Road 2	374537	163968	40.1	36.9	31.8	32.0	25.5	28.0	23.7	31.0	33.9	34.1	31.7	22.0	-	-	-	Triplicate Site with DT180a, DT180b and DT180c - Annual data provided for DT180c only	
DT180b	Bath - Wells Road 2	374537	163968	38.7		29.3	31.7	25.9	26.7	23.1	27.6		32.0	32.5		-	-	-	Triplicate Site with DT180a, DT180b and DT180c - Annual data provided for DT180c only	
DT180c	Bath - Wells Road 2	374537	163968	40.3	34.3	30.8	30.3	25.1	28.5	23.6	30.0	32.9	32.9	32.9	22.4	30.4	24.6	-	Triplicate Site with DT180a, DT180b and DT180c - Annual data provided for DT180c only	
DT181	Bath - Wellsway	374618	163494	38.1	37.2	30.4	26.3		20.2	20.4	21.2	26.7	26.4	30.3	22.5	27.3	22.1	-		
DT182a	Bath - Gay Street - Lower	374796	165123	34.4	36.8	30.2	33.4		31.4				35.3	36.4	41.0	29.6	-	-	-	Triplicate Site with DT182a, DT182b and DT182c - Annual data provided for DT182c only

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DT182b	Bath - Gay Street - Lower	374796	165123	38.5	39.4	30.8	34.3	31.3	31.7	28.4		33.9	38.4	40.0	27.9	-	-	-	Triplicate Site with DT182a, DT182b and DT182c - Annual data provided for DT182c only
DT182c	Bath - Gay Street - Lower	374796	165123	40.5	38.9		34.3			28.0	28.9		36.7	42.2		33.5	27.1	-	Triplicate Site with DT182a, DT182b and DT182c - Annual data provided for DT182c only
DT183	Bath - Chapel Row	374712	164913	30.6	31.5	25.0	27.7	24.1	23.7	17.7	22.5	24.3	28.7	28.1	21.7	25.5	20.6	-	
DT185	Bath - Greenway Lane	374712	163417	20.4	15.7	11.6	10.0	7.7	8.8	7.5		11.3	13.1	16.1	9.7	12.0	9.7	-	
DT186	Bath - Coronation Avenue	373170	163416	20.7	20.5	17.3	17.3	14.1	14.4		13.1	15.4	18.3	18.1	10.4	16.3	13.2	-	
DT187	Bath - Stanley Road West	373835	164438	27.0	26.6	18.1	20.7	16.8	14.0	10.6	15.2	19.4	21.8	24.2	15.2	19.1	15.5	-	
DT188	Bath - Moorland Road	373696	164343	25.5	24.6			14.4	14.4	11.6	13.3	19.2	22.9	23.9	16.9	18.7	15.1	-	
DT189	Bath - Old Newbridge Hill	372251	165686	30.7	31.4	25.1	26.3	25.2	24.6	18.0	22.2	23.3	25.5	24.6	18.6	24.6	19.9	-	
DT190	Bath - Church Street	375814	164027	18.8	15.3	10.0	9.5	7.9	6.8	4.5	7.1	8.0	9.2	13.8	8.8	10.0	8.1	-	
DT192	Bath - Fairfield Road	375505	166428	18.6	16.9	13.0	12.0	8.0		9.0	9.6	13.3	14.6	17.3	12.4	13.1	10.6	-	
DT193	Bath - Granville Road	374260	167661	10.3	8.0	7.4	6.1	4.6	4.0		5.4	6.6	8.3	9.9	6.4	7.0	5.7	-	
DT194	Bath - Brooklyn Road	376096	166878	20.5	15.4	13.9	11.9	10.2	10.8	7.7	8.9	11.9	14.5	17.5	12.0	12.9	10.5	-	
DT195	Bath - Lansdown Lane	372537	167235	28.1	25.3	20.3	23.1	20.8	19.2	13.6	18.3	23.1	23.8	24.3	15.7	21.3	17.3	-	
DT196	Bath - Oakley	377133	164045	26.6	25.7	18.7	17.5	15.5	14.6	12.2	13.6	20.0	21.2	23.0	14.7	18.6	15.1	-	
DT197	Bath - Rush Hill	372703	162983	26.8	25.9	19.7	19.5	14.5	17.6	14.4	16.8	20.7	23.5	25.6	15.7	20.1	16.3	-	
DT198a	Bath - Walcot Parade	375240	165739	48.8	46.9	46.3	40.6	37.2	39.0	36.3	31.7	47.9	44.6	50.7	34.5	-	-	-	Triplicate Site with DT198a, DT198b and DT198c - Annual data provided for DT198c only

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DT198b	Bath - Walcot Parade	375240	165739	45.9	48.2	45.2	43.6	38.9	38.0	35.1	35.7	45.9	47.7	47.3	36.3	-	-	-	Triplicate Site with DT198a, DT198b and DT198c - Annual data provided for DT198c only
DT198c	Bath - Walcot Parade	375240	165739	41.8	49.5	45.7	41.9	40.3	39.7	36.1	34.4	44.6	45.5	47.8	34.4	42.1	34.1	-	Triplicate Site with DT198a, DT198b and DT198c - Annual data provided for DT198c only
DT199	Bath - Hensley Road	374353	163504	17.2	15.0	10.6	9.7	7.0	6.7	5.2	7.6	9.8	11.4	14.8	7.5	10.2	8.3	-	
DT200	Bath - Millmead Road	373375	164307	20.5	20.6	13.3	14.1	10.9	10.8	6.2	9.1	13.3	14.7	17.0	10.0	13.4	10.8	-	
DT201	Bath - The Hollow	373003	164250	27.9	27.3		21.7	18.4	17.3	12.0	15.9	21.9		22.4	15.6	20.1	16.2	-	
DT202	Bath - Charlcombe	374636	166701	16.0	13.5	11.1		8.0	8.8	6.7	7.3	12.7	12.4	15.2	10.0	11.1	9.0	-	
DT206a	Bath - Park Lane	373742	165305	33.5	31.5	25.2	25.9	22.1	23.3	22.0	22.8		28.0	30.4	23.5	-	-	-	Triplicate Site with DT206a, DT206b and DT206c - Annual data provided for DT206c only
DT206b	Bath - Park Lane	373742	165305	32.9	31.1	26.6	26.0	22.9	22.5	21.5	22.5		29.1	30.2	23.1	-	-	-	Triplicate Site with DT206a, DT206b and DT206c - Annual data provided for DT206c only
DT206c	Bath - Park Lane	373742	165305	37.3	31.5	25.8	25.9	22.4	23.3	21.4	22.6		28.7	28.9	23.1	26.3	21.3	-	Triplicate Site with DT206a, DT206b and DT206c - Annual data provided for DT206c only
DT207	Bath - Darlington Street	375630	165132	38.9	38.3	27.9	29.6	24.3	24.5	28.1	27.5	34.7		37.6	30.7	31.1	25.2	-	
DT209	Bath - Bellots Road	373490	164804	23.5	22.9	16.5	17.6	13.8		9.6	12.3	15.2	18.6	20.4	13.8	16.7	13.6	-	
DT210	Bath - Red Lion Roundabout	373895	162254	32.5	29.7	27.2	28.7	26.8	32.4	23.5	28.1	31.5	32.8	31.8	24.7	29.2	23.6	-	
DT211	Bath - St John's Road	375218	165290	23.1	20.0	14.8	14.8			8.9	10.8	14.5	16.7	20.0	13.2	15.7	12.7	-	
DT212	Bath - Oldfield Road	374356	163985	22.3	20.5	14.2	14.8	12.2	11.1	6.0	10.7	12.0	14.3	16.7		14.1	11.4	-	
DT213a	Bath - Marlborough Lane	374262	165127	25.5	24.6	17.5	19.2	15.1	15.1	11.1	13.8	17.4	19.4	20.5	13.0	-	-	-	Triplicate Site with DT213a, DT213b and DT213c - Annual data provided for DT213c only

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DT213b	Bath - Marlborough Lane	374262	165127	28.0	22.4	17.4	18.4	15.6	15.3	11.5	14.0	17.3	19.7	20.1	12.8	-	-	-	Triplicate Site with DT213a, DT213b and DT213c - Annual data provided for DT213c only
DT213c	Bath - Marlborough Lane	374262	165127	24.8	21.0	18.2	18.8	15.7	15.3	11.5	13.9	16.9	19.0	19.9	12.7	17.6	14.2	-	Triplicate Site with DT213a, DT213b and DT213c - Annual data provided for DT213c only
DT214a	Bath - Marlborough Buildings	374354	165448	24.6	22.9	17.4	15.0	10.7	10.2	10.4	11.9	15.2	19.3	21.8	15.6	-	-	-	Triplicate Site with DT214a, DT214b and DT214c - Annual data provided for DT214c only
DT214b	Bath - Marlborough Buildings	374354	165448	27.6	22.8	16.2	15.3	10.9	10.6	10.1	11.4	15.0	17.5	20.0	17.6	-	-	-	Triplicate Site with DT214a, DT214b and DT214c - Annual data provided for DT214c only
DT214c	Bath - Marlborough Buildings	374354	165448	28.0	22.5	16.4	15.2	11.3	10.6	10.5	11.8	14.8	17.6	20.4		16.3	13.2	-	Triplicate Site with DT214a, DT214b and DT214c - Annual data provided for DT214c only
DT215a	Bath - Queen Parade Place	374758	165096	23.6	20.5	15.7	15.8	15.0	13.8	9.6		14.9	18.1	20.5	12.6	-	-	-	Triplicate Site with DT215a, DT215b and DT215c - Annual data provided for DT215c only
DT215b	Bath - Queen Parade Place	374758	165096	23.0	21.3	15.3	15.4	14.4	14.2	10.9	13.0	15.2	15.4	18.7	13.1	-	-	-	Triplicate Site with DT215a, DT215b and DT215c - Annual data provided for DT215c only
DT215c	Bath - Queen Parade Place	374758	165096	25.4	21.5	14.8	16.2	14.2	14.0	9.8		15.0		19.8	12.0	16.0	13.0	-	Triplicate Site with DT215a, DT215b and DT215c - Annual data provided for DT215c only
DT216a	Bath - Monmouth Place	374574	164958	33.9	34.9	23.0	23.6	20.4	19.0	13.9	19.7	21.2	27.5	29.3	19.6	-	-	-	Triplicate Site with DT216a, DT216b and DT216c - Annual data provided for DT216c only
DT216b	Bath - Monmouth Place	374574	164958	35.7	34.7	23.2	25.6	21.8	18.5	13.3	20.5	22.4	28.0	29.9	18.9	-	-	-	Triplicate Site with DT216a, DT216b and DT216c - Annual data provided for DT216c only
DT216c	Bath - Monmouth Place	374574	164958	36.1	32.7	25.6	24.8	21.7		14.1	20.3	22.4	26.7	31.7	18.9	24.2	19.6	-	Triplicate Site with DT216a, DT216b and DT216c - Annual data provided for DT216c only
DT217a	Bath - Cavendish Road	374335	165990	20.6	16.3	13.5	13.5	13.1	12.4	7.7	9.8	13.4	13.2	18.1	10.5	-	-	-	Triplicate Site with DT217a, DT217b and DT217c - Annual data provided for DT217c only

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DT217b	Bath - Cavendish Road	374335	165990	21.7	18.6	14.4	13.1	14.1	13.0	8.0	10.1	13.7	13.8	17.5	10.4	-	-	-	Triplicate Site with DT217a, DT217b and DT217c - Annual data provided for DT217c only
DT217c	Bath - Cavendish Road	374335	165990	21.9	19.1	13.8	14.9	13.7	13.4	8.4	10.7	14.1	14.4	14.8	12.0	13.9	11.3	-	Triplicate Site with DT217a, DT217b and DT217c - Annual data provided for DT217c only
DT218	Bath - Weston Road	373668	165697	24.8	23.0	18.5		11.3	12.4	12.7	12.5	16.2	18.0	20.5	16.4	16.9	13.7	-	
DT219	Bath - Morford Street	374872	165570	27.7	24.8	19.8	20.3	17.9	16.6	11.2	14.9	19.9	21.2	22.8	15.5	19.4	15.7	-	
DT221	Bath - Gay Street - façade	374793	165119	34.7	33.3	25.8	28.1	31.0	25.6	22.3	25.2	29.4	31.0	33.0	23.5	28.6	23.1	-	
DT222a	Bath - Anglo Terrace façade	375322	165778	44.8	49.4	42.2	43.0	39.9	36.9	33.7	33.9	44.3	44.2	47.7	35.3	-	-	-	Triplicate Site with DT222a, DT222b and DT222c - Annual data provided for DT222c only
DT222b	Bath - Anglo Terrace façade	375322	165778	53.5	49.7	43.9	40.8	38.9	40.7	33.3	34.0	45.0	41.7	45.7	31.9	-	-	-	Triplicate Site with DT222a, DT222b and DT222c - Annual data provided for DT222c only
DT222c	Bath - Anglo Terrace façade	375322	165778	42.7	50.9	43.2	43.1	39.0	39.8	33.6	31.5	44.5	44.5	47.3	34.3	41.4	33.5	-	Triplicate Site with DT222a, DT222b and DT222c - Annual data provided for DT222c only
DT223a	Bath - Canton Place	375322	165759	37.5	34.6	27.9	28.3	24.5	25.4	22.6		31.1		35.5	27.0	-	-	-	Triplicate Site with DT223a, DT223b and DT223c - Annual data provided for DT223c only
DT223b	Bath - Canton Place	375322	165759	38.7	33.0	28.7	28.1	23.7	25.8	23.5		32.2	32.8	35.2	25.6	-	-	-	Triplicate Site with DT223a, DT223b and DT223c - Annual data provided for DT223c only
DT223c	Bath - Canton Place	375322	165759	34.1	33.4	29.2	29.9	24.6	26.3	24.2		33.2		34.3	30.2	29.9	24.2	-	Triplicate Site with DT223a, DT223b and DT223c - Annual data provided for DT223c only
DT224a	Bath - Walcot Parade 2	375207	165726	61.8	57.6	50.1	43.9	44.4	46.2		37.8	55.0	45.2	50.2	39.0	-	-	-	Triplicate Site with DT224a, DT224b and DT224c - Annual data provided for DT224c only
DT224b	Bath - Walcot Parade 2	375207	165726	50.4	54.9	50.7	51.3	42.4	45.8	38.2	36.7	53.1	53.4	43.6	38.0	-	-	-	Triplicate Site with DT224a, DT224b and DT224c - Annual data provided for DT224c only

