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**Bath & North East  
Somerset Council**

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**Improving People's Lives**

# 2023 Air Quality Annual Status Report

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

Date: June 2023

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## Executive Summary: Air Quality in Our Area

### Air Quality in Bath & North East Somerset Council

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children, the elderly, and those with existing heart and lung conditions. There is also often a strong correlation with equalities issues because areas with poor air quality are also often less affluent areas<sup>1,2</sup>.

The mortality burden of air pollution within the UK is equivalent to 29,000 to 43,000 deaths at typical ages<sup>3</sup>, with a total estimated healthcare cost to the NHS and social care of £157 million in 2017<sup>4</sup>.

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 pollutant source within the area is 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).

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<sup>1</sup> Public Health England. Air Quality: A Briefing for Directors of Public Health, 2017

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

<sup>3</sup> Defra. Air quality appraisal: damage cost guidance, January 2023

<sup>4</sup> Public Health England. Estimation of costs to the NHS and social care due to the health impacts of air pollution: summary report, May 2018

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 2011 census indicated that only 25% of employed Bath residents working in the city, drive to work. This has been supported by substantial investments in cycling and walking infrastructure.

In Bath and North East Somerset, five Air Quality Management Areas (AQMAs) have been declared for nitrogen dioxide (NO<sub>2</sub>), including the major road network within Bath, Keynsham High Street, a small section of the A4 in Saltford, and sections of the A37 in Temple Cloud and Farrington Gurney. Details of the AQMAs 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 NO<sub>2</sub> below which there is no risk of adverse health effects. This means that further reduction of PM or NO<sub>2</sub> concentrations below air quality standards is likely to bring additional health benefits<sup>5</sup>. In recognition of this and the World Health Organisation (WHO) (guidelines published in 2021<sup>6</sup>, in a Cabinet Report<sup>7</sup> Bath and North East Somerset Council referenced it's ambition to create its own reducing target for NO<sub>2</sub>, reinforcing the aspiration that reducing pollution should be an aim in all decision-making. By introducing a local NO<sub>2</sub> objective level for example, where all monitoring locations would aim to achieve an annual average level at, or below, 36 µg/m<sup>3</sup> by 2025, it demonstrates a will to be aspirational in further protecting public health.

Bath and North East Somerset Council had 180 NO<sub>2</sub> monitoring sites and 3 particulate matter monitoring sites in 2022. 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.

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<sup>5</sup>Public Health England. Air Quality: A Briefing for Directors of Public Health, 2017

<sup>6</sup> [WHO global air quality guidelines: particulate matter \(PM2.5 and PM10\), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide, 2021](#)

<sup>7</sup>[Bath and North East Somerset Cabinet report E3339](#) – Clean Air Plan Annual Report 2021

Headlines from the 2022 continuous analysers are:

- Bath and North East Somerset Council has monitors at 4 locations in 2022, including 4 NO<sub>2</sub>, 2 PM<sub>10</sub> and 1 PM<sub>2.5</sub> analysers, detailed in Table A.1, Appendix A.
- NO<sub>2</sub> – all monitoring results were below the annual average objective of 40 µg/m<sup>3</sup> and there was 1 exceedance of the 1-hour objective (18 exceedances allowed). NO<sub>2</sub> remained at similar levels compared to results in 2021 with the Windsor Bridge and Bath A4 Roadside decreasing slightly; this is similar to the levels across the National Automatic Urban and Rural Network (AURN) network. Overall, the decrease from 2021 was 4% which is slightly lower than average decrease across the AURN which was 1%.
- PM<sub>10</sub> – all monitoring results were below the annual average objective of 40 µg/m<sup>3</sup> and there were no exceedances of the 24-hour mean objective (35 exceedances allowed). The results were slightly higher than in 2021, this is similar across the AURN network and shows the increase may have to have been due to long range pollution.
- PM<sub>2.5</sub> – monitoring was below the annual average objective of 20 µg/m<sup>3</sup>. The results were slightly higher than in 2021, this is similar across the AURN network.
- There was a peak in both PM<sub>10</sub> and PM<sub>2.5</sub> on Bonfire Night but it was short lived and did not cause an exceedance of the 24-hour objective.

A summary of NO<sub>2</sub> results from diffusion tubes across B&NES:

- Bath & North East Somerset has monitored NO<sub>2</sub> at 176 locations with 48 of these locations using triplicate diffusion tubes in 2022. 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.
- A further 2 sites were added in Radstock at the end of 2022 to check a hotspot, these will be considered in 2023 when the data capture is greater.
- The average decrease across the long-term sites was 6% compared with 2021 monitoring data. The diffusion tubes were similar to the continuous sites with some decreasing and others increasing. The changes were influenced by the CAZ in Bath and roadworks.
- Bath – 1 site remained above the annual average objective of 40 µg/m<sup>3</sup> across Bath in 2022 at 40.4 µg/m<sup>3</sup> (DT305 – Walcot Parade 4). This site was only active for 5 months and has been annualised, it reduces to 38 µg/m<sup>3</sup> at façade.

- Keynsham – All sites were below the objective of 40 µg/m<sup>3</sup> in 2022.
- Saltford – All sites were below the objective of 40 µg/m<sup>3</sup> in 2022.
- Temple Cloud – Monitoring remains above the objective of 40 µg/m<sup>3</sup> at two locations with concentrations decreasing.
- Farrington Gurney – All sites were below the objective of 40 µg/m<sup>3</sup> in 2022.
- Pensford – Monitoring in Pensford on the A37 has remained below the objective of 40 µg/m<sup>3</sup>.
- Whitchurch – Monitoring in Whitchurch was below the objective of 40 µg/m<sup>3</sup>.
- Batheaston and Bathampton – monitoring remains below 40 µg/m<sup>3</sup> at all locations. Following a request 4 further sites were added along the High Street, all showed similar concentrations to the long-term site at this location.
- Radstock and Westfield - monitoring remains below 40 µg/m<sup>3</sup> at these locations.
- 1-hour objective – All sites in Bath & North East Somerset are below 60 µg/m<sup>3</sup> – this suggests that the 1-hour NO<sub>2</sub> objective is unlikely to be exceeded.

Summary of the monitoring using Zephyr analysers:

- Indicative monitoring was carried out at Gay St, Windsor Bridge, Bear Flat, Widcombe School (internal monitoring), Wells Road, Temple Cloud (summer and winter), Darlington Street and Newbridge (near RUH) 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. Due to the impacts of the partial and full closure of Cleveland Bridge, traffic flows were disrupted throughout 2022, particularly around Queen Square. Whilst concentrations of NO<sub>2</sub> were consistently monitored along Gay Street, the UTMC (Urban Traffic Management Control) was not implemented so to avoid any further disruptions to traffic flows.
- The monitor at Gay Street had annual average NO<sub>2</sub> concentrations of 26 µg/m<sup>3</sup>, PM<sub>10</sub> 14 µg/m<sup>3</sup> and PM<sub>2.5</sub> 13 µg/m<sup>3</sup>.

## 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 Plan<sup>8</sup> sets out actions that will drive continued improvements to air quality and to meet the new national interim and long-term PM<sub>2.5</sub> targets. The National Air Quality Strategy, due to be published in 2023, will provide more information on local authorities' responsibilities to work towards these new targets and reduce PM<sub>2.5</sub> in their areas. The Road to Zero<sup>9</sup> details the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that 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***

- The Clean Air Zone (CAZ) launched within Bath on 15<sup>th</sup> March 2021. Average 2022 annual nitrogen dioxide (NO<sub>2</sub>) concentrations within the CAZ are 26% lower than in 2019<sup>10</sup>. There has also been a reduction of 27% in the area immediately surrounding the CAZ, and a 24% reduction across the wider authority.
- Additionally, NO<sub>2</sub> concentrations have continued to decrease when compared to 2021. Concentrations within the CAZ have decreased a further 6% when compared to 2021, with reductions also being seen in the CAZ\_Boundary (75%) and Wider\_B&NES (7%).



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<sup>8</sup> Defra. Environmental Improvement Plan 2023, January 2023

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

<sup>10</sup> Bath & North East Somerset – Bath Clean Air Zone Annual Monitoring Report 2022

- 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 2022.
- In total, the Council's Financial Assistance Scheme enabled 900 vehicles to be upgraded by the end December, including 101 taxis, 22 coaches, 746 LGVs and 29 HGVs.
- Compliance percentages rose between launch week and the end of 2022 from 63% to 83% for Van/LGVs; 67% to 95% for Taxi/PHVs; 73% to 99% for buses (as a result of the CAZ bus retrofit scheme); 86% to 96% 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***

- 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, there were over 400 e-scooters operating in Bath at the end of 2022, with an average of 4,500 rides per week.
- The Loan Bike Scheme is funded by The Council and operated by local bike shops. Intended to help people swap from their car to a bike, the scheme lets people trial bikes before purchasing. It allows users to borrow both standard push bikes as well as electric bikes, which are very popular due to Bath's terrain.



- A webform was successfully launched in 2022 to report allegations of breaches of vehicle weight restrictions, particularly within the CAZ.
- 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.



- The Journey to Net Zero (JNZ) was adopted in 2022. The JNZ provides a delivery plan which identifies transport neutrality by 2030, it includes micro-mobility schemes, bus stop improvements, a road freight package, as well as other measures. The Local Plan Partial Update was also adopted in 2022.
  - Development of the Council's air quality web pages to improve the display of live air quality data and user visualisations.
- Additionally, within Temple Cloud, a Vehicle Activated Sign was successfully installed in 2022, using height sensors to alert vehicles of HGVs oncoming in the middle of the road. This measure is expected to reduce vehicle emissions on the A37 by reducing stop-starting, particularly for larger vehicles.

## Conclusions and Priorities

In 2022, monitoring at existing locations showed a decrease in concentrations at most locations compared with 2021. There were 2 exceedances of the annual average NO<sub>2</sub> objective, these were all located within existing AQMAs.

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 are initiative based on the Low Traffic Neighbourhoods scheme in London. Throughout 2021 and 2022, 15 neighbourhoods were prioritised for development with three pilot modal transport filters now in place.
- To help support the aims of Liveable Neighbourhoods, eight new residents parking zones were consulted on in 2022, with seven being approved. These

zones, which will be completed by the summer of 2023, aim to prioritise parking for residents and reduce vehicle intrusion into residential areas. This aims to improve safety, amenity, and air quality.

- Temple Cloud and Farrington Gurney Air Quality Action Plan was signed off at the beginning of 2023, the programmed actions will progress as planned.
- The repairs surrounding Cleveland Bridge were completed in October 2022, and the bridge fully reopened subject to an 18-tonne restriction. Feasibility work is ongoing into 2023 in response to a 2021 Cabinet request for further investigation into the potential to restrict HGVs over 12-tonnes travelling across the bridge.
- Development of Air Quality Strategy that connects the broad air quality related measures more formerly as well improving strategic connections with the West of England Combined Authority to ensure effective co-ordination and collaboration with neighbouring authorities.
- 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.
- The installation of Electric Charging Infrastructure (EVI) funded by the Go Ultra Low West (GULW) Fund continued throughout 2022, with 14 chargers successfully operating. By the end of 2023, an additional 5 chargers are planned to be installed under the GULW Fund completing the programme. Under the WECA Green Recovery Fund, additional EVI is planned across B&NES in a 3-year plan.

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

- Achieving success in relation to the Clean Air Zone in terms of compliance with nitrogen dioxide limits.
- Recommencement of Queen Square and Gay Street Urban Traffic Management Control scheme following the full reopening of Cleveland Bridge.
- Revocation of the Keynsham and Salford Air Quality Management Areas following more than 3 years of measured concentrations below objective levels.
- Close cooperation with the Sustainability Team on the declared Climate Emergency and planned carbon neutrality by 2030 across the authority area, particularly in relation to the development of an Air Quality Strategy.

- Continue to provide mobile automatic air quality monitoring to respond to monitoring requests following the purchase of Zephyr electro-chemical automatic monitors.
- As part of the Enhanced Partnership (EP) Scheme between WECA and participating bus operators, all buses on local buses services within the EP area must meet Euro 6 (VI) standard by December 2023.
- The Combined Authority are in the process of updating their 10-year rail delivery plan. The latest draft will include a 'new stations study' which would look at opportunities to open new station in the region, including Saltford. The latest update to this 10-year plan, is planned to be shared Combined Authority Directors in the summer of 2023.
- Development of an Air Quality Strategy.
- The roll out of Liveable Neighbourhoods schemes and supporting Residents Parking Zone schemes.

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

- Covid-19 and other national and international factors affecting economic vibrancy and supply chains that impact the ability of fleet operators to upgrade their vehicles.

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

- The installation of Electric Vehicle Infrastructure (EVI) has continued for those sites funded by the OZEVs Go Ultra Low West Fund; however, the rollout was delayed due to the impacts of Covid-19 on supply chains.
- Revocation of the Keynsham and Saltford AQMA due to Councillors concerns over removing the area.

## 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; car clubs; traffic reports; electric vehicle charging infrastructure; and other information that simplifies travel choices. This site is administered by the West of England Combined Authority.

Further information on what the Council is doing to improve air quality in Bath and North East Somerset as part of the National Air Quality Plan and local engagement events can be found at 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.

For further information on current and historic data on air quality levels visit the Council's Air Quality website.

## **Local Responsibilities and Commitment**

This Annual Status Report (ASR) was prepared by Environmental Monitoring Team of Bath & 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

This ASR has been approved by:

Director of Place Management (Chris Major); Head of Building Control and Public Protection (Phil Mansfield); 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.

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# 1 Local Air Quality Management

This report provides an overview of air quality in Bath & North East Somerset Council during 2022. 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 & 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 & North East Somerset Council can be found in Table 2.1. The table presents a description of the 5 AQMAs that are currently designated within Bath & North East Somerset Council (2 AQMAs are for both NO<sub>2</sub> annual mean and hourly mean objectives, 3 are only for NO<sub>2</sub> annual mean objective). 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:

- NO<sub>2</sub> annual mean.
- NO<sub>2</sub> hourly mean.

In 2022 we proposed to revoke The Keynsham High Street Air Quality Management Area 2010 and The Saltford Air Quality Management Area 2013 AQMAs, this has been delayed due to other work and local elections, consultation on this will be carried out in 2023.

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

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 <sub>2</sub> 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 <sup>3</sup>	Walcot Parade 2 2022 – 38 µg/m <sup>3</sup>	1	Bath Air Quality Action Plan (2011)	<a href="#">Visit the AQAP for Bath London Road AQMA</a>
The Bath London Road Air Quality Management Area – 2013	Declared 18 July 2013	NO <sub>2</sub> 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 <sup>3</sup>	Walcot Parade 2 2022 – 38 µg/m <sup>3</sup>		Bath Air Quality Action Plan (2011)	<a href="#">Visit the AQAP for Bath London Road AQMA</a>
The Keynsham High Street Air Quality Management Area 2010	Declared 31 July 2010	NO <sub>2</sub> Annual Mean	An area covers the town centre and extends along the High Street and Charlton Road encompassing the facades of the buildings within the area.	NO	Keynsham - High Street 2009 – 45 µg/m <sup>3</sup> at façade	Keynsham - High Street 2022 – 26 µg/m <sup>3</sup>	5	Air Quality Action Plans for Keynsham and Saltford (2016)	<a href="#">Visit the AQAP for Keynsham AQMA</a>

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 Saltford Air Quality Management Area 2013	Declared 4 July 2013	NO <sub>2</sub> Annual Mean	An area which covers the Bath Road, Saltford, encompassing any buildings whose facades are within the area, extending from its junction with Beech Road until 150m south of the Glen	NO	Saltford - The Crown 2012 - 47 µg/m <sup>3</sup>	Saltford - The Crown 2022 - 21 µg/m <sup>3</sup>	6	Air Quality Action Plans for Keynsham and Saltford (2016)	<a href="#">Visit the AQAP for Saltford AQMA</a>
Temple Cloud Air Quality Management Area 2018	Declared 20 August 2018	NO <sub>2</sub> 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 <sup>3</sup>	Temple Cloud 1 2022 – 42 µg/m <sup>3</sup>	0	Farrington Gurney and Temple Cloud Air Quality Action Plan (April 2023)	<a href="#">Visit the AQAP for Temple Cloud AQMA</a>
Temple Cloud Air Quality Management Area 2018	Declared 20 August 2018	NO <sub>2</sub> 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 <sup>3</sup>	Temple Cloud 1 2022 – 42 µg/m <sup>3</sup>		Farrington Gurney and Temple Cloud Air Quality Action Plan (April 2023)	<a href="#">Visit the AQAP for Temple Cloud AQMA</a>

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
Farrington Gurney Air Quality Management Area 2018	Declared 20 August 2018	NO <sub>2</sub> 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 <sup>3</sup>	Farrington Gurney 2 2022 - 30 µg/m <sup>3</sup>	5	Farrington Gurney and Temple Cloud Air Quality Action Plan (April 2023)	<a href="#">Visit the AQAP for Farrington Gurney AQMA</a>

- 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 & 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. The Council have provided a good, detailed discussion on NO<sub>2</sub> trends within the borough. This is encouraged for all future reports.
2. The figures in Appendix D clearly show the boundaries and locations of the AQMA areas, and they also show the locations of the monitoring sites. This is encouraged for all future reports.
3. The figures in Appendix D should include a key indicating which AQMAs are being shown in each individual figure.

[This has been added.](#)

4. The figures in Appendix D should be shown in a portrait layout where possible so that it is easier to read for the reader as they are not having to constantly change the orientation of their eyesight in order to be able to read the figures properly.

[The maps were updated to be the same orientation; however landscape suited the locations better.](#)

5. The AQAP for the Bath AQMA was made available in 2011 and is considered out of date. An updated AQAP for this AQMA should be a priority for the Council for the next reporting year.

[The AQAP for Bath was partially replaced by the Clean Air Plan for Bath in 2020, the actions from the Clean Air Plan have been included in Table 2.2. A review of the Bath AQAP is in Appendix G.](#)

6. The figures showing the trends in annual mean NO<sub>2</sub> concentration should include figures showing the trends in annual mean NO<sub>2</sub> concentration within each individual AQMA so that the reader can easily see, at a glance, whether there are exceedances of the annual mean NO<sub>2</sub> concentration, and whether the AQMAs should be amended, revoked, or if a new AQMA should be declared.



As there a large number of diffusion tubes within some of the AQMAs it is not possible to show all the sites in one graph, graphs have been grouped by Ward. The relevant AQMA has been detailed where appropriate.

Bath & North East Somerset Council has taken forward a number of direct measures during the current reporting year of 2022 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. 83 measures are included within Table 2.2, with the type of measure and the progress Bath & North East Somerset Council have made during the reporting year of 2022 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), Keynsham and Saltford AQAP (2016) 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<sup>th</sup> March 2021. Average 2022 annual nitrogen dioxide (NO<sub>2</sub>) concentrations within the CAZ are 26% lower than in 2019<sup>11</sup>. There has also been a reduction of 27% in the area immediately surrounding the CAZ and a 24% reduction across the wider authority.
- Additionally, NO<sub>2</sub> concentrations have continued to decrease when compared to 2021. Concentrations within the CAZ have decreased a further 6% when compared to 2021, with reductions also being seen in the CAZ\_Boundary (75%) and Wider\_B&NES (7%).
- 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 2022.

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<sup>11</sup> Bath & North East Somerset – Bath Clean Air Zone Annual Monitoring Report 2022

- The Council's Financial Assistance Scheme (FAS) (introduced as part of the Clean Air Fund) has enabled 900 vehicles to be upgraded by the end of 2022. This includes 101 taxis, 22 coaches, 746 LGVs and 29 HGVs.
- Compliance percentages rose between launch week and the end of 2022 from 63% to 83% for Vans/LGVs; 67% to 95% for Taxi/PHVs; 73% to 99% for buses (a result of the CAZ Bus Retrofit Programme); 86% to 96% for smaller HGVs and 93% to 96% for larger HGVs.

### **Other measures**

- 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, there were over 400 e-scooters operating in Bath at the end of 2022, with an average of 4,500 rides per week. The pilot scheme has extended its contact with Voi while a new integrated Micromobility Service can go out to tender. The successful operator is anticipated to commence in the summer of 2023.
- The Loan Bike Scheme is funded by The Council and operated by local bike shops. Intended to help people swap from their car to a bike, the scheme lets people trial bikes before purchasing. It allows users to borrow both standard push bikes as well as electric bikes, which are very popular due to Bath's terrain.
- A webform was launched in 2022 to report allegations of breaches of vehicle weight restrictions, particularly within the CAZ. An officer within Trading Standards was recruited to carry out proactive monitoring of roads carrying weight restrictions, as well as investigating allegations and complaints of breaches. To date, four cases of weight restriction contravention have been reported, with five further cases detected based on observations. After further investigation, four vehicles were found to be exempt for loading, but five warning letters were 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. The campaign aims to encourage people to switch off their engines whilst waiting, and additionally highlights the benefits of driving more responsibly.

- The Journey to Net Zero and The Local Plan Partial Update were both adopted in 2022. These documents set out how the Council will provide for and facilitate the shift towards more sustainable modes of transport.
- Development of the Council's air quality web pages to improve the display of live air quality data, whilst providing user friendly data visualisations
- Within Temple Cloud a Vehicle Activated Sign was successfully installed in 2022, 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.

Bath & 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 throughout 2021 and 2022, 15 neighbourhoods were prioritised for development with three pilot modal transport filters now in operation. To help deliver the aims of LN eight new residents parking zones were consulted on, with seven being approved in 2022. These zones are to be completed by the summer of 2023, with the aims being to prioritise parking for residents and reduce vehicle intrusion into residential areas improving safety, amenity, and air quality.
- Temple Cloud and Farrington Gurney Air Quality Action Plan received the sign-off in April 2023, the programmed actions will progress as planned.
- The repairs surrounding Cleveland Bridge were complete in October 2022, and the bridge fully reopened subject to an 18-tonne weight restriction. However, feasibility work is ongoing into 2023 in response to a 2021 Cabinet request for further investigation into the potential to restrict HGVs over 12-tonnes travelling across the bridge. A public consultation surrounding varying the Bath Clean Air Zone Charging Order 2021 closed in February 2023, with the consultation feedback report due in the spring. The final decision is to be made in the summer of 2023.
- Development of an Air Quality Strategy that connects the broad air quality related measures more formerly as well as improving strategic connections with the West of England Combined Authority to ensure effective co-ordination and

collaboration with neighbouring authorities and Climate and Ecological Emergency related actions.

- 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.
- The installation of Electric Charging Infrastructure (EVI) funded by the Go Ultra Low West Fund continued throughout 2022, with 14 chargers successfully operating. By the end of 2023, an additional 5 chargers are planned to be installed under the GULW Fund completing the programme. Under the WECA Green Recovery Fund, additional EVI is planned across B&NES in a 3-year plan.

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

- Achieving success in relation to the Clean Air Zone in terms of compliance with nitrogen dioxide limits.
- Recommencement of Queen Square and Gay Street Urban Traffic Management Control scheme following full reopening of Cleveland Bridge, due to less traffic demand on Queen Square as a temporary diversion route.
- Revocation of the Keynsham and Saltford Air Quality Management Areas following more than 3 years of measured concentrations below objective levels.
- Close cooperation with the Sustainability Team on the declared Climate Emergency and planned carbon neutrality by 2030 across the authority area, particularly in relation to development of the Air Quality Strategy.
- Continue to provide mobile automatic air quality monitoring to respond to monitoring requests following purchase of Zephyr electro-chemical automatic monitor.
- As part of the Enhanced Partnership (EP) Scheme between WECA and participating bus operators, all buses on local buses services within the EP area must meet Euro 6 (VI) standard by December 2023. Additional bus service frequency enhancements are also planned, in Bath this includes the 1 and 5 routes.
- The Combined Authority are in the process of updating their 10-year rail delivery plan. The latest draft, which is yet to secure support from Directors of both the Combined and Unitary Authority, includes a 'new station study' which would look

at opportunities to open new stations in the region, including Saltford. If approved, the intention would be to utilise existing evidence to assess which stations, if any, would be suitable for further feasibility work/development and/or to form part of wider funding bids/ The latest update to the 1-year plan is planned to be shared with the Combined Authority Directors in the summer of 2023, subject to prior endorsement.

- Development of an Air Quality Strategy.
- The roll out of Liveable Neighbourhoods and supporting Residents Parking Zone scheme.

Bath & North East Somerset Council worked to implement these measures in partnership with the following stakeholders during 2022:

- 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 & 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 certain measures has been slower than expected due to the following reasons:

- The installation of Electric Vehicle infrastructure (EVI) has continued for those sites funded by the OZEVs Go Ultra Low West Fund; however, the rollout was delayed due to the impacts of Covid-19 on supply chains.
- Revocation of the Keynsham and Saltford AQMA due to Councillors concerns over removing the area.

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

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	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 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 2	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 <sup>3</sup> (at key locations)	Measured annual average concentrations of NO <sub>2</sub> . Number of monitoring sites (PCM and LAQM with façade adjustments) measuring above 40µg/m <sup>3</sup> .	Came into operation 15 <sup>th</sup> March 2021	EXPECTED HIGH EFFECTIVENESS. Start date was delayed due to Covid-19.
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 <sub>2</sub> emissions reduction	Completed in June 2022, with all 87 vehicles successfully retrofitted.	EXPECTED HIGH EFFECTIVENESS.
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	Implementation	Tbc	Measured annual average concentrations of NO <sub>2</sub> . Number of vehicles registered for the scheme. Number of vehicles fitted with telematics. Number of vehicles upgraded.	900 vehicles upgraded by the end of December 2022 (22 buses/coaches, 29 HGVs, 746 LGVs and 101 taxis/PHVs).	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	Implementation	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.	EXPECTED HIGH EFFECTIVENESS. Difficult to measure impact. Not as important as Bath CAP 4.

Measure No.	Measure	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 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, four cases of weight restriction contravention have been reported, with five further cases detected based on observations. After further investigation, four vehicles were found to be exempt for loading, but five warning letters were sent out to the remaining vehicles/operators.	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	Planning/implementation	Not known	Number of signs erected.	Following on from some local trials, the 'Kick the Habit' campaign was developed throughout 2022 and is being rolled out to raise awareness about anti-idling within local communities.	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
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	Planning/implementation	4µg/m <sup>3</sup>	Gay St NO <sub>2</sub>	Due to the impacts of the partial and full closure of Cleveland Bridge, traffic flows were disrupted throughout 2022, particularly around Queen Square. Whilst concentrations of NO <sub>2</sub> were consistently monitored along Gay Street, the UTMC was not implemented so to avoid any further disruptions to traffic flows. Note, NO <sub>2</sub> concentrations along Gay Street did not exceed the limit value in 2022.	EXPECTED HIGH EFFECTIVENESS. Part and full closure of Cleveland Bridge has impacted the operation.

Measure No.	Measure	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 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	n/a	Measured NO <sub>2</sub> 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 2023. 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. Effects of temporary closure being monitored for impact on air quality.
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 <sup>3</sup>	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 <sub>x</sub> 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')



Measure No.	Measure	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 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 <sub>2</sub> 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	Local Sustainable Transport Fund, Access Fund, OZEV GULW, ULEV Taxi Infrastructure and WECA Green Recovery Fund	No	Fully funded	£1m - £10m	Implementation /complete.	Not known	Vehicle mix (count of electric vehicles). Number of charges p.a. Number of different users, number of EVs registered, number of charger events.	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. Additionally, under the WECA Green Recovery Fund, B&NES plans to install 27 sites with 44 chargers as part of a 3-year project.	EXPECTED MEDIUM EFFECTIVENESS The West of England GULW Scheme aimed to increase the number of EV chargers sub-regionally from 200 to 400. The majority of chargers delivered off-street, fast (22kw) and rapid (50kw) charges in B&NES carparks.
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.
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	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 2023, 37% of the fleet was electric. Additionally, all large lorries that are a part of the fleet are Euro 6. An additional 4 electric hire pool cars and 1 hybrid are also being used within B&NES.  An MoU has been signed by Emergency Service providers – already a high proportion of Euro 6 vehicles.	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.

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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/ Implementation	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 <sup>st</sup> 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.
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 <sub>2</sub> levels.	Completed 2015 and annual mean NO <sub>2</sub> levels reduced from 49 in 2014 to 28 µg/m <sup>3</sup> 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.	Implementation	Not known	Number of hits	Power BI visualisation with an interactive map showing annual data from 2014 to 2021 remains operational. A new 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

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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 and reduction in Single Occupant Vehicles (S.O.V.) commuting	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 with CO <sub>2</sub> Kge=166 tonnes (up 45 tonnes from 2021/22). This was predictable as both B&NES and the wider district recover, but the swift adoption of both blended working and enhanced virtual technology has enabled this to be managed. In late 2022, B&NES reprocurd their managed corporate pool car fleet of 11 low emission cars. For the financial year 2022/23, 72k miles were transferred from grey fleet miles, equating to 6.9 tonnes of CO <sub>2</sub> saved.	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. 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.
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.

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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. At the end of 2022, the Bath area now has over 400 e-scooters with roughly 4,500 rides per week. Due to the schemes success, the WECA e-scooter pilot has extended its contract with Voi while a new Integrated Micromobility Service (IMS) contract can go out to tender. The successful operator is anticipated to commence in the summer of 2023.	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.
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	Planning/Implementation	tbc	tbc	Following the 1st consultation ending March 2021, the JNZ was consulted on in late 2021 and adopted in 2022. The JNZ sets out how B&NES will provide for and facilitate the shift towards more sustainable modes of transport. To help deliver the council's ambitions, B&NES have been awarded grant funding £120 million from WECA, for six schemes which will significantly improve public transport and active travel infrastructure.	EXPECTED HIGH EFFECTIVENESS.
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	Planning/Implementation	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 on the Experimental Traffic Regulations Order that closed in July 2022, a decision on whether this scheme will be extended/made permanent is to be made by the spring of 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.

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BATH 23	Liveable Neighbourhoods	Traffic Management	Re-prioritising road space away from cars	2020	tbc	WECA and Bath and North East Somerset Council	WECA 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	In 2021, B&NES prioritised the development of 15 Liveable and launched a second public engagement. Throughout 2022, B&NES has been working collaboratively with communities to identify existing issues and gather people's ideas for measure that might help each area. Work will continue with local and wider communities to develop designs for each area. Meanwhile, B&NES consulted on 8 new residents parking zones to help deliver the aims of Liveable Neighbourhoods, 7 of which were approved in October 2022 and will be installed in 2023.	EXPECTED HIGH EFFECTIVENESS Possible improvements in residential streets with potential worsening on main routes.
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	
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	Implementation /completed	tbc	Pedestrian footfall.	Milsom Street has been under an experimental traffic order since July 2020 that has seen 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. This experimental TRO remained in place throughout 2022 and following on from a consultation that ended in the summer, a decision was made in early 2023 to make the restriction permanent.	EXPECTED MEDIUM EFFECTIVENESS.
Keynsham 1	Quantify the benefits from the one-way system pilot for the High Street including monitoring and modelling of air quality impacts.	Traffic Management	Re-prioritising road space away from cars	2017	2018	Bath and North East Somerset Council, Keynsham Town Council and WECA	West of England Local Enterprise Partnership (Local Growth Fund – WECA)	No	Fully funded.	n/a	Completed	Measured NO <sub>2</sub> concentrations now below the objective	Reduction in nitrogen dioxide concentrations. Traffic Counts. Reduction in emissions of nitrogen oxides.	COMPLETE. Trial commenced in May 2017. The reduction in monitored concentrations is between 3 to 27% when comparing similar periods before and after the introduction of the one-way system. Following positive feedback from the public consultation, in February 2019 the Council's Cabinet took the decision to make the arrangements permanent. In June 2019, the Council successfully secured £1.5 million.	HIGH EFFECTIVENESS.