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DT224c	Bath - Walcot Parade 2	375207	165726	46.2	50.1	49.6	47.1	44.1	44.7	37.1	36.0	51.9	50.5	52.0	37.1	46.5	37.7	35.9	Triplicate Site with DT224a, DT224b and DT224c - Annual data provided for DT224c only
DT225a	Bath - Cleveland Terrace	375203	165708	43.2	38.9	32.2	35.3	28.9		27.2	26.2	35.7	35.3	39.5	31.6	-	-	-	Triplicate Site with DT225a, DT225b and DT225c - Annual data provided for DT225c only
DT225b	Bath - Cleveland Terrace	375203	165708	40.6	38.1	33.9		28.5		27.4	26.1	35.4	36.3	40.5	31.9	-	-	-	Triplicate Site with DT225a, DT225b and DT225c - Annual data provided for DT225c only
DT225c	Bath - Cleveland Terrace	375203	165708	44.1	39.2	34.3	36.1	29.2		27.2	25.2	34.4	35.0	38.7	31.7	34.1	27.6	-	Triplicate Site with DT225a, DT225b and DT225c - Annual data provided for DT225c only
DT226a	Bath - AURN	375394	165824	33.8	34.1	31.5	28.2	26.7	26.3	21.8	23.5	31.0	30.9	33.9	27.0	-	-	-	Triplicate Site with DT226a, DT226b and DT226c - Annual data provided for DT226c only
DT226b	Bath - AURN	375394	165824	31.4	35.3	31.2	27.6	26.8	26.3	23.1	24.0	30.1	31.9	33.8	27.1	-	-	-	Triplicate Site with DT226a, DT226b and DT226c - Annual data provided for DT226c only
DT226c	Bath - AURN	375394	165824	38.0	34.1	30.4	27.6	27.3	25.9	22.8	24.3	29.5	31.4	32.8		29.1	23.6	-	Triplicate Site with DT226a, DT226b and DT226c - Annual data provided for DT226c only
DT227a	Bath - Wells Road 3	374580	163979	44.9	43.4	34.8	32.9	28.0	32.9	26.2	30.6	37.0	34.9	36.5	24.9	-	-	-	Triplicate Site with DT227a, DT227b and DT227c - Annual data provided for DT227c only
DT227b	Bath - Wells Road 3	374580	163979	44.5	43.7	33.1	33.8	29.5	34.1	27.0	30.4	36.7	36.1	36.1	24.5	-	-	-	Triplicate Site with DT227a, DT227b and DT227c - Annual data provided for DT227c only
DT227c	Bath - Wells Road 3	374580	163979	45.7	44.7	33.1	33.3	30.5	34.8	25.3	30.5	37.4	37.4	38.7	25.4	34.3	27.8	-	Triplicate Site with DT227a, DT227b and DT227c - Annual data provided for DT227c only
DT228a	Bath - Lower Bristol Road 2	374002	164754	34.6	33.2	24.1	26.7	21.4	20.6	18.3	20.4	25.6	28.1	28.4	21.3	-	-	-	Triplicate Site with DT228a, DT228b and DT228c - Annual data provided for DT228c only
DT228b	Bath - Lower Bristol Road 2	374002	164754	32.8	33.2	22.3	25.6	22.3	19.3	17.1	19.0	24.7	27.5	27.2	21.1	-	-	-	Triplicate Site with DT228a, DT228b and DT228c - Annual data provided for DT228c only

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DT228c	Bath - Lower Bristol Road 2	374002	164754	33.8	30.4	24.5	26.2	21.4	21.0	16.9	20.2	24.2	28.5	29.0	20.8	24.8	20.1	-	Triplicate Site with DT228a, DT228b and DT228c - Annual data provided for DT228c only
DT229a	Bath - Lower Bristol Road 3	373936	164779	33.5	35.2	28.0	30.3	27.4	28.1	17.1	23.8	33.0	32.5	32.9	24.6	-	-	-	Triplicate Site with DT229a, DT229b and DT229c - Annual data provided for DT229c only
DT229b	Bath - Lower Bristol Road 3	373936	164779	36.0	36.6	27.6	31.3	29.5	25.0	20.9	25.2	29.2	30.8	31.0	23.5	-	-	-	Triplicate Site with DT229a, DT229b and DT229c - Annual data provided for DT229c only
DT229c	Bath - Lower Bristol Road 3	373936	164779	38.1	38.4	27.1	36.4	31.8	25.6	17.6	22.1	28.5	34.4	29.9	22.5	29.0	23.5	-	Triplicate Site with DT229a, DT229b and DT229c - Annual data provided for DT229c only
DT230a	Bath - Upper Bristol Road 4	373439	165098	37.2	44.6		40.2	32.3	38.5	26.1	27.1	40.1	39.6	33.8	27.4	-	-	-	Triplicate Site with DT230a, DT230b and DT230c - Annual data provided for DT230c only
DT230b	Bath - Upper Bristol Road 4	373439	165098		43.9	47.2	38.1	30.6	36.0	27.3	29.5		39.0	36.5	26.4	-	-	-	Triplicate Site with DT230a, DT230b and DT230c - Annual data provided for DT230c only
DT230c	Bath - Upper Bristol Road 4	373439	165098	41.2	44.0	40.6	44.0	33.1	35.9	27.2	29.2	38.4	39.9	37.1	27.5	36.2	29.3	-	Triplicate Site with DT230a, DT230b and DT230c - Annual data provided for DT230c only
DT231a	Bath - Upper Bristol Road 5	373480	165125		40.9	36.1	36.3	33.8	31.0	22.9	27.6		32.8	33.7	26.2	-	-	-	Triplicate Site with DT231a, DT231b and DT231c - Annual data provided for DT231c only
DT231b	Bath - Upper Bristol Road 5	373480	165125	35.8	42.6	33.9	33.6	31.7	30.7	24.9			35.4	34.8	25.9	-	-	-	Triplicate Site with DT231a, DT231b and DT231c - Annual data provided for DT231c only
DT231c	Bath - Upper Bristol Road 5	373480	165125		42.1	37.2	34.9	32.3	32.8	24.2	27.7		35.7	35.5	25.5	32.7	26.5	-	Triplicate Site with DT231a, DT231b and DT231c - Annual data provided for DT231c only
DT232a	Bath - Lansdown Road 3	374942	165391	34.4	30.4	27.5	28.5	18.1	21.0	19.9	21.4	25.1	28.6	30.1	25.4	-	-	-	Triplicate Site with DT232a, DT232b and DT232c - Annual data provided for DT232c only
DT232b	Bath - Lansdown Road 3	374942	165391	35.4	32.1	26.4	29.2	18.2	21.2	19.9	20.7	25.5	28.4	31.1	22.6	-	-	-	Triplicate Site with DT232a, DT232b and DT232c - Annual data provided for DT232c only

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DT232c	Bath - Lansdown Road 3	374942	165391	34.5	32.0	25.7	29.5	19.9	17.9	18.3	21.2	25.6	27.2	31.9	22.3	25.7	20.9	-	Triplicate Site with DT232a, DT232b and DT232c - Annual data provided for DT232c only
DT233a	Bath - Lansdown Road 4	374956	165359	32.4	31.2		24.2	25.5	24.7	16.5	20.6	25.3	27.3	28.7	17.9	-	-	-	Triplicate Site with DT233a, DT233b and DT233c - Annual data provided for DT233c only
DT233b	Bath - Lansdown Road 4	374956	165359	30.0	31.5		24.5	24.7	24.8	16.0	20.9	26.2	29.5	28.5	18.3	-	-	-	Triplicate Site with DT233a, DT233b and DT233c - Annual data provided for DT233c only
DT233c	Bath - Lansdown Road 4	374956	165359	32.6	32.2		24.8	26.0	24.9	16.2	21.1	26.4	27.0	27.7	18.2	25.0	20.3	-	Triplicate Site with DT233a, DT233b and DT233c - Annual data provided for DT233c only
DT234a	Bath - Gay Street 2	374806	165084		39.5	35.9	36.0	34.8	32.7	30.5	32.1	36.4	36.5	39.6	31.3	-	-	-	Triplicate Site with DT234a, DT234b and DT234c - Annual data provided for DT234c only
DT234b	Bath - Gay Street 2	374806	165084		41.1	35.4	37.9		32.4	28.1	28.4	36.5	33.9	37.7	30.1	-	-	-	Triplicate Site with DT234a, DT234b and DT234c - Annual data provided for DT234c only
DT234c	Bath - Gay Street 2	374806	165084	35.6	40.6		38.4	35.0	31.3	28.8		36.9	36.3	40.3	30.3	34.8	28.2	-	Triplicate Site with DT234a, DT234b and DT234c - Annual data provided for DT234c only
DT235a	Bath - Wells Road 4	374694	164288	43.8	43.9	36.9	35.7	32.8	42.9	27.9	32.5	44.1	39.1	36.4	31.0	-	-	-	Triplicate Site with DT235a, DT235b and DT235c - Annual data provided for DT235c only
DT235b	Bath - Wells Road 4	374694	164288	44.3	41.9	36.9	37.6	32.0	46.8	26.9	31.2	44.9	39.0	38.0	33.4	-	-	-	Triplicate Site with DT235a, DT235b and DT235c - Annual data provided for DT235c only
DT235c	Bath - Wells Road 4	374694	164288	47.4	43.6	37.2	37.7	33.9	42.4	28.1	31.1	44.9	37.5	36.5	32.7	37.6	30.4	-	Triplicate Site with DT235a, DT235b and DT235c - Annual data provided for DT235c only
DT236a	Bath - Pulteney Terrace	375668	164493	26.8	31.8	24.0	23.3	18.8	13.6	15.9	17.6	24.3	25.4	27.5	20.4	-	-	-	Triplicate Site with DT236a, DT236b and DT236c - Annual data provided for DT236c only
DT236b	Bath - Pulteney Terrace	375668	164493	33.1	31.9	23.3	22.1	19.2	18.4	15.8		23.5	23.6	28.7	21.2	-	-	-	Triplicate Site with DT236a, DT236b and DT236c - Annual data provided for DT236c only

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DT236c	Bath - Pulteney Terrace	375668	164493	33.0	31.1	22.9	23.6	19.5	17.9	16.4	17.5	23.9	26.0	28.3	20.6	23.0	18.6	-	Triplicate Site with DT236a, DT236b and DT236c - Annual data provided for DT236c only
DT237	Bath - Broad Street 2	375000	165179	46.0	40.0	37.2	41.3	41.6	37.9	24.2	27.3	33.1	32.1	31.3	22.6	34.5	28.0	-	
DT238a	Bath - Broad Street 3	375001	165140				29.4			26.8		30.3				-	-	-	Triplicate Site with DT238a, DT238b and DT238c - Annual data provided for DT238c only
DT238b	Bath - Broad Street 3	375001	165140				29.9	25.3		26.4		30.6				-	-	-	Triplicate Site with DT238a, DT238b and DT238c - Annual data provided for DT238c only
DT238c	Bath - Broad Street 3	375001	165140		37.0		29.3		26.6			30.8				29.3	26.5	-	Triplicate Site with DT238a, DT238b and DT238c - Annual data provided for DT238c only
DT239a	Bath - Broad Street 4	375008	165145	50.1	44.0	37.5	33.4	37.8	36.0		25.2	33.9	35.9		32.1	-	-	-	Triplicate Site with DT239a, DT239b and DT239c - Annual data provided for DT239c only
DT239b	Bath - Broad Street 4	375008	165145	43.8	40.0	35.2	33.8		35.3	29.9	26.8	33.3	36.9		30.9	-	-	-	Triplicate Site with DT239a, DT239b and DT239c - Annual data provided for DT239c only
DT239c	Bath - Broad Street 4	375008	165145	52.6	41.6	33.2	33.3	39.4	35.9	30.9		32.6	40.1		31.0	35.7	28.9	-	Triplicate Site with DT239a, DT239b and DT239c - Annual data provided for DT239c only
DT240a	Bath - Bathwick Street 2	375489	165450	29.1	27.3	20.1	20.1	15.7	16.5	15.1	16.8	22.2	23.2	26.5	19.4	-	-	-	Triplicate Site with DT240a, DT240b and DT240c - Annual data provided for DT240c only
DT240b	Bath - Bathwick Street 2	375489	165450	29.6	25.3	20.5	19.8	14.7	16.9	15.0	16.7	23.1	22.5	25.1	19.6	-	-	-	Triplicate Site with DT240a, DT240b and DT240c - Annual data provided for DT240c only
DT240c	Bath - Bathwick Street 2	375489	165450	30.1	27.9	19.2	21.4	14.5	15.7	14.8	16.0	21.5	22.5	25.2	18.2	20.8	16.8	-	Triplicate Site with DT240a, DT240b and DT240c - Annual data provided for DT240c only
DT241a	Bath - Bathwick Street 3	375520	165446	26.4	21.9	15.9	16.4	12.3	12.4	11.7	12.1	16.6	20.0	22.4	16.6	-	-	-	Triplicate Site with DT241a, DT241b and DT241c - Annual data provided for DT241c only

DT ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.81)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT241b	Bath - Bathwick Street 3	375520	165446	25.8	22.0	16.2	16.1	12.1	12.0	11.0	12.9	16.9	18.8	22.6	15.9	-	-	-	Triplicate Site with DT241a, DT241b and DT241c - Annual data provided for DT241c only
DT241c	Bath - Bathwick Street 3	375520	165446	24.6	17.7	15.5	16.9	11.5	11.5		12.8	16.3	18.8	22.9	15.8	16.7	13.6	-	Triplicate Site with DT241a, DT241b and DT241c - Annual data provided for DT241c only
DT242a	Bath - Charlotte Street 2	374583	164974	24.8	27.5	19.1	20.0	15.7	14.7	11.6	15.3	17.8	21.9	24.4	16.5	-	-	-	Triplicate Site with DT242a, DT242b and DT242c - Annual data provided for DT242c only
DT242b	Bath - Charlotte Street 2	374583	164974	28.2	26.6	18.3	20.2	16.1	14.7	11.9	15.0	17.6	22.2	24.0	15.9	-	-	-	Triplicate Site with DT242a, DT242b and DT242c - Annual data provided for DT242c only
DT242c	Bath - Charlotte Street 2	374583	164974	23.8	28.4	19.7	20.4	15.6	14.2	12.3	14.2	17.8	21.7	23.8	16.0	19.1	15.5	-	Triplicate Site with DT242a, DT242b and DT242c - Annual data provided for DT242c only
DT243a	Bath - Sydney Place	375625	165312	32.8	28.7	23.2	22.3	20.7	21.3	18.2	21.5	28.0	26.2	29.0	21.4	-	-	-	Triplicate Site with DT243a, DT243b and DT243c - Annual data provided for DT243c only
DT243b	Bath - Sydney Place	375625	165312	33.6	28.7	21.2	25.6	21.2	21.2	16.6	20.1	26.0	24.5	30.5	22.0	-	-	-	Triplicate Site with DT243a, DT243b and DT243c - Annual data provided for DT243c only
DT243c	Bath - Sydney Place	375625	165312	33.4	30.6	21.3	24.1	20.9	20.6	16.4	20.9	26.1	25.8	27.4	22.6	24.3	19.7	-	Triplicate Site with DT243a, DT243b and DT243c - Annual data provided for DT243c only
DT244	Bath - Whiteway	372494	163165	20.4	21.0	15.5	15.3	14.2	18.5	11.6	15.9	18.0	18.4	19.5	10.3	16.5	13.4	-	
DT245	Bath - Whiteway 2	372401	163212	25.6	22.2	19.9	19.2	16.0	14.6	15.5	19.1	22.8	23.5	24.8	15.0	19.8	16.1	-	
DT246a	Bath - Dorchester Street 2	375186	164372	41.0		34.3	39.3				32.7	31.1	39.1	39.0	34.0	-	-	-	Triplicate Site with DT246a, DT246b and DT246c - Annual data provided for DT246c only
DT246b	Bath - Dorchester Street 2	375186	164372	40.6			38.0				32.5	31.7	37.4	41.2	34.7	-	-	-	Triplicate Site with DT246a, DT246b and DT246c - Annual data provided for DT246c only
DT246c	Bath - Dorchester Street 2	375186	164372	39.5	42.6	36.1					33.3	32.4	37.3	38.0	33.9	37.0	30.0	-	Triplicate Site with DT246a, DT246b and DT246c - Annual data provided for DT246c only

DT ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.81)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT247a	Bath - Monmouth Place 2	374627	164924	37.4	36.0	27.5	26.9		21.7	19.1	22.0	24.2	28.3	29.9	21.8	-	-	-	Triplicate Site with DT247a, DT247b and DT247c - Annual data provided for DT247c only
DT247b	Bath - Monmouth Place 2	374627	164924	38.9	35.6	26.7	27.2	23.8	21.6	18.8	22.4	25.0		30.9	23.3	-	-	-	Triplicate Site with DT247a, DT247b and DT247c - Annual data provided for DT247c only
DT247c	Bath - Monmouth Place 2	374627	164924	37.7	36.4	26.4	27.7	22.6	22.4	19.2	21.5	22.9	27.0	30.4	22.3	26.6	21.5	-	Triplicate Site with DT247a, DT247b and DT247c - Annual data provided for DT247c only
DT248a	Bath - Chapel Row 2	374711	164931	41.2	39.7		33.8	33.6	31.9	30.0	30.2	37.9	38.0	41.3	29.8	-	-	-	Triplicate Site with DT248a, DT248b and DT248c - Annual data provided for DT248c only
DT248b	Bath - Chapel Row 2	374711	164931	44.2	40.3	34.8	34.6	33.2	30.8	27.3	31.5	39.5	37.8	39.0	30.8	-	-	-	Triplicate Site with DT248a, DT248b and DT248c - Annual data provided for DT248c only
DT248c	Bath - Chapel Row 2	374711	164931	40.4	42.6	32.8	36.2	31.3	31.1	28.1	32.1	39.1	37.6	35.3	31.2	35.1	28.4	-	Triplicate Site with DT248a, DT248b and DT248c - Annual data provided for DT248c only
DT288	Bath - Victoria Buildings - façade	374045	164760	44.0	40.1	30.5	38.7	30.0	27.9	22.7	25.7	35.1	34.7	36.4	27.3	32.8	26.5	-	
DT294	Bath - Walcot Parade 3	375207	165726	31.6	39.3	30.9	32.5	31.6	31.4	21.1	24.8	34.4	33.7	38.4	25.2	31.2	25.3	-	
DT298	Bath - Tennyson Road	373625	165307	19.7	15.7	12.7	11.1									14.8	9.3	-	
DT299	Bath - Upper Bristol Road 6	373731	165238	37.5	39.9	32.6	30.0									35.0	22.1	-	
DT300	Bath - Penn Hill Road	372663	166274	20.8	16.9	14.0	13.3	13.1	12.0		12.2	13.9	16.0	18.8	11.6	14.8	12.0	-	
DT301	Bath - Southlands	372612	166457	16.0	12.7	10.9	8.9	6.4	5.7	5.5	6.7	8.8	10.6	12.9	8.5	9.5	7.7	-	
DT302	Bath - Anchor Road	372851	166390	32.2	28.2	27.4	22.2	17.3	19.5	18.3	19.1	25.9		26.4	24.1	23.7	19.2	-	
DT303	Bath - Prior Park Road 2	375819	163764	23.2	20.0	16.1		10.5	11.3	9.1	10.7	13.5	14.8	18.3	13.7	14.7	11.9	-	
DT304	Bath - Walcot Parade 4	375202	165724	52.7	53.2	40.3	44.5	42.6	40.0	36.2	35.4	52.2	50.6	52.9	38.9	45.0	36.4	33.8	

DT ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.81)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT305	Bath - Wells Road 5	374790	164309	51.7	51.3	38.0	39.9	40.2	33.8	31.0	36.2	43.2	42.1	45.4	37.5	40.9	33.1	-	
DT312	Bath - Sydney Place 2	375721	165169										22.5	24.3	19.7	22.2	16.2	-	
DT313	Bath - Sham Castle Lane	375943	165107										11.0	15.8	11.4	12.7	9.3	-	
DT314	Bath - Catherine Place	374653	165402										15.5	18.0	12.1	15.2	11.1	-	
DT315	Bath - Sion Hill	374148	166052										9.9	11.8	8.6	10.1	7.4	-	
DT091	Bathampton High Street	377683	166408	26.6	23.6	16.1	19.7	17.4	18.2	13.1	17.6	21.9	20.1	24.4	16.5	19.6	15.9	-	
DT166	Bathampton, A36	377543	165924	24.5	27.4	18.8	20.9	14.9	15.6	15.8	17.4	20.6	20.9	23.5	18.2	19.9	16.1	-	
DT058	Batheaston – London Road West A	377643	167365	28.9	23.9	21.2	18.3	12.8	15.8	14.7	15.2	18.9	23.0	26.1	20.8	20.0	16.2	-	
DT094	Batheaston - London Road West B	377290	167097	25.9	25.3	21.0	20.6	20.0	21.1	16.7	18.8	21.4		25.9	18.6	21.4	17.3	-	
DT130	Batheaston - London Road West C	377802	167456	25.4	26.1	21.8	18.4	14.3	17.4	17.2	16.8	22.5	25.1	25.7	21.6	21.0	17.0	-	
DT163	Batheaston, A4 Box Road	378911	167259	22.7	21.6	15.0	14.7	11.4	12.3	13.2	13.7	18.2	19.9	24.3	17.9	17.1	13.8	-	
DT191	Batheaston - Mill Lane	377339	167065	18.2	20.1	14.7	15.9	13.0	15.5	12.0	14.5	17.9	17.2	20.4	13.9	16.1	13.0	-	
DT134	Farrington Gurney 2	362891	155485	36.0	38.1	30.2	33.5	30.1	34.2	30.0	22.1			25.1		31.0	25.1	-	
DT136	Farrington Gurney 3	362884	155790	32.3	30.0	26.4	27.2	33.2	34.7		29.0	31.3	28.9	32.3	20.0	29.6	24.0	-	
DT138	Farrington Gurney 5	362983	155459	28.7	32.8	26.2	28.3	29.5	29.5	24.5	29.8	31.5	31.2	31.4	20.4	28.6	23.2	-	
DT033	Keynsham	364803	168237	18.2	15.6	9.3	8.5	6.8	6.3	4.8	7.1	8.0	9.8	14.3	8.2	9.7	7.9	-	
DT065	Keynsham - Charlton Rd A	365399	168701	28.7	28.2	21.2	20.6	20.6	18.2	14.3	18.5	20.4	21.5	27.8	19.2	21.6	17.5	-	
DT066	Keynsham – High Street A	365360	168815	32.0	32.8	26.7	26.7	23.7	24.7	22.9	23.8	30.4	30.4	33.0	25.3	27.7	22.4	-	
DT067	Keynsham - Somerfield	365457	168496	31.8	30.1		22.0	19.6	21.7	19.2	20.1	26.0	26.4	29.4		24.6	20.0	-	

DT ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.81)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT107	Keynsham - Bath Hill South	365710	168339	33.4	33.7	26.9	28.2	25.5	25.5	23.0	22.7	26.7	29.1	32.0	25.5	27.7	22.4	-	
DT141	Keynsham A4	366921	168096	33.0	33.6	22.2	27.8	22.9	21.2	19.0	24.2	28.3	30.1		19.0	25.6	20.7	-	
DT310	Keynsham - Vandyck Avenue	365863	168586		22.0	15.3	16.0									17.8	12.2	-	
DT308	Marksbury	366597	162270	28.3	27.7	17.3	20.4	26.0	22.2							23.6	17.6	-	
DT309	Midsomer Norton - Station Road	366774	154662	32.4	35.2	29.6	33.3		28.0							31.7	22.4	-	
DT296	Old Mills	364748	155000	27.4	26.4	21.1	23.3	17.6	21.9	19.7	20.6	25.6	28.0	26.7	19.0	23.1	18.7	-	
DT295	Radstock - Bath New Road	368825	155080		50.1	40.3	46.7	48.2	56.3	41.9	33.0	50.1	48.2	48.1	35.3	45.3	36.7	34.7	
DT306	Radstock - Bath New Road 2	368869	155008	34.4	34.6	25.8	27.3	25.4	27.9	21.8	23.3	26.9	26.9	31.0	23.5	27.4	22.2	-	
DT307	Radstock - Bath New Road 3	368810	155122	37.1		39.2	43.5	41.0	46.7	31.8	34.7	38.9	40.7	42.3	28.5	38.6	31.2	-	
DT075	Saltford - The Crown	368375	166988	31.5	26.1	21.1	24.0	17.7	19.3		22.6	28.9	30.3	30.1	20.2	24.7	20.0	-	
DT077	Saltford - Bath Road	368778	166687	25.9	23.6	20.0	20.6	18.4	18.3	18.2	20.4	22.4	21.9	24.6	18.6	21.1	17.1	-	
DT096a	Temple Cloud 1	362219	157923	48.2	52.2	42.4	45.0	45.9	56.8	40.2	43.8	51.1	50.5	48.3	36.0	-	-	-	Triplicate Site with DT096a, DT096b and DT096c - Annual data provided for DT096c only
DT096b	Temple Cloud 1	362219	157923	54.2	53.6	43.3	53.0	50.6	53.2	44.0	47.8	55.6	50.3	52.1	35.5	-	-	-	Triplicate Site with DT096a, DT096b and DT096c - Annual data provided for DT096c only
DT096c	Temple Cloud 1	362219	157923	48.7	55.9	42.3	48.4	48.3	55.2	40.8	45.4	48.7	50.6	54.6	39.9	48.1	39.0	-	Triplicate Site with DT096a, DT096b and DT096c - Annual data provided for DT096c only
DT108a	Temple Cloud 2	362179	158055	37.6	39.9	30.3	32.5	28.5	29.5	30.5		38.3	36.2	37.6	27.2	33.5	27.1	-	
DT109a	Temple Cloud 3	362344	157658	33.3	38.3	26.4	32.1	27.6	30.7			26.3	32.2	34.0	23.7	30.5	24.7	-	
DT252a	Temple Cloud 9	362195	158007	39.2	42.0	31.7	38.4	35.6	37.3	33.6	35.2	44.0	40.3	39.6	29.1	37.2	30.1	-	

DT ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.81)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT253a	Temple Cloud 10	362243	157846	56.2	48.6	32.8	38.4	36.5	42.7	39.0	39.0	42.8	41.1	47.2	33.2	-	-	-	Triplicate Site with DT253a, DT253b and DT253c - Annual data provided for DT253c only
DT253b	Temple Cloud 10	362243	157846	49.7	51.8	34.5	40.9	38.6	45.0	38.6	38.2	44.7	44.1	48.7		-	-	-	Triplicate Site with DT253a, DT253b and DT253c - Annual data provided for DT253c only
DT253c	Temple Cloud 10	362243	157846	54.2	48.7	31.9	39.7	38.7	44.0	39.3	39.0	45.8	43.0	48.0		42.0	34.0	40.8	Triplicate Site with DT253a, DT253b and DT253c - Annual data provided for DT253c only
DT255a	Temple Cloud 12	362284	157741	46.4	53.2	36.1	38.2	41.9	44.7	35.9	41.0	46.2	42.8	49.5	36.5	42.7	34.6	-	
DT311	Westfield - Welton Road	368119	154733		21.5	17.1	15.8									18.1	12.5	-	
DT032	Whitchurch	361242	167652	35.4	35.6	29.3	30.7	24.3	27.8	26.8	26.7	33.7	32.0	34.6	24.8	30.1	24.4	-	
DT098	Whitchurch 2	361276	167555	28.1	31.5	23.2	26.5	26.1	24.9	18.0	22.2	23.7	23.1	26.5	16.3	24.2	19.6	-	
DT100	Whitchurch 4	361326	167606	29.0	27.8	17.9	19.8	17.6	17.4	14.0	18.7	20.9	21.4	25.7	16.2	20.5	16.6	-	
DT101	Whitchurch 5	361235	167824	41.7	40.2	28.5	30.9	28.0	28.4	31.2	28.4	36.5	33.8	38.4	26.3	32.7	26.5	-	

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.