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Keynsham 2	Targeted information campaign for the most vulnerable groups (i.e., asthmatics, Chronic Obstructive Pulmonary Disease etc.).	Public Information	Other	2019	2021	B&NES Public Protection and Health Improvement, Public Health, Research and Intelligence Team, Clinical Commissioning Group, Sirona Care and Health.	B&NES	No	Not funded.	n/a	Aborted	No reduction in Nitrogen Dioxide, however there would be an exposure reduction for residents.	The number of hits on website. Number of initiatives delivered.	Aborted due to low prioritisation / effectiveness and lack of resource.	
Keynsham 3	Influencing planning policy to require electric vehicle charge points for each new property.	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2016	Ongoing	Bath and North East Somerset Council Planning Department	n/a	No	Not funded	n/a	Planning/ Implementation	Not known	Number of properties where a power spur for an electric vehicle charge point is installed. Number of planning applications approved with a vehicle charge point as an advisory or required condition.	Following on from the examination of the Local Plan (Core Strategy and Placement Plan) Partial Update submitted in December 2021, the Electric Vehicle Charging Policy was removed as it was considered identical to the new Building Regulation requirements. The Transport and Development Supplementary Planning Document was adopted towards the end of 2022. This sets out standards for parking, ultra-low emission vehicles, travel plan guidance and walking/cycling guidance.	EXPECTED LOW EFFECTIVENESS. Limited in scope to new properties.
Keynsham 4	Increase public charging points.	Promoting Low Emission Transport	EV charging	2016	2023	Bath and North East Somerset Council, West of England Authorities, OZEV and Revive Network	OZEV Go Ultra Low West Scheme	No	Fully funded	£100k - £500k	Planning	Not known	Number of charge points. Number of charging sessions per year.	2 public charge points and 2 charge points for council fleet installed. Further charge points are planned for Keynsham Civic Centre car parking including x2 rapid chargers and x2 fast chargers.	EXPECTED MEDIUM EFFECTIVENESS. Number of charging sessions per year is not yet available.
Keynsham 5	Recommend tree planting in future infrastructure programmes	Transport Planning and Infrastructure	Other	2016	2023	Bath and North East Somerset Council	Bath and North East Somerset Council	No	Not funded.	Not known	Planning/ implementation	Not known	Number of trees planted.	The first phase of improvements to the public space between Bath Hill and Charlton Road including 7 planters and 3 trees commenced in June 2021 and were completed in March 2022. The contractor continues to work through the final activities includes in the construction programme.	EXPECTED LOW EFFECTIVENESS
Keynsham 6	Influence planning policy to encourage the provision of cycle parking for each new property.	Transport Planning and Infrastructure	Cycle network	2016	2029	Bath and North East Somerset Council	Bath and North East Somerset Council	No	Not funded	N/a	Completed	Not known	Number of new properties with cycle storage. Number of planning applications approved with cycle storage as advisory or required condition.	Placemaking plan adopted 2017 and standards require new development to now provide minimum parking (secured and covered).	EXPECTED LOW EFFECTIVENESS
Keynsham 7	Explore the promotion of an "Electric Zone".	Promoting Low Emission Transport	Other	2016	2021	Public Protection and Health Improvement & Highways.	Bath and North East Somerset Council	No	Not funded	n/a	Aborted	Not known	Number of signs erected. Number of electric vehicles in peak hours on High Street/Ashton Way with a manual traffic count. Number of charging sessions.	Aborted. Wider area charging network 'REVIVE' replaces this.	Partly dependent on emerging GUL programme and outcome of one-way trial for certainty over any on-street installations.

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Keynsham 8	Influence the design of developments to improve access to public transport, cycling and walking routes.	Transport Planning and Infrastructure	Other	2016	2016-2029	B&NES Placemaking Plan / Planning DC.	Bath and North East Somerset Council	No	Not funded	n/a	Implementation	Negligible	Number of approved planning applications with minimum 30 minute bus frequency in or adjacent to site (with 100 metre of the site).	Placemaking Plan requires developments to facilitate walking, cycling and public transport	EXPECTED LOW EFFECTIVENESS
Keynsham 9	Support the creation of a local "Air Quality Action Group".	Public Information	Other	Connecting Communities Forum	n/a	n/a	n/a	No	Not funded	n/a	Aborted	Not known	Established as part of the remit of existing of new group.	Aborted due to low prioritisation / effectiveness and lack of resource.	
Keynsham 10	Keynsham Greenway links to National Cycle Network 4, Wellsday School and riverside path into Bristol and S Glos with new bridge over River Avon.	Transport Planning and Infrastructure	Cycle Network	2020	2029	Bath and North East Somerset Council and WECA	WECA	No	Partially funded	Not known	Implementation	n/a	Delivery of project. Number of cycle trips from annual surveys.	LCWIP consulted Feb 2020 the adopted plan was published in January 2021. Plan includes no new routes but some infrastructural improvements on existing roads including on-road cycle lanes linking potential new development.	EXPECTED MEDIUM EFFECTIVENESS Sufficient contributions to cover final cost and delivery of housing.
Keynsham 11	Work with Community Transport to promote the use of Low emission dial-a-ride vehicles.	Promoting Low Emission Transport	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	2016	n/a	Bath and North East Somerset Council	Bath and North East Somerset Council	No	Not funded	n/a	Aborted	Not known	Low emission vehicle journeys / miles.	Aborted due to low prioritisation / effectiveness and lack of resource.	Appropriate vehicle availability, plus budget and fleet renewal programme.
Keynsham 12	Identify, influence and publicise pedestrian and cycling facility improvements	Promoting Travel Alternatives	Promotion of cycling and walking	2016	2023	Bath and North East Somerset Council	WECA	No	Not funded	n/a	Completed	Not known	Audit of infrastructure completed. Recommendation will be integrated into this plan. Walking and cycling surveys	Complete as LCWIP adopted and published in January 2021.	EXPECTED LOW EFFECTIVENESS
Keynsham 13	Lobby government for incentivising uptake of non-diesel cars.	Other	Other	2016	Complete	Bath and North East Somerset Council	Bath and North East Somerset Council	No	n/a	n/a	Completed	In itself, no improvement, however, there is a reduction with each new ULEV introduced replaced a diesel vehicle	Government response and changes to legislation.	Submitted a consultation response (June 2017) to the DEFRA consultation: 'Improving air quality: national plan for tackling nitrogen dioxide in our towns and cities'	
Keynsham 14	Identify and publicise priority cycling routes to support a cycling culture for all.	Promoting Travel Alternatives	Promotion of cycling and walking	2016	Ongoing	Bath and North East Somerset Council	WECA	No	Not funded	n/a	Planning	n/a	Active travel counts	Dependent on completion of infrastructure as identified in Keynsham 12.	EXPECTED LOW EFFECTIVENESS
Keynsham 15	Encourage low emission bus services in Keynsham	Vehicle Fleet Efficiency	Promoting Low Emission Public Transport	2016	2021	Bath and North East Somerset Council	CAP Clean Air Fund 2020	No	Fully funded	£2m	Completed	Modelled in the Clean Air Plan Full Business Case Documents (2020)	Proportion of vehicles operating as minimum Euro 6 standard (CAZ compliant).	Progressed indirectly through CBTF extension and CAP bus retrofits - agreements for which were being finalised in 2020 and at the time of writing >80% of retrofits were complete.	EXPECTED HIGH EFFECTIVENESS The proposed Bath CAZ will be framed such that Keynsham AQMA will also benefit low emission vehicles.

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Keynsham 16	Increase public education messages which promote healthier choices for short journeys	Promoting Travel Alternatives	School Travel Plans / Other	2019	2025	Bath and North East Somerset Council	Bath and North East Somerset Council	No	Fully funded	n/a	Completed	Not known	Delivery of a public education campaign	<p>Air quality and health campaign focussed in Bath also benefited Keynsham – bus shelter and rear of lower emission bus advertising as part of the CAP.</p> <p>The B&amp;NES Clean Air Schools Toolkit was launched on CAD in June 2019. The toolkit offers a number of resources for primary schools and other community settings including lesson plans, posters, Modeshift Stars, stickers, pledge cards, a musical rap/song, Bikeability, and advice on setting up a walking bus and anti-idling campaigns. A number of schools are already actively using the toolkit.</p>	EXPECTED LOW EFFECTIVENESS
Keynsham 17	Work with bus operators on improved services, ticketing, and simplified fare structure.	Promoting Travel Alternatives	Other	2016	Ongoing	WECA and bus operators	WECA	No	Fully funded	n/a	Planning/ Implementation	Not known	B&NES area bus usage figures. Annually Bus Passenger Satisfaction surveys for B&NES (Transport Focus).	<p>WECA adopted a bus strategy in June 2020. The bus strategy includes simplified ticketing; transfer of more highway space to buses; bikes and pedestrians; an aim of doubling patronage by 2036. In March 2021, the government launched a National Bus Strategy 'Bus Back Better' that supersedes the WECA strategy and laid out a requirement for LTAs to pursue Enhanced Partnerships (by April 2022) under the Bus Services Act, even if they are implementing bus franchising.</p>	Now part of the CAP project.
Keynsham 19	Advocate increased rail service via "MetroWest" - resulting in increase from hourly to half-hourly rail service.	Promoting Travel Alternatives	Promote use of rail	2017	2024	WECA	DfT	No	Fully funded	n/a	Planning/ Implementation	Not known	Project implementation. Rail patronage per service at Keynsham (annual rail survey).	<p>DfT awarded £31million in April 2019. Development Consent Order (DCO) Application was accepted for Phase 1 (Portishead Branch Line) in December 2019. The DCO Examination period began in October 2020 and ended in April 2021. DfT announced consent for the project in November 2022, with the DCO including planning consent, environmental consent, and the compulsory acquisition of land. Over the next 18 months, the project will complete its detailed design and submit its Full Business Case to funding decision makers.</p>	EXPECTED HIGH EFFECTIVENESS. On track to be delivered, consent for the project granted in November 22.



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Salford 1	Targeted information campaign for the most vulnerable groups (i.e., asthmatics, Chronic Obstructive Pulmonary Disease etc.).	Public Information	Other	2019	2021	B&NES Public Protection and Health Improvement, Public Health, Research and Intelligence Team, Clinical Commissioning Group, Sirona Care and Health.	B&NES	No	Not funded.	n/a	Aborted	No reduction in concentration in Nitrogen Dioxide, however there would be an exposure reduction for residents.	The number of hits on website. Number of initiatives delivered.	Aborted due to low prioritisation / effectiveness and lack of resource.	
Salford 2	Recommend tree planting in future infrastructure programmes	Transport Planning and Infrastructure	Other	2016	2022	Bath and North East Somerset Council	Bath and North East Somerset Council	No	Not funded.	Not known	Planning	Not known	Number of trees planted.	Joint Spatial Plan withdrawal delayed opportunity for a project, but the Tree and Woodland Delivery Plan was published in August 2022. This plan outlines where trees will deliver the most benefit and how the planting and future management will be resourced. As of summer 2022, around 64,000 trees have been planted by B&NES and participating partners.	EXPECTED LOW EFFECTIVENESS
Salford 3	Advice to land owners on planting that can help to protect their properties from air pollution.	Transport Planning and Infrastructure	Other	2016	2022	Bath and North East Somerset Council	Bath and North East Somerset Council	No	Not funded.	£1k	Planning/ Implementation	Not known	Number of hits on website	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.
Salford 4	Influencing planning policy to require electric vehicle charge points for each new property.	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2016	Ongoing	Bath and North East Somerset Council Planning Department	n/a	No	Not funded	n/a	Planning/ Implementation	Not known	Number of properties where a power spur for an electric vehicle charge point is installed. Number of planning applications approved with a vehicle charge point as an advisory or required condition.	Following on from the examination of the Local Plan (Core Strategy and Placement Plan) Partial Update submitted in December 2021, the Electric Vehicle Charging Policy was removed as it was considered identical to the new Building Regulation requirements. The Transport and Development Supplementary Planning Document was adopted towards the end of 2022. This sets out standards for parking, ultra-low emission vehicles, travel plan guidance and walking/cycling guidance.	EXPECTED LOW EFFECTIVENESS. Limited in scope to new properties.
Salford 5	Increase public charging points.	Promoting Low Emission Transport	EV Recharging	2022	2024	Bath and North East Somerset Council, West of England Authorities and charge point providers	WECA Green Recovery Fund Project	No	Fully funded	£100k - £500k	Planning	Not known	Number of charge points. Number of charging sessions per year.	2 public charge points and 2 charge points for council fleet installed. Further charge points are planned for Wedmore Road car park, including x2 fast chargers.	EXPECTED MEDIUM EFFECTIVENESS. Number of charging sessions per year not yet available.

Measure No.	Measure	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
Saltford 6	Explore the promotion of an "Electric Zone".	Promoting Low Emission Transport	Other	2016	2021	Public Protection and Health Improvement & Highways.	Bath and North East Somerset Council	No	Not funded	n/a	Aborted	Not known	Number of signs erected. Number of electric vehicles in peak hours on the A4 Saltford with a manual traffic count. Number of charging sessions.	Aborted. Wider area charging network 'REVIVE' replaces this.	Partly dependent on emerging GUL programme and outcome of one-way trial for certainty over any on-street installations.
Saltford 7	Support the creation of a local "Air Quality Action Group".	Public Information	Other	Connecting Communities Forum	n/a	n/a	n/a	No	Not funded	n/a	Aborted	Not known	Established as part of the remit of existing of new group.	Aborted due to low prioritisation / effectiveness and lack of resource.	
Saltford 8	Influence planning policy to encourage the provision of cycle parking for each new property.	Transport Planning and Infrastructure	Cycle network	2016	2029	Bath and North East Somerset Council	Bath and North East Somerset Council	No	Not funded	N/a	Completed	Not known	Number of new properties with cycle storage. Number of planning applications approved with cycle storage as advisory or required condition.	Placemaking plan adopted 2017 and standards require new development to now provide minimum parking (secured and covered).	EXPECTED LOW EFFECTIVENESS
Saltford 9	Work with Community Transport to promote the use of Low emission dial-a-ride vehicles.	Promoting Low Emission Transport	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	2016	n/a	Bath and North East Somerset Council	Bath and North East Somerset Council	No	Not funded	n/a	Aborted	Not known	Low emission vehicle journeys / miles.	Aborted due to low prioritisation / effectiveness and lack of resource.	Appropriate vehicle availability, plus budget and fleet renewal programme.
Saltford 10	Encourage low emission bus services in Keynsham	Vehicle Fleet Efficiency	Promoting Low Emission Public Transport	2016	2021	Bath and North East Somerset Council	CAP Clean Air Fund 2020	No	Fully funded	£2m	Completed	Modelled in the CAP Full Business Case Documents (2020)	Proportion of vehicles operating as minimum Euro 6 standard (CAZ compliant).	Progressed indirectly through CBTF extension and CAP bus retrofits. All public bus service vehicles compliant in 2021, 61% natural Euro 6 and 39% retrofitted to Euro 6.	EXPECTED HIGH EFFECTIVENESS. The proposed Bath CAZ will be framed such that Saltford AQMA will also benefit low emission vehicles.
Saltford 11	Lobby government for incentivising uptake of non-diesel cars.	Other	Other	2016	Complete	Bath and North East Somerset Council	Bath and North East Somerset Council	No	n/a	n/a	Completed	In itself, no improvement, however, there is a reduction with each new ULEV introduced replaced a diesel vehicle	Government response and changes to legislation.	Submitted a consultation response (June 2017) to the DEFRA consultation: 'Improving air quality: national plan for tackling nitrogen dioxide in our towns and cities'	
Saltford 12	Increase public education messages which promote healthier choices for short journeys	Promoting Travel Alternatives	School Travel Plans / Other	2019	2025	Bath and North East Somerset Council	Bath and North East Somerset Council	No	Fully funded		Completed	Not known	Delivery of a public education campaign	Air quality and health campaign focussed in Bath also benefited Saltford – bus shelter and rear of lower emission bus advertising as part of the CAP. The B&NES Clean Air Schools Toolkit was launched on CAD in June 2019. The toolkit offers a number of resources for primary schools and other community settings including: lesson plans, posters, Modeshift Stars, stickers, pledge cards, a musical rap/song, Bikeability and advice on setting up a walking bus and anti-idling campaigns. A number of schools are already actively using the toolkit.	EXPECTED LOW EFFECTIVENESS
Saltford 13	Support the provision or improved lighting on cycle path.	Transport Planning and Infrastructure	Cycle network	2016		B&NES Property Services		No	Not funded.	n/a	Aborted	Not known	Lighting provided to key locations at least	Aborted due to low prioritisation / effectiveness and lack of resource.	Concerns about effects on bat corridor, which may be offset by 'bat hat' option.

Measure No.	Measure	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
Salford 14	Continue feasibility work on reopening Salford Station.	Transport Planning and Infrastructure	Public transport improvements-interchanges stations and services	2016	2024	B&NES, First Group, Network Rail & MetroWest partners	Bath and North East Somerset Council	No	Partially funded (subject to successful bid)	n/a	Planning	Not known	Completed feasibility study	The Combined Authority are in the process of updating their 10-year rail delivery plan. The latest draft, which is yet to secure support from Combined Authority and Unitary Authority Directors, includes a 'new station study' which would look at opportunities to open new stations in the region, including Salford. The latest update to the 10-year rail delivery plan is planned to be shared with Combined Authority Directors in the summer of 2023, subject to prior endorsement.	EXPECTED MEDIUM EFFECTIVENESS Supported by West of England Authorities, but not part of MetroWest phases 1 and 2. Awaiting results of GWR timetabling work.
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 <sup>3</sup> 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 <sup>3</sup> 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	2024	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. Has officer support as it delivers Transport Strategy and Air Quality Action Plan
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.

Measure No.	Measure	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
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 schools 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.
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 on 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 <sub>2</sub> .

Measure No.	Measure	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 1	Advice and information for residents	Public Information	Via the Internet, via other mechanisms	2022	2028	B&NES Public Protection	Local Authority (Public Protection)	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.
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.
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 schools 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

Measure No.	Measure	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 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 <sup>3</sup>		Concentration of NO <sub>2</sub> currently under 40µg/m <sup>3</sup> 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<sub>2.5</sub> – Local Authority Approach to Reducing Emissions and/or Concentrations

As detailed in Policy Guidance LAQM.PG22 (Chapter 8), local authorities are expected to work towards reducing emissions and/or concentrations of PM<sub>2.5</sub> (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that PM<sub>2.5</sub> 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<sup>12</sup> (particulates under 2.5 micrometres in diameter as opposed to nitrogen dioxide)' for Bath & North East Somerset Council in 2021 (the most recent year available) is 5.2%. This is similar to the values across the South West region of 5.1% and 5.5% nationally.

In 2015 Bath & North East Somerset Council started to monitor PM<sub>2.5</sub> 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<sub>2.5</sub> remaining constant over the last 3 years. Due to its small size PM<sub>2.5</sub> can travel large distances in the air. 40-50% of PM<sub>2.5</sub> levels can be from sources outside the local authority boundary (LAQM.TG22)<sup>13</sup>.

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<sub>2.5</sub> 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.

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<sup>12</sup> OHID Health Outcomes Framework

<sup>13</sup> Local Air Quality Management - Technical Guidance (TG22), April 2021

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

This section sets out the monitoring undertaken within 2022 by Bath & 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 2018 and 2022 to allow monitoring trends to be identified and discussed.

### 3.1 Summary of Monitoring Undertaken

#### 3.1.1 Automatic Monitoring Sites

Bath & North East Somerset Council undertook automatic (continuous) monitoring at 4 sites during 2022. Table A.1 in Appendix A shows the details of the automatic monitoring sites.

The Bath & North East Somerset Council, Air Quality Data - Live webpage presents automatic monitoring results for Bath & North East Somerset Council, with automatic monitoring results also available through the UK-Air website (the London Road Continuous NO<sub>2</sub> 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 & North East Somerset Council undertook non- automatic (i.e., passive) monitoring of NO<sub>2</sub> at 176 sites during 2022 (with 48 of these locations using triplicate diffusion tubes). Table A.2 in Appendix A presents the details of the non-automatic sites.

17 new sites were introduced in 2022, 4 sites were in Bathampton in response to a request, 3 sites were in relation to Clean Air Plan monitoring, 6 sites were for Liveable Neighbourhood projects and a further 4 monitors to respond to public requests and to check other key locations. A further 2 sites were added in November or December 2022, these will be reported on in 2024. The new monitoring sites were:

- Clean Air Plan
  - DT294 – Walcot Parade 3
  - DT304 – Walcot Parade 4
  - DT305 – Wells Road 5
- Bathampton
  - DT289 – Bathampton 1 (High Street)
  - DT290 – Bathampton 2 (High Street)
  - DT291 – Bathampton 3 (High Street)
  - DT292 – Bathampton 4 (High Street)
- Liveable Neighbourhoods
  - DT298 – Tennyson Road
  - DT299 – Upper Bristol Road 6
  - DT300 – Penn Hill Road
  - DT301 – Southlands
  - DT302 – Anchor Road
  - DT303 – Prior Park Road 2
- Other sites
  - DT293 – Westgate Buildings
  - DT295 – Radstock – Bath New Road
  - DT296 – Old Mills
  - DT297 – Midland Bridge Road
- Sites added at the end of 2022 which will be reported on in 2023
  - DT306 – Radstock – Bath New Road 2
  - DT307 – Radstock – Bath New Road 3

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 Air Quality Data – Long Term Website.

### 3.1.3 Indicative Monitoring Sites

During 2022 Bath & North East Somerset also carried out monitoring using 3 Zephyr samplers (Appendix F).

- Bath – Windsor Bridge (co-location)
- Gay Street
- Darlington Street
- Wells Road
- Combe Park
- A37 - Temple Cloud
- Wellsway – Bear Flat
- Widcombe Junior School (indoor)

These samplers are indicative and monitor NO<sub>2</sub> using electrochemical sensors, PM<sub>10</sub> and PM<sub>2.5</sub> 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 (NO<sub>2</sub>)

Table A.3 and Table A.4 in Appendix A compare the ratified and adjusted monitored NO<sub>2</sub> annual mean concentrations for the past five years with the air quality objective of 40 µg/m<sup>3</sup>. 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 2022 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 NO<sub>2</sub> hourly mean concentrations for the past five years with the air quality objective of 200 µg/m<sup>3</sup>, not to be exceeded more than 18 times per year.

## Automatic Monitoring Data

The trend data shows that 2022 was not a peak year for NO<sub>2</sub>, with monitoring results being similar to 2021 at all sites (Figure A.1, Appendix A). All continuous analyser monitoring results were below the annual average objective of 40 µg/m<sup>3</sup> and there was one exceedance of the 1-hour objective (18 exceedances allowed).

NO<sub>2</sub> reduced by an average of 4% compared to results in 2021; this is greater than the average 1% reduction in levels across the National AURN network.

## Diffusion Tube Monitoring Data

The trends in diffusion tube monitoring since 2018 are shown in Table A.4 and Figure A.2-A.21 in Appendix A. Monitoring results of NO<sub>2</sub> in 2022 were lower than in 2021 by an average of 6% across the network, this is a greater reduction than for the AURN. Results are showing a downward trend since 2018. Some locations were slightly higher in 2022 than in 2021.

No monitoring sites were at or above 60 µg/m<sup>3</sup>, indicating the 1-hour objective has been met. There are currently no plans to amend the AQMA to remove the 1-hour objective from the Bath AQMA.

## Bath

Monitoring continued at 131 sites in Bath (Figure D.2-D.4 in Appendix D). The results from monitoring sites in Bath show that in 2022 the annual average objective was exceeded at the following locations (Figures A.2-A.15 in Appendix A):

- DT304 – Walcot Parade 4

This site did not exceed the 40 µg/m<sup>3</sup> when adjusted to the closest building façade. This site was added in August to meet the Air Quality Directive (AQD) siting requirements (please see the Annual CAZ monitoring report for further information)<sup>14</sup> and has been annualised, monitoring from site DT224 indicates this may have overestimated the concentration at DT304 (see Appendix H for comparison of monitoring at both locations). DT304 is within the Bath AQMA.

In addition to the above sites, there are also 4 other sites in Bath (identified below) having levels which are between 36-40 µg/m<sup>3</sup>. These monitoring sites are within the Bath AQMA.

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<sup>14</sup> [CAZ Annual Monitoring Report](#)

Monitoring will continue at all these locations to ensure concentrations do not increase above the objective.

- DT020 – Wells Road
- DT222 – Anglo Terrace Façade
- DT224 – Walcot Parade 2
- DT305 – Wells Road 5

### ***Bathampton***

Monitoring continued along Bathampton High Street and on A36 in Bathampton (Figure D.5 in Appendix D). As a community request to look at the worst-case location on the High Street, 4 further monitoring sites were added on Bathampton High Street in late 2021, these showed concentrations similar to the long-term site and were ceased at the end of 2022. The results from 2022 show that levels at the existing locations were below  $40 \mu\text{g}/\text{m}^3$  (Figure A.16 in Appendix A). Monitoring will continue in Bathampton at the 2 long term sites 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 the Batheaston with Bathampton (Figure D.5 in Appendix D). The results from 2022 show that levels at all locations were below  $40 \mu\text{g}/\text{m}^3$  (Figure A.16 in Appendix A). Monitoring will continue in Batheaston as part of the Clean Air Plan.

### ***Farrington Gurney***

In 2022 monitoring continued at 3 key locations in Farrington Gurney (Figure D.6 in Appendix D). The results in 2022 remained below the objective of  $40 \mu\text{g}/\text{m}^3$  (Figure A.17 in Appendix A). Monitoring is continuing to establish an ongoing trend at the 3 key locations. Monitoring has remained below  $36 \mu\text{g}/\text{m}^3$  for 3 years, however there are currently no plans to review the Farrington Gurney AQMA as there are development proposals which could affect the area.

### ***Keynsham***

As part of the Getting around Keynsham Transport Strategy, the Council trialled a one-way system in the centre of Keynsham, and a decision was made in 2019 to make the one-way system permanent. In addition to this in June 2020, the High Street was closed between 9am and 5pm to allow for social distancing, this closure was replaced by a temporary full

closure in July 2021-March 2022 to allow public realm changes to be made. To monitor the effects of the scheme, 5 additional diffusion tubes have been located in the town, this was reduced to 2 additional sites in 2022. Locations of the monitoring sites are shown in Figure D.7 in Appendix D.

In 2022 the results show that all the monitoring locations remain below  $40 \mu\text{g}/\text{m}^3$  (Figure A.18 and Figure A.19 in Appendix A).

Monitoring will continue in Keynsham; however some sites will be removed in 2023 as the monitoring remains below  $40 \mu\text{g}/\text{m}^3$ .

A consultation on revoking the AQMA will be carried out in 2023.

### ***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 2022 show that levels were below  $40 \mu\text{g}/\text{m}^3$  (Figure A.17 in Appendix A).

### ***Pensford***

Monitoring in Pensford has been carried out in the street canyon on Pensford Hill close to the give way for HGVs (Figure D.8 in Appendix D).

The results for monitoring location in Pensford in show that the levels in 2022 were below  $40 \mu\text{g}/\text{m}^3$  (Figure A.20 in Appendix A).

Monitoring in Pensford is ceased at the end of 2022 as monitoring remained below the objective.

### ***Radstock***

Monitoring was carried out in Radstock at 1 location (Figure D.9 in Appendix D). The results from 2022 showed an annual average concentration of  $40.2 \mu\text{g}/\text{m}^3$  at the monitor but this reduced to  $38 \mu\text{g}/\text{m}^3$  at the nearest façade (Figure A.17 in Appendix A).

Monitoring continues in Radstock and a further 2 sites have been introduced close to the hotspot to further understand the concentrations in the area.

### ***Saltford***

In 2022 monitoring was carried out at 2 locations within Saltford. Figure D.10 in Appendix D is a map showing the locations of the monitoring sites. The results from 2022 show that

levels at both locations were below  $40 \mu\text{g}/\text{m}^3$  at the façade of properties (Figure A.20 in Appendix A). Monitoring will continue at 2 sites in Saltford.

A consultation on revoking the AQMA will be carried out in 2023

### ***Temple Cloud***

Following a request from Cameley Parish Council a diffusion tube was installed in May 2016 on the A37 in at Temple Cloud in a narrow section of road, which also included a street canyon (Figure D.11 in Appendix D). The initial results from this monitored suggested that concentrations at this section of the A37 may be high. A further 4 monitoring sites were added in September 2016 and a further 3 monitoring sites were added in May 2017 to understand the extent of the high levels. In 2018 monitoring was reduced to 3 key locations on the A37. As part of the AQAP development a feasibility study was carried out for Temple Cloud. This included modelling the air quality along the A37. This modelling showed that the locations being monitored may not be including the highest concentrations of  $\text{NO}_2$ . To confirm the model findings further monitoring locations were added in March 2020 at 6 locations, monitoring will continue at 4 of these locations in 2022.

The 2022 results show that concentrations are decreasing but 2 monitoring locations on the A37 remain above  $40 \mu\text{g}/\text{m}^3$  (DT96 – Temple Cloud and DT253 – Temple Cloud 10) (Figure A.21 in Appendix A). In 2022 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 although the number of triplicate sites has been reduced where levels are below  $40 \mu\text{g}/\text{m}^3$ .

### ***Westfield***

Following a request from Parish Councillors, 4 new sites were monitored in 2021, this was reduced to 1 site in 2022 (Figure D.9 in Appendix D). The results from 2022 show that levels were below  $40 \mu\text{g}/\text{m}^3$  and no further action is required (Figure A.17 in Appendix A).

Monitoring continues in Westfield in a new location where concern over pollution has been raised.

### ***Whitchurch***

Following a high result in 2015 at the Whitchurch site monitoring site a wider study was commissioned. A further 5 monitoring locations in Whitchurch were added to the network in May 2016 and one on the school façade was added in January 2017. In 2018 this was

reduced to 4 key locations. Figure D.12 in Appendix D is a map showing the locations of the monitoring sites. The results from 2022 show that levels at all locations were below  $40 \mu\text{g}/\text{m}^3$  (Figure A.20 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 PM<sub>10</sub> 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 PM<sub>10</sub> 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 PM<sub>10</sub> has been carried out at 2 sites during 2022 using BAM1020 analysers. The data has been corrected to Gravimetric equivalent by dividing by 1.2 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 2022 and the number of exceedances of the 24-hour objective ( $50 \mu\text{g}/\text{m}^3$ ) was below 35 at all sites.

Figure A.22 and Figure A.23 shows that the levels of PM<sub>10</sub> are slightly higher than previous years, this is consistent with concentrations across the AURN.

There were no peaks above the 24-hour objective in 2022.

### 3.2.3 Particulate Matter (PM2.5)

Table A.8 in Appendix A presents the ratified and adjusted monitored PM<sub>2.5</sub> annual mean concentrations for the past five years.

Bath & North East Somerset Council started monitoring PM<sub>2.5</sub> in July 2015 at Chelsea House (CM4). Table A.8 and Figure A.24 in Appendix A presents the ratified and adjusted monitored PM<sub>2.5</sub> annual mean concentrations for the past five years.

The results show slightly higher concentrations of PM<sub>2.5</sub> to previous years, with the annual average concentration below the air quality objective of  $20 \mu\text{g}/\text{m}^3$ . The trend is similar across the AURN. The results show that there were 3 days with moderate (24-hour

average concentrations  $>35 \mu\text{g}/\text{m}^3$ ) levels of  $\text{PM}_{2.5}$  in Bath & North East Somerset on 15<sup>th</sup> January 2022, 25<sup>th</sup> March 2022 and 16<sup>th</sup> December 2022, there was also 1 day with high concentrations of  $\text{PM}_{2.5}$  (24-hour average concentrations  $>53 \mu\text{g}/\text{m}^3$ ) on 24<sup>th</sup> March 2022. The episode in March 2022 was seen across the country when an air mass came from continental Europe with long-range transported PM coincided with low wind speeds and a build-up of pollution from local sources <sup>15</sup> .