Bath & North East Somerset 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 Bath and North East Somerset Council During 2023

Bath & North East Somerset Council has not identified any new sources relating to air quality within the reporting year of 2023.

Additional Air Quality Works Undertaken by Bath and North East Somerset Council During 2023

During 2023, Bath & North East Somerset Council carried out further monitoring for Benzene and also using indicative Zephyr analysers results are detailed in Appendix F.

Following on from work carried out in 2022, further comparisons were made at 2 hot spot locations which are compliant with the micro siting requirements for the CAZ project details are in Appendix G.

QA/QC of Diffusion Tube Monitoring

The diffusion tubes have been analysed by Gradko since 2017. The method of analysis is 20% triethanolamine (TEA) in water. Gradko is UKAS accredited for the analysis of the diffusion tubes and all the laboratories participate in the AIR-PT scheme formally the Workplace Analysis Scheme for Proficiency (WASP). The latest AIR-PT report for nitrogen dioxide for the laboratory indicates a performance classification as satisfactory for all periods. The Diffusion Tube Monitoring Calendar was followed throughout 2023.

Diffusion Tube Annualisation

During 2023 13 diffusion tubes (11 sites) had data capture less than 75%. To estimate the annual mean from the short-term monitoring period the Diffusion Tube Processing Tool was used. Four sites were selected from the national network within 50 miles of Bath and greater than 85% data capture: Charlton Mackrell (27 miles from Bath), Swindon Walcot (28 miles from Bath), Bristol St Paul's (11 miles from Bath) and Cardiff Centre (36 miles from Bath). Table C.1 shows the adjustment factors and which locations they are applied to.

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

Site ID	Annualisation Factor Bristol St Paul's	Annualisation Factor Charlton Mackrell	Annualisation Factor Cardiff Centre	Annualisation Factor Swindon Walcot	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
DT238a	1.1506	1.0517	1.1529	1.1138	1.1173	-	-
DT238b	1.1506	1.0517	1.1529	1.1138	1.1173	-	-
DT238c	1.1506	1.0517	1.1529	1.1138	1.1173	29.3	32.7
DT298	0.8247	0.7360	0.8157	0.7386	0.7788	14.8	11.5
DT299	0.8247	0.7360	0.8157	0.7386	0.7788	35.0	27.3
DT312	0.8414	1.0289	0.8388	0.8896	0.8997	22.2	19.9
DT313	0.8414	1.0289	0.8388	0.8896	0.8997	12.7	11.5
DT314	0.8414	1.0289	0.8388	0.8896	0.8997	15.2	13.7
DT315	0.8414	1.0289	0.8388	0.8896	0.8997	10.1	9.1
DT310	0.8845	0.8002	0.8810	0.8247	0.8476	17.8	15.1
DT308	0.9874	0.8487	0.9683	0.8778	0.9206	23.6	21.7
DT309	0.9395	0.8036	0.9168	0.8336	0.8734	31.7	27.7
DT311	0.8845	0.8002	0.8810	0.8247	0.8476	18.1	15.4

Note: Triplicate Site with DT238a, DT238b and DT238c - Annual data provided for DT238c only

Diffusion Tube Bias Adjustment Factors

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

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

A local bias factor is where the co-location monitoring site used represents local conditions. In Bath and North East Somerset. This has been calculated using co-located diffusion tubes at the Bath A4 Roadside site (CM8) (Table C.3). The national bias factor is a combined factor which averages a number of local bias factor studies for the analytical laboratory and diffusion tube preparation method. Guidance on the choice of bias factor is given in LAQM.TG22 (Box 7.13) and includes consideration on diffusion tube locations compared with the co-location site, exposure period and number of studies contributing to the national bias factor.

The guidance in the LAQM.TG22 tends to suggest that the choice of a single bias correction factor is required for all diffusion tubes from the local authority. However, the bias correction factor chosen will only be appropriate for locations where similar traffic characteristics, street geometry, and distance from kerbside are repeatable. If a bias factor from a co-located site that is closer to a background location is used, the application of its bias factor to roadside locations will be likely to provide an underestimate of true concentrations and vice-versa for using a bias factor, derived from a roadside or kerbside site, that is applied to monitoring locations, further away from the kerb, the results are likely to be overestimated.

In 2023, Bath & North East Somerset Council have used the national bias factor as there was low data capture (62%) at the automatic analyser at the co-location site. The national bias factor for 2023 was the same as the local bias (0.81)¹³. In 2020-22 the local bias adjustment factors were used to correct the diffusion tube data as they were the same as or higher than the national bias factor leading to a worse case result. In 2019 the national bias factor was used as there was no local factor available due to the co-location site being moved resulting in low data capture. The choice of factor will be reviewed annually.

¹³ National Bias Adjustment Spreadsheet 03/23

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	Local	-	0.84
2021	Local	-	0.87
2020	Local	-	0.89
2019	National	06/20	0.92

Table C.3 – Local Bias Adjustment Calculation

	Local Bias Adjustment Input 1	Local Bias Adjustment Input 2	Local Bias Adjustment Input 3	Local Bias Adjustment Input 4	Local Bias Adjustment Input 5
Periods used to calculate bias	8				
Bias Factor A	0.81 (0.73 - 0.92)				
Bias Factor B	23% (9% - 37%)				
Diffusion Tube Mean ($\mu\text{g}/\text{m}^3$)	28.8				
Mean CV (Precision)	2.5%				
Automatic Mean ($\mu\text{g}/\text{m}^3$)	23.4				
Data Capture	95%				
Adjusted Tube Mean ($\mu\text{g}/\text{m}^3$)	23 (21 - 27)				

Notes: The national bias was used to bias adjust the 2023 result due to the low data capture at the co-location site. The local bias is shown for information only.

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.

For diffusion tube sites which have been located in roadside locations with concentrations above 36 $\mu\text{g}/\text{m}^3$, the distance adjustment has been calculator using the Diffusion Tube Data Processing Tool. A local background of 7.0 $\mu\text{g}/\text{m}^3$ was used in Bath (from Alexandra

Park, DT023) and a background concentration taken from the background maps was used for sites outside of Bath. Table C.4 below shows the distances used in the calculator, background concentrations and the concentration at the façade for these sites. Urban centre, urban background and sites at the building façade have not been adjusted.

In Bath & North East Somerset 3 sites with concentrations above 36 µg/m³ were distanced adjusted: DT224, DT304, DT295. A further 2 site was adjusted as the site was located further from the road (e.g., on the side of a building) than the nearest façade (DT055 and DT253).

Table C.4 – Non-Automatic NO₂ Fall off With Distance Calculations (concentrations presented in µg/m³)

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted)	Background Concentration	Concentration Predicted at Receptor	Comments
DT055	2.6	1.1	25.4	7.0	29.4	
DT224a, DT224b, DT224c	1.1	1.5	37.7	7.0	35.9	
DT304	1.6	2.4	36.4	7.0	33.8	
DT295	2.3	3.0	36.7	5.9	34.7	
DT253a, DT253b, DT253c	3.6	1.5	34.0	4.9	40.8	<i>Predicted concentration at Receptor above AQS objective. Warning: Background NO₂ concentrations <5µg/m³ or >50µg/m³ are rare in the UK - this calculation will still work, but please check your data.</i>

Precision check for triplicate tubes

The precision of a diffusion tube is the ability of the measurements to be reproduced.

Precision cannot be corrected for but can be improved by careful handling of the diffusion tubes in the laboratory and in the field. For triplicate sites (3 diffusion tubes at one

location) it is possible to check the precision of the results using a spreadsheet tool¹⁴

Diffusion tubes are considered to have "good" precision where the coefficient of variation of triplicate diffusion tubes for eight or more periods during the year is less than 20%, and the average coefficient of variation of all monitoring periods is less than 10%.

In 2023 there were 43 triplicate sites in Bath & North East Somerset. All sites showed good precision on individual periods. The average coefficient of variation was <10% (good) at all sites.

QA/QC of Automatic Monitoring

The Council's continuous analysers follow a QA/QC programme; the Bath A4 Roadside NO₂ (CM8) site is an AURN affiliated site and are managed as part of that network. The Guildhall (CM2), Windsor Bridge (CM3), Chelsea House (CM4) and Bath A4 Roadside PM₁₀ (CM8) sites follow the QA/QC programme below.

- There are daily checks on the data to ensure analysers and communications are working and faults are reported as soon as possible by Air Quality Data Management (AQDM).
- The sites are inspected and calibrated checks are made once a month by a member of the Environmental Quality Team at Bristol City Council, using certified traceable gases. The sites are also visited by a trained AURN Local Site Operator (LSO) to change the filters and check the analysers.
- The analysers are also serviced and re-calibrated at six monthly intervals by the equipment suppliers.
- The results of all service, maintenance and calibration checks are held and used for ratification and scaling of the data.

In 2016-2024 the continuous data for Guildhall, Windsor Bridge, Chelsea House and Bath A4 Roadside PM₁₀ was validated and ratified by Air Quality Data Management (AQDM), full details are in (Appendix H: Supporting Technical Information 2).

Recent live data can be viewed on the [Council's Air Quality Data – Live website](#).

¹⁴ [Local Bias adjustment tool website](#).

PM₁₀ and PM_{2.5} Monitoring Adjustment

The PM₁₀ measurements are made using an unheated BAM1020 and have been corrected by multiplying by 0.833 as recommended in the LAQM.TG22. The PM_{2.5} measurements are made using a heated BAM1020 and do not require the application of a correction factor.

Automatic Monitoring Annualisation

During 2023 2 automatic analysers (1 site) had data capture less than 75%. To estimate the annual mean from the short-term monitoring period the four sites were selected from the national network within 50 miles of Bath and greater than 85% data capture: Charlton Mackrell (27 miles from Bath), Swindon Walcot (28 miles from Bath), Bristol St Paul's (11 miles from Bath) and Cardiff Centre (36 miles from Bath). Table C.5 shows the adjustment factors and which locations they are applied to.

Table C.5 – Annualisation Summary (concentrations presented in µg/m³)

Site ID	Annualisation Factor Bristol St Paul's	Annualisation Factor Cardiff Centre	Annualisation Factor Charlton Mackrell	Annualisation Factor Swindon Walcot	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
CM8 – NO ₂	1.05	1.03	0.96	0.98	1.02	23.5	24.0
CM8 – PM ₁₀	1.00	0.97	0.97	0.97	0.98	15.4	15.1

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 NO₂ fall-off with distance calculator available on the LAQM Support website. Where appropriate, automatic annual mean NO₂ concentrations corrected for distance are presented in Table A.3.

No automatic NO₂ monitoring locations within Bath & North East Somerset Council required distance correction during 2023.

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

Figure D.1 – Map of the AQMA in Bath and the continuous monitoring sites

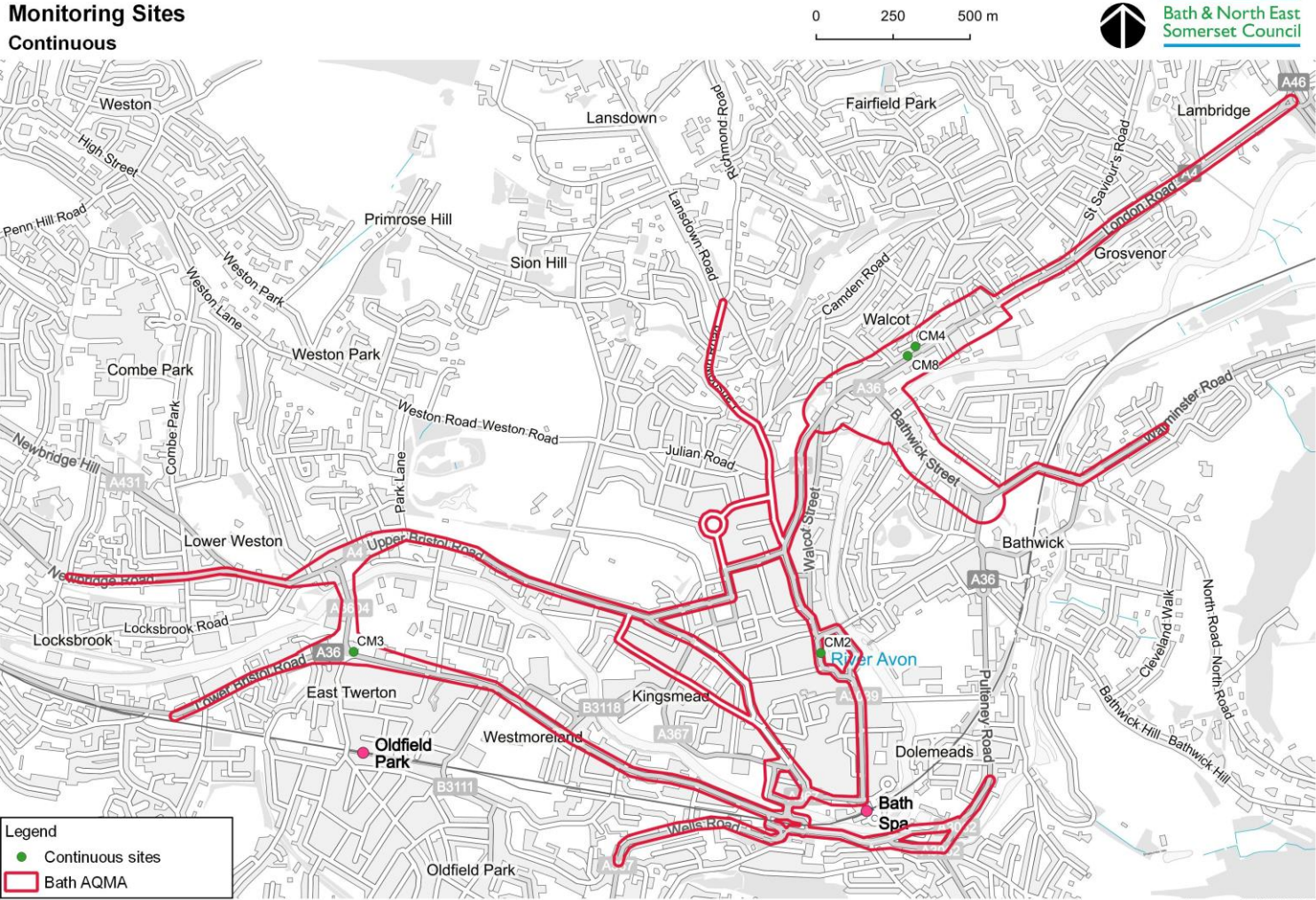


Figure D.2 – Map of the non-automatic monitoring sites and AQMA – Bath – Centre

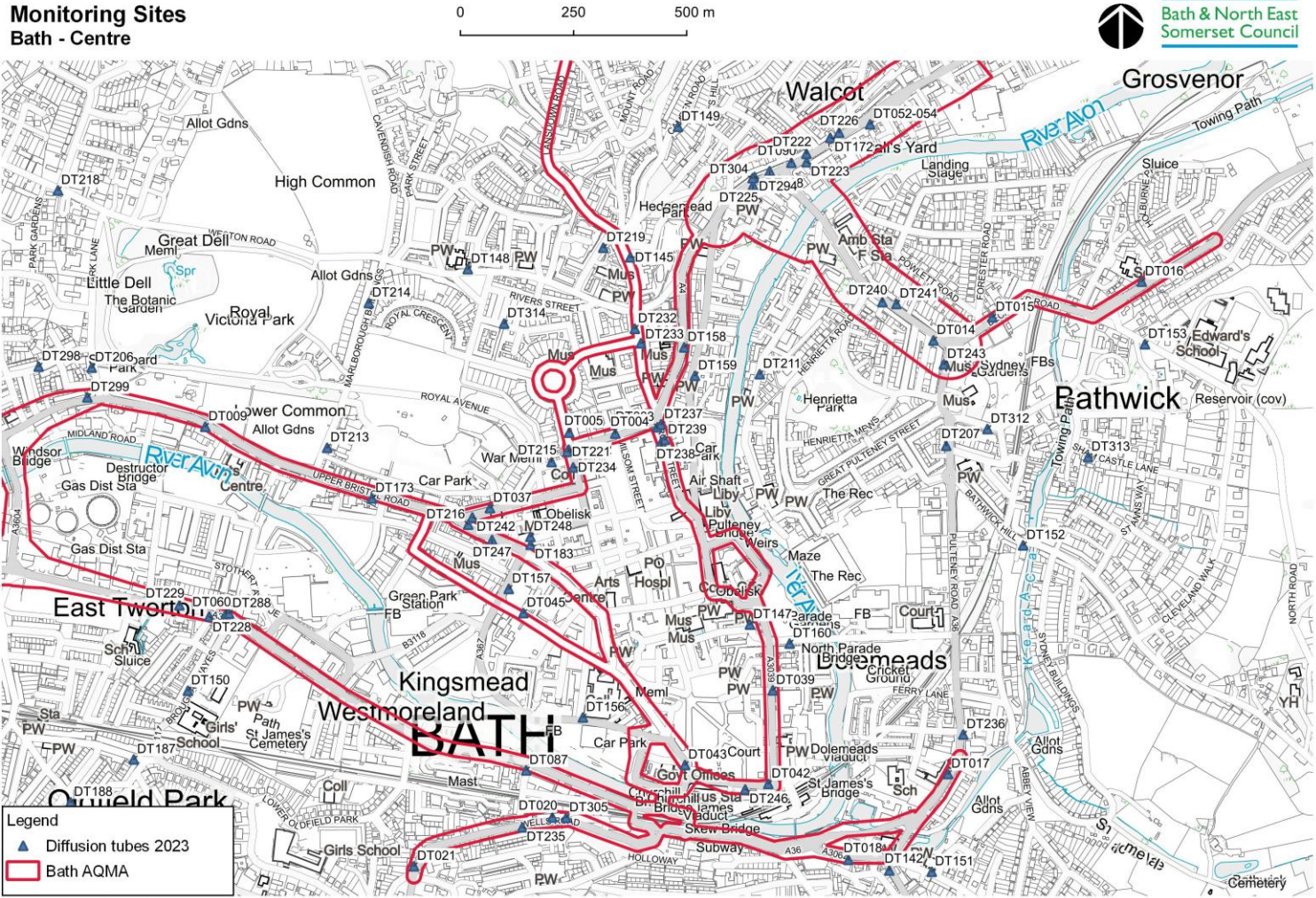


Figure D.3 – Map of the non-automatic monitoring sites and AQMA – Bath – North

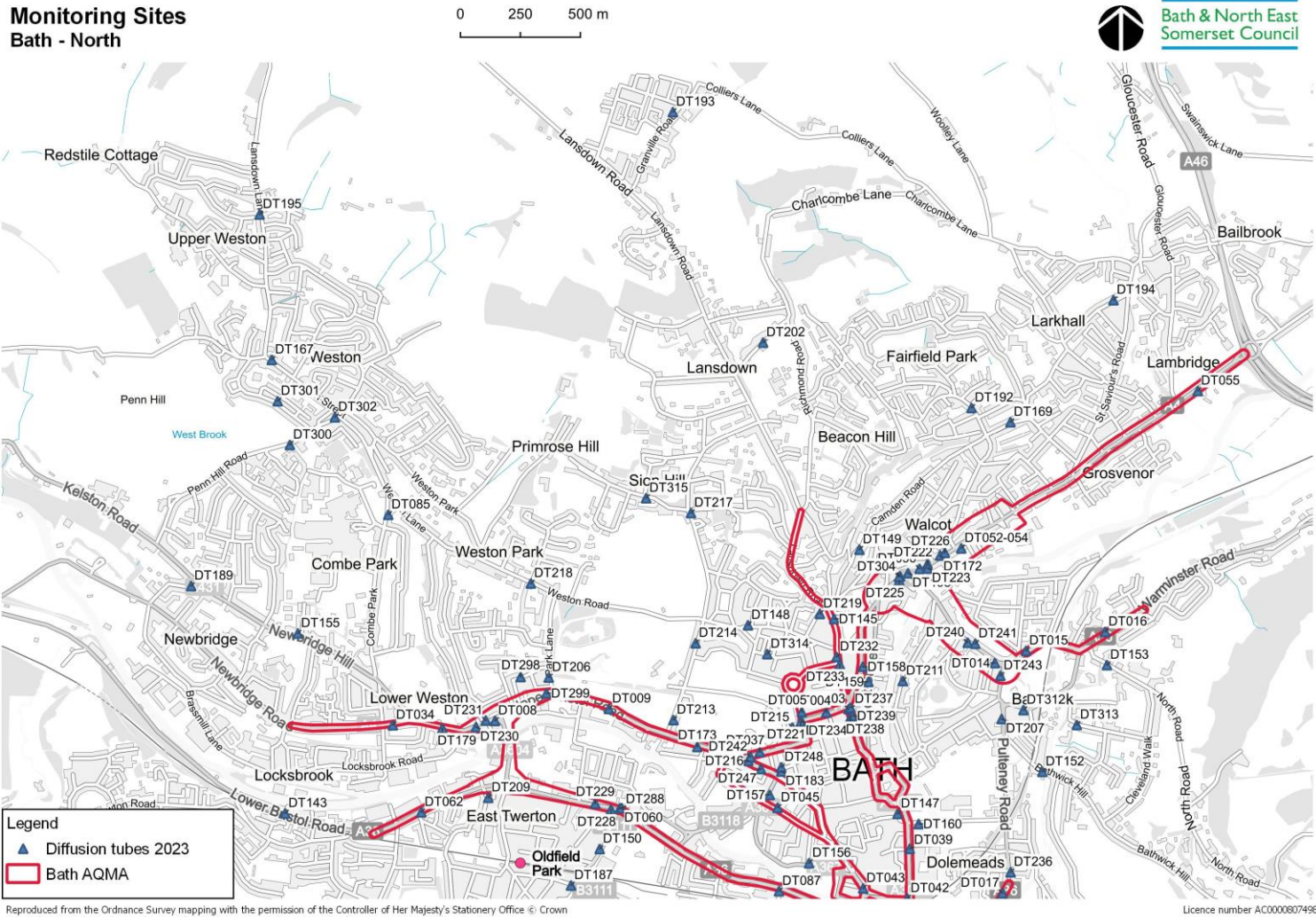


Figure D.4 – Map of the non-automatic monitoring sites and AQMA – Bath – South

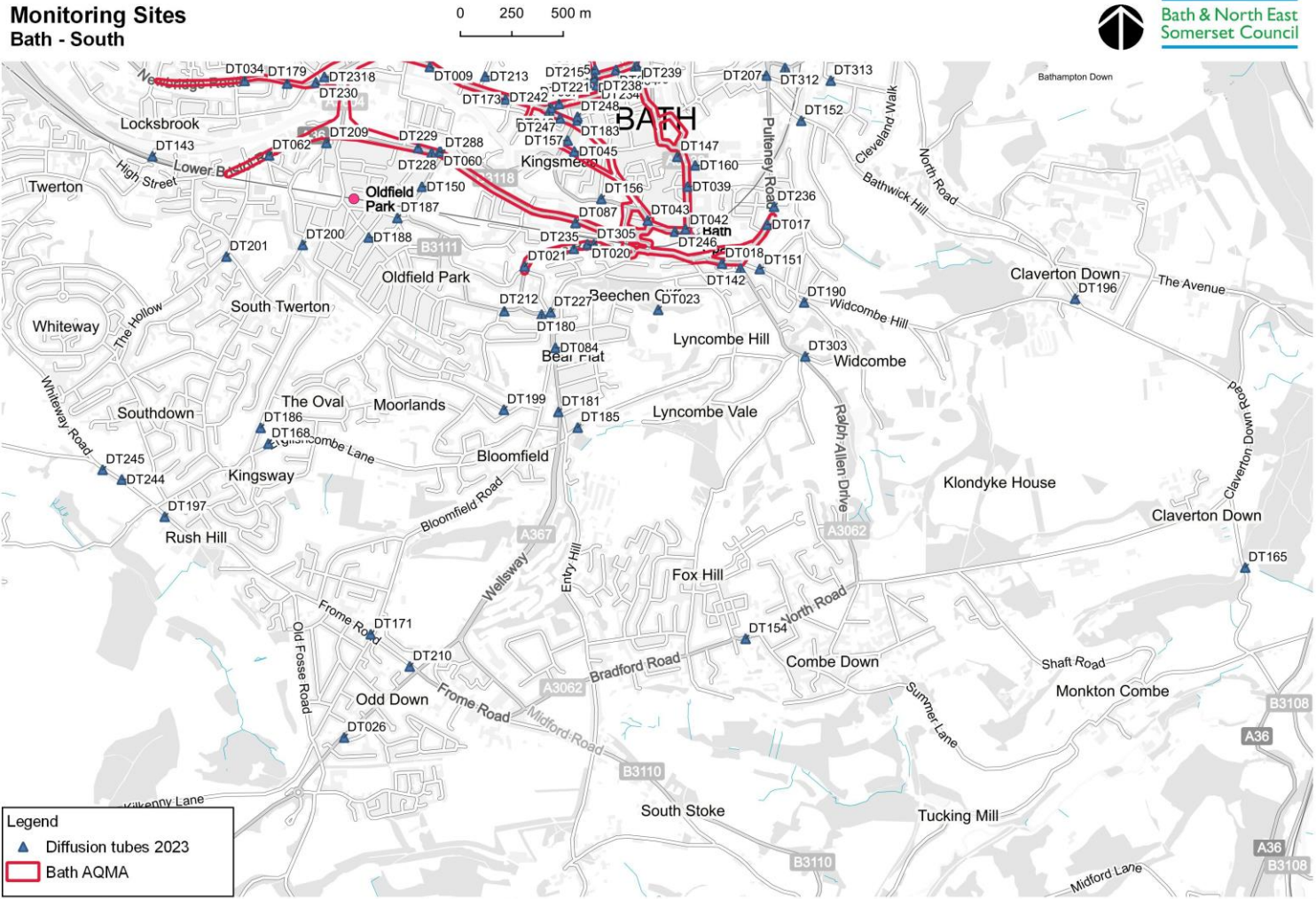


Figure D.5 – Map of the non-automatic monitoring sites and AQMA – Bathampton, Batheaston and Lambridge