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<sup>15</sup> [London Air Quality Network Pollution Episodes](#)



## 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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Inlet Height (m)
CM2	Guildhall	Roadside	375111	164857	NO <sub>2</sub>	YES (Bath)	Chemiluminescent	1	2	1.3
CM3	Windsor Bridge	Roadside	373593	164861	NO <sub>2</sub> , PM <sub>10</sub>	YES (Bath)	Chemiluminescent BAM1020	2	4	2.0
CM4	Chelsea House	Roadside	375419	165853	NO <sub>2</sub> , PM <sub>2.5</sub>	YES (Bath)	Chemiluminescent BAM1020 (smart heated)	0	15	2.0
CM8	Bath A4 Roadside	Roadside	375394	165824	NO <sub>2</sub> Benzene PM <sub>10</sub>	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT003	Bath - Broad St	Roadside	374992	165173	NO <sub>2</sub>	Yes (Bath)	1.7	1.3	No	2.6
DT004	Bath - George St	Kerbside	374899	165159	NO <sub>2</sub>	Yes (Bath)	3.0	1.0	No	2.3
DT005	Bath - Gay St - Top	Roadside	374797	165161	NO <sub>2</sub>	Yes (Bath)	3.0	1.0	No	2.6
DT008	Bath - Windsor Bridge	Roadside	373518	165124	NO <sub>2</sub>	Yes (Bath)	0.0	3.5	No	2.3
DT009	Bath - Upper Bristol Rd	Roadside	373993	165174	NO <sub>2</sub>	Yes (Bath)	5.0	1.0	No	2.6
DT014	Bath - Bathwick St	Roadside	375602	165365	NO <sub>2</sub>	Yes (Bath)	1.0	1.0	No	2.5
DT015	Bath - Beckford Rd	Roadside	375733	165414	NO <sub>2</sub>	Yes (Bath)	7.0	1.0	No	2.7
DT016	Bath - Warminster Rd	Roadside	376063	165492	NO <sub>2</sub>	Yes (Bath)	18.0	4.0	No	2.4
DT017a, DT017b, DT017c	Bath - Widcombe School	Roadside	375634	164406	NO <sub>2</sub>	Yes (Bath)	5.0	1.0	No	2.6
DT018	Bath - Widcombe High St	Roadside	375414	164216	NO <sub>2</sub>	Yes (Bath)	0.0	5.0	No	2.5
DT020a, DT020b, DT020c	Bath - Wells Rd	Roadside	374760	164310	NO <sub>2</sub>	Yes (Bath)	0.0	1.5	No	2.3
DT021	Bath - Wells Rd /Upper Oldfield Park	Roadside	374454	164202	NO <sub>2</sub>	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT023	Bath - Alexandra Park	Urban Background	375105	163991	NO <sub>2</sub>	No	n/a	n/a	No	3.3
DT026	Bath - Upper Wellsway	Roadside	373576	161908	NO <sub>2</sub>	No	0.0	3.0	No	2.0
DT034	Bath - Newbridge Rd	Roadside	373092	165106	NO <sub>2</sub>	Yes (Bath)	5.0	1.0	No	2.3
DT037a, DT037b, DT037c	Bath - Charlotte St	Roadside	374622	164994	NO <sub>2</sub>	Yes (Bath)	3.0	1.0	No	2.7
DT039	Bath - Manvers St	Roadside	375247	164591	NO <sub>2</sub>	Yes (Bath)	3.0	2.0	No	2.3
DT042	Bath - Dorchester St	Kerbside	375230	164383	NO <sub>2</sub>	Yes (Bath)	1.5	1.0	No	2.4
DT043	Bath - St. James Parade	Kerbside	375053	164426	NO <sub>2</sub>	Yes (Bath)	2.6	0.9	No	2.9
DT045	Bath – James St West	Roadside	374697	164763	NO <sub>2</sub>	Yes (Bath)	0.0	5.0	No	2.7
DT052, DT053, DT054	Bath - Walcot Terrace	Roadside	375462	165843	NO <sub>2</sub>	Yes (Bath)	0.0	3.0	No	2.5
DT055	Bath - Lambridge	Roadside	376451	166502	NO <sub>2</sub>	Yes (Bath)	-1.5	2.6	No	2.6
DT060	Bath - Victoria Buildings	Roadside	374039	164760	NO <sub>2</sub>	Yes (Bath)	3.7	0.5	No	2.5
DT062	Bath - Argyle Terrace	Roadside	373211	164743	NO <sub>2</sub>	Yes (Bath)	4.0	3.0	No	2.8
DT084	Bath - Bear Flat	Roadside	374604	163806	NO <sub>2</sub>	No	5.7	1.9	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT085	Bath - RUH – North	Roadside	373073	165983	NO <sub>2</sub>	No	7.0	1.5	No	2.3
DT087	Bath - Oak Street	Roadside	374702	164414	NO <sub>2</sub>	Yes (Bath)	0.0	2.7	No	2.3
DT090a, DT090b, DT090c	Bath - Anglo Terrace	Roadside	375288	165758	NO <sub>2</sub>	Yes (Bath)	2.5	1.6	No	2.3
DT142	Bath - Prior Park Road	Kerbside	375513	164194	NO <sub>2</sub>	No	0.3	0.8	No	2.5
DT143	Bath - Rackfield Place	Roadside	372644	164738	NO <sub>2</sub>	No	0.3	3.6	No	2.6
DT145	Bath - Lansdown Road	Kerbside	374930	165550	NO <sub>2</sub>	Yes (Bath)	2.5	0.7	No	2.5
DT147	Bath - Terrace Walk	Roadside	375195	164735	NO <sub>2</sub>	No	0.3	1.7	No	2.7
DT148a, DT148b, DT148c	Bath - Julian Road	Roadside	374573	165523	NO <sub>2</sub>	No	0.4	2.2	No	2.5
DT149	Bath - Camden 3	Kerbside	375038	165838	NO <sub>2</sub>	No	2.0	0.4	No	2.6
DT150	Bath - Brougham Hayes	Roadside	373955	164590	NO <sub>2</sub>	No	1.9	1.3	No	2.6
DT151	Bath - Widcombe Hill	Kerbside	375598	164190	NO <sub>2</sub>	No	3.9	0.8	No	2.2
DT152	Bath - Bathwick Hill	Roadside	375800	164912	NO <sub>2</sub>	No	2.0	1.0	No	2.6
DT153	Bath - North Road	Roadside	376069	165356	NO <sub>2</sub>	No	3.0	1.9	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT154	Bath - Bradford Road	Roadside	375529	162389	NO <sub>2</sub>	No	0.4	2.2	No	2.4
DT155	Bath - Newbridge Hill 2	Roadside	372696	165488	NO <sub>2</sub>	No	7.0	1.8	No	2.5
DT156	Bath - Corn Street	Roadside	374827	164531	NO <sub>2</sub>	No	2.4	2.6	No	2.5
DT157	Bath - Charles Street	Roadside	374664	164815	NO <sub>2</sub>	No	1.5	3.2	No	2.4
DT158	Bath - Paragon 2	Roadside	375051	165350	NO <sub>2</sub>	Yes (Bath)	5.4	1.1	No	3.0
DT159	Bath - Walcot Street	Roadside	375075	165287	NO <sub>2</sub>	No	3.0	2.5	No	2.7
DT160	Bath - North Parade Road	Roadside	375284	164694	NO <sub>2</sub>	No	6.3	1.3	No	2.6
DT165	Bath - Brassknocker Hill	Kerbside	377960	162736	NO <sub>2</sub>	No	7.0	0.8	No	2.5
DT167	Bath - Weston High Street	Roadside	372587	166629	NO <sub>2</sub>	No	0.4	1.0	No	2.5
DT168	Bath - Englishcombe Lane	Roadside	373207	163339	NO <sub>2</sub>	No	3.4	1.6	No	2.5
DT169	Bath - Eastbourne Avenue	Roadside	375667	166369	NO <sub>2</sub>	No	5.1	2.0	No	2.5
DT171	Bath - Frome Road/Upper Bloomfield	Roadside	373706	162411	NO <sub>2</sub>	No	0.4	4.2	No	2.4
DT172a, DT172b, DT172c	Bath - London Road 2	Roadside	375374	165813	NO <sub>2</sub>	Yes (Bath)	0.6	3.6	No	2.5

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT173	Bath - Upper Bristol Road 2	Roadside	374362	165016	NO <sub>2</sub>	Yes (Bath)	0.6	2.2	No	2.4
DT179a, DT179b, DT179c	Bath - Upper Bristol Road 3	Roadside	373299	165093	NO <sub>2</sub>	Yes (Bath)	0.0	1.5	No	2.0
DT180a, DT180b, DT180c	Bath - Wells Road 2	Roadside	374537	163968	NO <sub>2</sub>	No	0.7	1.7	No	2.4
DT181	Bath - Wellsway	Roadside	374618	163494	NO <sub>2</sub>	No	15.0	1.2	No	2.5
DT182a, DT182b, DT182c	Bath - Gay Street - Lower	Roadside	374796	165123	NO <sub>2</sub>	Yes (Bath)	3.7	1.1	No	2.3
DT183	Bath - Chapel Row	Roadside	374712	164913	NO <sub>2</sub>	No	0.0	2.1	No	2.5
DT185	Bath - Greenway Lane	Kerbside	374712	163417	NO <sub>2</sub>	No	0.5	0.7	No	2.4
DT186	Bath - Coronation Avenue	Roadside	373170	163416	NO <sub>2</sub>	No	3.3	1.4	No	2.4
DT187	Bath - Stanley Road West	Roadside	373835	164438	NO <sub>2</sub>	No	0.2	1.7	No	2.3
DT188	Bath - Moorland Road	Roadside	373696	164343	NO <sub>2</sub>	No	0.5	3.4	No	2.6
DT189	Bath - Old Newbridge Hill	Roadside	372251	165686	NO <sub>2</sub>	No	10.0	2.1	No	2.5
DT190	Bath - Church Street	Kerbside	375814	164027	NO <sub>2</sub>	No	0.0	0.9	No	2.5
DT192	Bath - Fairfield Road	Roadside	375505	166428	NO <sub>2</sub>	No	3.6	1.3	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT193	Bath - Granville Road	Roadside	374260	167661	NO <sub>2</sub>	No	4.5	1.5	No	2.5
DT194	Bath - Brooklyn Road	Roadside	376096	166878	NO <sub>2</sub>	No	3.5	1.0	No	2.6
DT195	Bath - Lansdown Lane	Roadside	372537	167235	NO <sub>2</sub>	No	11.0	1.9	No	2.5
DT196	Bath - Oakley	Kerbside	377133	164045	NO <sub>2</sub>	No	2.0	0.8	No	2.5
DT197	Bath - Rush Hill	Roadside	372703	162983	NO <sub>2</sub>	No	5.5	2.0	No	2.4
DT198a, DT198b, DT198c	Bath - Walcot Parade	Kerbside	375240	165739	NO <sub>2</sub>	Yes (Bath)	0.4	1.0	No	3.3
DT199	Bath - Hensley Road	Roadside	374353	163504	NO <sub>2</sub>	No	8.0	1.1	No	2.4
DT200	Bath - Millmead Road	Roadside	373375	164307	NO <sub>2</sub>	No	3.4	1.6	No	2.4
DT201	Bath - The Hollow	Roadside	373003	164250	NO <sub>2</sub>	No	1.3	2.4	No	2.5
DT202	Bath - Charlcombe	Kerbside	374636	166701	NO <sub>2</sub>	No	5.0	0.4	No	2.5
DT206a, DT206b, DT206c	Bath - Park Lane	Roadside	373742	165305	NO <sub>2</sub>	No	0.5	1.8	No	2.5
DT207	Bath - Darlington Street	Roadside	375630	165132	NO <sub>2</sub>	No	4.0	1.1	No	2.5
DT209	Bath - Bellots Road	Roadside	373490	164804	NO <sub>2</sub>	No	3.5	1.5	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT210	Bath - Red Lion Roundabout	Roadside	373895	162254	NO <sub>2</sub>	No	0.4	1.5	No	2.4
DT211	Bath - St John's Road	Roadside	375218	165290	NO <sub>2</sub>	No	0.0	2.0	No	2.5
DT212	Bath - Oldfield Road	Roadside	374356	163985	NO <sub>2</sub>	No	5.0	1.8	No	2.4
DT213a, DT213b, DT213c	Bath - Marlborough Lane	Roadside	374262	165127	NO <sub>2</sub>	No	6.0	3.0	No	2.5
DT214a, DT214b, DT214c	Bath - Marlborough Buildings	Roadside	374354	165448	NO <sub>2</sub>	No	2.6	1.0	No	2.5
DT215a, DT215b, DT215c	Bath - Queen Parade Place	Roadside	374758	165096	NO <sub>2</sub>	No	0.3	2.6	No	2.6
DT216a, DT216b, DT216c	Bath - Monmouth Place	Roadside	374574	164958	NO <sub>2</sub>	Yes (Bath)	0.3	1.5	No	2.4
DT217a, DT217b, DT217c	Bath - Cavendish Road	Roadside	374335	165990	NO <sub>2</sub>	No	1.2	1.0	No	2.4
DT218	Bath - Weston Road	Roadside	373668	165697	NO <sub>2</sub>	No	3.0	1.4	No	2.5
DT219	Bath - Morford Street	Roadside	374872	165570	NO <sub>2</sub>	No	0.0	1.5	No	2.5
DT221	Bath - Gay Street - façade	Roadside	374793	165119	NO <sub>2</sub>	No	0.2	4.4	No	2.7
DT222a, DT222b, DT222c	Bath - Anglo Terrace façade	Roadside	375231	165778	NO <sub>2</sub>	Yes (Bath)	0.5	1.8	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT223a, DT223b, DT223c	Bath - Canton Place	Roadside	375322	165759	NO <sub>2</sub>	Yes (Bath)	2.4	4.0	No	2.3
DT224a, DT224b, DT224c	Bath - Walcot Parade 2	Roadside	375207	165726	NO <sub>2</sub>	Yes (Bath)	0.4	1.1	No	2.4
DT225a, DT225b, DT225c	Bath - Cleveland Terrace	Kerbside	375203	165708	NO <sub>2</sub>	Yes (Bath)	2.8	0.7	No	2.4
DT226a, DT226b, DT226c	Bath - AURN	Roadside	375394	165824	NO <sub>2</sub>	Yes (Bath)	3.5	3.5	Yes	1.9
DT227a, DT227b, DT227c	Bath - Wells Road 3	Kerbside	374580	163979	NO <sub>2</sub>	No	1.1	0.4	No	2.25
DT228a, DT228b, DT228c	Bath - Lower Bristol Road 2	Roadside	374002	164754	NO <sub>2</sub>	Yes (Bath)	1.4	3.0	No	2.4
DT229a, DT229b, DT229c	Bath - Lower Bristol Road 3	Kerbside	373936	164779	NO <sub>2</sub>	Yes (Bath)	10.8	0.2	No	2.5
DT230a, DT230b, DT230c	Bath - Upper Bristol Road 4	Roadside	373439	165098	NO <sub>2</sub>	Yes (Bath)	3.7	1.2	No	2.4
DT231a, DT231b, DT231c	Bath - Upper Bristol Road 5	Kerbside	373480	165125	NO <sub>2</sub>	Yes (Bath)	4.7	0.3	No	2.4
DT232a, DT232b, DT232c	Bath - Lansdown Road 3	Kerbside	374942	165391	NO <sub>2</sub>	Yes (Bath)	4.3	0.6	No	2.4
DT233a, DT233b, DT233c	Bath - Lansdown Road 4	Kerbside	374956	165359	NO <sub>2</sub>	Yes (Bath)	6.7	0.9	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT234a, DT234b, DT234c	Bath - Gay Street 2	Kerbside	374806	165084	NO <sub>2</sub>	Yes (Bath)	2.2	0.5	No	2.4
DT235a, DT235b, DT235c	Bath - Wells Road 4	Roadside	374694	164288	NO <sub>2</sub>	Yes (Bath)	6.0	1.3	No	2.4
DT236a, DT236b, DT236c	Bath - Pulteney Terrace	Roadside	375668	164493	NO <sub>2</sub>	No	4.7	1.6	No	2.4
DT237	Bath - Broad Street 2	Roadside	375000	165179	NO <sub>2</sub>	Yes (Bath)	0.5	1.5	No	2.4
DT238a, DT238b, DT238c	Bath - Broad Street 3	Roadside	375001	165140	NO <sub>2</sub>	Yes (Bath)	0.2	2.2	No	2.4
DT239a, DT239b, DT239c	Bath - Broad Street 4	Kerbside	375008	165145	NO <sub>2</sub>	Yes (Bath)	1.9	0.4	No	2.4
DT240a, DT240b, DT240c	Bath - Bathwick Street 2	Roadside	375489	165450	NO <sub>2</sub>	Yes (Bath)	2.6	1.7	No	2.4
DT241a, DT241b, DT241c	Bath - Bathwick Street 3	Roadside	375520	165446	NO <sub>2</sub>	Yes (Bath)	2.0	1.8	No	2.5
DT242a, DT242b, DT242c	Bath - Charlotte Street 2	Roadside	374583	164974	NO <sub>2</sub>	Yes (Bath)	2.1	1.7	No	2.4
DT243a, DT243b, DT243c	Bath - Sydney Place	Roadside	375625	165312	NO <sub>2</sub>	Yes (Bath)	7.8	1.1	No	2.4
DT244	Bath - Whiteway	Roadside	372494	163165	NO <sub>2</sub>	No	3.0	1.5	No	2.3
DT245	Bath - Whiteway 2	Roadside	372401	163212	NO <sub>2</sub>	No	0.5	1.4	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT246a, DT246b, DT246c	Bath - Dorchester Street 2	Roadside	375186	164372	NO <sub>2</sub>	Yes (Bath)	23.0	4.9	No	2.4
DT247a, DT247b, DT247c	Bath - Monmouth Place 2	Roadside	374627	164924	NO <sub>2</sub>	Yes (Bath)	0.3	1.1	No	2.6
DT248a, DT248b, DT248c	Bath - Chapel Row 2	Roadside	374711	164931	NO <sub>2</sub>	No	0.4	1.6	No	2.4
DT276	Bath - Twerton High Street	Kerbside	372783	164624	NO <sub>2</sub>	No	0.3	0.9	No	2.5
DT278	Bath - CAZ Background 1	Urban Background	374420	165288	NO <sub>2</sub>	No	n/a	n/a	No	2.5
DT279	Bath - CAZ Background 2	Urban Background	375365	165176	NO <sub>2</sub>	No	n/a	n/a	No	2.4
DT280	Bath - Background Alice Park	Urban Background	376478	166696	NO <sub>2</sub>	No	n/a	n/a	No	2.4
DT288	Bath - Victoria Buildings - façade	Roadside	374045	164760	NO <sub>2</sub>	Yes (Bath)	0.0	4.1	No	2.4
DT293	Bath - Westgate Buildings	Roadside	374885	164691	NO <sub>2</sub>	Yes (Bath)	13.0	1.2	No	2.7
DT294	Bath - Walcot Parade 3	Roadside	375207	165726	NO <sub>2</sub>	Yes (Bath)	7.6	1.1	No	5.5
DT297	Bath - Midland Bridge Road	Roadside	374577	164736	NO <sub>2</sub>	No	2.2	1.5	No	2.5
DT298	Bath - Tennyson Road	Roadside	373625	165307	NO <sub>2</sub>	No	3.5	1.1	No	2.5
DT299	Bath - Upper Bristol Road 6	Kerbside	373731	165238	NO <sub>2</sub>	Yes (Bath)	1.3	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT300	Bath - Penn Hill Road	Roadside	372663	166274	NO <sub>2</sub>	No	7.5	1.7	No	2.5
DT301	Bath - Southlands	Roadside	372612	166457	NO <sub>2</sub>	No	4.7	4.2	No	2.5
DT302	Bath - Anchor Road	Roadside	372851	166390	NO <sub>2</sub>	No	7.6	1.9	No	2.7
DT303	Bath - Prior Park Road 2	Kerbside	375819	163764	NO <sub>2</sub>	No	0.4	0.5	No	2.2
DT304	Bath - Walcot Parade 4	Roadside	375202	165724	NO <sub>2</sub>	Yes (Bath)	0.8	1.6	No	2.1
DT305	Bath - Wells Road 5	Kerbside	374790	164309	NO <sub>2</sub>	Yes (Bath)	2.1	3.2	No	2.7
DT091	Bathampton High Street	Roadside	377683	166408	NO <sub>2</sub>	No	0.0	1.1	No	2.3
DT166	Bathampton, A36	Roadside	377543	165924	NO <sub>2</sub>	No	23.0	1.2	No	2.4
DT289	Bathampton 1	Kerbside	377698	166409	NO <sub>2</sub>	No	0.8	0.8	No	1.6
DT290	Bathampton 2	Kerbside	377681	166395	NO <sub>2</sub>	No	0.0	0.9	No	1.6
DT291	Bathampton 3	Kerbside	377654	166374	NO <sub>2</sub>	No	0.0	0.9	No	1.5
DT292	Bathampton 4	Roadside	377652	166382	NO <sub>2</sub>	No	0.0	1.6	No	1.8
DT058	Batheaston – London Road West A	Roadside	377643	167365	NO <sub>2</sub>	No	0.0	1.0	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT094	Batheaston - London Road West B	Roadside	377290	167097	NO <sub>2</sub>	No	0.0	1.3	No	2.5
DT130	Batheaston - London Road West C	Roadside	377802	167456	NO <sub>2</sub>	No	0.0	1.4	No	2.5
DT163	Batheaston, A4 Box Road	Roadside	378911	167259	NO <sub>2</sub>	No	2.4	1.8	No	2.4
DT191	Batheaston - Mill Lane	Roadside	377339	167065	NO <sub>2</sub>	No	4.0	1.0	No	2.5
DT134	Farrington Gurney 2	Roadside	362891	155485	NO <sub>2</sub>	Yes (Farrington Gurney)	0.0	4.5	No	2.5
DT136	Farrington Gurney 3	Roadside	362884	155790	NO <sub>2</sub>	Yes (Farrington Gurney)	0.0	1.2	No	2.1
DT138	Farrington Gurney 5	Roadside	362983	155459	NO <sub>2</sub>	Yes (Farrington Gurney)	3.0	1.9	No	2.5
DT033	Keynsham	Urban Background	364803	168237	NO <sub>2</sub>	No	8.0	1.0	No	2.6
DT063	Keynsham – Station Road	Roadside	365409	168846	NO <sub>2</sub>	Yes (Keynsham)	3.0	1.0	No	2.7
DT064	Keynsham – Charlton Road B	Roadside	365305	168657	NO <sub>2</sub>	Yes (Keynsham)	4.0	1.0	No	2.8
DT065	Keynsham - Charlton Rd A	Roadside	365399	168701	NO <sub>2</sub>	Yes (Keynsham)	3.0	1.0	No	2.7
DT066	Keynsham – High Street A	Roadside	365360	168815	NO <sub>2</sub>	Yes (Keynsham)	1.0	1.0	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT067	Keynsham - Somerfield	Roadside	365457	168496	NO <sub>2</sub>	Yes (Keynsham)	2.0	1.0	No	2.8
DT068	Keynsham - Temple St	Roadside	365489	168363	NO <sub>2</sub>	No	0.0	3.0	No	2.8
DT069	Keynsham – Rock Road	Roadside	365428	168435	NO <sub>2</sub>	No	0.0	2.0	No	3.0
DT070	Keynsham – Bath Hill	Roadside	365496	168521	NO <sub>2</sub>	Yes (Keynsham)	1.0	4.0	No	2.3
DT107	Keynsham - Bath Hill South	Roadside	365710	168339	NO <sub>2</sub>	No	0.0	1.3	No	2.5
DT112	Keynsham - Ashton Way	Roadside	365375	168594	NO <sub>2</sub>	No	35.0	1.5	No	2.6
DT115	Keynsham - High Street B	Roadside	365447	168586	NO <sub>2</sub>	Yes (Keynsham)	1.8	1.1	No	2.4
DT141	Keynsham A4	Roadside	366921	168096	NO <sub>2</sub>	No	13.0	1.4	No	2.4
DT277	Keynsham - Background	Urban Background	365622	168563	NO <sub>2</sub>	No	n/a	n/a	No	2.4
DT296	Old Mills	Roadside	364748	155000	NO <sub>2</sub>	No	0.0	1.8	No	2.0
DT174	Pensford 3	Roadside	361769	164034	NO <sub>2</sub>	No	2.7	1.3	No	2.5
DT295	Radstock - Bath New Road	Roadside	368825	155080	NO <sub>2</sub>	No	0.7	2.3	No	2.3
DT075	Saltford - The Crown	Roadside	368375	166988	NO <sub>2</sub>	Yes (Saltford)	0.0	3.0	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT077	Saltford - Bath Road	Roadside	368778	166687	NO <sub>2</sub>	Yes (Saltford)	0.0	2.0	No	2.2
DT096a, DT096b, DT096c	Temple Cloud 1	Roadside	362219	157923	NO <sub>2</sub>	Yes (Temple Cloud)	0.0	1.5	No	2.4
DT108a, DT108b, DT108c	Temple Cloud 2	Roadside	362179	158055	NO <sub>2</sub>	Yes (Temple Cloud)	6.2	1.3	No	2.6
DT109a, DT109b, DT109c	Temple Cloud 3	Roadside	362344	157658	NO <sub>2</sub>	Yes (Temple Cloud)	2.0	1.7	No	2.6
DT252a, DT252b, DT252c	Temple Cloud 9	Roadside	362195	158007	NO <sub>2</sub>	Yes (Temple Cloud)	0.0	1.1	No	2.4
DT253a, DT253b, DT253c	Temple Cloud 10	Roadside	362243	157846	NO <sub>2</sub>	Yes (Temple Cloud)	-2.1	3.6	No	2.3
DT254a, DT254b, DT254c	Temple Cloud 11	Roadside	362262	157799	NO <sub>2</sub>	Yes (Temple Cloud)	2.9	1.6	No	2.4
DT255a, DT255b, DT255c	Temple Cloud 12	Roadside	362284	157741	NO <sub>2</sub>	Yes (Temple Cloud)	0.0	1.2	No	2.2
DT269	Westfield 5	Roadside	367321	153823	NO <sub>2</sub>	No	8.0	2.0	No	2.4
DT032	Whitchurch	Roadside	361242	167652	NO <sub>2</sub>	No	2.7	2.1	No	2.3
DT098	Whitchurch 2	Roadside	361276	167555	NO <sub>2</sub>	No	0.0	1.3	No	2.3
DT100	Whitchurch 4	Roadside	361326	167606	NO <sub>2</sub>	No	6.0	1.6	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT101	Whitchurch 5	Roadside	361235	167824	NO <sub>2</sub>	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 NO<sub>2</sub> Monitoring Results: Automatic Monitoring (µg/m<sup>3</sup>)**

Site ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
CM2	Guildhall	375111	164857	Roadside	98.3	98.3	29	27	19	20	20
CM3	Windsor Bridge	373593	164861	Roadside	98.6	98.6	30	29	23	23	21
CM4	Chelsea House	375419	165853	Roadside	95.2	95.2	26	22	20	18	18
CM8	Bath A4 Roadside	375394	165824	Roadside	96	96	-	29	28	27	25

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.

**Notes:**

The annual mean concentrations are presented as µg/m<sup>3</sup>.

Exceedances of the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

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

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

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

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

**Table A.4 – Annual Mean NO<sub>2</sub> Monitoring Results: Non-Automatic Monitoring (µg/m<sup>3</sup>)**

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
DT003	Bath - Broad St	374992	165173	Roadside	100.0	100.0	36.0	37.0	27.0	28.8	27.6
DT004	Bath - George St	374899	165159	Kerbside	89.9	89.9	30.0	30.0	22.3	22.2	22.6
DT005	Bath - Gay St - Top	374797	165161	Roadside	82.2	82.2	32.0	31.0	21.9	23.0	20.8
DT008	Bath - Windsor Bridge	373518	165124	Roadside	89.9	89.9	31.0	28.0	22.8	22.5	19.7
DT009	Bath - Upper Bristol Rd	373993	165174	Roadside	92.9	92.9	33.0	31.0	25.7	24.3	23.4
DT014	Bath - Bathwick St	375602	165365	Roadside	100.0	100.0	36.0	33.0	28.5	19.7	19.5
DT015	Bath - Beckford Rd	375733	165414	Roadside	92.9	92.9	30.0	27.0	21.7	19.7	17.8
DT016	Bath - Warminster Rd	376063	165492	Roadside	100.0	100.0	33.0	31.0	24.2	21.8	20.1
DT017a, DT017b, DT017c	Bath - Widcombe School	375634	164406	Roadside	100.0	100.0	31.0	29.0	23.3	20.3	19.3
DT018	Bath - Widcombe High St	375414	164216	Roadside	100.0	100.0	24.0	23.0	17.9	17.4	16.6
DT020a, DT020b, DT020c	Bath - Wells Rd	374760	164310	Roadside	100.0	100.0	<b>49.0</b>	<b>45.0</b>	39.7	<b>42.6</b>	38.5
DT021	Bath - Wells Rd /Upper Oldfield Park	374454	164202	Roadside	79.8	79.8	<b>43.0</b>	37.0	25.9	27.6	26.7
DT023	Bath - Alexandra Park	375105	163991	Urban Background	100.0	100.0	12.0	11.0	8.4	8.5	8.2

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
DT026	Bath - Upper Wellsway	373576	161908	Roadside	92.3	92.3	31.0	27.0	20.8	22.5	21.7
DT034	Bath - Newbridge Rd	373092	165106	Roadside	92.6	92.6	33.0	31.0	23.3	21.6	20.6
DT037a, DT037b, DT037c	Bath - Charlotte St	374622	164994	Roadside	100.0	100.0	33.0	31.0	25.9	24.3	22.0
DT039	Bath - Manvers St	375247	164591	Roadside	100.0	100.0	29.0	33.0	23.8	25.0	23.1
DT042	Bath - Dorchester St	375230	164383	Kerbside	100.0	100.0	<b>45.0</b>	<b>48.0</b>	36.2	<b>40.5</b>	34.9
DT043	Bath - St. James Parade	375053	164426	Kerbside	100.0	100.0	<b>40.0</b>	39.0	31.0	34.5	30.2
DT045	Bath - James St West	374697	164763	Roadside	85.0	85.0	31.0	28.0	21.8	24.0	22.4
DT052, DT053, DT054	Bath - Walcot Terrace	375462	165843	Roadside	100.0	100.0	37.0	36.0	28.9	25.3	24.0
DT055	Bath - Lambridge	376451	166502	Roadside	92.6	92.6	39.7	36.0	29.4	27.9	25.8
DT060	Bath - Victoria Buildings	374039	164760	Roadside	100.0	100.0	<b>41.0</b>	<b>44.0</b>	37.5	40.0	33.4
DT062	Bath - Argyle Terrace	373211	164743	Roadside	89.9	89.9	39.0	37.0	32.7	33.5	29.5
DT084	Bath - Bear Flat	374604	163806	Roadside	82.8	82.8	35.0	30.0	23.1	23.5	23.4
DT085	Bath - RUH – North	373073	165983	Roadside	100.0	100.0	28.0	26.0	23.1	22.2	19.7
DT087	Bath - Oak Street	374702	164414	Roadside	100.0	100.0	31.0	29.0	22.6	21.5	21.1

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
DT090a, DT090b, DT090c	Bath - Anglo Terrace	375288	165758	Roadside	100.0	100.0	56.0	50.0	37.5	33.2	32.7
DT142	Bath - Prior Park Road	375513	164194	Kerbside	100.0	100.0	34.0	33.0	26.5	23.3	22.5
DT143	Bath - Rackfield Place	372644	164738	Roadside	100.0	100.0	27.0	26.0	21.9	21.4	21.0
DT145	Bath - Lansdown Road	374930	165550	Kerbside	100.0	100.0	31.0	26.0	21.0	20.1	19.3
DT147	Bath - Terrace Walk	375195	164735	Roadside	100.0	100.0	29.0	29.0	20.0	19.8	18.2
DT148a, DT148b, DT148c	Bath - Julian Road	374573	165523	Roadside	100.0	100.0	27.0	26.0	20.4	19.6	18.9
DT149	Bath - Camden 3	375038	165838	Kerbside	100.0	100.0	31.0	25.0	20.7	19.0	17.5
DT150	Bath - Brougham Hayes	373955	164590	Roadside	100.0	100.0	27.0	29.0	22.5	22.2	21.1
DT151	Bath - Widcombe Hill	375598	164190	Kerbside	92.6	92.6	32.0	27.0	20.7	19.2	17.3
DT152	Bath - Bathwick Hill	375800	164912	Roadside	82.2	82.2	26.0	25.0	19.0	18.3	16.5
DT153	Bath - North Road	376069	165356	Roadside	100.0	100.0	19.0	17.0	13.3	12.9	13.3
DT154	Bath - Bradford Road	375529	162389	Roadside	100.0	100.0	30.0	28.0	21.2	21.0	20.8
DT155	Bath - Newbridge Hill 2	372696	165488	Roadside	100.0	100.0	19.0	18.0	12.4	12.4	12.8
DT156	Bath - Corn Street	374827	164531	Roadside	85.2	85.2	28.0	28.0	21.1	21.8	18.4

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
DT157	Bath - Charles Street	374664	164815	Roadside	100.0	100.0	29.0	27.0	21.6	22.4	22.3
DT158	Bath - Paragon 2	375051	165350	Roadside	100.0	100.0	33.0	32.0	24.0	24.5	22.1
DT159	Bath - Walcot Street	375075	165287	Roadside	100.0	100.0	27.0	26.0	20.0	19.1	18.1
DT160	Bath - North Parade Road	375284	164694	Roadside	100.0	100.0	31.0	34.0	23.3	23.1	23.4
DT165	Bath - Brassknocker Hill	377960	162736	Kerbside	89.9	89.9	<b>40.2</b>	37.0	28.0	26.1	24.8
DT167	Bath - Weston High Street	372587	166629	Roadside	100.0	100.0	24.0	22.0	17.4	18.4	16.5
DT168	Bath - Englishcombe Lane	373207	163339	Roadside	100.0	100.0	16.0	14.0	11.4	10.9	10.9
DT169	Bath - Eastbourne Avenue	375667	166369	Roadside	100.0	100.0	26.0	23.0	18.1	17.5	16.5
DT171	Bath - Frome Road/Upper Bloomfield	373706	162411	Roadside	100.0	100.0	32.0	27.0	22.2	23.2	20.8
DT172a, DT172b, DT172c	Bath - London Road 2	375374	165813	Roadside	100.0	100.0	<b>47.0</b>	<b>42.0</b>	34.8	31.1	29.6
DT173	Bath - Upper Bristol Road 2	374362	165016	Roadside	100.0	100.0	37.0	33.0	27.9	25.7	25.4
DT179a, DT179b, DT179c	Bath - Upper Bristol Road 3	373299	165093	Roadside	100.0	100.0	35.0	37.0	27.0	26.9	23.9
DT180a, DT180b, DT180c	Bath - Wells Road 2	374537	163968	Roadside	100.0	100.0	35.0	35.0	31.2	30.3	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 (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
DT181	Bath - Wellsway	374618	163494	Roadside	100.0	100.0	36.0	33.0	26.5	25.0	24.8
DT182a, DT182b, DT182c	Bath - Gay Street - Lower	374796	165123	Roadside	100.0	100.0	<b>42.0</b>	<b>42.0</b>	30.4	32.9	31.1
DT183	Bath - Chapel Row	374712	164913	Roadside	100.0	100.0	30.0	30.0	21.5	25.7	24.1
DT185	Bath - Greenway Lane	374712	163417	Kerbside	85.0	85.0	19.0	16.0	11.7	10.9	11.4
DT186	Bath - Coronation Avenue	373170	163416	Roadside	100.0	100.0	20.0	20.0	16.1	15.4	14.5
DT187	Bath - Stanley Road West	373835	164438	Roadside	100.0	100.0	24.0	23.0	19.3	18.1	17.5
DT188	Bath - Moorland Road	373696	164343	Roadside	100.0	100.0	25.0	22.0	19.3	16.7	16.5
DT189	Bath - Old Newbridge Hill	372251	165686	Roadside	100.0	100.0	29.0	29.0	23.4	25.2	23.0
DT190	Bath - Church Street	375814	164027	Kerbside	90.4	90.4	14.0	13.0	10.7	10.6	9.5
DT192	Bath - Fairfield Road	375505	166428	Roadside	100.0	100.0	20.0	16.0	14.1	12.3	11.8
DT193	Bath - Granville Road	374260	167661	Roadside	92.9	92.9	11.0	9.0	7.2	7.9	6.0
DT194	Bath - Brooklyn Road	376096	166878	Roadside	100.0	100.0	18.0	16.0	12.6	12.4	11.3
DT195	Bath - Lansdown Lane	372537	167235	Roadside	89.9	89.9	20.0	21.0	16.5	18.5	18.3
DT196	Bath - Oakley	377133	164045	Kerbside	100.0	100.0	32.0	28.0	20.2	17.6	17.9