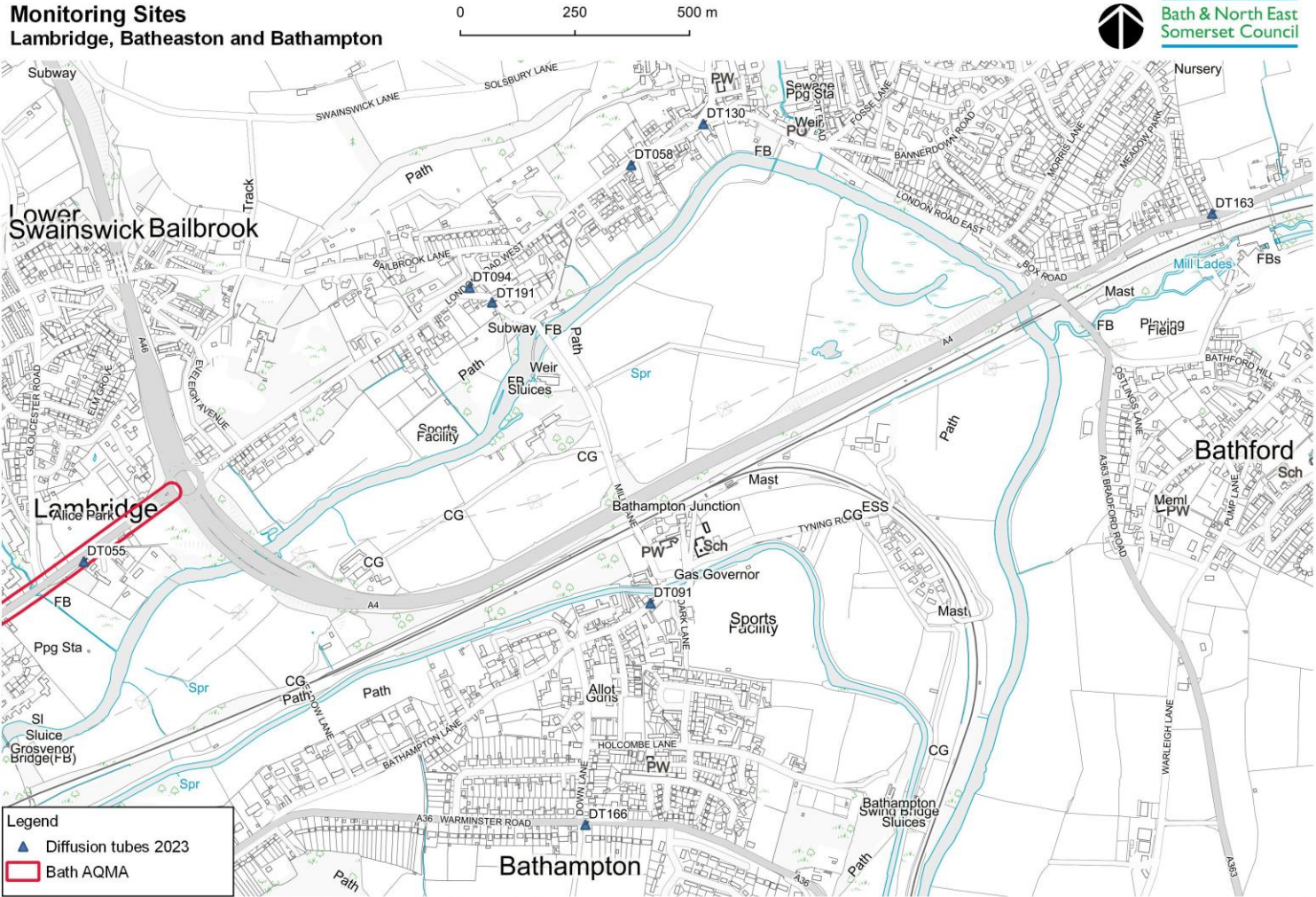


Figure D.6 – Map of the non-automatic monitoring sites and AQMA – Farrington Gurney and Old Mills



Figure D.7 – Map of the non-automatic monitoring sites and AQMA – Keynsham

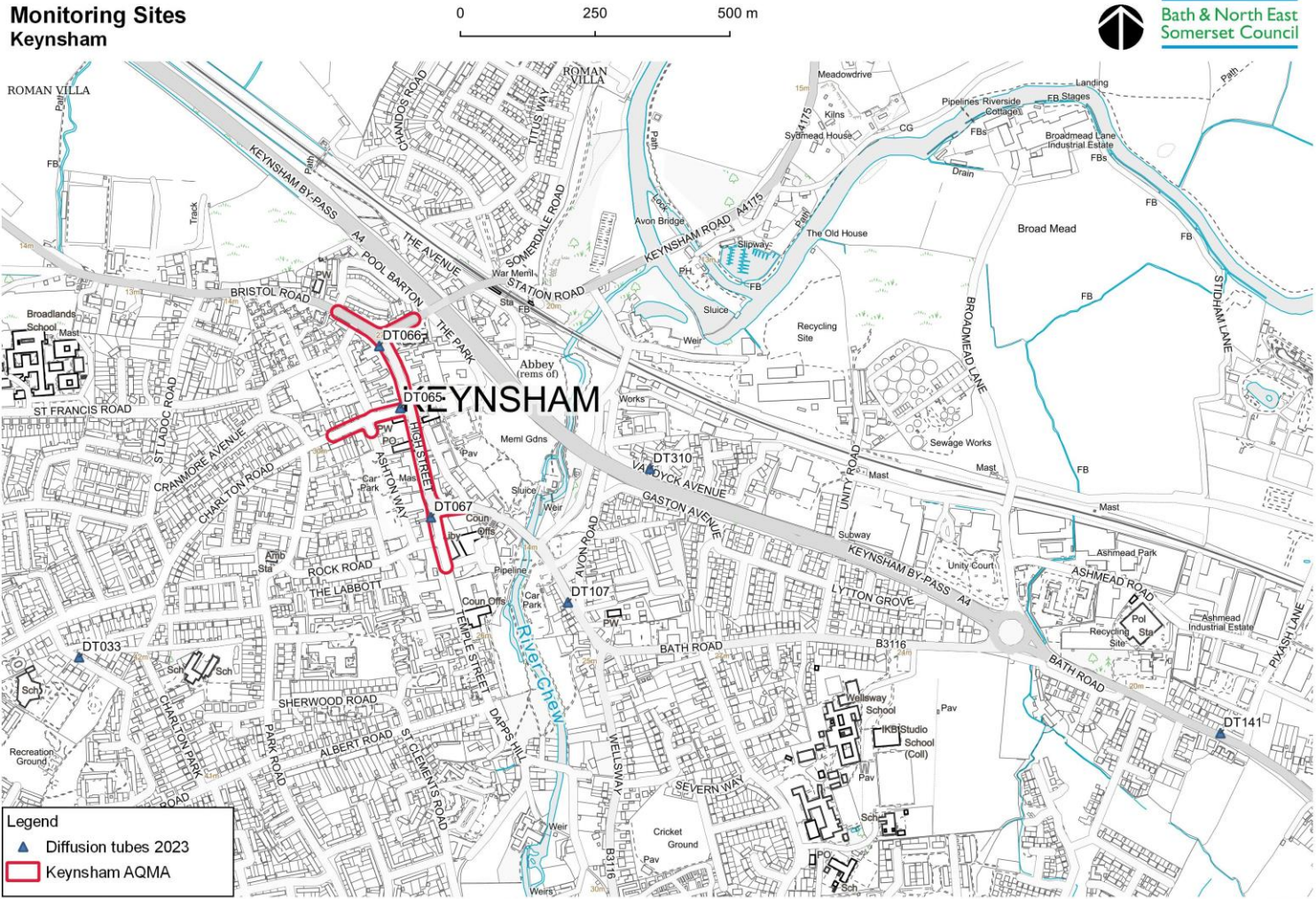


Figure D.8 – Map of the non-automatic monitoring site – Marksbury



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Figure D.9 – Map of the non-automatic monitoring sites– Midsomer Norton, Radstock and Westfield

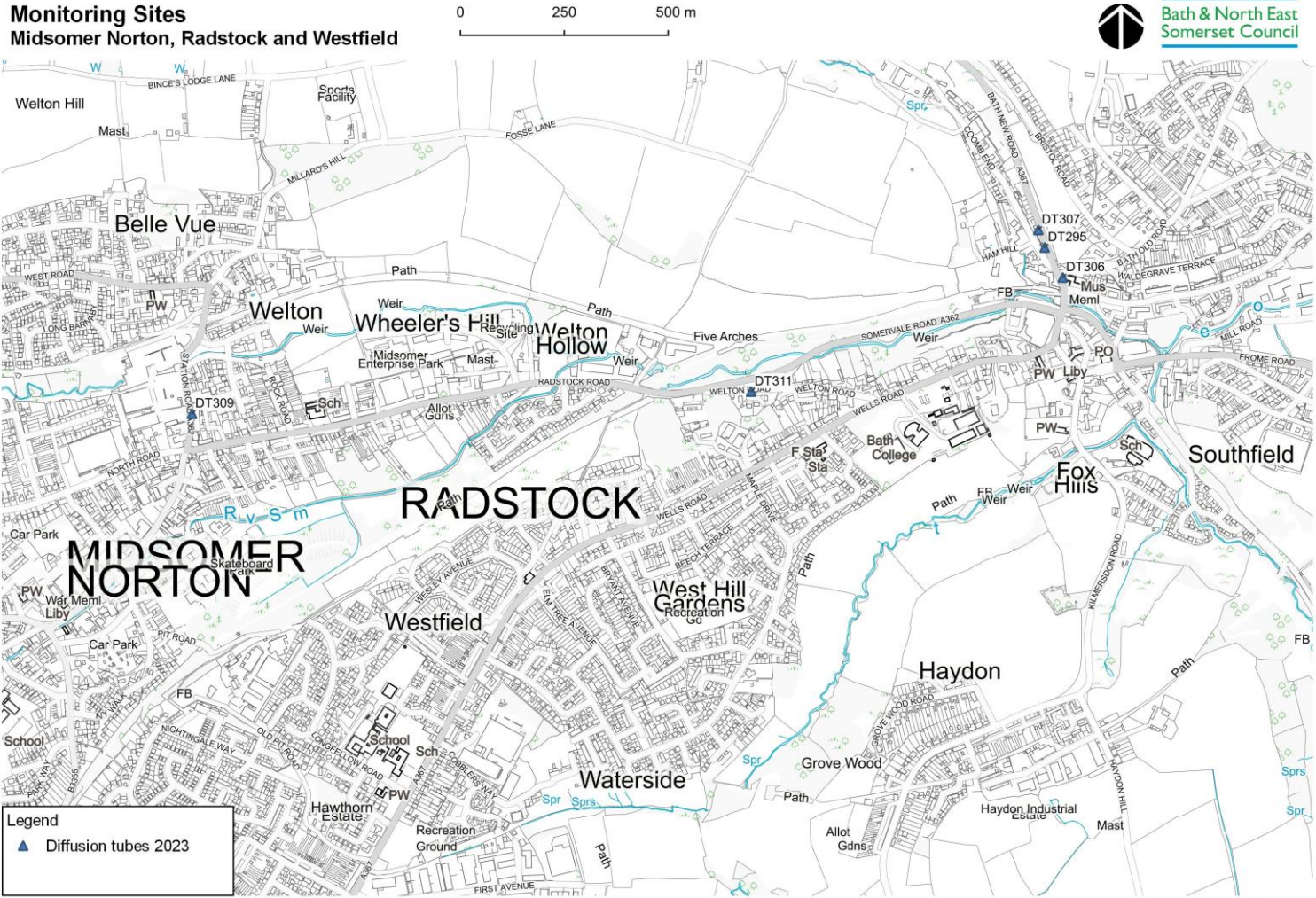


Figure D.10 – Map of the non-automatic monitoring sites and AQMA – Salford

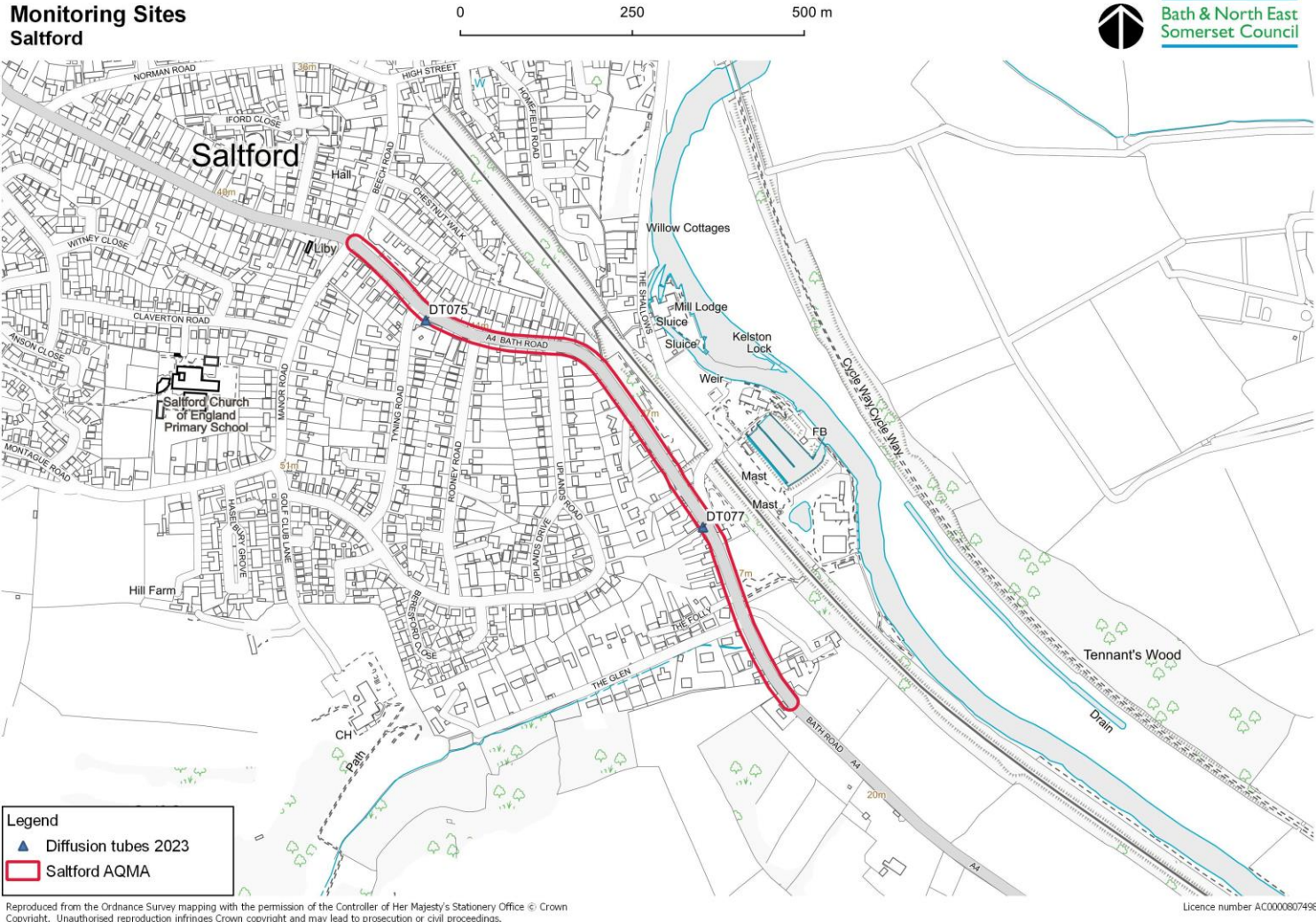


Figure D.11 – Map of the non-automatic monitoring sites and AQMA – Temple Cloud

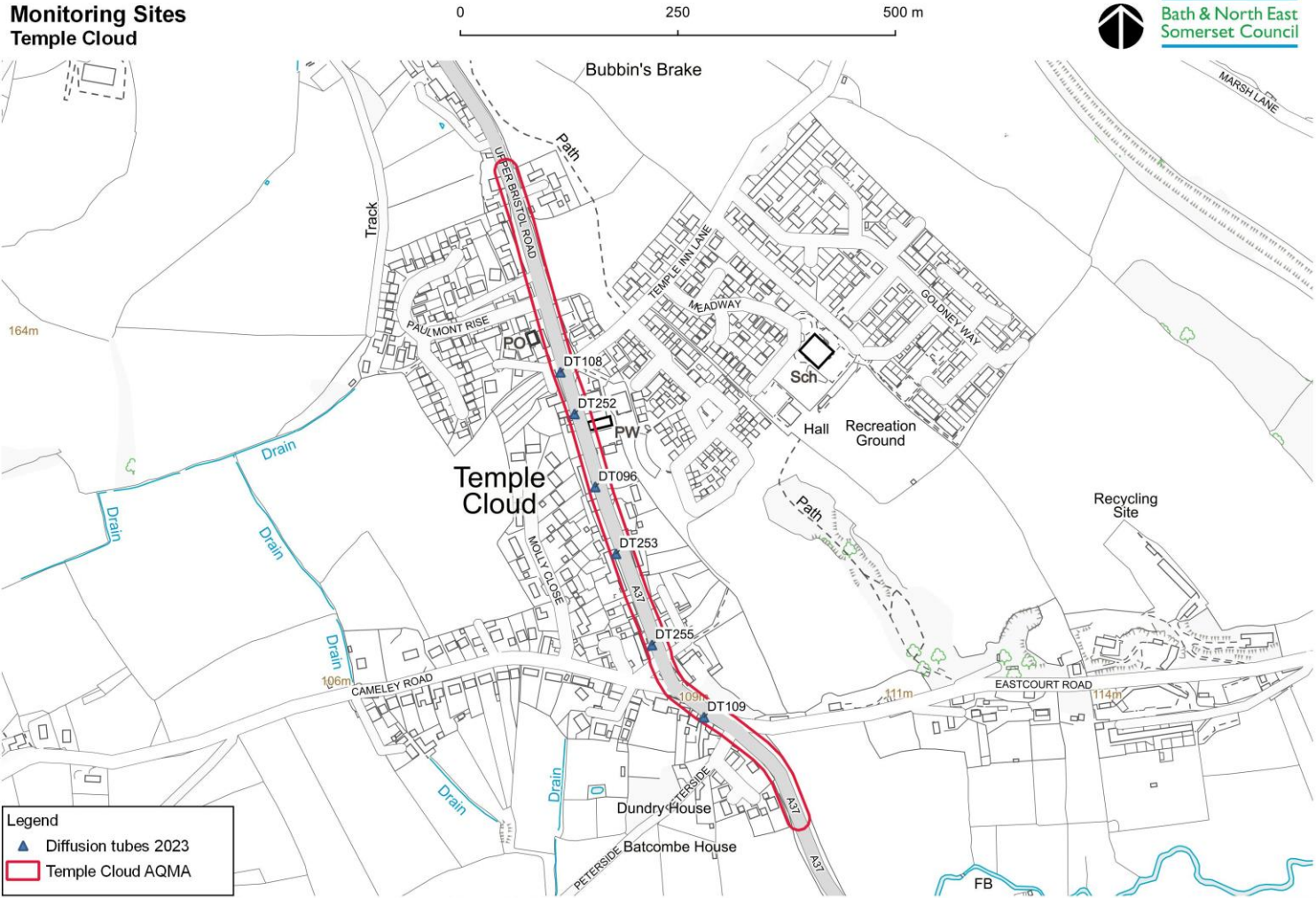
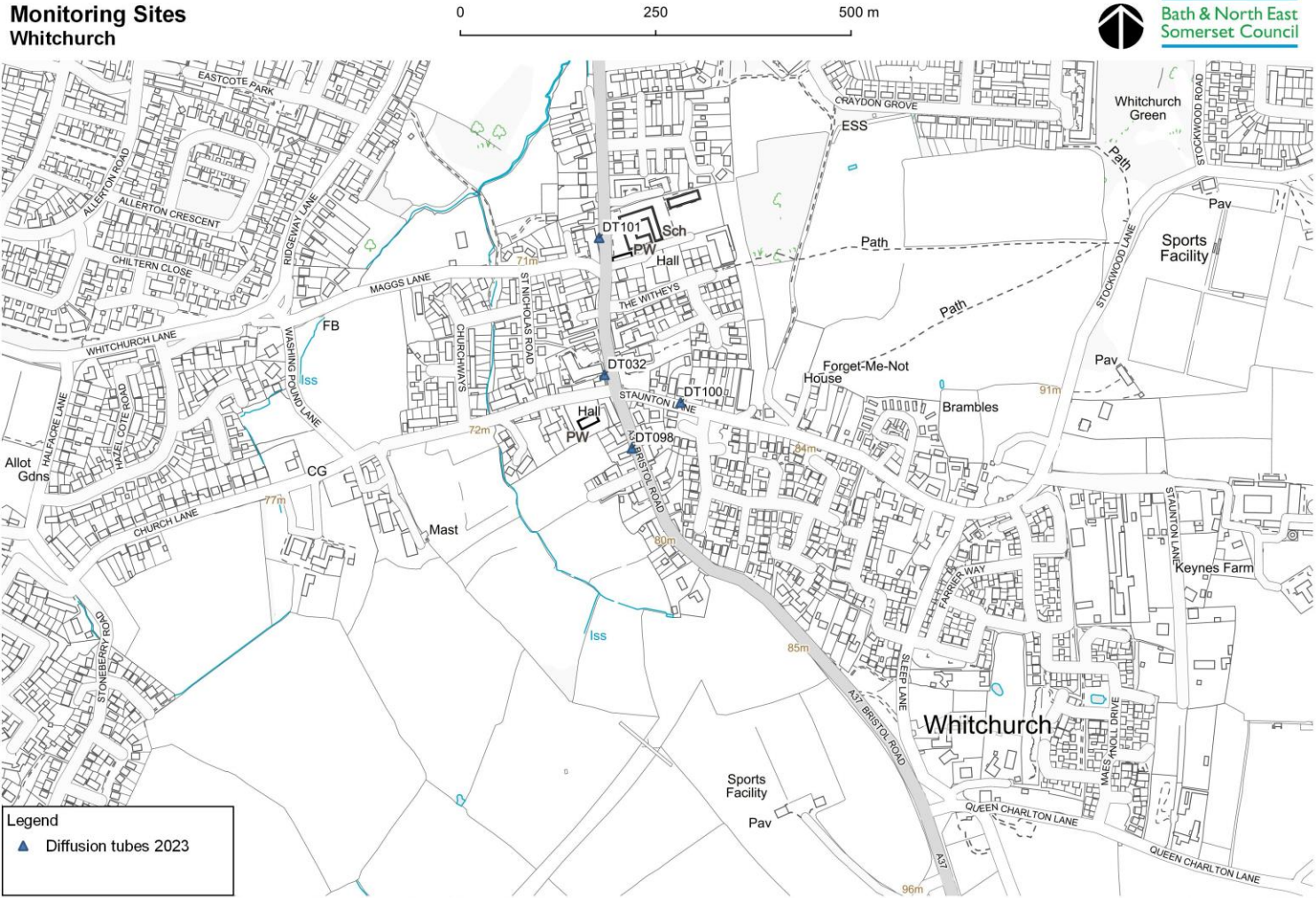


Figure D.12 – Map of the non-automatic monitoring sites – Whitchurch



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England¹⁵

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

¹⁵ The units are in microgrammes of pollutant per cubic metre of air (µg/m³).

Appendix F: Other monitoring

Benzene

Whilst we are fully compliant with the national air quality objective with respect to benzene, Bath & North East Somerset Council has a benzene monitor which is part of the national non-automatic hydrocarbon network. This uses a pumped benzene tube (a benzene tube which has a fixed amount of air being drawn through it). Until June 2019 the site was located at the London Road continuous site (CM1), due to the site closing the monitor was relocated to a roadside new roadside enclosure on the London Road (Bath A4 Roadside, CM8) in October 2019.

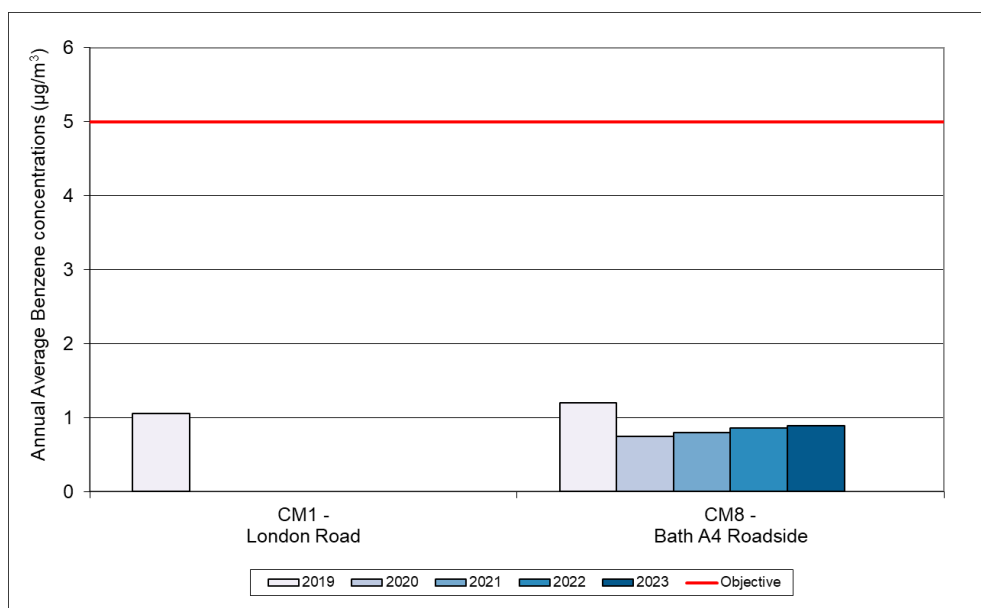
Monitoring results for benzene are shown in Table F.1 and Figure F.1. The results show that there are no exceedances of the benzene objectives during 2023. Trends in benzene show that levels remain similar to previous years (Figure F.1).

Table F.1 - Annual Mean Results: Benzene Monitoring ($\mu\text{g}/\text{m}^3$)

Site ID	Site Name	Data Capture for 2023 (%)	2019	2020	2021	2022	2023
CM1	London Road	-	1.1	-	-	-	-
CM8	Bath A4 Roadside	100	1.2	0.8	0.8	0.9	0.9

Note: Benzene Annual Mean Objective is $5 \mu\text{g}/\text{m}^3$

Figure F.1 – Trends in Benzene Monitoring



Zephyr Monitoring

The Zephyr analyser is an indicative analyser which uses electrochemical sensors to measure NO₂ concentrations and optical sensors to monitor particulates. The Zephyr also has a fan which draws air onto the sensors. It is possible that co-locating with our more accurate 'reference method' analysers (e.g., CM3 Windsor Bridge) will improve the accuracy (not precision) of the data by providing a local calibration factor that can be applied to the data retrospectively.

There are 2 Zephyr analysers which are part of the Clean Air Plan work and in use to dynamically adjust traffic signal phases at Gay Street/Queen Square, Bath when NO₂ concentrations are high. One Zephyr is permanently in Gay Street (Zephyr 1) linked to the traffic lights and the second (Zephyr 2) acts as a 'Gold Pod' to ensure the units are calibrated to a continuous analyser. This Zephyr and an additional Zephyr (Zephyr 3) are also used to carry out surveys across the district in response to requests.

The traffic lights are set to trigger based on the 15-minute NO₂ concentration; the trigger would shorten the cycle time. The trigger was initially set by reviewing the local continuous sites comparing the highest 15 minutes averages with the annual averages 5 years between 2015-2019. A best fit line was put through the data and the concentration at 36 µg/m³ was calculated. The threshold was adjusted during 2021 to take into account the verification with data at Windsor Bridge (Table F.2), no further changes were made in 2023.

Table F.2 – NO₂ Thresholds to trigger a traffic light change (µg/m³)

Date set	28/04/2021	21/10/2021	23/11/2021	03/12/2021
15-minute NO ₂ threshold	180	170	148	118

During 2023 comparisons between the Zephyrs 2 and 3 with the permanent analyser at Windsor Bridge (CM03) were made and showed good correlation. Zephyr 2 was co-located with Zephyr 1 at Gay Street, this also showed a good correlation.

The nitrogen dioxide results from the analysers are shown in Table F.3 and for PM₁₀ and PM_{2.5} in Table F.4. As the monitoring for Zephyrs 2 and 3 is short-term and has data capture of <25% the concentrations have not been annualised. The results, although indicative show no exceedances of the air quality objectives.

Zephyr 2 and 3 at Gay Street and Canal Tow Path both showed elevated PM₁₀ and PM_{2.5} levels during the monitoring period 13/1/23-22/2/23, this corresponded to higher levels of PM nationally in early February (ref). With a combination of weather conditions, local build-up of pollution and air coming from the near continent. These higher levels were also seen on Zephyr 1 and other PM monitors across the district at this time indicating annual means will be lower than the period means.