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
DT197	Bath - Rush Hill	372703	162983	Roadside	100.0	100.0	25.0	24.0	19.2	19.5	18.1
DT198a, DT198b, DT198c	Bath - Walcot Parade	375240	165739	Kerbside	100.0	100.0	<b>56.0</b>	<b>50.0</b>	<b>40.6</b>	37.8	35.9
DT199	Bath - Hensley Road	374353	163504	Roadside	100.0	100.0	-	13.0	9.9	9.7	9.1
DT200	Bath - Millmead Road	373375	164307	Roadside	100.0	100.0	-	15.0	12.9	13.0	12.2
DT201	Bath - The Hollow	373003	164250	Roadside	100.0	100.0	-	24.0	21.2	20.5	18.9
DT202	Bath - Charlcombe	374636	166701	Kerbside	90.4	90.4	-	14.0	11.3	10.3	10.5
DT206a, DT206b, DT206c	Bath - Park Lane	373742	165305	Roadside	100.0	100.0	-	31.0	23.2	24.1	23.2
DT207	Bath - Darlington Street	375630	165132	Roadside	100.0	100.0	-	38.0	31.9	26.7	25.3
DT209	Bath - Bellots Road	373490	164804	Roadside	100.0	100.0	-	19.0	15.4	15.1	14.1
DT210	Bath - Red Lion Roundabout	373895	162254	Roadside	100.0	100.0	-	33.0	28.3	28.2	26.8
DT211	Bath - St John's Road	375218	165290	Roadside	100.0	100.0	-	21.0	15.6	14.0	13.1
DT212	Bath - Oldfield Road	374356	163985	Roadside	100.0	100.0	-	19.0	13.8	14.2	13.5
DT213a, DT213b, DT213c	Bath - Marlborough Lane	374262	165127	Roadside	92.6	92.6	-	21.0	18.5	18.2	17.7

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
DT214a, DT214b, DT214c	Bath - Marlborough Buildings	374354	165448	Roadside	100.0	100.0	-	20.0	17.5	16.1	15.2
DT215a, DT215b, DT215c	Bath - Queen Parade Place	374758	165096	Roadside	90.4	90.4	-	18.0	14.4	15.3	14.7
DT216a, DT216b, DT216c	Bath - Monmouth Place	374574	164958	Roadside	100.0	100.0	-	26.0	25.6	24.4	23.1
DT217a, DT217b, DT217c	Bath - Cavendish Road	374335	165990	Roadside	100.0	100.0	-	17.0	15.5	13.6	12.9
DT218	Bath - Weston Road	373668	165697	Roadside	100.0	100.0	-	19.0	16.9	15.1	14.8
DT219	Bath - Morford Street	374872	165570	Roadside	92.9	92.9	-	21.0	18.5	17.7	17.6
DT221	Bath - Gay Street - façade	374793	165119	Roadside	100.0	100.0	-	36.0	25.0	27.7	27.5
DT222a, DT222b, DT222c	Bath - Anglo Terrace façade	375231	165778	Roadside	100.0	100.0	-	<b>49.0</b>	<b>41.4</b>	38.1	36.6
DT223a, DT223b, DT223c	Bath - Canton Place	375322	165759	Roadside	100.0	100.0	-	37.0	33.2	25.6	25.6
DT224a, DT224b, DT224c	Bath - Walcot Parade 2	375207	165726	Roadside	100.0	100.0	-	<b>55.0</b>	<b>44.2</b>	<b>43.1</b>	39.7
DT225a, DT225b, DT225c	Bath - Cleveland Terrace	375203	165708	Kerbside	100.0	100.0	-	37.0	32.4	32.2	28.7
DT226a, DT226b, DT226c	Bath - AURN	375394	165824	Roadside	100.0	100.0	-	32.0	28.7	26.9	24.9



Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
DT227a, DT227b, DT227c	Bath - Wells Road 3	374580	163979	Kerbside	100.0	100.0	-	<b>40.0</b>	31.4	32.4	30.1
DT228a, DT228b, DT228c	Bath - Lower Bristol Road 2	374002	164754	Roadside	100.0	100.0	-	29.0	27.1	24.7	22.2
DT229a, DT229b, DT229c	Bath - Lower Bristol Road 3	373936	164779	Kerbside	100.0	100.0	-	36.0	28.0	30.1	25.5
DT230a, DT230b, DT230c	Bath - Upper Bristol Road 4	373439	165098	Roadside	100.0	100.0	-	<b>50.0</b>	34.6	35.2	31.9
DT231a, DT231b, DT231c	Bath - Upper Bristol Road 5	373480	165125	Kerbside	100.0	100.0	-	<b>41.0</b>	33.4	32.1	29.4
DT232a, DT232b, DT232c	Bath - Lansdown Road 3	374942	165391	Kerbside	100.0	100.0	-	29.0	23.9	23.2	22.3
DT233a, DT233b, DT233c	Bath - Lansdown Road 4	374956	165359	Kerbside	92.6	92.6	-	28.0	21.8	22.9	22.4
DT234a, DT234b, DT234c	Bath - Gay Street 2	374806	165084	Kerbside	100.0	100.0	-	39.8	32.0	36.0	33.2
DT235a, DT235b, DT235c	Bath - Wells Road 4	374694	164288	Roadside	100.0	100.0	-	37.0	32.0	35.1	31.0
DT236a, DT236b, DT236c	Bath - Pulteney Terrace	375668	164493	Roadside	100.0	100.0	-	30.0	23.4	21.0	19.9
DT237	Bath - Broad Street 2	375000	165179	Roadside	100.0	100.0	-	35.0	25.3	30.8	29.2

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
DT238a, DT238b, DT238c	Bath - Broad Street 3	375001	165140	Roadside	100.0	100.0	-	34.0	25.6	28.6	26.5
DT239a, DT239b, DT239c	Bath - Broad Street 4	375008	165145	Kerbside	100.0	100.0	-	37.0	26.5	31.8	29.3
DT240a, DT240b, DT240c	Bath - Bathwick Street 2	375489	165450	Roadside	100.0	100.0	-	30.0	22.5	18.1	19.5
DT241a, DT241b, DT241c	Bath - Bathwick Street 3	375520	165446	Roadside	100.0	100.0	-	24.0	18.4	15.0	14.9
DT242a, DT242b, DT242c	Bath - Charlotte Street 2	374583	164974	Roadside	100.0	100.0	-	24.0	20.9	18.8	17.7
DT243a, DT243b, DT243c	Bath - Sydney Place	375625	165312	Roadside	100.0	100.0	-	30.0	24.7	20.9	19.3
DT244	Bath - Whiteway	372494	163165	Roadside	92.9	92.9	-	18.0	16.1	16.9	15.9
DT245	Bath - Whiteway 2	372401	163212	Roadside	89.9	89.9	-	25.0	19.9	19.5	18.3
DT246a, DT246b, DT246c	Bath - Dorchester Street 2	375186	164372	Roadside	100.0	100.0	-	39.0	30.1	31.1	29.7
DT247a, DT247b, DT247c	Bath - Monmouth Place 2	374627	164924	Roadside	100.0	100.0	-	30.0	27.0	26.1	23.0
DT248a, DT248b, DT248c	Bath - Chapel Row 2	374711	164931	Roadside	100.0	100.0	-	38.0	29.0	36.6	34.5
DT276	Bath - Twerton High Street	372783	164624	Kerbside	92.6	92.6	-	-	-	30.3	25.8

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
DT278	Bath - CAZ Background 1	374420	165288	Urban Background	67.2	67.2	-	-	-	10.8	10.8
DT279	Bath - CAZ Background 2	375365	165176	Urban Background	62.3	62.3	-	-	-	10.7	10.4
DT280	Bath - Background Alice Park	376478	166696	Urban Background	100.0	100.0	-	-	-	9.1	8.7
DT288	Bath - Victoria Buildings - façade	374045	164760	Roadside	100.0	100.0	-	-	-	29.1	28.7
DT293	Bath - Westgate Buildings	374885	164691	Roadside	100	32.5	-	-	-	-	18.7
DT294	Bath - Walcot Parade 3	375207	165726	Roadside	100.0	100.0	-	-	-	-	26.9
DT297	Bath - Midland Bridge Road	374577	164736	Roadside	100.0	100.0	-	-	-	-	28.4
DT298	Bath - Tennyson Road	373625	165307	Roadside	83.0	42.9	-	-	-	-	9.7
DT299	Bath - Upper Bristol Road 6	373731	165238	Kerbside	100.0	50.3	-	-	-	-	30.1
DT300	Bath - Penn Hill Road	372663	166274	Roadside	100.0	50.3	-	-	-	-	13.8
DT301	Bath - Southlands	372612	166457	Roadside	83.0	43.2	-	-	-	-	9.5
DT302	Bath - Anchor Road	372851	166390	Roadside	100.0	50.3	-	-	-	-	21.3
DT303	Bath - Prior Park Road 2	375819	163764	Kerbside	100.0	50.3	-	-	-	-	13.9
DT304	Bath - Walcot Parade 4	375202	165724	Roadside	100.0	42.6	-	-	-	-	<b>40.4</b>
DT305	Bath - Wells Road 5	374790	164309	Kerbside	100.0	42.6	-	-	-	-	38.0

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
DT091	Bathampton High Street	377683	166408	Roadside	100.0	100.0	26.0	23.0	16.8	18.4	18.1
DT166	Bathampton, A36	377543	165924	Roadside	100.0	100.0	30.0	28.0	20.8	18.8	17.2
DT289	Bathampton 1	377698	166409	Kerbside	92.3	92.3	-	-	-	-	18.5
DT290	Bathampton 2	377681	166395	Kerbside	92.3	92.3	-	-	-	-	20.4
DT291	Bathampton 3	377654	166374	Kerbside	92.3	92.3	-	-	-	-	17.1
DT292	Bathampton 4	377652	166382	Roadside	92.3	92.3	-	-	-	-	15.2
DT058	Batheaston - London Road West A	377643	167365	Roadside	100.0	100.0	26.0	25.0	19.8	20.9	16.2
DT094	Batheaston - London Road West B	377290	167097	Roadside	89.9	89.9	28.0	25.0	20.3	20.0	18.5
DT130	Batheaston - London Road West C	377802	167456	Roadside	100.0	100.0	26.0	26.0	21.5	19.7	17.3
DT163	Batheaston, A4 Box Road	378911	167259	Roadside	100.0	100.0	24.0	23.0	17.6	13.9	13.7
DT191	Batheaston - Mill Lane	377339	167065	Roadside	100.0	100.0	22.0	19.0	14.7	15.3	15.1
DT134	Farrington Gurney 2	362891	155485	Roadside	100.0	100.0	39.0	39.0	31.1	32.1	29.7
DT136	Farrington Gurney 3	362884	155790	Roadside	100.0	100.0	39.6	37.0	27.9	29.2	27.6
DT138	Farrington Gurney 5	362983	155459	Roadside	100.0	100.0	38.0	36.0	27.1	28.4	26.6
DT033	Keynsham	364803	168237	Urban Background	100.0	100.0	13.0	12.0	9.7	9.6	8.8

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
DT063	Keynsham – Station Road	365409	168846	Roadside	82.2	82.2	27.0	25.0	19.8	20.7	20.4
DT064	Keynsham – Charlton Road B	365305	168657	Roadside	92.3	92.3	28.0	28.0	24.2	23.1	21.1
DT065	Keynsham - Charlton Rd A	365399	168701	Roadside	100.0	100.0	29.0	27.0	21.3	22.5	20.5
DT066	Keynsham – High Street A	365360	168815	Roadside	100.0	100.0	33.0	32.0	26.8	27.5	26.4
DT067	Keynsham - Somerfield	365457	168496	Roadside	84.7	84.7	32.0	31.0	24.1	24.6	22.5
DT068	Keynsham - Temple St	365489	168363	Roadside	92.9	92.9	21.0	19.0	15.4	16.0	14.6
DT069	Keynsham – Rock Road	365428	168435	Roadside	89.9	89.9	25.0	22.0	18.7	20.1	16.7
DT070	Keynsham – Bath Hill	365496	168521	Roadside	100.0	100.0	25.0	23.0	18.0	17.6	16.7
DT107	Keynsham - Bath Hill South	365710	168339	Roadside	100.0	100.0	35.0	33.0	29.0	28.4	25.1
DT112	Keynsham - Ashton Way	365375	168594	Roadside	100.0	100.0	23.0	21.0	18.5	19.3	16.3
DT115	Keynsham - High Street B	365447	168586	Roadside	65.6	65.6	22.0	21.0	13.2	13.7	16.0
DT141	Keynsham A4	366921	168096	Roadside	100.0	100.0	33.0	31.0	23.4	25.2	24.2
DT277	Keynsham - Background	365622	168563	Urban Background	82.5	82.5	-	-	-	11.2	10.5
DT296	Old Mills	364748	155000	Roadside	100.0	100.0	-	-	-	-	21.5
DT174	Pensford 3	361769	164034	Roadside	92.6	92.6	37.0	35.0	30.6	32.0	30.5

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
DT295	Radstock - Bath New Road	368825	155080	Roadside	92.3	92.3	-	-	-	-	<b>40.2</b>
DT075	Saltford - The Crown	368375	166988	Roadside	100.0	100.0	31.0	30.0	23.3	23.0	21.4
DT077	Saltford - Bath Road	368778	166687	Roadside	100.0	100.0	28.0	26.0	21.0	19.3	18.7
DT096a, DT096b, DT096c	Temple Cloud 1	362219	157923	Roadside	100.0	100.0	<b>59.5</b>	<b>56.0</b>	<b>44.8</b>	<b>44.2</b>	<b>41.6</b>
DT108a, DT108b, DT108c	Temple Cloud 2	362179	158055	Roadside	100.0	100.0	<b>40.1</b>	39.0	30.3	30.3	28.6
DT109a, DT109b, DT109c	Temple Cloud 3	362344	157658	Roadside	100.0	100.0	<b>40.0</b>	36.0	27.9	29.4	25.4
DT252a, DT252b, DT252c	Temple Cloud 9	362195	158007	Roadside	100.0	100.0	-	-	32.1	34.0	32.6
DT253a, DT253b, DT253c	Temple Cloud 10	362243	157846	Roadside	100.0	100.0	-	-	37.2	39.4	35.1
DT254a, DT254b, DT254c	Temple Cloud 11	362262	157799	Roadside	100.0	100.0	-	-	36.3	34.3	31.9
DT255a, DT255b, DT255c	Temple Cloud 12	362284	157741	Roadside	100.0	100.0	-	-	36.2	37.5	35.5
DT269	Westfield 5	367321	153823	Roadside	85.0	85.0	-	-	-	14.0	14.4
DT032	Whitchurch	361242	167652	Roadside	100.0	100.0	33.0	33.0	27.8	28.1	27.4

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
DT098	Whitchurch 2	361276	167555	Roadside	100.0	100.0	33.0	30.0	23.3	23.7	22.4
DT100	Whitchurch 4	361326	167606	Roadside	92.6	92.6	27.0	25.0	19.6	21.3	19.7
DT101	Whitchurch 5	361235	167824	Roadside	100.0	100.0	37.0	36.0	30.5	30.4	28.9

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 NO<sub>2</sub> annual mean objective of  $40\mu\text{g}/\text{m}^3$  are shown in **bold**.

NO<sub>2</sub> annual means exceeding  $60\mu\text{g}/\text{m}^3$ , indicating a potential exceedance of the NO<sub>2</sub> 1-hour mean objective are shown in **bold and underlined**.

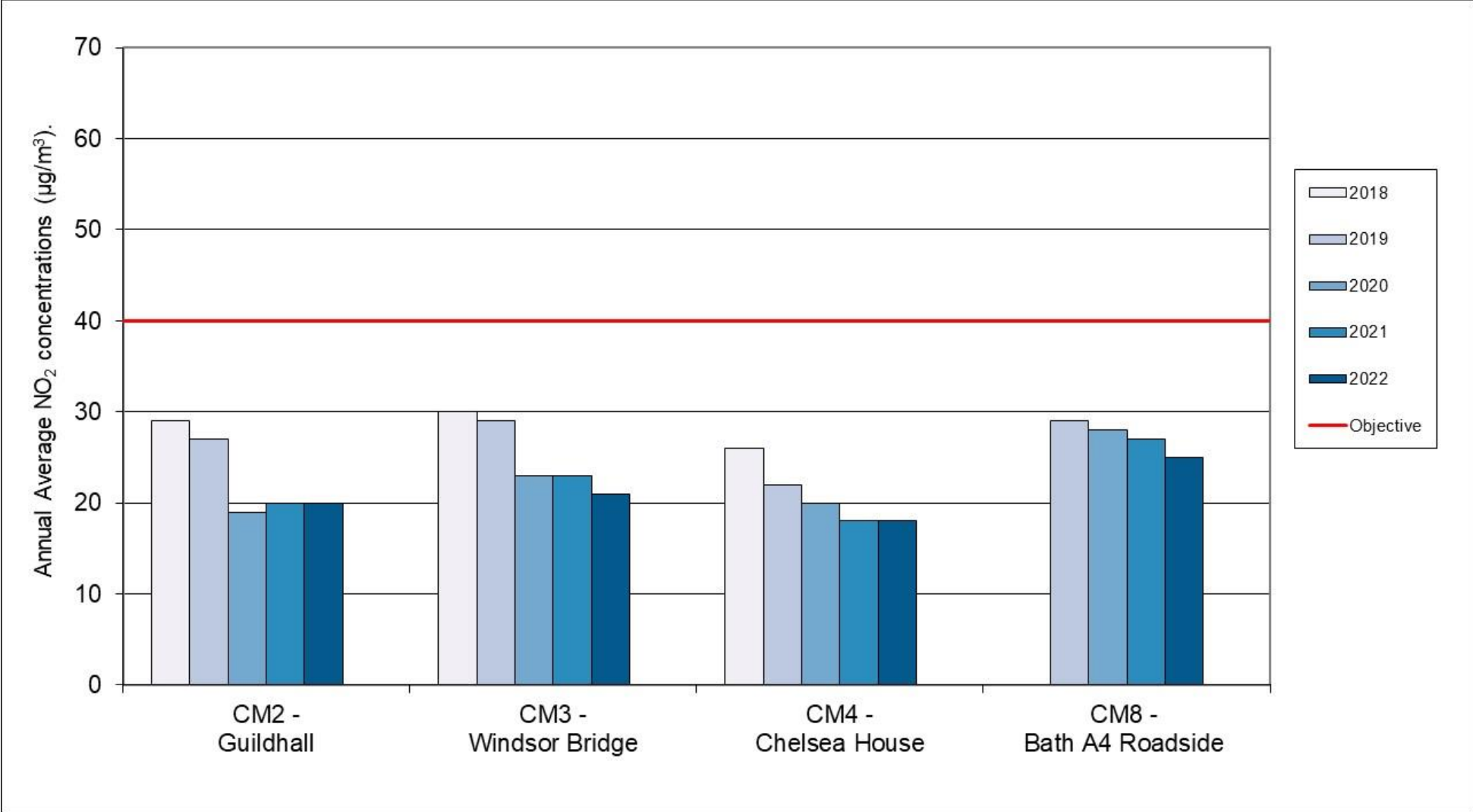
Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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%).

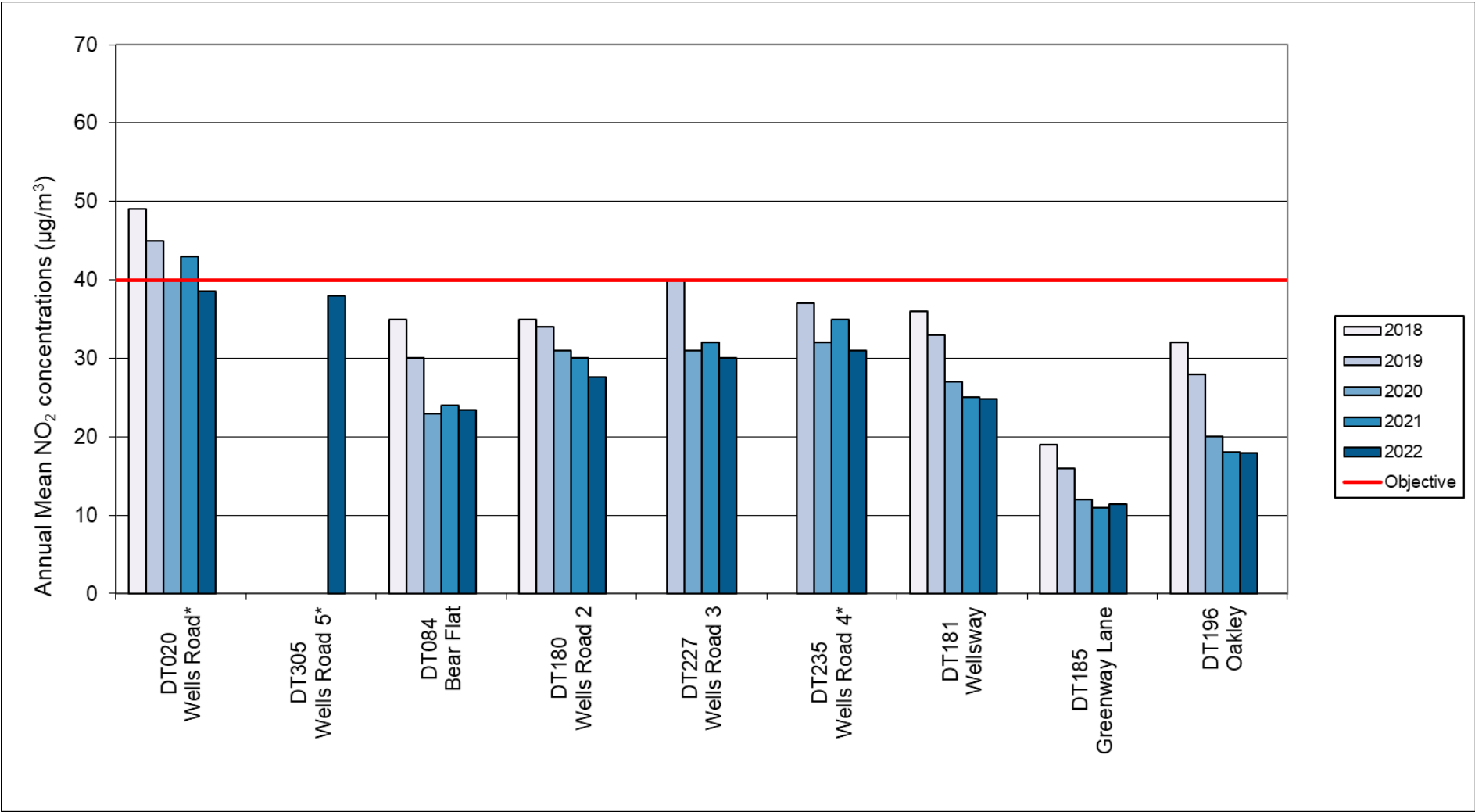
Figure A.1 - Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at the Automatic Monitoring Sites



Note: All sites are within the Bath AQMA

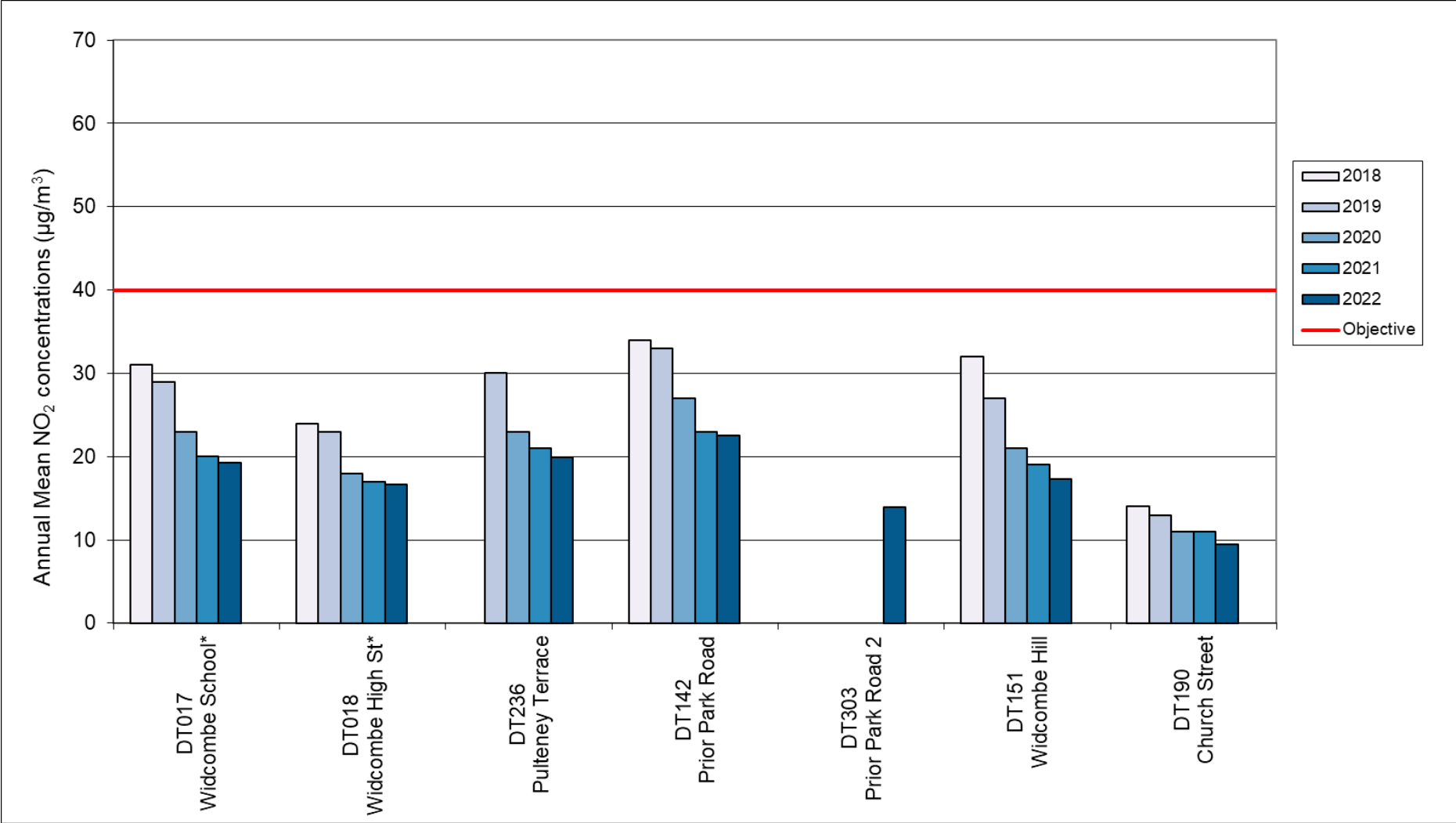


Figure A.2 – Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Widcombe and Lyncombe (1)



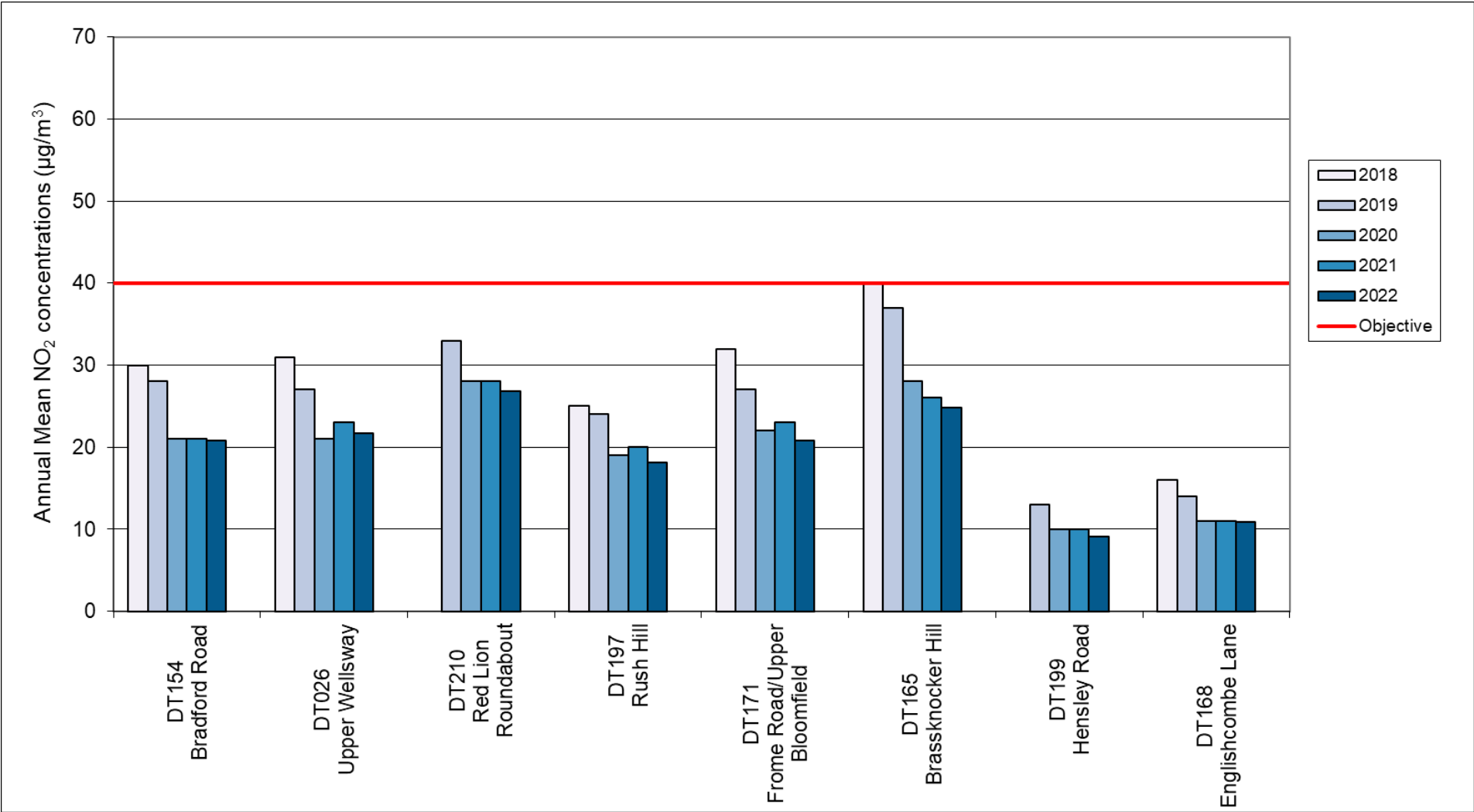
Note: \* indicates that are sites within the Bath AQMA.

**Figure A.3 – Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Widcombe and Lyncombe (2)**



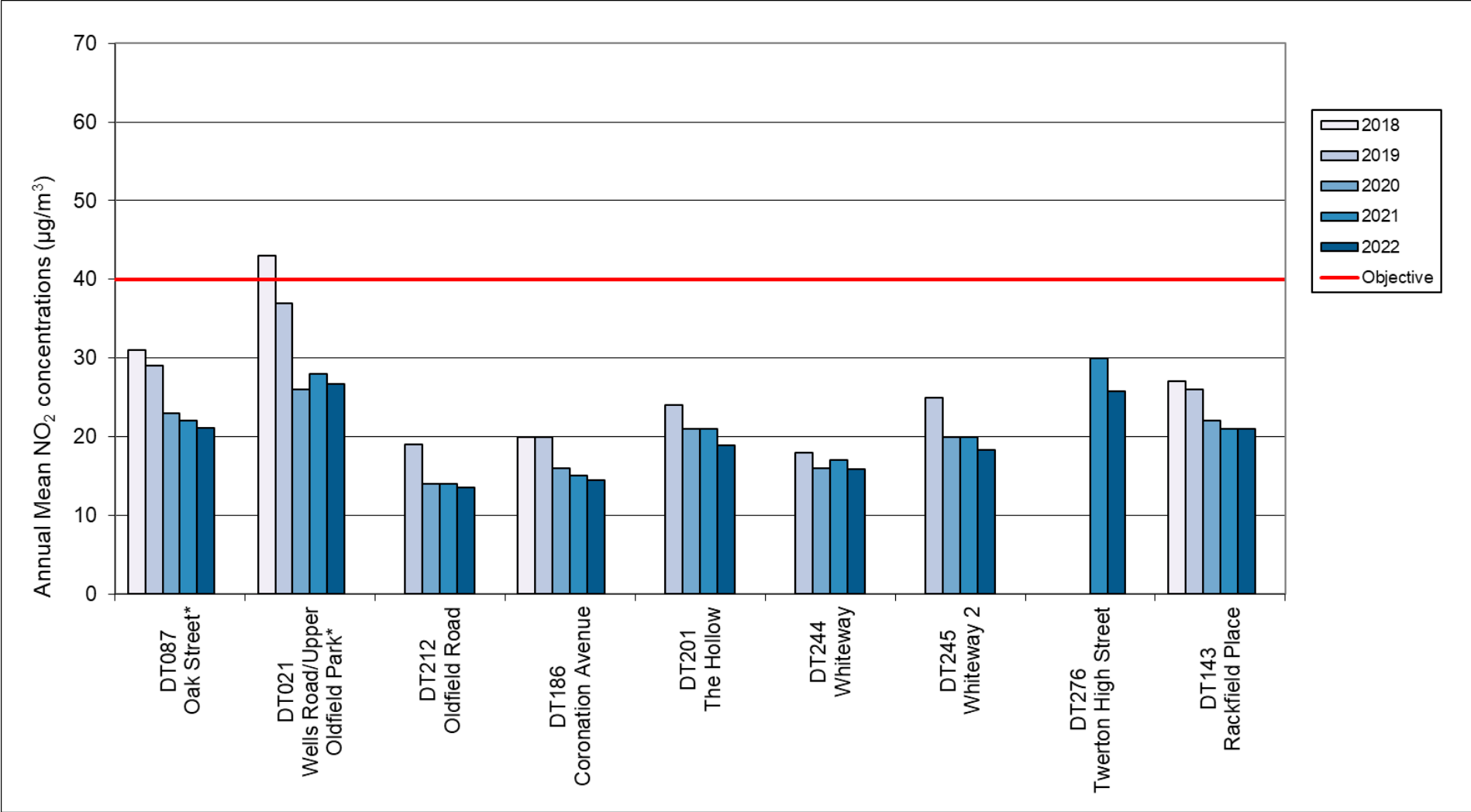
Note: \* indicates that are sites within the Bath AQMA.