Table F.3 – NO₂ Monitoring Results: Zephyr analyser

Site	Dates at site	Mean NO ₂ (µg/m ³)	NO ₂ 1-Hour Means > 200 µg/m ³ (2)	Data Capture 2023(%) (1)
Zephyr 1				
Bath - Gay Street	1/1/23-31/12/23	19	0 (86)	100%
Zephyr 2				
Bath - Gay Street	13/1/23-22/2/23	29	0 (84)	10.9%
Bath - Kingsmead Car Park	31/5/23-10/8/23	12	0 (41)	17.8%
Keynsham - High Street	10/8/23-29/9/23	12	0 (56)	13.7%
Keynsham - Vandyck Avenue	29/9/23-31/12/23	16	0 (100)	24.5%
Zephyr 3				
Bath - Tow Path Canal	13/1/23-14/2/23	13	0 (69)	8.8%
Bath - Tow Path Canal 2	14/2/23-6/3/23	6	0 (41)	5.4%
Bath – Windsor Bridge (co-location)	17/3/23-30/5/23	14	0 (51)	20.5%
Bath - Frome Road	31/5/23-10/8/23	8	0 (46)	19.5%
Saltford – Bath Road	10/8/23-29/9/23	10	0 (47)	13.7%
Bath - Lansdown Road	29/9/23-31/12/23	7	0 (84)	24.8%

Notes:

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

(1) 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%).

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

Table F.4 – PM Monitoring Results: Zephyr analysers

Site	Dates at site	Annual Mean PM ₁₀ (µg/m ³)	PM ₁₀ 24-hour Means >50 µg/m ³ (2)	Annual Mean PM _{2.5} (µg/m ³)	Data Capture 2023 (%) ⁽¹⁾
Zephyr 1					
Bath - Gay Street	1/1/23-31/12/23	9	0 (39)	5	100%
Zephyr 2					
Bath - Gay Street	13/1/23-22/2/23	19	0 (48)	14	10.9%
Bath - Kingsmead Car Park	31/5/23-10/8/23	10	0 (28)	7	17.8%
Keynsham - High Street	10/8/23-29/9/23	9	0 (27)	6	13.7%
Keynsham - Vandyck Avenue	29/9/23-31/12/23	10	0 (35)	6	24.5%
Zephyr 3					
Bath - Tow Path Canal	13/1/23-14/2/23	19	0 (45)	14	8.8%
Bath - Tow Path Canal 2	14/2/23-6/3/23	12	0 (27)	8	5.4%
Bath – Windsor Bridge (co-location)	17/3/23-30/5/23	11	0 (16)	7	20.5%
Bath - Frome Road	31/5/23-10/8/23	9	0 (29)	6	19.5%
Saltford – Bath Road	10/8/23-29/9/23	9	0 (28)	6	13.7%
Bath - Lansdown Road	29/9/23-31/12/23	8	0 (24)	4	24.8%

Notes:

(1) 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%).

(2) If the period of valid data is less than 85%, the 90.4th percentile of 24-hour means is provided in brackets.

Appendix G: Supporting Technical Information

Monitoring at hotspots – micro-siting comparison

During 2022 two sites were added to locations where micro-siting requirements of greater than 0.5m from a façade were not met (for the CAZ project). Sites were added at the next nearest post which met all the relevant criteria at Walcot Parade and Wells Road (long-term site where the post was close to a façade).

Figures G.1 and G.2 below show that the concentrations are similar for the 2 pairs of monitors at both locations. Table G.1 shows a comparison of the annual average raw and bias correction at both locations. The newer sites show slightly lower concentrations at both locations.

Table G.1 – Comparison of 2023 annual average at sites on Wells Road and Walcot Parade.

	DT020 - Wells Rd	DT305 - Wells Road 5	DT224 - Walcot Parade 2	DT304 - Walcot Parade 4
Raw Annual Average	43.1	40.9	46.5	45.0
Bias corrected annual average	34.9	33.1	37.7	36.4

Figure G.1 – Comparison of monitoring at 2 sites on Walcot Parade

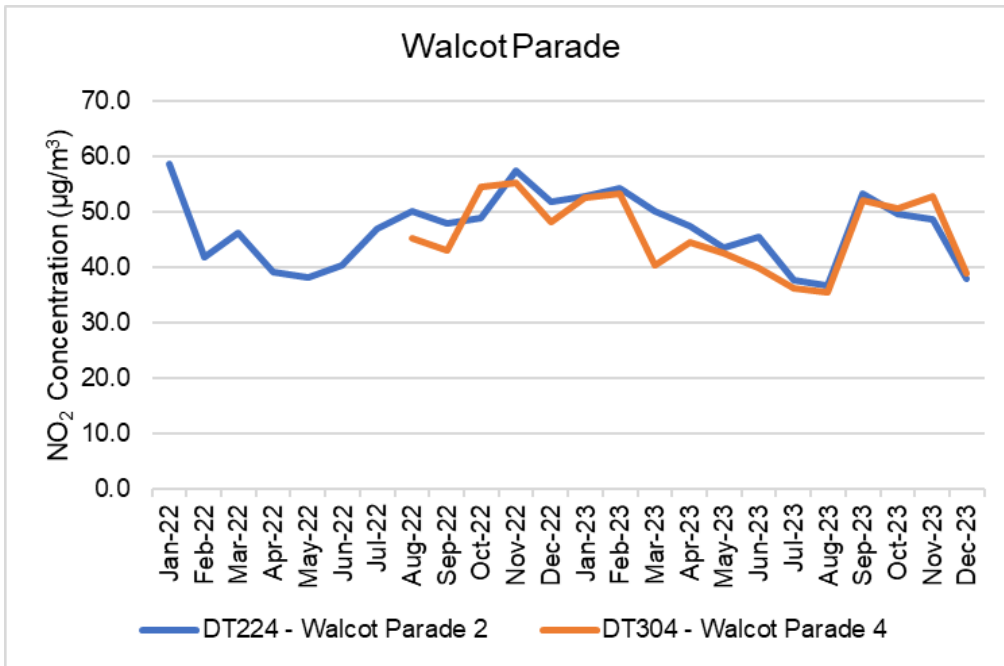
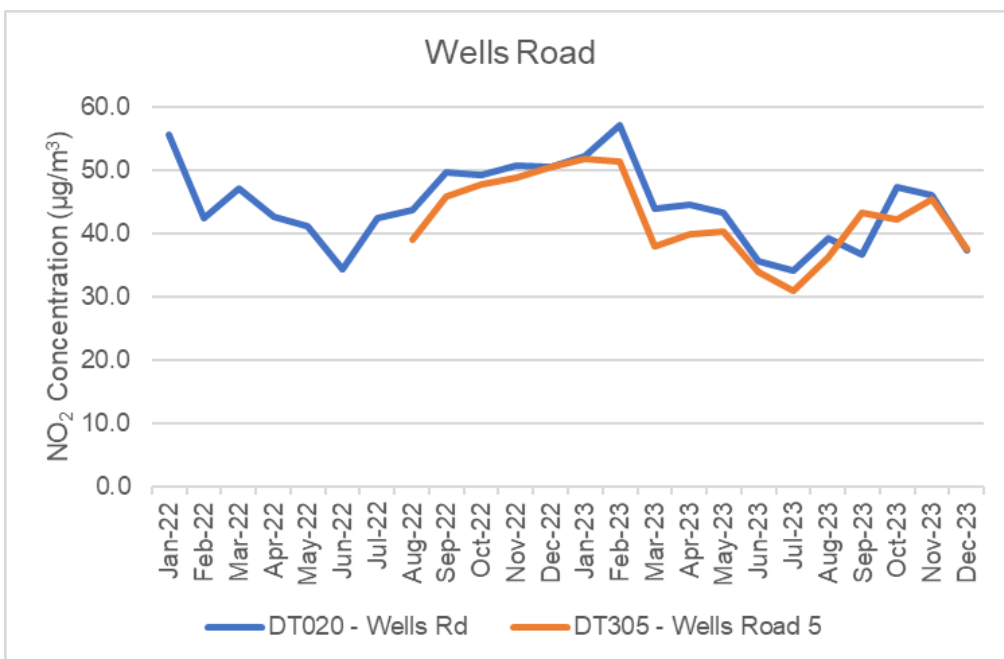


Figure G.2 – Comparison of monitoring at 2 sites on Wells Road



Appendix H: Supporting Technical Information 2

QA/QC information provided by Air Quality Data Management.

QA/QC of Automatic Air Quality Instruments

Air quality measurements from the automatic instruments are validated and ratified by Air Quality Data Management (AQDM) <http://www.aqdm.co.uk> to the standards described in the Local Air Quality Management – Technical Guidance LAQM (TG22) <https://laqm.defra.gov.uk/technical-guidance>.

Validation

This process operates on data during the data collection stage. All data are continually screened algorithmically and manually for anomalies. There are several techniques designed to discover spurious and unusual measurements within a very large dataset. These anomalies may be due to equipment failure, human error, power failures, interference or other disturbances. Automatic screening can only safely identify spurious results that need further manual investigation.

Raw data from the gaseous instruments (e.g. NO_x, O₃, SO₂ and CO) are scaled into concentrations using the latest values derived from the manual and automatic calibrations. These instruments are not absolute and suffer drifts. Both the zero baseline (background) and the sensitivity may change over time. Regular calibrations with certified gas standards are used to measure the zero and sensitivity. However, these are only valid for the moment of the calibration since the instrument will continue to drift. Raw measurements from particulate instruments (e.g. PM₁₀ and PM_{2.5}) generally do not require scaling into concentrations. The original raw data are always preserved intact while the processed data are dynamically scaled and edited.

Ratification

This is the process that finalises the data to produce the measurements suitable for reporting. All available information is critically assessed so that the best data scaling is applied and all anomalies are appropriately edited. Generally this operates at three, six or twelve month intervals. However, unexpected faults can be identified during the instrument routine services or independent audits which are often at 6-monthly intervals. In practice,

therefore, the data can only be fully ratified in 12-month or annual periods. The data processing performed during the three and six monthly cycles helps build a reliable dataset that is finalised at the end of the year.

There is a diverse range of additional information that can be essential to the correct understanding and editing of data anomalies. These may include

- the correct scaling of data
- ignoring calibrations that were poor e.g. a spent zero scrubber
- closely tracking rapid drifts or eliminating the data
- comparing the measurements with other pollutants and nearby sites
- corrections due to span cylinder drift
- corrections due to flow drifts for the particulate instruments
- corrections for ozone instrument sensitivity drifts
- eliminating measurements for NO₂ conversion inefficiencies
- eliminating periods where calibration gas is in the ambient dataset
- identifying periods where instruments are warming-up after a powercut
- identification of anomalies due to mains power spikes
- correcting problems with the date and time stamp
- observations made during the sites visits and services

The identification of data anomalies, the proper understanding of the effects and the application of appropriate corrections requires expertise gained over many years of operational experience. Instruments and infrastructure can fail in numerous ways that significantly and visually affect the quality of the measurements. There are rarely simple faults that can be discovered by computer algorithms or can be understood without previous experience.

The PM₁₀ and PM_{2.5} concentrations may require scaling into Gravimetric Equivalent concentration units by use of the Volatile Correction Model (VCM) <http://www.volatile-correction-model.info> or by corrections published by Defra <https://uk-air.defra.gov.uk/networks/monitoring-methods?view=mcerts-scheme> depending on the measurement technique.

Further information about air quality data management, expert data ratification and examples of bad practices are given on the Air Quality Data Management (AQDM) website <http://www.aqdm.co.uk>.

Glossary of Terms

Abbreviation	Description
AQ	Air Quality
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'
AQD	Air Quality Directive
AQDM	Air Quality Data Management
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
AURN	Automatic Urban and Rural Network
ATC	Automatic Traffic Count
BAM1020	Beta Attenuation Monitor
B&NES	Bath and North East Somerset Council
CAD	Clean Air Day
CAP	Clean Air Plan
CAZ	Clean Air Zone
CBTF	Clean Bus Technology Fund
CO ₂	Carbon Dioxide
CM	Continuous Monitoring
CRSTS	City Regional Sustainable Transport Scheme
CTP	Corporate Travel Plan
CVRAS	Clean Vehicle Retrofit Accreditation Scheme
DCO	Development Consent Order
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DT	Diffusion Tube
EP	Enhanced Partnership
EU	European Union

Abbreviation	Description
EV	Electric Vehicle
EVI	Electric Vehicle Infrastructure
FAS	Financial Assistance Scheme
GULW	Go Ultra Low West
GUL	Go Ultra Low
GWR	Great Western Railway
HGV	Heavy Goods Vehicle
IMS	Integrated Micromobility Service
JAQU	Joint Air Quality Unit
JNZ	Journey to Net Zero
KPI	Key Performance indicator
LAQM	Local Air Quality Management
LCWIP	Local Cycling and Walking Infrastructure Plan
LGV	Light Goods Vehicle
LN	Liveable Neighbourhood
LSO	Local Site Operator
LSTF	Local Sustainably Transport Fund
LTA	Local Transport Authority
MaaS	Mobility as a Service
MoU	Memorandum of Understanding
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
OHID	Office for Public Health Improvement & Disparities
OZEV	Office for Zero Emission Vehicles
PCM	Pollution Climate Model
PHV	Private Hire Vehicle
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
P&R	Park and Ride

Abbreviation	Description
PAYG	Pay as you go
PROW	Public Right of Way
QA/QC	Quality Assurance and Quality Control
SO ₂	Sulphur Dioxide
SOV	Single Occupant Vehicle
SCR	Selective Catalytic Reduction
TEA	Triethanolamine
TG22	Technical Guidance (Local Air Quality Management)
TMT	Thermal Management Technology
TRO	Traffic Regulation Order
µg/m ³	Micrograms per cubic metre
ULEV	Ultra-Low Emission Vehicles
UKAS	United Kingdom Accreditation Service
UTMC	Urban Traffic Management Control
VAS	Vehicle Activated Sign
VMS	Variable Message Sign
WASP	Workplace Analysis Scheme for Proficiency
WECA	West of England Combined Authority
WHO	World Health Organisation

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