**Figure A.4 – Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Combe Down, Odd Down, Bathavon South and Moorlands**



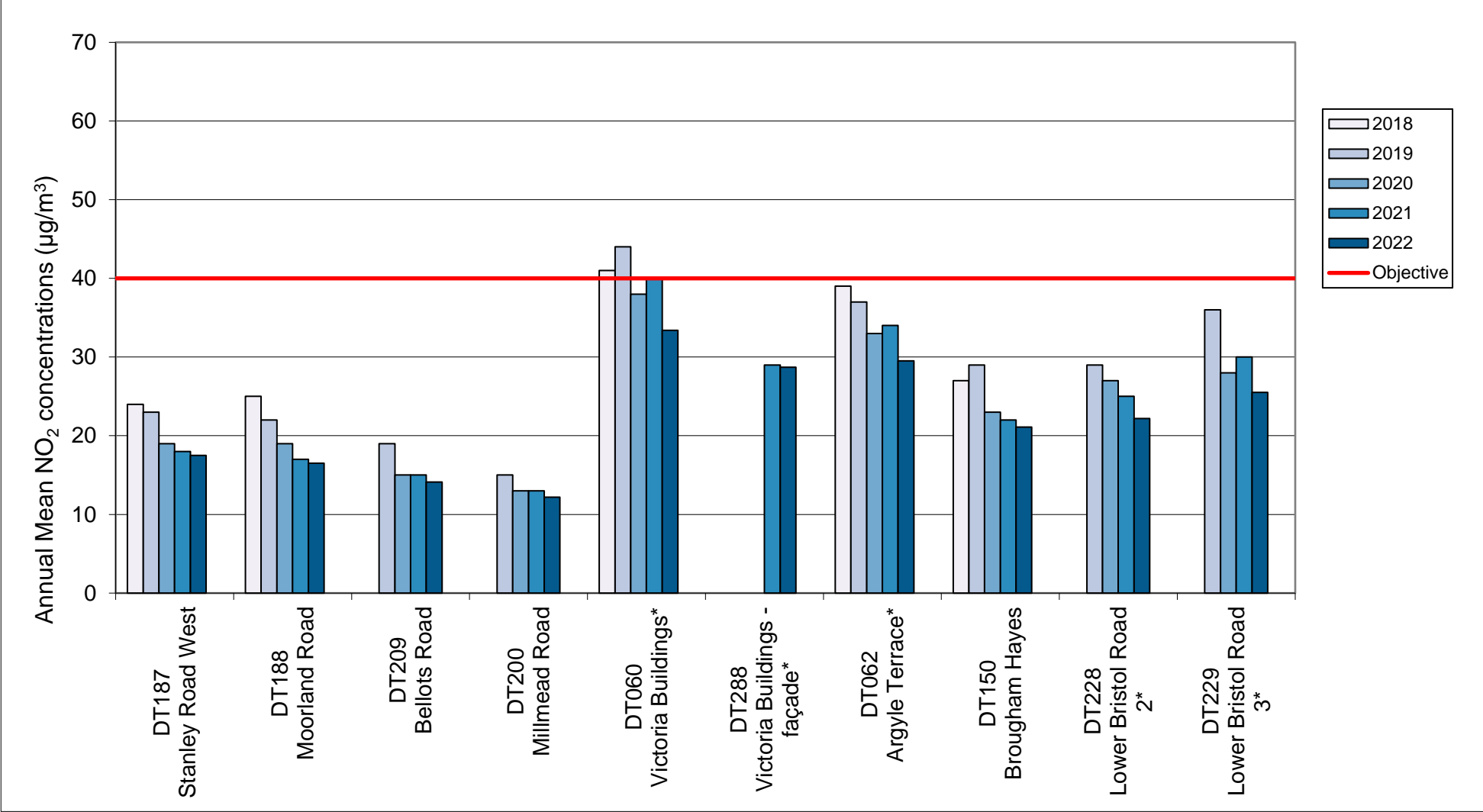
Note: No sites are within an AQMA

**Figure A.5 – Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Oldfield Park, Southdown and Twerton**



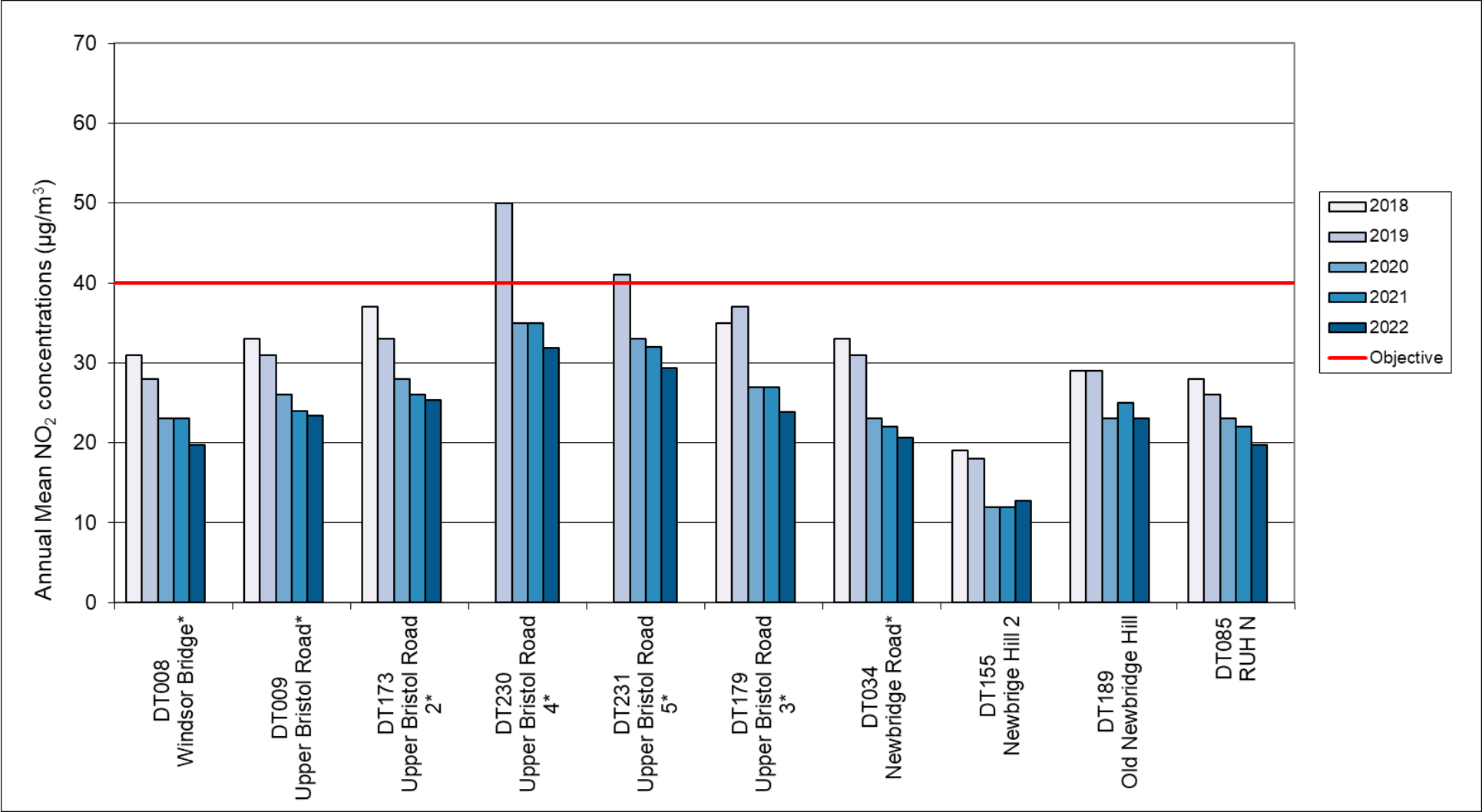
Note: \* indicates that are sites within the Bath AQMA.

Figure A.6 – Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Westmoreland



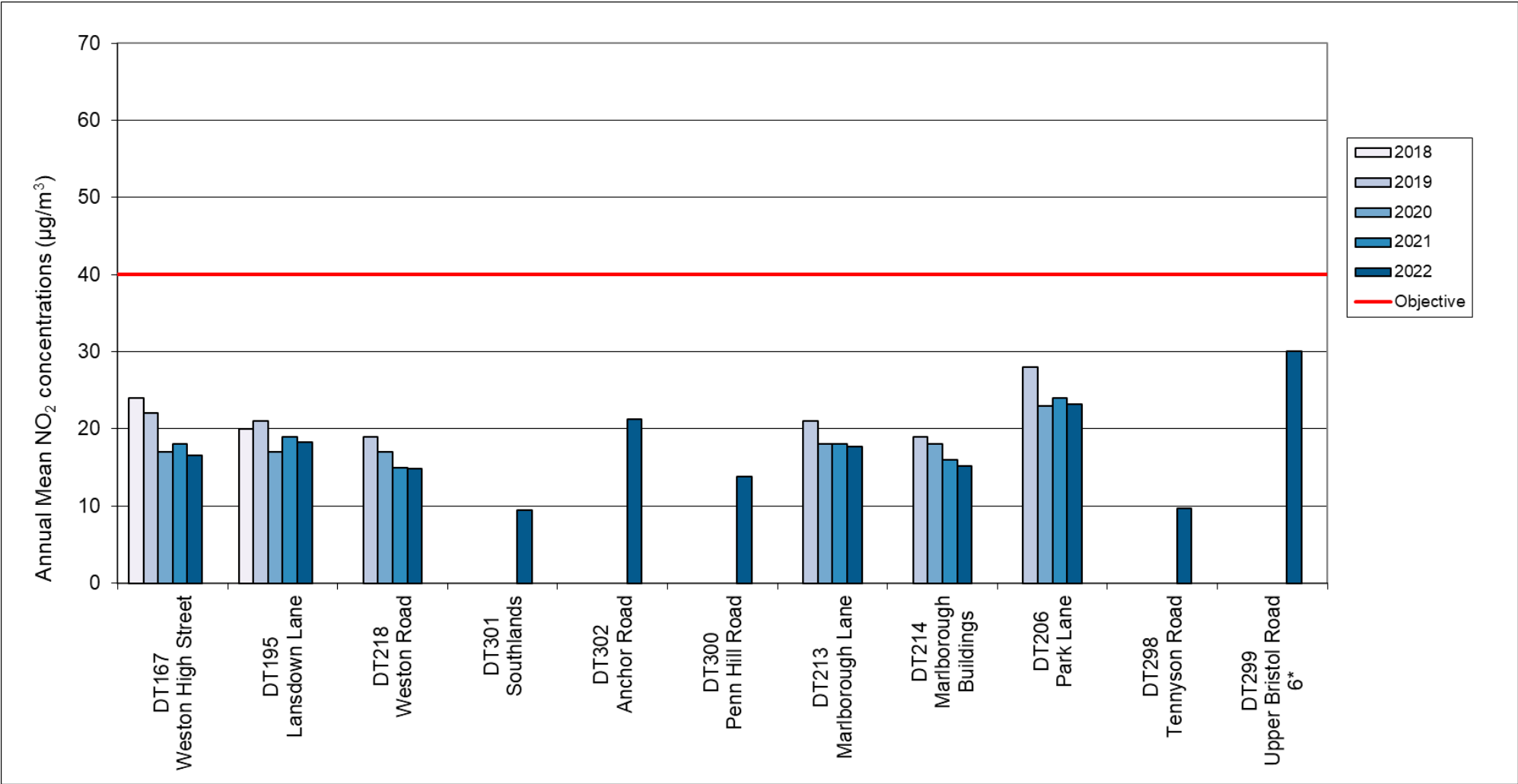
Note: \* indicates that are sites within the Bath AQMA.

**Figure A.7 – Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Newbridge and Kingsmead**



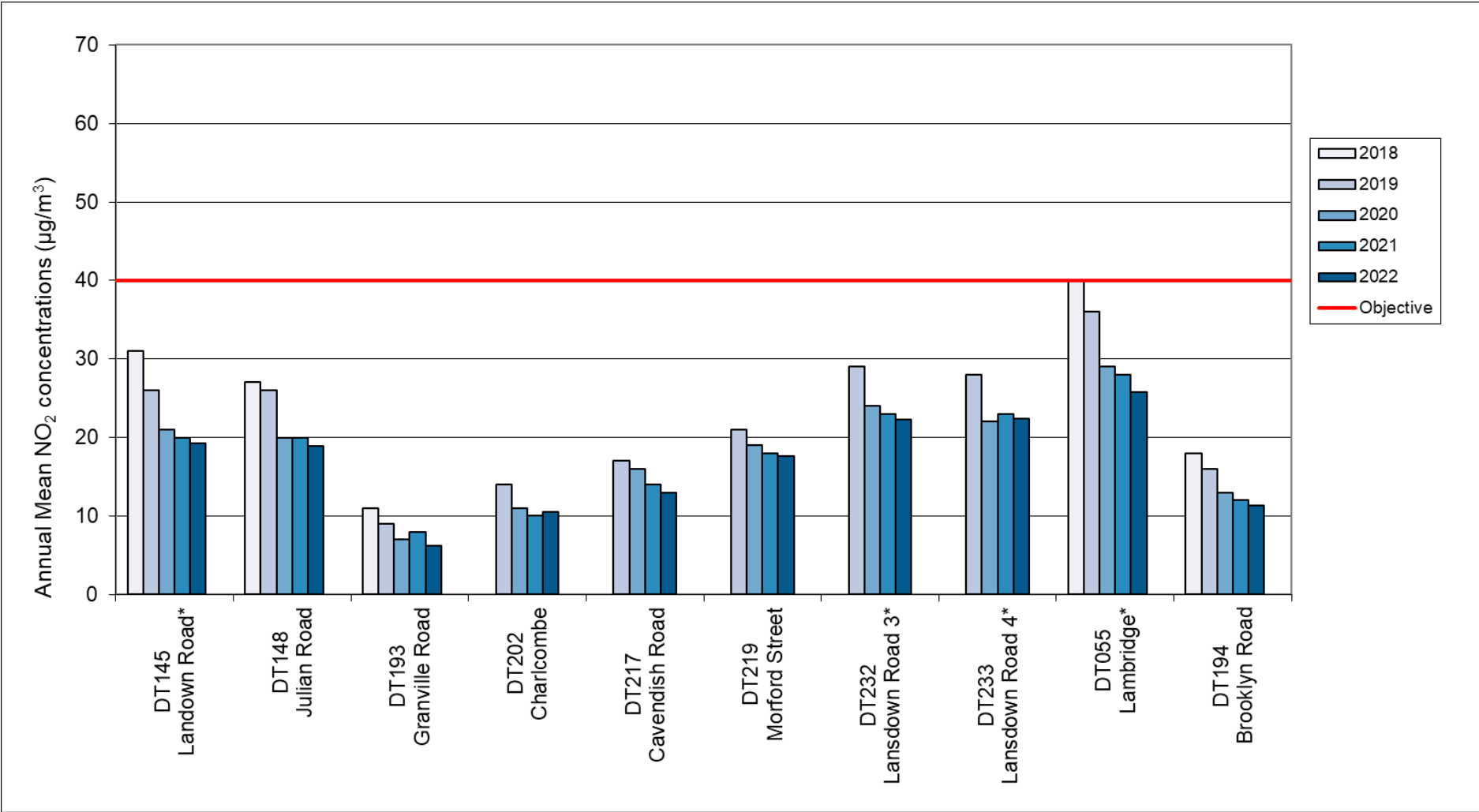
Note: \* indicates that are sites within the Bath AQMA.

**Figure A.8 – Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Weston and Kingsmead**



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

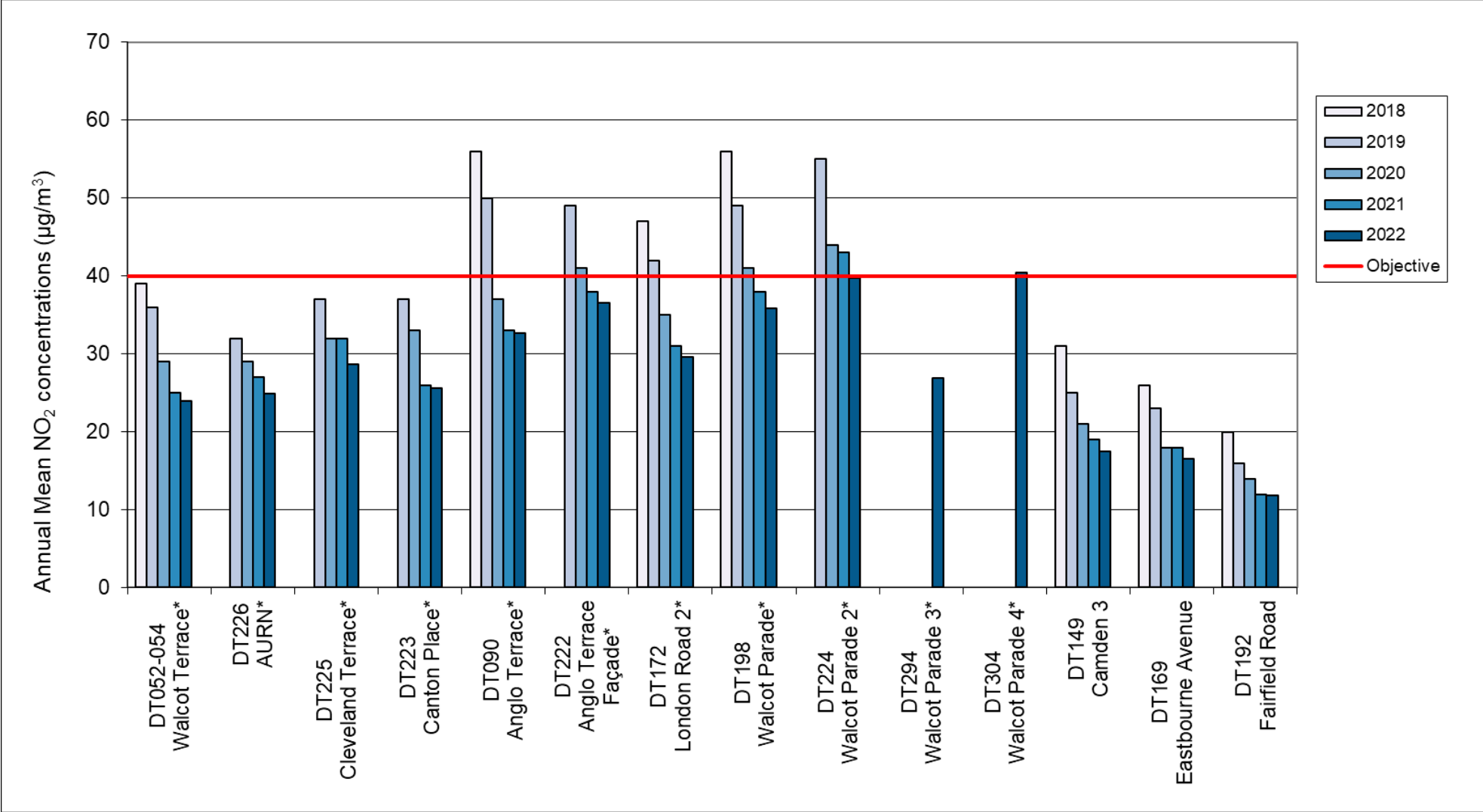
**Figure A.9 – Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Lansdown and Lambridge**



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

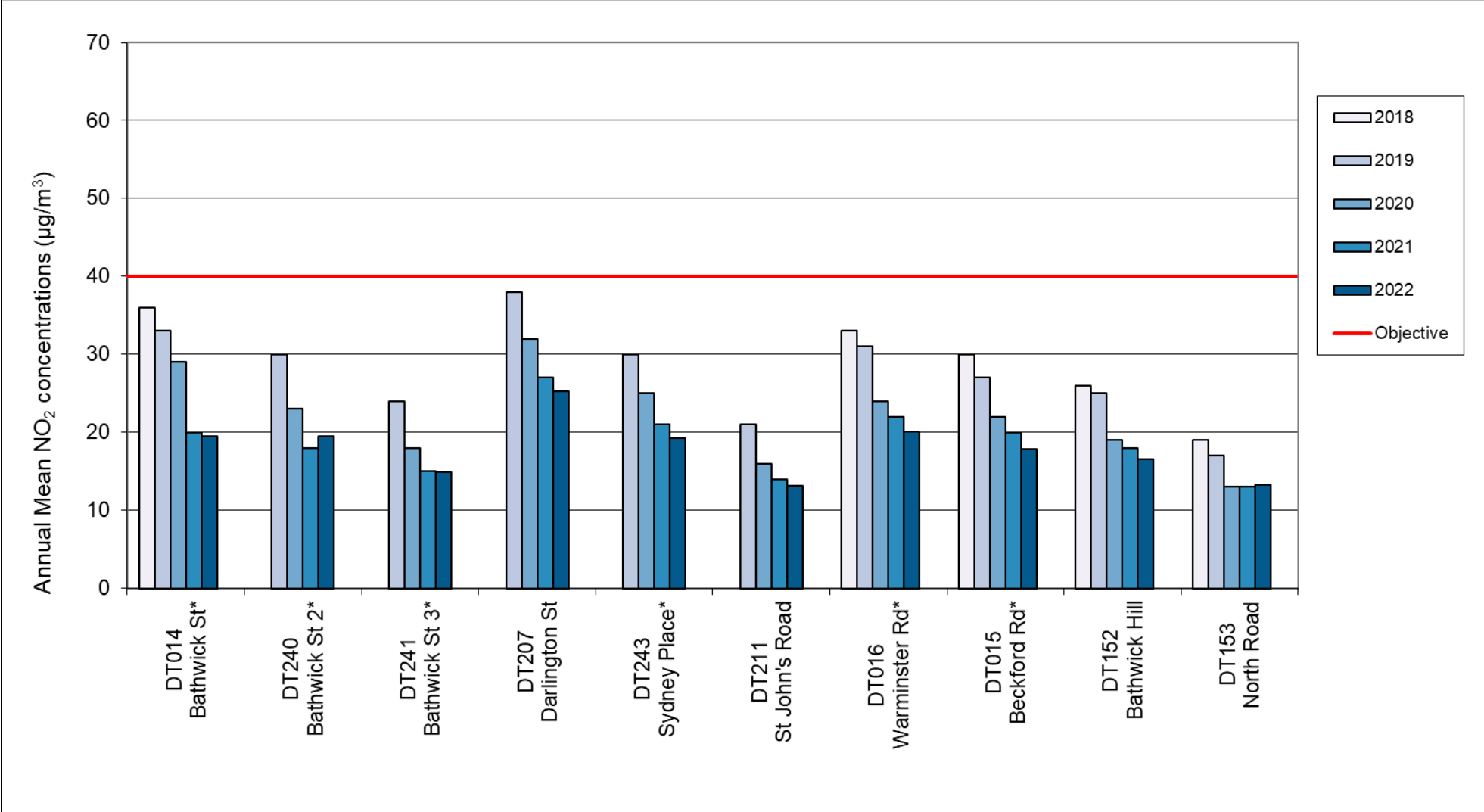


Figure A.10 – Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Walcot



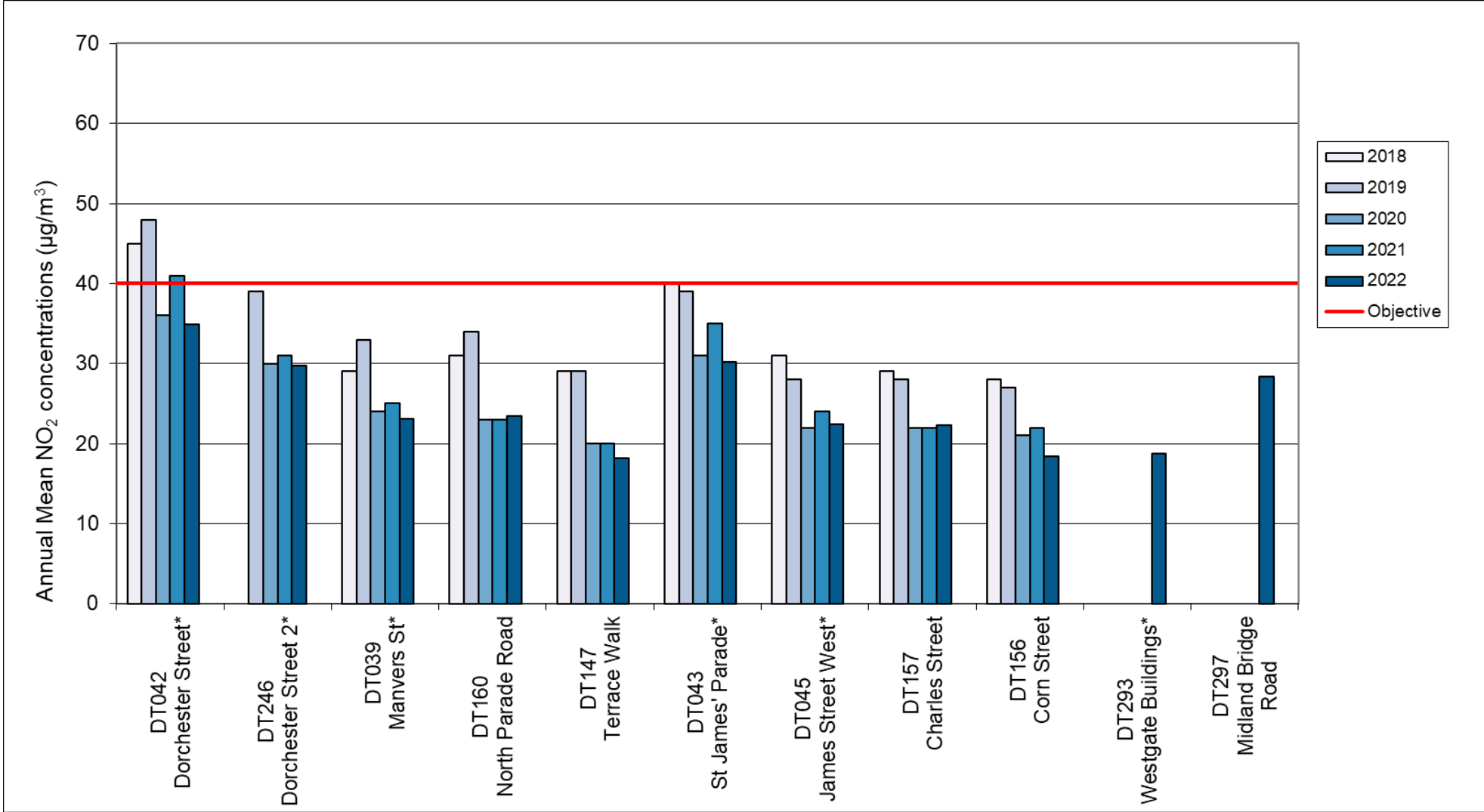
Note: \* indicates that are sites within the Bath AQMA.

Figure A.11 – Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Bathwick



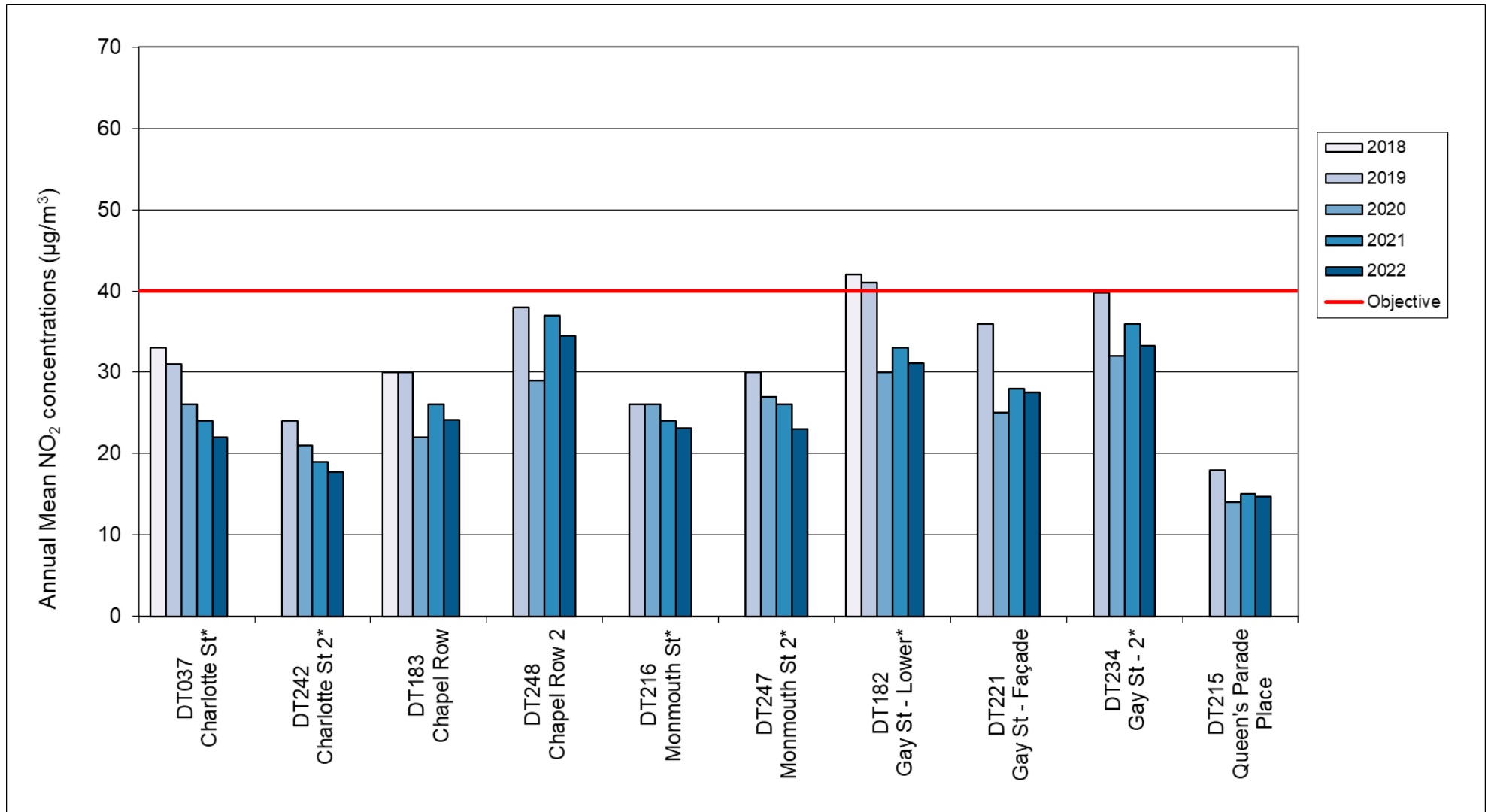
Note: \* indicates that are sites within the Bath AQMA.

**Figure A.12 – Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Kingsmead (South)**



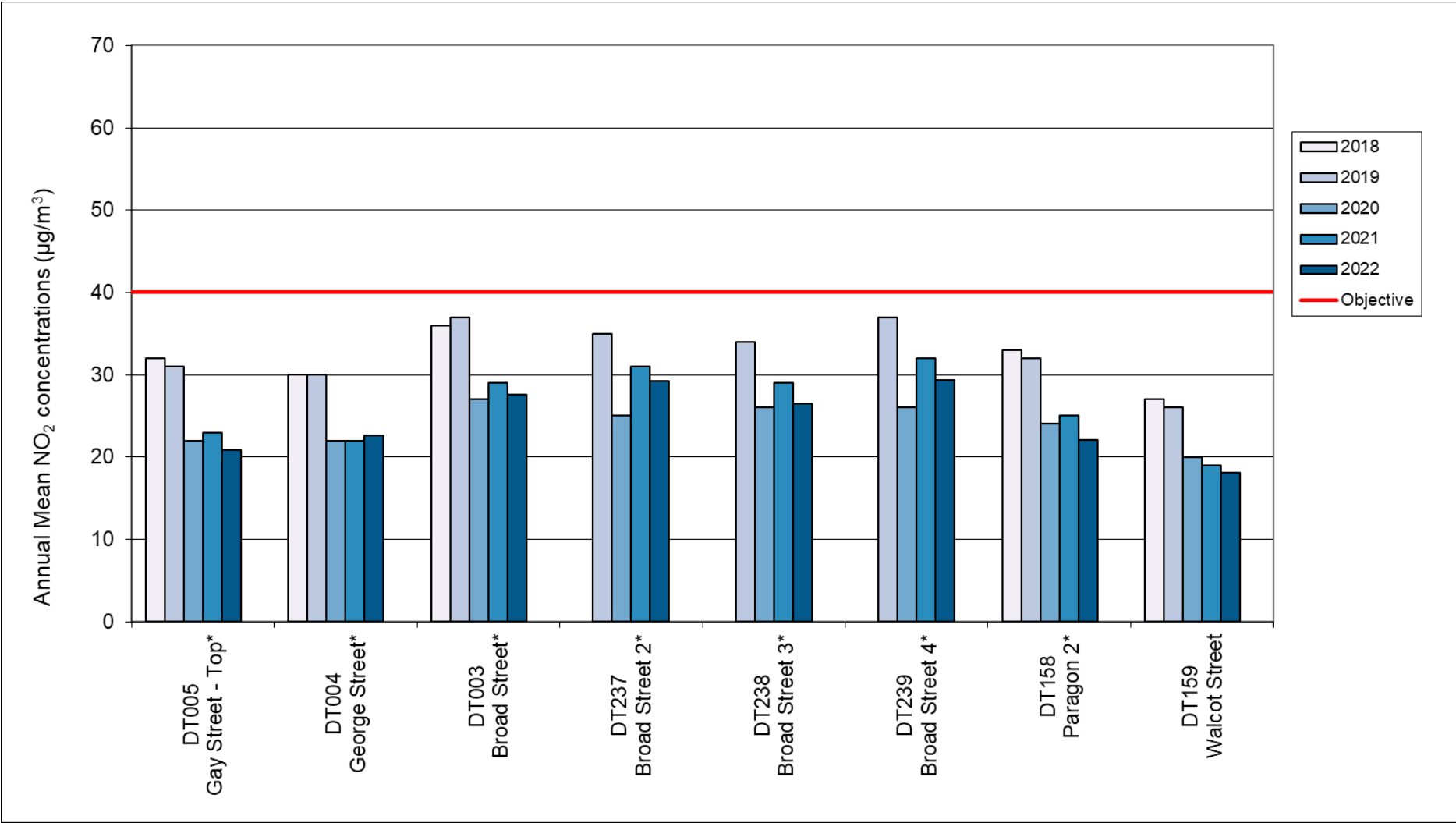
Note: \* indicates that are sites within the Bath AQMA.

**Figure A.13 – Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Kingsmead (North West)**



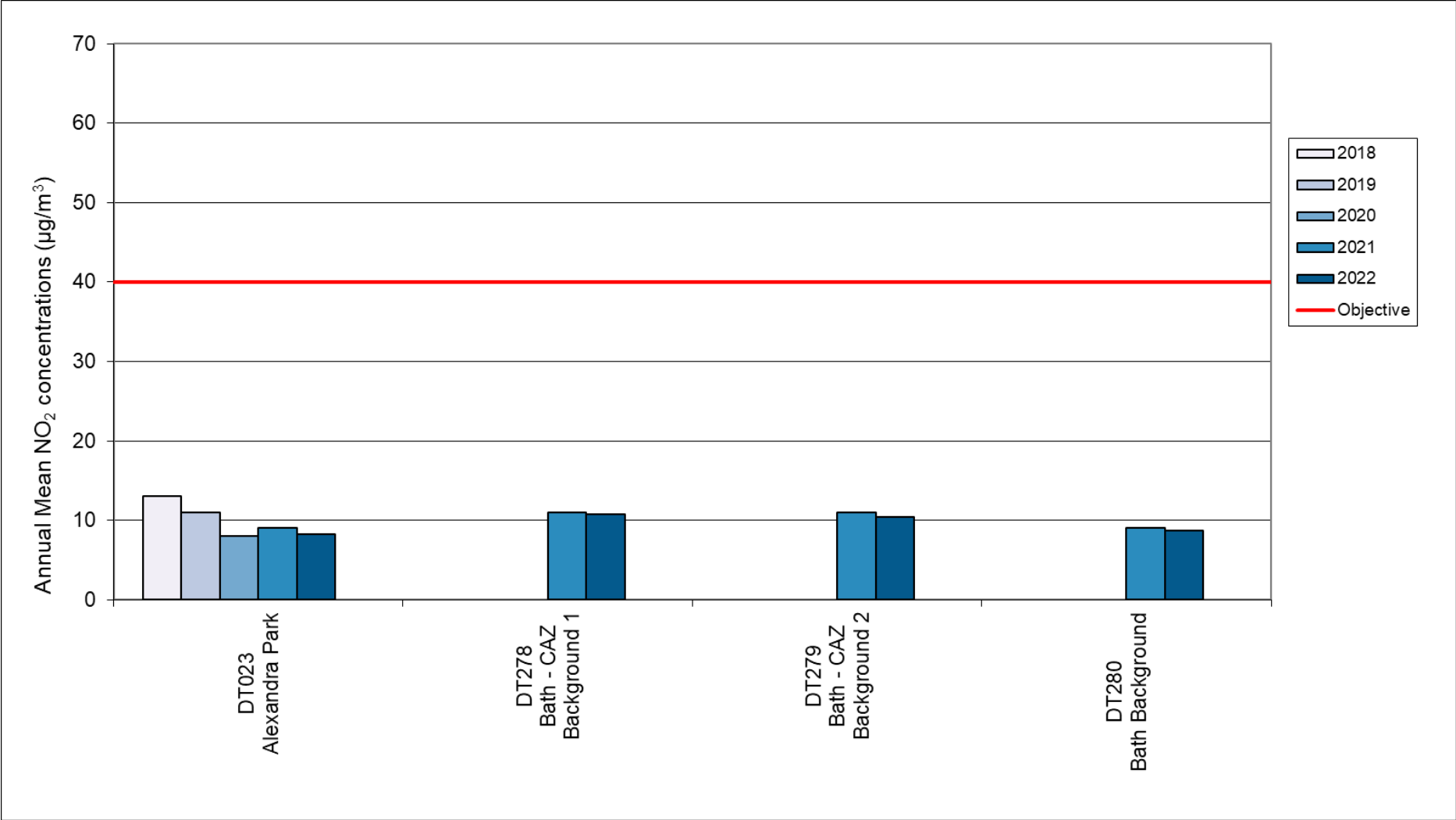
Note: \* indicates that are sites within the Bath AQMA.

**Figure A.14 – Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Diffusion Tube Monitoring Sites – Bath, Kingsmead (North East)**



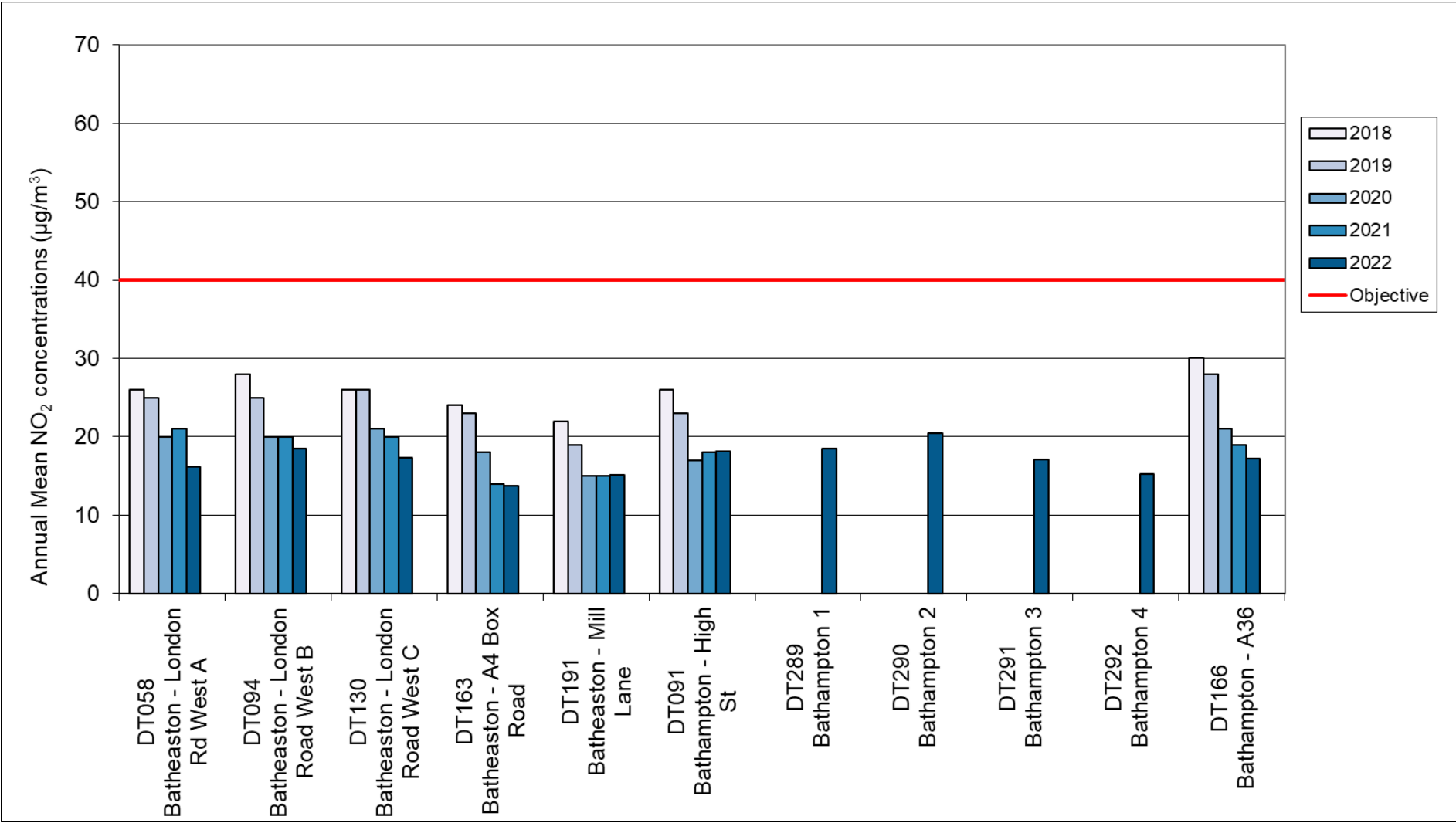
Note: \* indicates that are sites within the Bath AQMA.

**Figure A.15 – Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Diffusion Tube Monitoring Sites – Background sites in Bath**



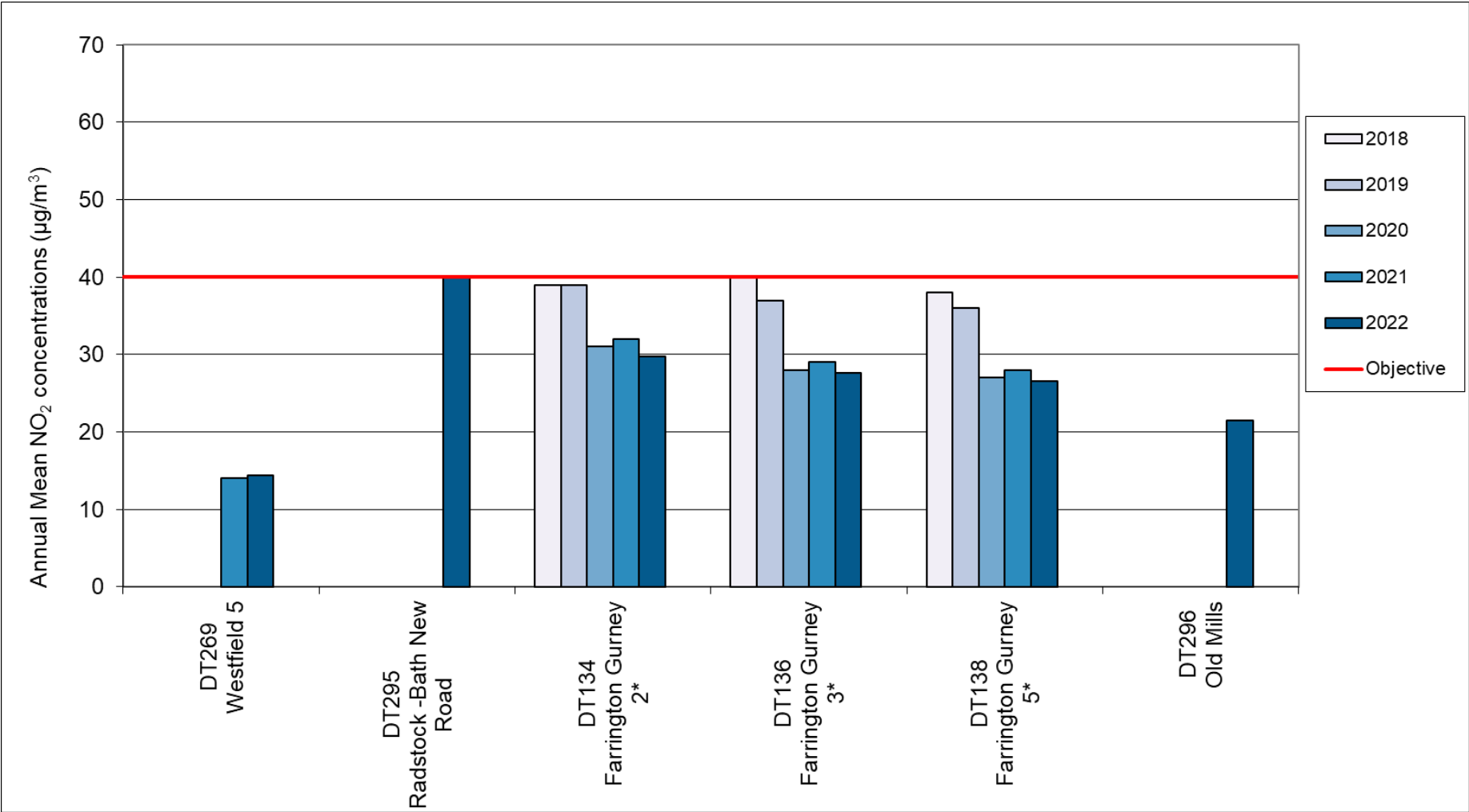
Note: No sites are within an AQMA

**Figure A.16 – Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Diffusion Tube Monitoring Sites – Batheaston and Bathampton**



Note: No sites are within an AQMA

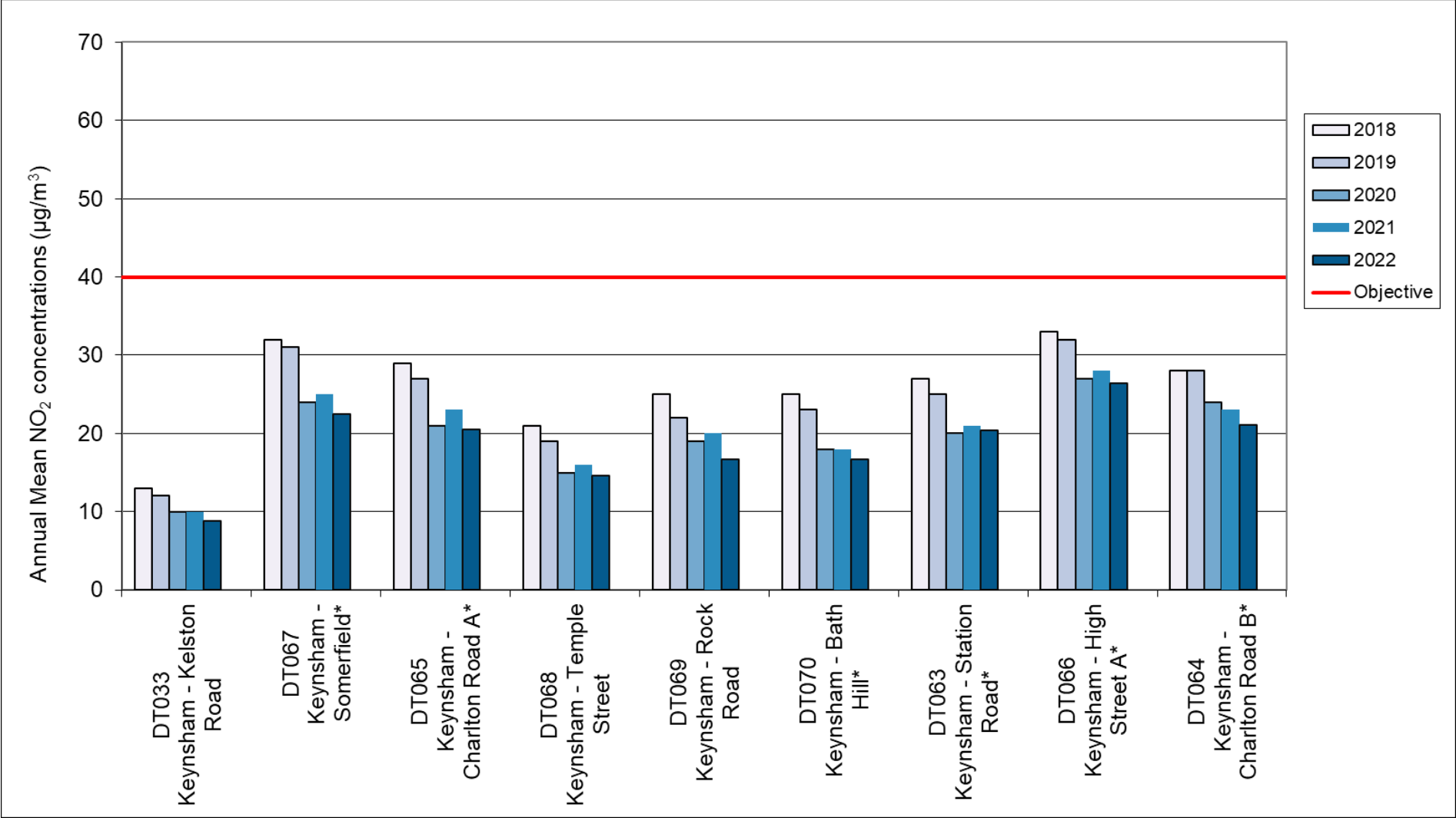
**Figure A.17 – Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Diffusion Tube Monitoring Sites – Westfield, Radstock, Old Mills and Farrington Gurney**



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

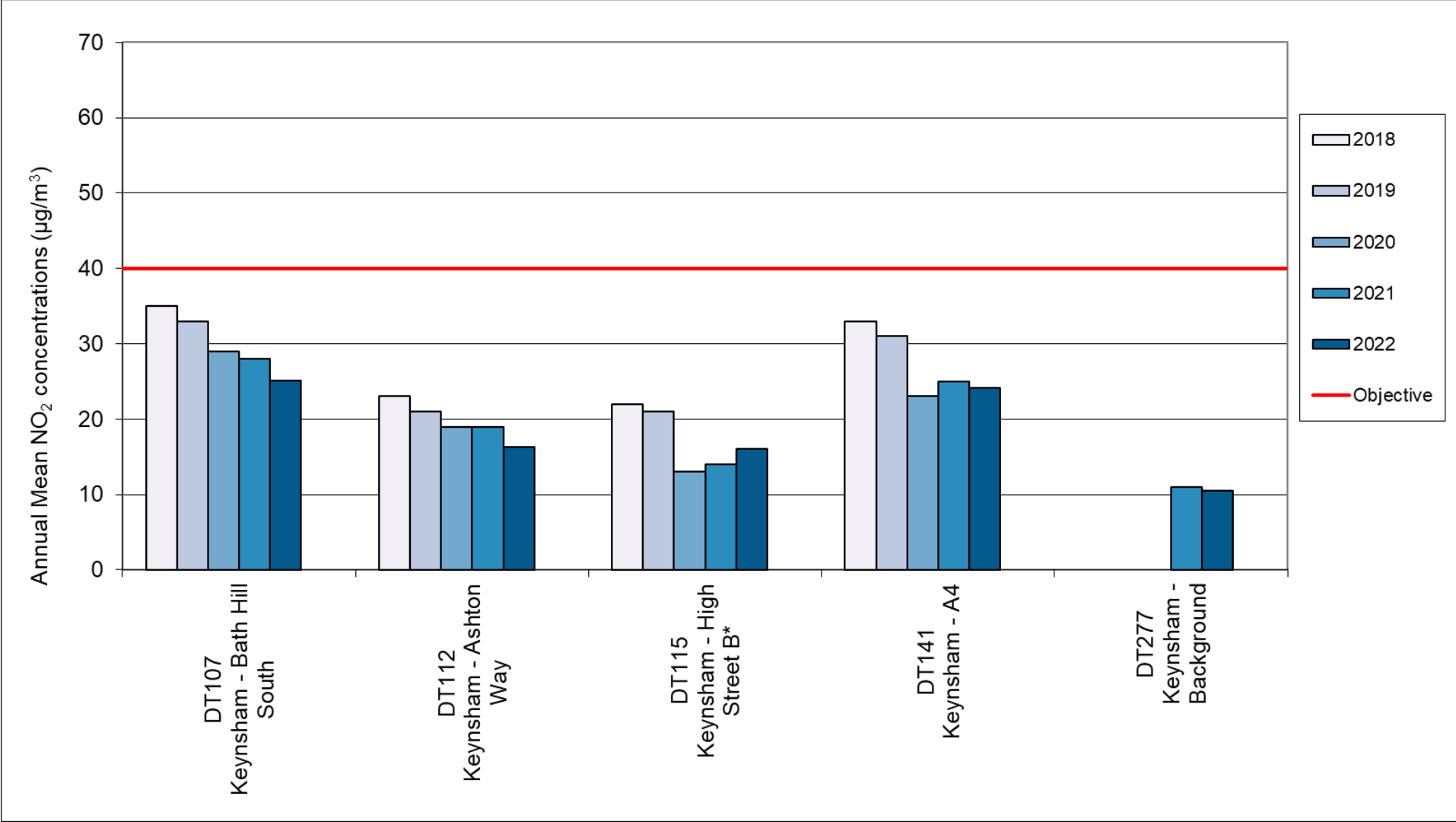


Figure A.18 – Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Diffusion Tube Monitoring Sites – Keynsham (1)



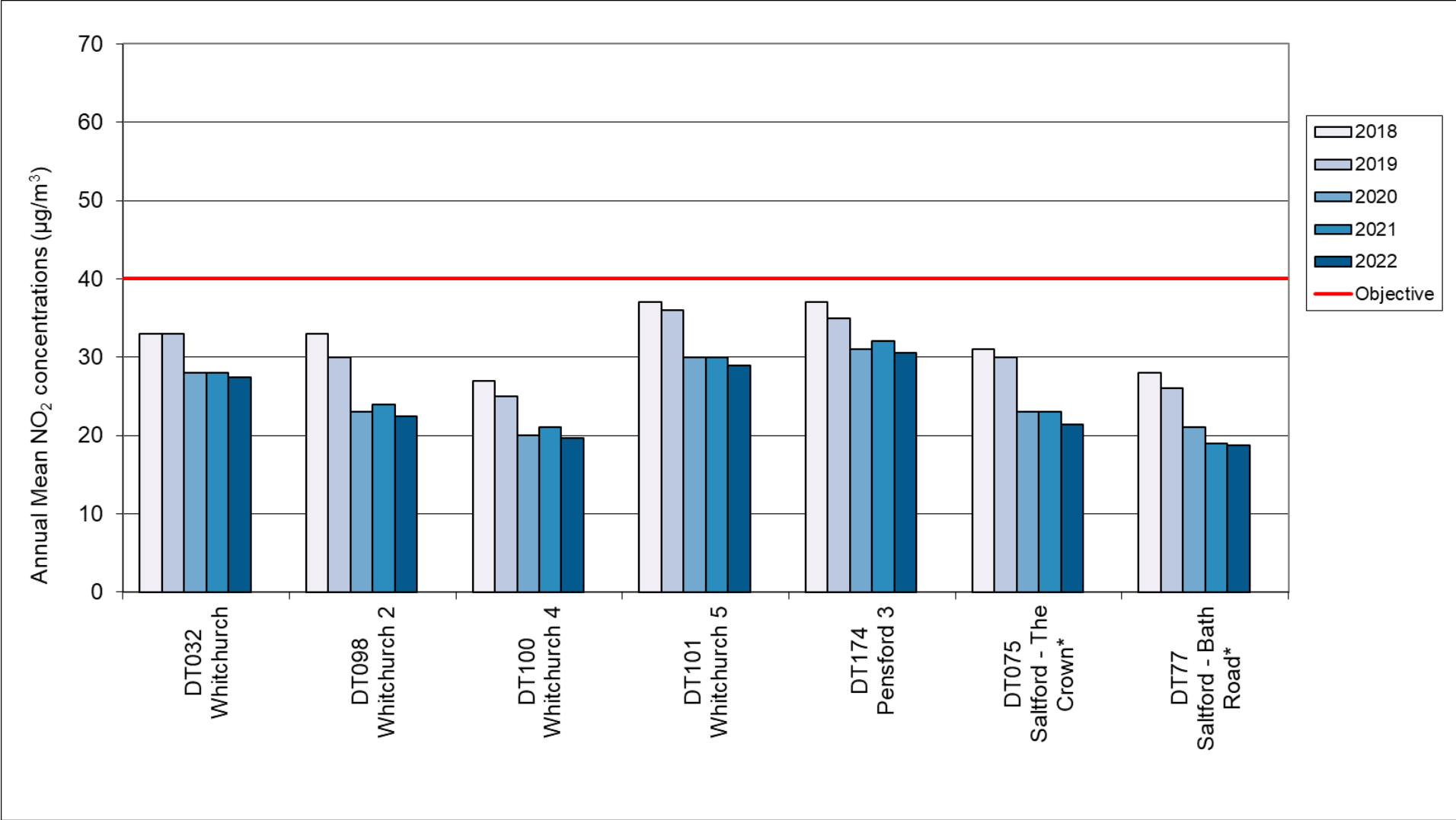
Note: \* indicates that are sites within the Keynsham AQMA.

Figure A.19 – Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Diffusion Tube Monitoring Sites – Keynsham (2)



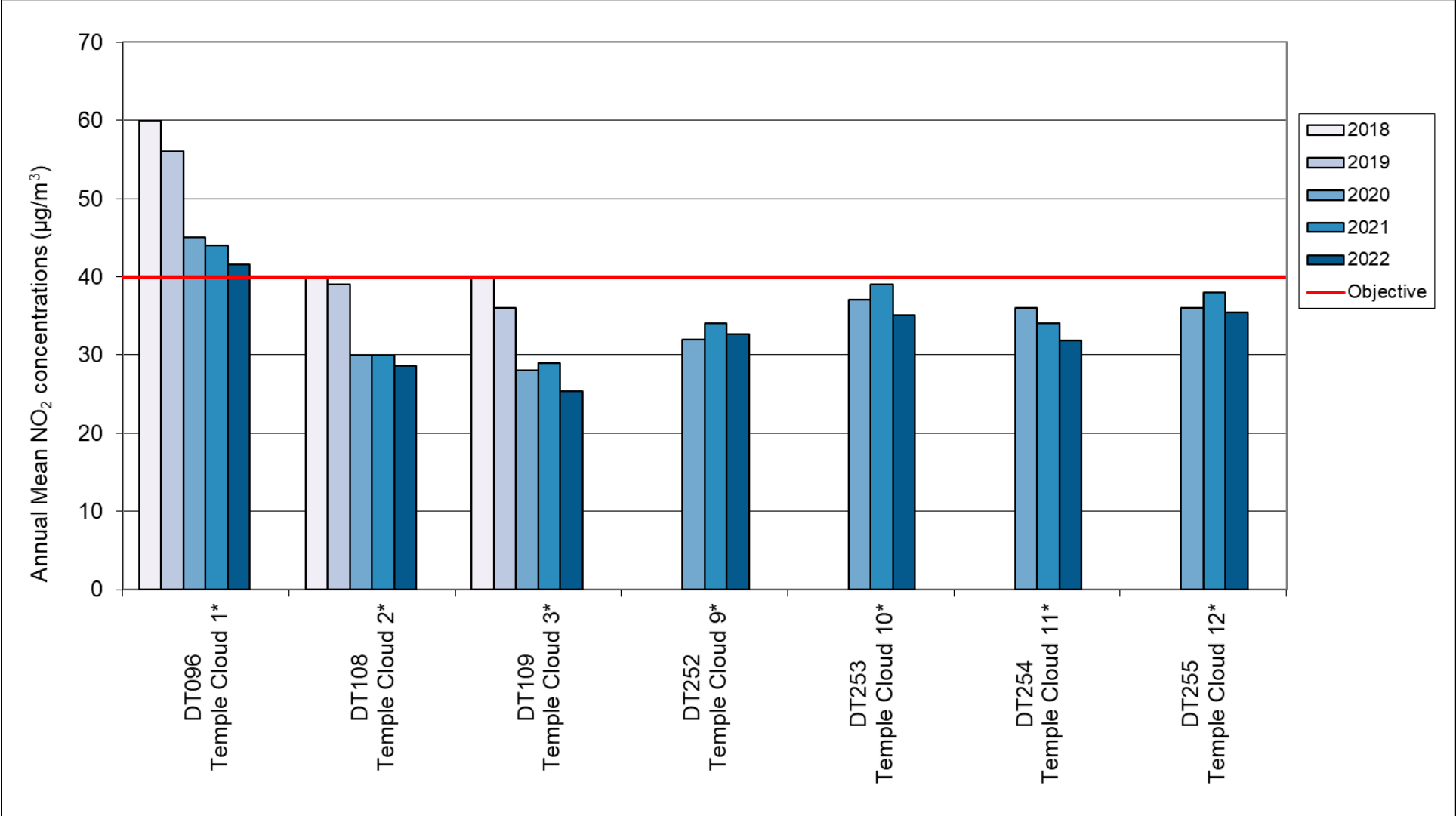
Note: \* indicates that are sites within the Keynsham AQMA.

**Figure A.20 – Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Diffusion Tube Monitoring Sites – Whitchurch, Pensford and Salford**



Note: \* indicates that are sites within the Salford AQMA.

Figure A.21 – Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Diffusion Tube Monitoring Sites –Temple Cloud



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

**Table A.5 – 1-Hour Mean NO<sub>2</sub> Monitoring Results, Number of 1-Hour Means > 200µg/m<sup>3</sup>**

Site ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
CM2	Guildhall	375111	164857	Roadside	98.3	98.3	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	95.2	95.2	0	0	0	0	0
CM8	Bath A4 Roadside	375394	165824	Roadside	96	96	-	1 (125)	1	0	1

**Notes:**

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

Exceedances of the NO<sub>2</sub> 1-hour mean objective (200µg/m<sup>3</sup> not to be exceeded more than 18 times/year) are shown in **bold**.

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

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

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

**Table A.6 – Annual Mean PM<sub>10</sub> Monitoring Results (µg/m<sup>3</sup>)**

Site ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
CM3	Windsor Bridge	373593	164861	Roadside	97.6	97.6	24	22	19	18	21
CM8	Bath A4 Roadside	375394	165824	Roadside	87.7	87.7	-	21	18	18	19

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

**Notes:**

The annual mean concentrations are presented as µg/m<sup>3</sup>.

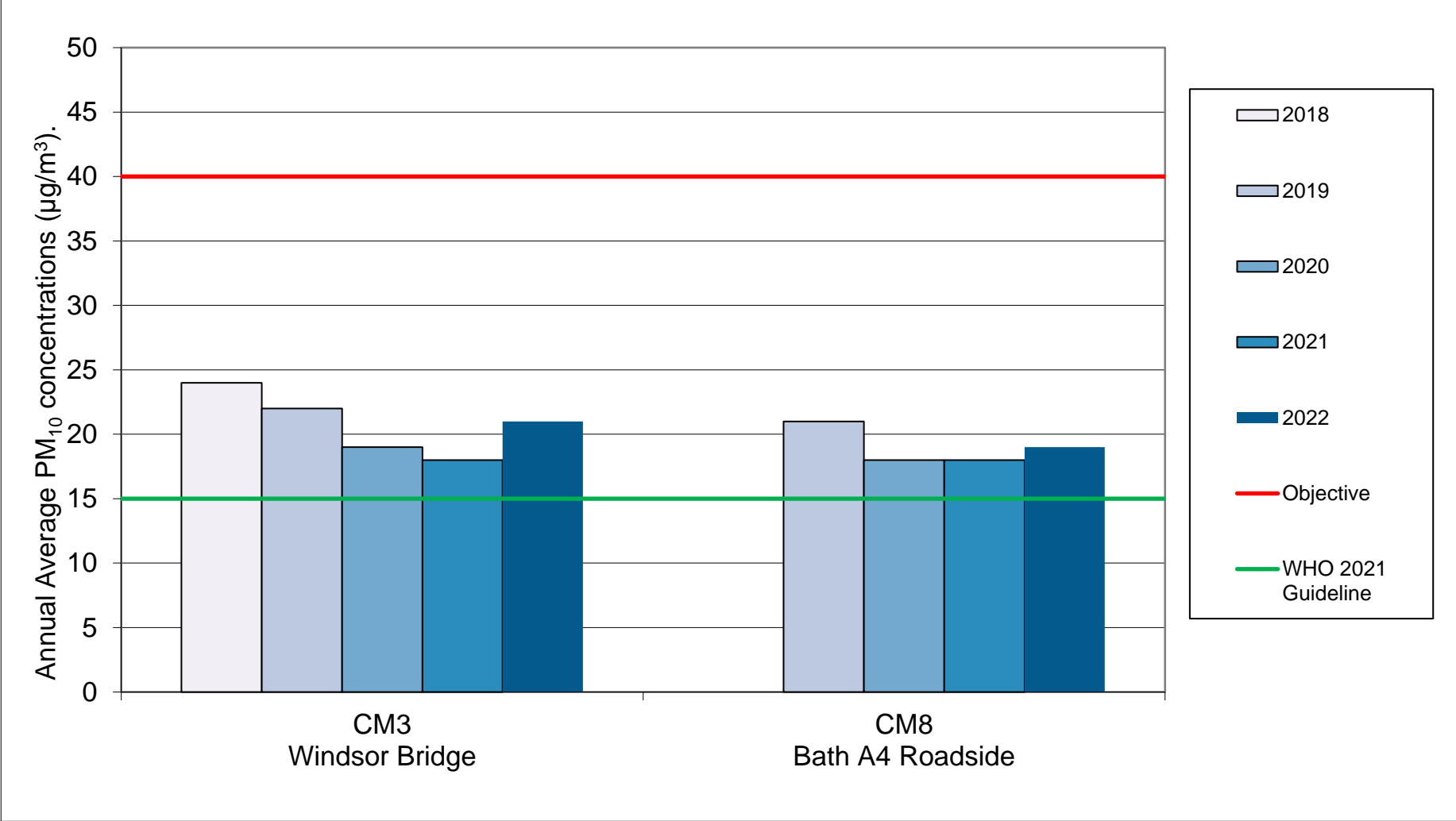
Exceedances of the PM<sub>10</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

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.22 – Trends in Annual Mean PM<sub>10</sub> Concentrations



**Table A.7 – 24-Hour Mean PM<sub>10</sub> Monitoring Results, Number of PM<sub>10</sub> 24-Hour Means > 50µg/m<sup>3</sup>**

Site ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
CM3	Windsor Bridge	373593	164861	Roadside	97.6	97.6	1	5	1	1	0
CM8	Bath A4 Roadside	375394	165824	Roadside	87.7	87.7	-	0 (26)	1	1	0

**Notes:**

Results are presented as the number of 24-hour periods where daily mean concentrations greater than 50µg/m<sup>3</sup> have been recorded.

Exceedances of the PM<sub>10</sub> 24-hour mean objective (50µg/m<sup>3</sup> not to be exceeded more than 35 times/year) are shown in **bold**.

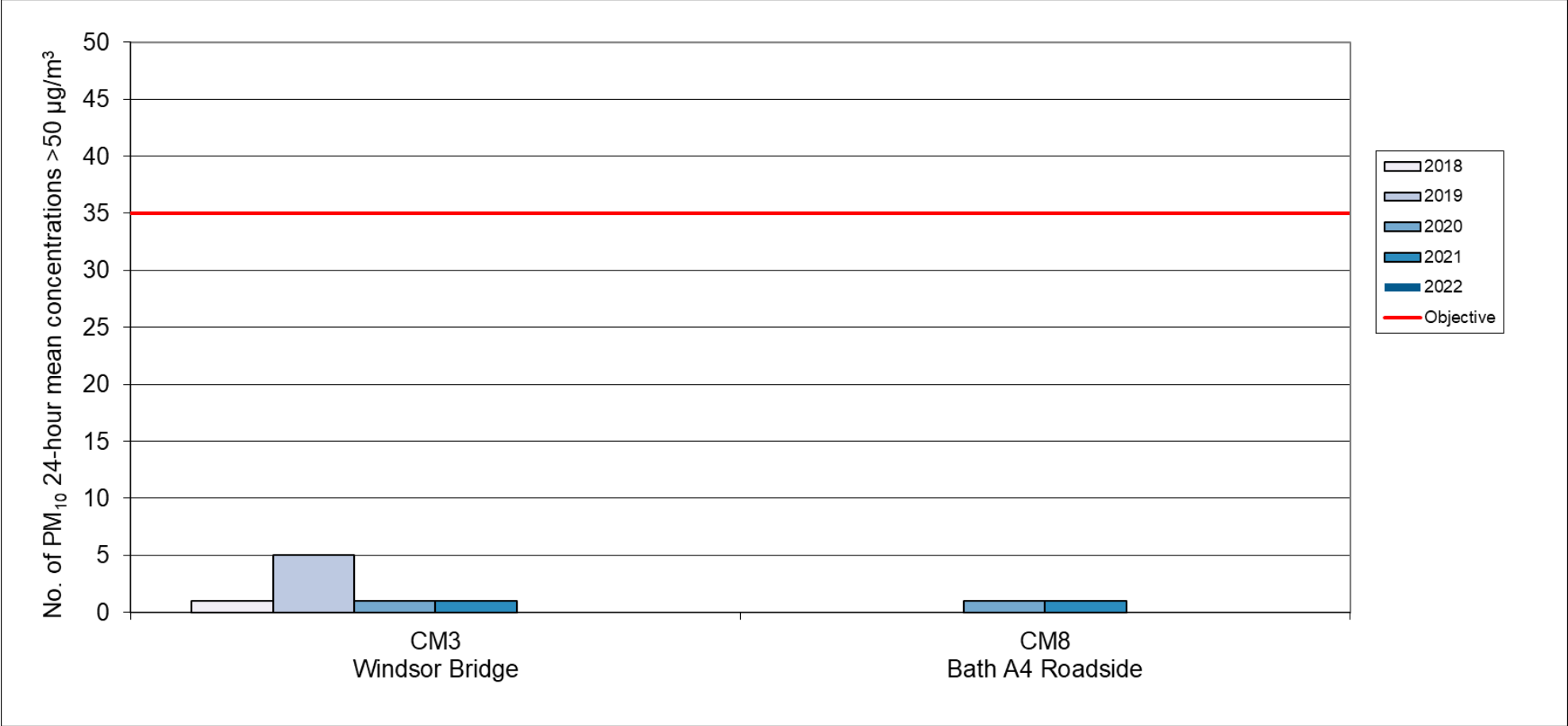
If the period of valid data is less than 85%, the 90.4th percentile of 24-hour means is provided in brackets.

(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.23 – Trends in Number of 24-Hour Mean PM<sub>10</sub> Results > 50µg/m<sup>3</sup>



**Table A.8 – Annual Mean PM<sub>2.5</sub> Monitoring Results (µg/m<sup>3</sup>)**

Site ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
CM4	Chelsea House	375419	165853	Roadside	97.5	97.5	11	10	10	10	11

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

**Notes:**

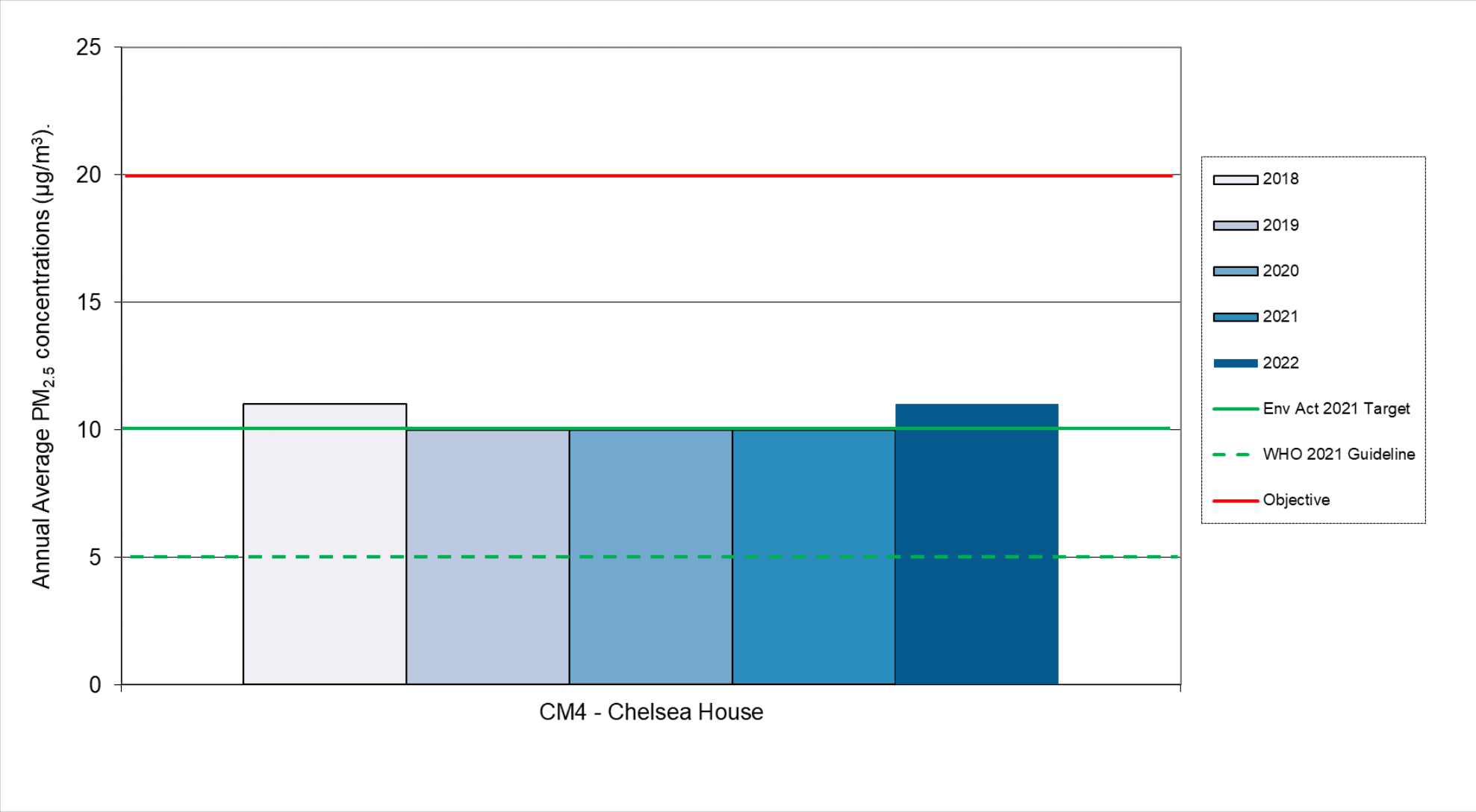
The annual mean concentrations are presented as µg/m<sup>3</sup>.

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.24 – Trends in Annual Mean PM<sub>2.5</sub> Concentrations



## Appendix B: Full Monthly Diffusion Tube Results for 2022

Table B.1 – NO<sub>2</sub> 2022 Diffusion Tube Results (µg/m<sup>3</sup>)

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 (0.84)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT003	Bath - Broad St	374992	165173	41.8	33.4	29.1	26.2	27.2	28.0	31.6	29.8	32.0	38.0	40.5	37.5	32.9	27.6	-	
DT004	Bath - George St	374899	165159	39.6	20.3	28.8	23.0	20.2	19.8	25.6	27.4	28.9		29.3	33.1	26.9	22.6	-	
DT005	Bath - Gay St - Top	374797	165161		22.5	28.9	23.2	20.1	18.6	22.0	24.2	25.9		30.0	32.0	24.8	20.8	-	
DT008	Bath - Windsor Bridge	373518	165124	38.3	24.9	24.5	20.8	16.7	16.9	19.5	20.8	21.7	23.6	29.7		23.4	19.7	-	
DT009	Bath - Upper Bristol Rd	373993	165174	40.1	25.6	33.0	22.9	20.7	21.0	24.3	25.6		28.2	33.6	31.0	27.8	23.4	-	
DT014	Bath - Bathwick St	375602	165365	30.5	24.8	22.4	18.5	16.3	16.4	20.3	19.4	20.2	25.5	33.0	30.8	23.2	19.5	-	
DT015	Bath - Beckford Rd	375733	165414	27.3	17.2	22.9	19.5	16.0	16.0	18.8	20.5		21.7	26.4	27.2	21.2	17.8	-	
DT016	Bath - Warminster Rd	376063	165492	36.3	22.5	25.7	23.4	17.7	18.3	19.8	22.6	23.2	23.3	26.7	28.0	23.9	20.1	-	
DT017a	Bath - Widcombe School	375634	164406	33.6	22.6	23.0	19.2		16.1	20.1	18.2	22.1	24.8	30.3		-	-	-	Triplicate Site with DT017a, DT017b and DT017c - Annual data provided for DT017c only
DT017b	Bath - Widcombe School	375634	164406	32.2	24.1	20.3	19.7	20.3	16.2	19.5	18.7	22.5	24.8	29.2	28.1	-	-	-	Triplicate Site with DT017a, DT017b and DT017c - Annual data provided for DT017c only
DT017c	Bath - Widcombe School	375634	164406	33.5	24.2	23.8	19.2	18.5	17.2	19.3	18.2	21.2	23.7	29.8	27.3	23.0	19.3	-	Triplicate Site with DT017a, DT017b and DT017c - Annual data provided for DT017c only
DT018	Bath - Widcombe High St	375414	164216	31.1	20.3	22.4	17.0	16.5	13.2	17.3	14.8	18.5	18.6	23.4	23.6	19.7	16.6	-	
DT020a	Bath - Wells Rd	374760	164310	53.4	43.3	44.5	44.8	41.8	33.5	40.2	44.6	51.7	47.7	48.1	51.0	-	-	-	Triplicate Site with DT020a, DT020b and DT020c - Annual data provided for DT020c only
DT020b	Bath - Wells Rd	374760	164310	59.4	44.1	47.8	40.3	40.0	33.8	42.4	46.4	47.6	48.9		52.3	-	-	-	Triplicate Site with DT020a, DT020b and DT020c - Annual data provided for DT020c only
DT020c	Bath - Wells Rd	374760	164310	54.2	39.5	48.8	42.6	41.4	35.5	44.8	40.2	49.6	51.0	53.3	48.3	45.8	38.5	-	Triplicate Site with DT020a, DT020b and DT020c - Annual data provided for DT020c only
DT021	Bath - Wells Rd /Upper Oldfield Park	374454	164202	48.0	20.3	44.0	30.7	23.2	21.9	28.6	33.1	36.5		32.1		31.8	26.7	-	
DT023	Bath - Alexandra Park	375105	163991	20.0	8.0	10.0	8.2	6.3	5.4	7.7	8.4	9.7	8.3	9.9	15.6	9.8	8.2	-	
DT026	Bath - Upper Wellsway	373576	161908	36.4		34.7	23.5	17.8	19.0	19.5	22.8	24.7	26.3	25.9	33.1	25.8	21.7	-	
DT034	Bath - Newbridge Rd	373092	165106	33.2	21.6	28.4	20.6	18.9		19.7	20.9	22.4	28.0	26.2	30.6	24.6	20.6	-	

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 (0.84)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT037a	Bath - Charlotte St	374622	164994	39.6			24.7	21.4	17.9	23.8	25.9	25.8	25.0	28.2	32.3	-	-	-	Triplicate Site with DT037a, DT037b and DT037c - Annual data provided for DT037c only
DT037b	Bath - Charlotte St	374622	164994	40.2	22.8	28.3	24.1	19.9	19.2	25.5	24.1	26.8	24.2	28.3	32.0	-	-	-	Triplicate Site with DT037a, DT037b and DT037c - Annual data provided for DT037c only
DT037c	Bath - Charlotte St	374622	164994	36.1	23.4		24.2	20.4	18.4	25.0	26.1	26.0	25.7	26.6	31.6	26.2	22.0	-	Triplicate Site with DT037a, DT037b and DT037c - Annual data provided for DT037c only
DT039	Bath - Manvers St	375247	164591	42.8	27.9	26.5	23.8	20.7	20.2	24.5	23.3	25.7	28.5	32.9	33.4	27.5	23.1	-	
DT042	Bath - Dorchester St	375230	164383	49.2	43.7	37.1	37.3	42.1	33.8	44.5	44.1	40.5	42.3	43.3	41.2	41.6	34.9	-	
DT043	Bath - St. James Parade	375053	164426	45.3	33.4	39.5	31.7	31.9	24.9	31.3	33.9	36.1	36.9	44.3	41.6	35.9	30.2	-	
DT045	Bath - James St West	374697	164763	41.0	26.5	26.5	22.7	19.5			19.4	21.7	25.4	32.6	31.5	26.7	22.4	-	
DT052	Bath - Walcot Terrace	375462	165843	34.7	31.6	28.3	21.5	23.3	24.2	24.6	24.0	25.2	30.0	37.5	32.5	-	-	-	Triplicate Site with DT052, DT053 and DT054 - Annual data provided for DT054 only
DT053	Bath - Walcot Terrace	375462	165843	38.9	31.3	29.4	22.1	23.4	24.2	23.6	24.2	25.2	31.7	39.7	32.5	-	-	-	Triplicate Site with DT052, DT053 and DT054 - Annual data provided for DT054 only
DT054	Bath - Walcot Terrace	375462	165843	37.3	30.8	29.3	23.2	24.2	24.8	23.2	24.5	24.8	30.4		32.5	28.5	24.0	-	Triplicate Site with DT052, DT053 and DT054 - Annual data provided for DT054 only
DT055	Bath - Lambridge	376451	166502	33.7	24.6	33.9	27.3	25.3		29.4	33.1	33.3	30.6	34.2	32.7	30.7	25.8	29.6	
DT060	Bath - Victoria Buildings	374039	164760	56.4	37.7	37.8	35.1	35.9	33.2	37.2	37.5	38.6	39.3	46.7	42.3	39.8	33.4	-	
DT062	Bath - Argyle Terrace	373211	164743	46.4	32.4	43.6	29.7	28.6	28.6	28.3	32.6	32.9		43.9	39.8	35.2	29.5	-	
DT084	Bath - Bear Flat	374604	163806	39.7	16.3	29.3	27.9			22.6	26.3	27.7	25.4	25.3	37.7	27.8	23.4	-	
DT085	Bath - RUH – North	373073	165983	32.5	20.8	25.6	20.0	20.1	19.8	21.0	21.8	22.8	23.7	25.7	27.5	23.4	19.7	-	
DT087	Bath - Oak Street	374702	164414	34.9	23.4	29.6	22.0	20.4	17.0	20.9	21.3	24.5	26.6	30.7	29.8	25.1	21.1	-	
DT090a	Bath - Anglo Terrace	375288	165758	51.3	32.7	42.4	36.4	29.5	29.6	37.6	45.0	39.4	37.2	42.8	43.8	-	-	-	Triplicate Site with DT090a, DT090b and DT090c - Annual data provided for DT090c only
DT090b	Bath - Anglo Terrace	375288	165758	47.9	32.7	41.8	34.3	29.5	30.4	37.9	43.1	39.7	37.0	43.7	43.3	-	-	-	Triplicate Site with DT090a, DT090b and DT090c - Annual data provided for DT090c only
DT090c	Bath - Anglo Terrace	375288	165758	52.2	31.4	42.2	34.4	30.9	32.0	37.7	42.1	38.8	39.2	43.1	47.8	38.9	32.7	-	Triplicate Site with DT090a, DT090b and DT090c - Annual data provided for DT090c only
DT142	Bath - Prior Park Road	375513	164194	33.1	26.4	29.1	26.1	23.4	21.2	24.7	24.6	23.2	27.3	31.8	30.7	26.8	22.5	-	
DT143	Bath - Rackfield Place	372644	164738	36.1	22.4	33.5	20.1	19.0	17.3	19.9	21.3	23.5	26.3	32.2	29.2	25.1	21.0	-	
DT145	Bath - Lansdown Road	374930	165550	35.3	20.9	26.2	20.6	16.5	16.8	18.4	19.1	22.4	22.6	26.3	31.1	23.0	19.3	-	

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 (0.84)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT147	Bath - Terrace Walk	375195	164735	36.8	20.7	25.2	18.0	16.0	14.0	18.2	18.4	21.0	20.5	25.8	25.4	21.7	18.2	-	
DT148a	Bath - Julian Road	374573	165523	34.2	17.5	22.9	20.0	17.1	15.8	22.3	20.0	22.1	22.4	25.4	26.2	-	-	-	Triplicate Site with DT148a, DT148b and DT148c - Annual data provided for DT148c only
DT148b	Bath - Julian Road	374573	165523	31.9	16.6	27.0		18.2	17.7	20.6	20.9	22.7	22.3	26.1	25.5	-	-	-	Triplicate Site with DT148a, DT148b and DT148c - Annual data provided for DT148c only
DT148c	Bath - Julian Road	374573	165523	33.3	17.8	24.8	20.0		16.4	22.6	20.6	23.1	24.0		30.1	22.5	18.9	-	Triplicate Site with DT148a, DT148b and DT148c - Annual data provided for DT148c only
DT149	Bath - Camden 3	375038	165838	33.4	21.6	22.6	16.6	15.1	15.1	16.0	16.5	19.7	20.8	25.2	27.6	20.8	17.5	-	
DT150	Bath - Brougham Hayes	373955	164590	36.3	20.8	27.4	21.7	19.3	18.1	21.1	23.0	24.4	27.6	32.1	30.2	25.2	21.1	-	
DT151	Bath - Widcombe Hill	375598	164190	30.2	18.1	23.2	22.5	17.9	14.8	18.3	19.1	21.6	16.0		24.4	20.6	17.3	-	
DT152	Bath - Bathwick Hill	375800	164912	32.4	20.8		16.1	15.1	13.6	17.1	16.4	18.6	20.6	25.5		19.6	16.5	-	
DT153	Bath - North Road	376069	165356	23.8	15.6	17.0	13.7	12.5	12.0	12.9	11.6	15.6	15.9	19.9	19.5	15.8	13.3	-	
DT154	Bath - Bradford Road	375529	162389	36.9	20.1	35.2	21.7	19.5	18.1	21.0	19.5	22.3	26.1	27.8	29.5	24.8	20.8	-	
DT155	Bath - Newbridge Hill 2	372696	165488	28.2	13.0	19.5	11.4	10.6	8.9	11.8	12.7	13.6	14.4	17.1	21.2	15.2	12.8	-	
DT156	Bath - Corn Street	374827	164531	33.9	15.3		22.0	17.6	14.1	18.0	21.5		22.9	24.7	29.2	21.9	18.4	-	
DT157	Bath - Charles Street	374664	164815	37.8	20.1	36.9	26.3	20.5	19.2	21.6	24.0	25.3	23.2	32.1	32.2	26.6	22.3	-	
DT158	Bath - Paragon 2	375051	165350	40.3	21.0	28.8	22.7	19.1	19.0	22.6	24.4	26.0	25.7	31.3	34.2	26.3	22.1	-	
DT159	Bath - Walcot Street	375075	165287	34.0	20.2	23.6	18.2	15.8	13.8	16.8	17.7	20.2	21.3	27.8	29.7	21.6	18.1	-	
DT160	Bath - North Parade Road	375284	164694	38.2	30.7	35.2	23.9	21.2	18.6	23.0	22.1	25.8	27.9	34.4	33.0	27.8	23.4	-	
DT165	Bath - Brassknocker Hill	377960	162736	35.2	30.1	24.7	25.3	29.9	30.6	29.1	26.9	31.2	27.0	34.2		29.5	24.8	-	
DT167	Bath - Weston High Street	372587	166629	26.6	14.8	25.6	18.9	13.6	14.5	14.8	16.2	18.5	22.1	22.0	28.2	19.6	16.5	-	
DT168	Bath - Englishcombe Lane	373207	163339	22.6	8.1	16.5	12.9	9.2	8.1	9.5	11.3	12.3	12.2	12.9	20.2	13.0	10.9	-	
DT169	Bath - Eastbourne Avenue	375667	166369	31.8	16.0	20.8	16.2	13.8	13.5	15.5	17.1	19.6	19.2	24.1	28.0	19.6	16.5	-	
DT171	Bath - Frome Road/Upper Bloomfield	373706	162411	36.7	15.1	29.0	25.7	18.5	18.6	22.9	28.0	26.8	22.9	22.0	30.8	24.7	20.8	-	
DT172a	Bath - London Road 2	375374	165813	45.2	34.1	33.5	32.2	27.6	29.6	32.4	34.4	33.2	34.1		38.9	-	-	-	Triplicate Site with DT172a, DT172b and DT172c - Annual data provided for DT172c only
DT172b	Bath - London Road 2	375374	165813	50.1	32.3	33.0	30.3		25.9	33.4	35.1	33.8	35.9	46.0	43.3	-	-	-	Triplicate Site with DT172a, DT172b and DT172c - Annual data provided for DT172c only

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DT172c	Bath - London Road 2	375374	165813	48.5	35.1	35.9	30.0	28.2	26.5	31.5	33.2	33.9	35.6	44.2	38.4	35.2	29.6	-	Triplicate Site with DT172a, DT172b and DT172c - Annual data provided for DT172c only
DT173	Bath - Upper Bristol Road 2	374362	165016	43.1	31.0	32.4	23.7	24.2	21.1	24.2	23.0	24.8	32.6	43.6	39.7	30.3	25.4	-	
DT179a	Bath - Upper Bristol Road 3	373299	165093	40.8	20.2	40.8	26.5	21.2	17.3	23.8	29.6	29.9	27.1	33.5	37.7	-	-	-	Triplicate Site with DT179a, DT179b and DT179c - Annual data provided for DT179c only
DT179b	Bath - Upper Bristol Road 3	373299	165093	35.7	17.5	37.2	29.2	19.3	19.6	26.3	26.6	29.8	25.0	27.4	35.2	-	-	-	Triplicate Site with DT179a, DT179b and DT179c - Annual data provided for DT179c only
DT179c	Bath - Upper Bristol Road 3	373299	165093	38.1	20.6	43.1	29.4	21.7	20.4	26.5	28.4	26.7		30.3	36.2	28.5	23.9	-	Triplicate Site with DT179a, DT179b and DT179c - Annual data provided for DT179c only
DT180a	Bath - Wells Road 2	374537	163968	46.3	24.4	36.0	29.4	29.6	23.4	33.9	31.2	33.7	32.9	36.1	38.3	-	-	-	Triplicate Site with DT180a, DT180b and DT180c - Annual data provided for DT180c only
DT180b	Bath - Wells Road 2	374537	163968	46.8	26.0	37.0	28.4	28.7	26.4	33.0	30.3	36.0	33.4	35.4	37.7	-	-	-	Triplicate Site with DT180a, DT180b and DT180c - Annual data provided for DT180c only
DT180c	Bath - Wells Road 2	374537	163968	46.9	25.1	30.3	29.0	28.9	24.8	30.9	30.9	34.2		34.9	38.1	32.8	27.6	-	Triplicate Site with DT180a, DT180b and DT180c - Annual data provided for DT180c only
DT181	Bath - Wellsway	374618	163494	41.9	30.0	30.6	25.2	23.4	22.5	26.1	25.9	28.2	31.9	33.3	35.2	29.5	24.8	-	
DT182a	Bath - Gay Street - Lower	374796	165123	44.4	29.8	37.8	30.3	32.6		42.8	42.3	43.6	33.9	40.4	39.2	-	-	-	Triplicate Site with DT182a, DT182b and DT182c - Annual data provided for DT182c only
DT182b	Bath - Gay Street - Lower	374796	165123	53.4	31.1	30.2	31.6	32.4	30.2	40.4	39.5	43.9	33.0	43.4	39.1	-	-	-	Triplicate Site with DT182a, DT182b and DT182c - Annual data provided for DT182c only
DT182c	Bath - Gay Street - Lower	374796	165123	45.4	28.8	37.5	28.8	32.6		40.5	40.4	42.3	30.6	41.0	40.5	37.1	31.1	-	Triplicate Site with DT182a, DT182b and DT182c - Annual data provided for DT182c only
DT183	Bath - Chapel Row	374712	164913	34.2	22.4	35.9	28.0	25.8	22.2	25.9	29.9	29.7	27.4	31.3	32.0	28.7	24.1	-	
DT185	Bath - Greenway Lane	374712	163417	24.1		14.8	10.8	10.2		9.1	9.1	11.3	12.4	14.7	18.9	13.5	11.4	-	
DT186	Bath - Coronation Avenue	373170	163416	27.5	10.7	24.0	15.6	10.3	11.7	12.7	16.0	17.7	17.9	18.0	25.7	17.3	14.5	-	
DT187	Bath - Stanley Road West	373835	164438	33.9	17.5	27.1	18.6	13.9	13.3	16.5	18.5	20.0	20.7	24.7	25.9	20.9	17.5	-	
DT188	Bath - Moorland Road	373696	164343	31.5	15.6	25.5	16.4	13.6	13.1	14.8	15.4	18.5	21.5	23.4	26.9	19.7	16.5	-	
DT189	Bath - Old Newbridge Hill	372251	165686	35.6	19.6	31.6	29.2	22.9	20.5	25.2	28.2	27.8	23.3	31.4	33.3	27.4	23.0	-	
DT190	Bath - Church Street	375814	164027	23.0	11.0	15.1		7.1	5.8	8.0	8.3	10.1	9.5	10.9	16.2	11.4	9.5	-	
DT192	Bath - Fairfield Road	375505	166428	25.5	13.6	16.7	10.6	9.0	9.4	10.4	9.2	11.3	14.7	17.4	20.9	14.1	11.8	-	
DT193	Bath - Granville Road	374260	167661	13.4	6.8	8.5	5.4	4.5	4.2	5.4	5.2		7.7		10.6	7.2	6.0	-	

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DT194	Bath - Brooklyn Road	376096	166878	21.7	12.3	15.1	11.9	9.5	8.0	10.4	10.7	12.4	12.9	16.2	19.8	13.4	11.3	-	
DT195	Bath - Lansdown Lane	372537	167235	36.4	15.7	24.6	21.6	14.9	16.7	16.8	20.8	21.4		22.6	27.8	21.8	18.3	-	
DT196	Bath - Oakley	377133	164045	29.8	21.7	27.1	15.6	18.0	17.2	17.0	15.1	19.6	24.2	26.6	23.2	21.3	17.9	-	
DT197	Bath - Rush Hill	372703	162983	33.4	16.7	23.1	18.8	17.0	14.6	18.9	19.5	20.7	23.0	25.6	27.1	21.5	18.1	-	
DT198a	Bath - Walcot Parade	375240	165739	52.4	42.9	43.3	36.6	35.8	37.1	42.1	47.2	44.1	43.2	52.0	51.8	-	-	-	Triplicate Site with DT198a, DT198b and DT198c - Annual data provided for DT198c only
DT198b	Bath - Walcot Parade	375240	165739	47.5	37.8	40.6	34.6	34.1	40.1	40.6	43.1	43.2	41.3	48.5	44.1	-	-	-	Triplicate Site with DT198a, DT198b and DT198c - Annual data provided for DT198c only
DT198c	Bath - Walcot Parade	375240	165739	56.7	38.8	44.1	37.1	36.3	35.1	40.6	41.2	40.8	43.3	55.4	43.1	42.7	35.9	-	Triplicate Site with DT198a, DT198b and DT198c - Annual data provided for DT198c only
DT199	Bath - Hensley Road	374353	163504	21.9	6.8	14.6	9.5	6.5	5.5	7.2	8.1	10.2	10.6	11.1	18.2	10.9	9.1	-	
DT200	Bath - Millmead Road	373375	164307	25.1	10.7	19.3	13.2	9.2	8.5	10.6	12.7	14.7	13.6	16.8	20.2	14.5	12.2	-	
DT201	Bath - The Hollow	373003	164250	35.6	18.6	25.4	20.8	16.3	17.1	19.2	21.1	21.8	20.9	24.6	28.3	22.5	18.9	-	
DT202	Bath - Charlcombe	374636	166701	21.8	11.3	14.5		8.5	8.4	8.8	9.5	10.6	11.6	14.3	17.6	12.5	10.5	-	
DT206a	Bath - Park Lane	373742	165305	36.3	23.0	25.6	23.0	24.0	23.1	26.1	27.0	28.9	30.0	32.2	31.5	-	-	-	Triplicate Site with DT206a, DT206b and DT206c - Annual data provided for DT206c only
DT206b	Bath - Park Lane	373742	165305	35.5	22.5	25.0	21.9	24.1	23.1	26.5	26.1	28.6	30.9	33.3	30.7	-	-	-	Triplicate Site with DT206a, DT206b and DT206c - Annual data provided for DT206c only
DT206c	Bath - Park Lane	373742	165305	36.6	26.4	25.9	24.1	24.1	20.7	25.3	27.3	29.1	30.9	32.7	33.2	27.6	23.2	-	Triplicate Site with DT206a, DT206b and DT206c - Annual data provided for DT206c only
DT207	Bath - Darlington Street	375630	165132	37.9	29.1	27.7	24.2	25.1	26.6	28.4	24.6	29.8	32.6	42.1	33.3	30.1	25.3	-	
DT209	Bath - Bellots Road	373490	164804	31.3	11.8	21.7	14.3	11.0	10.8	13.2	13.2		14.4	20.0	22.6	16.8	14.1	-	
DT210	Bath - Red Lion Roundabout	373895	162254	39.0	28.2	32.7	26.6	28.5	27.8	34.4	33.4	32.8	33.8	32.4	32.8	31.9	26.8	-	
DT211	Bath - St John's Road	375218	165290	24.7	13.2	19.1	13.7	10.4	9.3	10.7	11.9	14.2	15.9	20.6	23.3	15.6	13.1	-	
DT212	Bath - Oldfield Road	374356	163985	29.6	10.4	23.1	16.0	10.4	8.5	12.0	14.8	15.6	13.7	15.9	22.9	16.1	13.5	-	
DT213a	Bath - Marlborough Lane	374262	165127	32.4	15.5	26.7	19.5	16.4		18.6	20.1	17.7		22.0	23.8	-	-	-	Triplicate Site with DT213a, DT213b and DT213c - Annual data provided for DT213c only
DT213b	Bath - Marlborough Lane	374262	165127	29.9	15.2	26.3	20.4	16.8		19.0	19.9		16.9	22.8	25.4	-	-	-	Triplicate Site with DT213a, DT213b and DT213c - Annual data provided for DT213c only
DT213c	Bath - Marlborough Lane	374262	165127	30.6	16.6	25.1	18.7	16.9		18.9	20.4	18.0	16.9	23.2	28.2	21.0	17.7	-	Triplicate Site with DT213a, DT213b and DT213c - Annual data provided for DT213c only



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DT214a	Bath - Marlborough Buildings	374354	165448	34.8	19.0	20.8	14.0	13.6	12.3	15.3	13.2	13.5	16.9	22.8	25.8	-	-	-	Triplicate Site with DT214a, DT214b and DT214c - Annual data provided for DT214c only
DT214b	Bath - Marlborough Buildings	374354	165448	25.8	18.2	18.7	14.8	13.5	12.3	14.7	13.2	13.8	16.1	22.9	26.6	-	-	-	Triplicate Site with DT214a, DT214b and DT214c - Annual data provided for DT214c only
DT214c	Bath - Marlborough Buildings	374354	165448	31.1	19.0	21.8	15.6	12.3	12.1	15.1	13.0	13.7	16.1	22.3	26.5	18.1	15.2	-	Triplicate Site with DT214a, DT214b and DT214c - Annual data provided for DT214c only
DT215a	Bath - Queen Parade Place	374758	165096	27.7	12.4	19.9		13.1	12.2	13.2	15.9	17.0	17.4	20.3	24.7	-	-	-	Triplicate Site with DT215a, DT215b and DT215c - Annual data provided for DT215c only
DT215b	Bath - Queen Parade Place	374758	165096	27.2	12.9	20.8		13.4	12.5	12.4	15.4	17.5	16.3	19.0		-	-	-	Triplicate Site with DT215a, DT215b and DT215c - Annual data provided for DT215c only
DT215c	Bath - Queen Parade Place	374758	165096	28.2	13.2	21.2		12.4	11.8	13.2	15.4	17.0	16.9	19.9	24.0	17.5	14.7	-	Triplicate Site with DT215a, DT215b and DT215c - Annual data provided for DT215c only
DT216a	Bath - Monmouth Place	374574	164958	46.9	23.1	30.6	24.1	21.4	18.5	23.3	29.5	24.7	27.4	31.2	33.7	-	-	-	Triplicate Site with DT216a, DT216b and DT216c - Annual data provided for DT216c only
DT216b	Bath - Monmouth Place	374574	164958	42.7	26.0	31.8	22.6	21.0	17.5	21.8	26.4	25.8	27.8	31.7	35.5	-	-	-	Triplicate Site with DT216a, DT216b and DT216c - Annual data provided for DT216c only
DT216c	Bath - Monmouth Place	374574	164958	44.7	22.9	33.2	22.4	18.5	17.2	21.1	28.1	25.1	25.8		36.0	27.5	23.1	-	Triplicate Site with DT216a, DT216b and DT216c - Annual data provided for DT216c only
DT217a	Bath - Cavendish Road	374335	165990	24.0	11.9	21.2	7.9	10.5	10.8	12.4	13.4	16.1	15.2	17.4	22.6	-	-	-	Triplicate Site with DT217a, DT217b and DT217c - Annual data provided for DT217c only
DT217b	Bath - Cavendish Road	374335	165990	26.2	10.7	20.3	13.9	10.8	10.1	12.4	13.5	15.9	12.7	15.4	20.9	-	-	-	Triplicate Site with DT217a, DT217b and DT217c - Annual data provided for DT217c only
DT217c	Bath - Cavendish Road	374335	165990	28.6	9.5	18.1	14.9	9.8	11.3	11.8	13.1	15.5	15.1	16.8	21.4	15.3	12.9	-	Triplicate Site with DT217a, DT217b and DT217c - Annual data provided for DT217c only
DT218	Bath - Weston Road	373668	165697	30.0	16.9	19.7	14.8	12.2	13.8	13.3	13.2	15.2	18.2	20.4	23.9	17.6	14.8	-	
DT219	Bath - Morford Street	374872	165570	37.2	15.3	26.1	18.5	13.7	13.5	16.0	17.8		20.3	22.1	29.3	20.9	17.6	-	
DT221	Bath - Gay Street - façade	374793	165119	43.1	25.7	32.4	28.1	30.0	27.5	35.2	35.3	35.0	29.2	35.2	35.8	32.7	27.5	-	
DT222a	Bath - Anglo Terrace façade	375231	165778	59.7	41.0	46.9	38.0	34.8	36.0	41.3	45.7	41.9	45.3	49.7	50.7	-	-	-	Triplicate Site with DT222a, DT222b and DT222c - Annual data provided for DT222c only
DT222b	Bath - Anglo Terrace façade	375231	165778	59.0	38.9	45.6	39.9	34.1	34.6	43.3	45.0	40.9	45.6	50.5	48.8	-	-	-	Triplicate Site with DT222a, DT222b and DT222c - Annual data provided for DT222c only
DT222c	Bath - Anglo Terrace façade	375231	165778	54.3	37.8	46.1	37.5	30.9	35.2	43.2	40.9	40.2	45.5	50.9	51.0	43.6	36.6	35.1	Triplicate Site with DT222a, DT222b and DT222c - Annual data provided for DT222c only
DT223a	Bath - Canton Place	375322	165759	39.5	31.7	35.9	25.8	25.6	23.4	26.4	28.5	27.7	30.5	37.0	31.8	-	-	-	Triplicate Site with DT223a, DT223b and DT223c - Annual data provided for DT223c only

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DT223b	Bath - Canton Place	375322	165759	41.6	31.3	34.3	24.8	25.2	25.2	24.3	29.5	27.5	31.8	36.1	33.1	-	-	-	Triplicate Site with DT223a, DT223b and DT223c - Annual data provided for DT223c only
DT223c	Bath - Canton Place	375322	165759	40.6	31.5	34.8	26.3	25.6	25.5	26.0	29.9	28.9	31.4	36.1	33.6	30.5	25.6	-	Triplicate Site with DT223a, DT223b and DT223c - Annual data provided for DT223c only
DT224a	Bath - Walcot Parade 2	375207	165726	57.2	41.7	44.7	38.2	36.0	40.1	46.5	50.5	46.7	47.9	60.5	50.9	-	-	-	Triplicate Site with DT224a, DT224b and DT224c - Annual data provided for DT224c only
DT224b	Bath - Walcot Parade 2	375207	165726	59.0	41.8	45.7	38.8	39.7	42.2	48.3	51.1	49.3	44.3	55.5	51.2	-	-	-	Triplicate Site with DT224a, DT224b and DT224c - Annual data provided for DT224c only
DT224c	Bath - Walcot Parade 2	375207	165726	60.0	41.7	48.6	40.3	39.3	38.5	46.2	48.7	47.7	54.4	56.4	53.6	47.3	39.7	38.0	Triplicate Site with DT224a, DT224b and DT224c - Annual data provided for DT224c only
DT225a	Bath - Cleveland Terrace	375203	165708	47.2	34.4	35.4	28.1	26.8	27.6	31.2	32.2	33.0	36.4	43.2	36.7	-	-	-	Triplicate Site with DT225a, DT225b and DT225c - Annual data provided for DT225c only
DT225b	Bath - Cleveland Terrace	375203	165708	45.2	35.8	35.0	28.6	27.3	27.5	30.7	34.3	32.2	34.7	40.5	37.1	-	-	-	Triplicate Site with DT225a, DT225b and DT225c - Annual data provided for DT225c only
DT225c	Bath - Cleveland Terrace	375203	165708	46.8	32.7	36.1	29.7	26.3	27.9	30.4	32.0	32.4	37.2	38.5	38.6	34.2	28.7	-	Triplicate Site with DT225a, DT225b and DT225c - Annual data provided for DT225c only
DT226a	Bath - AURN	375394	165824	42.3	26.9	32.2	27.2	23.9	24.6	27.3	28.3	28.6	27.0	34.9	33.7	-	-	-	Triplicate Site with DT226a, DT226b and DT226c - Annual data provided for DT226c only
DT226b	Bath - AURN	375394	165824	42.3	28.2	30.3	27.2	25.3	24.2	27.4	28.9	28.1	28.0	34.7	32.8	-	-	-	Triplicate Site with DT226a, DT226b and DT226c - Annual data provided for DT226c only
DT226c	Bath - AURN	375394	165824	38.8	29.0	30.8	24.2	24.2	24.1	27.4	28.7	28.4	28.5	35.9	31.3	29.6	24.9	-	Triplicate Site with DT226a, DT226b and DT226c - Annual data provided for DT226c only
DT227a	Bath - Wells Road 3	374580	163979	55.7	31.5	35.9	34.7	31.7	30.0	32.2	34.4	35.9	34.1	39.7	41.9	-	-	-	Triplicate Site with DT227a, DT227b and DT227c - Annual data provided for DT227c only
DT227b	Bath - Wells Road 3	374580	163979	52.8	30.6	32.9	33.7	33.0	27.0	33.5	32.7	35.3	32.5	38.1	43.4	-	-	-	Triplicate Site with DT227a, DT227b and DT227c - Annual data provided for DT227c only
DT227c	Bath - Wells Road 3	374580	163979	49.7	33.7	34.3		30.6	27.0	32.9	31.3	34.7	33.6	40.0	44.9	35.8	30.1	-	Triplicate Site with DT227a, DT227b and DT227c - Annual data provided for DT227c only
DT228a	Bath - Lower Bristol Road 2	374002	164754	40.7	23.0	30.3	24.5	23.0	20.2	22.8	23.3	24.9	26.6	34.0	31.3	-	-	-	Triplicate Site with DT228a, DT228b and DT228c - Annual data provided for DT228c only
DT228b	Bath - Lower Bristol Road 2	374002	164754	38.3	27.0	30.2	21.4	20.8	17.8	19.0	22.0	24.3	25.0	30.5		-	-	-	Triplicate Site with DT228a, DT228b and DT228c - Annual data provided for DT228c only
DT228c	Bath - Lower Bristol Road 2	374002	164754	40.1	26.4	30.9	21.6	22.1	19.4	21.4	22.8	24.7	27.2	31.0	32.0	26.5	22.2	-	Triplicate Site with DT228a, DT228b and DT228c - Annual data provided for DT228c only
DT229a	Bath - Lower Bristol Road 3	373936	164779	41.7	26.7	37.2	26.7	24.5	22.7	27.6	31.1	34.7	31.4	38.4	35.9	-	-	-	Triplicate Site with DT229a, DT229b and DT229c - Annual data provided for DT229c only

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DT229b	Bath - Lower Bristol Road 3	373936	164779	43.1	26.3	36.7	26.4	23.8	20.1	26.6	28.7	32.3	29.9	34.7	32.9	-	-	-	Triplicate Site with DT229a, DT229b and DT229c - Annual data provided for DT229c only
DT229c	Bath - Lower Bristol Road 3	373936	164779	43.1	25.5	36.8	28.2	24.0	20.4	23.4	28.2	32.1	28.5	32.6	31.0	30.4	25.5	-	Triplicate Site with DT229a, DT229b and DT229c - Annual data provided for DT229c only
DT230a	Bath - Upper Bristol Road 4	373439	165098	46.6	28.1	50.3	33.1	27.7	28.0	34.9	36.9	36.5	39.6	45.2	41.1	-	-	-	Triplicate Site with DT230a, DT230b and DT230c - Annual data provided for DT230c only
DT230b	Bath - Upper Bristol Road 4	373439	165098	48.7	31.3	49.9	34.3	31.2	26.3	33.5	36.9	35.9	39.5	45.4	41.1	-	-	-	Triplicate Site with DT230a, DT230b and DT230c - Annual data provided for DT230c only
DT230c	Bath - Upper Bristol Road 4	373439	165098	48.2	31.7	49.7	34.0	28.4	31.8	33.1	39.0	37.2	37.6	46.8	46.3	37.9	31.9	-	Triplicate Site with DT230a, DT230b and DT230c - Annual data provided for DT230c only
DT231a	Bath - Upper Bristol Road 5	373480	165125	44.9	31.5	39.8	33.9	31.0	27.9	31.7	35.6		33.0	36.9	40.3	-	-	-	Triplicate Site with DT231a, DT231b and DT231c - Annual data provided for DT231c only
DT231b	Bath - Upper Bristol Road 5	373480	165125	49.4	31.5	42.8	33.5	28.6	24.5	34.6	34.7	35.0	34.0	40.9		-	-	-	Triplicate Site with DT231a, DT231b and DT231c - Annual data provided for DT231c only
DT231c	Bath - Upper Bristol Road 5	373480	165125	44.2	28.5	34.5	34.5	28.1	27.8	32.3	36.4	35.0	32.5	37.2	39.8	35.0	29.4	-	Triplicate Site with DT231a, DT231b and DT231c - Annual data provided for DT231c only
DT232a	Bath - Lansdown Road 3	374942	165391	39.1	25.4	28.2		19.8	19.8	23.8	22.1		27.7	34.6	34.7	-	-	-	Triplicate Site with DT232a, DT232b and DT232c - Annual data provided for DT232c only
DT232b	Bath - Lansdown Road 3	374942	165391	40.2	24.1	25.8	20.3	20.8	17.1	23.8	22.1	26.5	28.9	34.1	32.3	-	-	-	Triplicate Site with DT232a, DT232b and DT232c - Annual data provided for DT232c only
DT232c	Bath - Lansdown Road 3	374942	165391	38.8	20.4	29.1	22.0	20.4	18.8	25.9	21.3		29.6	32.4	32.0	26.6	22.3	-	Triplicate Site with DT232a, DT232b and DT232c - Annual data provided for DT232c only
DT233a	Bath - Lansdown Road 4	374956	165359	37.7	18.1	31.8	22.4	19.2	18.3	22.2	26.6	28.4	29.9		36.3	-	-	-	Triplicate Site with DT233a, DT233b and DT233c - Annual data provided for DT233c only
DT233b	Bath - Lansdown Road 4	374956	165359	35.3	17.9	31.9	24.8	19.9	19.7	22.4	26.2	27.8	30.8		35.1	-	-	-	Triplicate Site with DT233a, DT233b and DT233c - Annual data provided for DT233c only
DT233c	Bath - Lansdown Road 4	374956	165359	38.0	18.0	31.9	23.2	19.2	19.2	24.0	26.8	28.1	30.3		37.5	26.6	22.4	-	Triplicate Site with DT233a, DT233b and DT233c - Annual data provided for DT233c only
DT234a	Bath - Gay Street 2	374806	165084	49.6	35.3	37.5	35.2	41.5	35.7	44.2	44.8	41.8	35.1	40.8	41.0	-	-	-	Triplicate Site with DT234a, DT234b and DT234c - Annual data provided for DT234c only
DT234b	Bath - Gay Street 2	374806	165084	46.4	35.8	35.9	29.1	39.0	37.4		43.8	41.1	34.2	41.5	38.9	-	-	-	Triplicate Site with DT234a, DT234b and DT234c - Annual data provided for DT234c only
DT234c	Bath - Gay Street 2	374806	165084	46.7	35.1	38.4	34.7	36.7	34.6			41.9	36.8	41.8	39.4	39.6	33.2	-	Triplicate Site with DT234a, DT234b and DT234c - Annual data provided for DT234c only
DT235a	Bath - Wells Road 4	374694	164288	47.3	35.8	40.2	34.9	27.0	29.5	30.1	31.5	36.5	40.3	42.9	43.2	-	-	-	Triplicate Site with DT235a, DT235b and DT235c - Annual data provided for DT235c only

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DT235b	Bath - Wells Road 4	374694	164288	48.9	33.8	42.4	35.1	31.6	27.6	31.3	32.1	39.6	39.8	44.8	43.7	-	-	-	Triplicate Site with DT235a, DT235b and DT235c - Annual data provided for DT235c only
DT235c	Bath - Wells Road 4	374694	164288	47.5	36.1	39.0	34.3	30.6	28.2	32.5	29.1	35.4	38.1		45.6	37.0	31.0	-	Triplicate Site with DT235a, DT235b and DT235c - Annual data provided for DT235c only
DT236a	Bath - Pulteney Terrace	375668	164493	30.0	23.8	25.8	18.5	17.2	16.4	19.7	20.3	22.0	25.5	30.8	30.1	-	-	-	Triplicate Site with DT236a, DT236b and DT236c - Annual data provided for DT236c only
DT236b	Bath - Pulteney Terrace	375668	164493	33.5	23.6	25.8	20.9	18.2	19.3	20.2	20.1	22.4	25.5	29.7	29.9	-	-	-	Triplicate Site with DT236a, DT236b and DT236c - Annual data provided for DT236c only
DT236c	Bath - Pulteney Terrace	375668	164493	32.5	20.7	27.5	20.9	16.4	17.8	19.8	20.4	22.1		30.9	30.6	23.7	19.9	-	Triplicate Site with DT236a, DT236b and DT236c - Annual data provided for DT236c only
DT237	Bath - Broad Street 2	375000	165179	44.6	25.8	41.0	24.3	28.2	26.7	33.9	37.4	36.8	42.7	37.0	38.5	34.7	29.2	-	
DT238a	Bath - Broad Street 3	375001	165140	44.0	32.5	28.0	26.4	27.0	28.5	32.6	28.6	31.2	33.7	35.8	33.6	-	-	-	Triplicate Site with DT238a, DT238b and DT238c - Annual data provided for DT238c only
DT238b	Bath - Broad Street 3	375001	165140	44.4	31.3	29.1	26.1	27.3	27.6	30.8	28.5	30.1	33.4	35.3	32.7	-	-	-	Triplicate Site with DT238a, DT238b and DT238c - Annual data provided for DT238c only
DT238c	Bath - Broad Street 3	375001	165140	42.6	31.7		23.1	30.1	26.4	31.2	28.1	30.2	34.2	35.0	34.6	31.5	26.5	-	Triplicate Site with DT238a, DT238b and DT238c - Annual data provided for DT238c only
DT239a	Bath - Broad Street 4	375008	165145	47.5	32.7	34.2	30.7	31.2	29.8	32.9	32.2	36.8	38.0	38.9	36.2	-	-	-	Triplicate Site with DT239a, DT239b and DT239c - Annual data provided for DT239c only
DT239b	Bath - Broad Street 4	375008	165145	47.2	28.2	33.3	27.9	31.5	27.6	33.0	34.6	35.7	38.8	39.4	36.0	-	-	-	Triplicate Site with DT239a, DT239b and DT239c - Annual data provided for DT239c only
DT239c	Bath - Broad Street 4	375008	165145	47.0	31.8	32.9	28.6	30.3	29.5	34.5	33.8	36.3	40.0	38.3	39.1	34.9	29.3	-	Triplicate Site with DT239a, DT239b and DT239c - Annual data provided for DT239c only
DT240a	Bath - Bathwick Street 2	375489	165450	33.3	22.5	25.7	20.8	18.8	17.0	21.0	22.7	23.8	21.0	27.3	25.7	-	-	-	Triplicate Site with DT240a, DT240b and DT240c - Annual data provided for DT240c only
DT240b	Bath - Bathwick Street 2	375489	165450	31.1	22.7	24.8	18.9	19.9	17.0	21.3	22.4	23.2	21.0	27.1	27.5	-	-	-	Triplicate Site with DT240a, DT240b and DT240c - Annual data provided for DT240c only
DT240c	Bath - Bathwick Street 2	375489	165450	33.6	22.8	23.2	20.0	18.4	17.1	20.5	23.0	24.1	21.4	26.2	27.5	23.2	19.5	-	Triplicate Site with DT240a, DT240b and DT240c - Annual data provided for DT240c only
DT241a	Bath - Bathwick Street 3	375520	165446	30.7	15.9	20.9	14.0	11.7	11.3	14.2	14.6	16.0	18.1	24.5	24.5	-	-	-	Triplicate Site with DT241a, DT241b and DT241c - Annual data provided for DT241c only
DT241b	Bath - Bathwick Street 3	375520	165446	28.4	17.3	18.2	14.2	12.0	11.2	13.6	13.6	15.8	16.0	24.1	23.4	-	-	-	Triplicate Site with DT241a, DT241b and DT241c - Annual data provided for DT241c only
DT241c	Bath - Bathwick Street 3	375520	165446	30.6	17.6	20.3	14.4	11.0	10.9	13.4	14.1	15.9	17.4	22.1	24.6	17.7	14.9	-	Triplicate Site with DT241a, DT241b and DT241c - Annual data provided for DT241c only
DT242a	Bath - Charlotte Street 2	374583	164974	33.2	17.3	24.8	18.2	15.5	14.1	16.5	19.4	19.8	21.5	25.9	26.7	-	-	-	Triplicate Site with DT242a, DT242b and DT242c - Annual data provided for DT242c only

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DT242b	Bath - Charlotte Street 2	374583	164974	32.4	18.3	25.7	18.3	15.6	12.4	17.6	18.1	19.6	20.1	25.6	27.6	-	-	-	Triplicate Site with DT242a, DT242b and DT242c - Annual data provided for DT242c only
DT242c	Bath - Charlotte Street 2	374583	164974	32.8	18.4	24.5	17.9	15.2	14.1	17.2	19.0	19.9	21.3	25.7	27.8	21.1	17.7	-	Triplicate Site with DT242a, DT242b and DT242c - Annual data provided for DT242c only
DT243a	Bath - Sydney Place	375625	165312	30.0	21.9	21.6	19.7	18.4	17.3	22.3	22.8	22.9	24.7	31.8	29.3	-	-	-	Triplicate Site with DT243a, DT243b and DT243c - Annual data provided for DT243c only
DT243b	Bath - Sydney Place	375625	165312	32.6	19.5	22.5	18.5	17.0	16.8	21.4	20.5	22.2	23.8	27.8	28.0	-	-	-	Triplicate Site with DT243a, DT243b and DT243c - Annual data provided for DT243c only
DT243c	Bath - Sydney Place	375625	165312	31.9	20.4	21.9	20.1	16.4	16.5	20.9	21.7	24.8	23.5	28.5	26.9	23.0	19.3	-	Triplicate Site with DT243a, DT243b and DT243c - Annual data provided for DT243c only
DT244	Bath - Whiteway	372494	163165	28.4	13.6	20.1	16.9	15.6	15.4	19.3	17.7		18.6	19.5	22.7	18.9	15.9	-	
DT245	Bath - Whiteway 2	372401	163212	33.4	17.1	25.6	16.8	18.3	18.7	20.2	19.3	21.2		23.3	25.6	21.8	18.3	-	
DT246a	Bath - Dorchester Street 2	375186	164372	40.5	33.6	39.8	23.5	34.5	27.8	36.0	32.8	37.1	38.9	40.8	34.9	-	-	-	Triplicate Site with DT246a, DT246b and DT246c - Annual data provided for DT246c only
DT246b	Bath - Dorchester Street 2	375186	164372	42.3	40.5	37.5		34.0	26.9	33.6	34.6	37.0	39.3	41.6	35.4	-	-	-	Triplicate Site with DT246a, DT246b and DT246c - Annual data provided for DT246c only
DT246c	Bath - Dorchester Street 2	375186	164372		38.5	40.3		34.5	28.0	35.1	31.6	37.9	36.4	39.3	38.3	35.3	29.7	-	Triplicate Site with DT246a, DT246b and DT246c - Annual data provided for DT246c only
DT247a	Bath - Monmouth Place 2	374627	164924	40.7	26.5	30.7	25.0	22.9	20.7	23.0	23.6	25.0	26.9	33.9	31.1	-	-	-	Triplicate Site with DT247a, DT247b and DT247c - Annual data provided for DT247c only
DT247b	Bath - Monmouth Place 2	374627	164924	37.9	27.0	30.5	24.5	22.9	19.6	22.3	23.4	25.0	27.6	32.4	32.1	-	-	-	Triplicate Site with DT247a, DT247b and DT247c - Annual data provided for DT247c only
DT247c	Bath - Monmouth Place 2	374627	164924	41.9	25.0	28.1	24.6	22.5	20.4	24.7	24.0	25.9	28.6	31.8	30.8	27.3	23.0	-	Triplicate Site with DT247a, DT247b and DT247c - Annual data provided for DT247c only
DT248a	Bath - Chapel Row 2	374711	164931	51.7	36.2	36.9	38.4	37.8	34.0	43.7	40.4	42.1	39.3	45.1	41.4	-	-	-	Triplicate Site with DT248a, DT248b and DT248c - Annual data provided for DT248c only
DT248b	Bath - Chapel Row 2	374711	164931	46.6	34.1	39.6	39.9	39.7	36.1	44.2	44.4	43.0	39.8	44.2	42.9	-	-	-	Triplicate Site with DT248a, DT248b and DT248c - Annual data provided for DT248c only
DT248c	Bath - Chapel Row 2	374711	164931	47.5	36.6	36.5	38.7	38.1	37.2	43.9	49.3	45.1		46.1	37.1	41.0	34.5	-	Triplicate Site with DT248a, DT248b and DT248c - Annual data provided for DT248c only
DT276	Bath - Twerton High Street	372783	164624	47.5	24.6	35.0	26.3	21.3	24.1	29.1	32.7	32.7	31.0		33.1	30.7	25.8	-	
DT278	Bath - CAZ Background 1	374420	165288	24.8	11.1		10.3		7.8	10.1		10.9	12.7		18.3	13.2	10.8	-	
DT279	Bath - CAZ Background 2	375365	165176	23.3			10.4	7.4		7.8			11.8	15.2	17.6	13.4	10.4	-	
DT280	Bath - Background Alice Park	376478	166696	19.0	8.4	13.4	8.4	5.8	6.2	7.0	7.4	9.2	10.2	13.3	16.3	10.4	8.7	-	

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DT288	Bath - Victoria Buildings - façade	374045	164760	46.5	34.1	39.4	29.0	27.6	25.2	31.4	33.3	34.5	32.5	39.6	36.5	34.1	28.7	-	
DT293	Bath - Westgate Buildings	374885	164691	36.8	23.2	30.0	20.7									27.7	18.7	-	
DT294	Bath - Walcot Parade 3	375207	165726	43.3	25.3	35.6	29.5	24.7	24.2	28.6	33.8	33.6	30.6	35.6	39.6	32.0	26.9	-	
DT297	Bath - Midland Bridge Road	374577	164736	46.2	35.5	36.7	29.6	31.2	25.8	28.4	29.1	28.4	36.2	42.3	36.4	33.8	28.4	-	
DT298	Bath - Tennyson Road	373625	165307							7.7	8.3	9.6	12.3		18.2	11.2	9.7	-	
DT299	Bath - Upper Bristol Road 6	373731	165238							29.3	32.8	32.4	30.9	40.9	42.6	34.8	30.1	-	
DT300	Bath - Penn Hill Road	372663	166274							13.4	14.0	14.4	15.5	17.1	20.9	15.9	13.8	-	
DT301	Bath - Southlands	372612	166457							7.4	7.0		11.1	13.7	16.5	11.1	9.5	-	
DT302	Bath - Anchor Road	372851	166390							17.5	18.9	21.2	27.6	31.7	30.8	24.6	21.3	-	
DT303	Bath - Prior Park Road 2	375819	163764							14.6	14.4	14.1	17.3	17.8	18.3	16.1	13.9	-	
DT304	Bath - Walcot Parade 4	375202	165724								45.2	43.1	54.6	55.3	48.2	49.3	<b>40.4</b>	37.5	
DT305	Bath - Wells Road 5	374790	164309								39.0	45.8	47.8	48.8	50.4	46.3	38.0	34.1	
DT091	Bathampton High Street	377683	166408	30.6	18.3	24.6	19.2	18.6	17.1	19.6	23.7	22.5	19.1	22.4	23.3	21.6	18.1	-	
DT166	Bathampton, A36	377543	165924	29.5	17.9	23.4	17.3	16.1	15.9	18.1	18.3	18.9	20.0	24.9	25.7	20.5	17.2	-	
DT289	Bathampton 1	377698	166409	29.3	18.4	23.4	20.7	17.6	17.9		23.1	22.4	19.8	24.1	25.5	22.0	18.5	-	
DT290	Bathampton 2	377681	166395	29.7	21.3	27.8	23.8	19.8	19.0		24.9	24.2	21.7	26.8	28.1	24.3	20.4	-	
DT291	Bathampton 3	377654	166374	26.0	20.4	20.2	18.2	17.9	17.8		20.4	20.8	18.8	22.0	21.5	20.4	17.1	-	
DT292	Bathampton 4	377652	166382	25.6	15.8	18.7	16.7	14.6	14.0		18.7	18.7	15.5	19.2	21.4	18.1	15.2	-	
DT058	Batheaston – London Road West A	377643	167365	25.6	18.5	24.0	14.9	14.2	12.9	15.0	15.5	17.4	21.6	26.2	25.2	19.3	16.2	-	
DT094	Batheaston - London Road West B	377290	167097	27.5	20.7	22.8	19.8	19.1	17.2	20.1	24.1	22.8		22.5	24.9	22.0	18.5	-	
DT130	Batheaston - London Road West C	377802	167456	28.9	19.9	23.7	15.1	15.9	17.0	17.8	16.5	18.4	22.4	27.0	25.2	20.6	17.3	-	
DT163	Batheaston, A4 Box Road	378911	167259	22.9	16.0	16.3	13.6	13.1	13.0	15.5	14.5	14.3	14.6	21.1	20.5	16.3	13.7	-	
DT191	Batheaston - Mill Lane	377339	167065	24.3	13.6	19.2	16.0	15.5	15.4	17.2	19.8	19.2	16.6	19.2	19.2	17.9	15.1	-	
DT134	Farrington Gurney 2	362891	155485	38.4	36.7	35.9	36.1	34.9	32.3	34.7	35.7	36.2	32.2	36.2	35.3	35.4	29.7	-	

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 (0.84)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT136	Farrington Gurney 3	362884	155790	34.1	27.4	34.5	30.1	31.0	33.4	37.1	38.8	36.7	31.1	28.8	31.1	32.8	27.6	-	
DT138	Farrington Gurney 5	362983	155459	36.7	25.9	34.4	30.9	27.8	30.0	34.7	36.3	32.4	30.1	30.3	29.8	31.6	26.6	-	
DT033	Keynsham	364803	168237	19.6	8.2	13.6	10.2	6.7	6.2	7.6	7.9	9.6	8.9	11.1	16.4	10.5	8.8	-	
DT063	Keynsham – Station Road	365409	168846	33.1	20.0	29.2	22.8	17.4	18.7		25.1	23.6		26.1	27.0	24.3	20.4	-	
DT064	Keynsham – Charlton Road B	365305	168657		21.4	26.2	23.2	19.6	21.1	25.0	31.1	28.1	24.3	27.7	28.1	25.1	21.1	-	
DT065	Keynsham - Charlton Rd A	365399	168701	35.1	21.7	27.7	20.6	20.6	18.5	24.3	27.7	26.7	21.1	22.4	26.6	24.4	20.5	-	
DT066	Keynsham – High Street A	365360	168815	38.4	30.5	32.6	27.0	25.6	27.0	32.4	35.4	33.1	31.5	31.2	32.0	31.4	26.4	-	
DT067	Keynsham - Somerfield	365457	168496	33.8	24.4	28.2	21.6	24.0		26.4		25.9	26.1	31.3	26.5	26.8	22.5	-	
DT068	Keynsham - Temple St	365489	168363	26.8	13.8	19.9	15.4	12.9	13.2	15.7	14.2		18.1	19.6	21.2	17.3	14.6	-	
DT069	Keynsham – Rock Road	365428	168435	31.6	16.5	20.5	16.4	13.7	14.4	16.5	20.6	20.4		22.2	25.3	19.8	16.7	-	
DT070	Keynsham – Bath Hill	365496	168521	29.0	15.4	24.5	19.6	15.7	15.6	18.5	19.9	19.9	18.2	20.3	22.7	19.9	16.7	-	
DT107	Keynsham - Bath Hill South	365710	168339	36.7	28.3	32.6	24.8	24.8	27.7	31.0	29.2	31.0	29.7	32.8	29.9	29.9	25.1	-	
DT112	Keynsham - Ashton Way	365375	168594	32.2	16.5	22.8	15.7	13.8	13.7	18.5	17.3	20.3	18.5	19.9	23.8	19.4	16.3	-	
DT115	Keynsham - High Street B	365447	168586	26.8		23.1		14.5	14.7	17.9	19.4			20.6	25.5	20.3	16.0	-	
DT141	Keynsham A4	366921	168096	38.0	25.5	33.5	26.8	22.2	25.4	26.9	27.4	30.8	26.9	31.2	30.9	28.8	24.2	-	
DT277	Keynsham - Background	365622	168563	20.9	9.5	14.2	12.0	7.7		9.0	9.8	11.9		13.1	16.9	12.5	10.5	-	
DT296	Old Mills	364748	155000	33.6	24.1	28.0	20.0	21.1	23.8	24.0	25.1	26.0	25.5	29.3	26.8	25.6	21.5	-	
DT174	Pensford 3	361769	164034	33.3	33.9	41.8	35.3	29.2		37.1	32.4	36.4	38.5	41.8	39.2	36.3	30.5	-	
DT295	Radstock - Bath New Road	368825	155080	47.2	45.3	46.4	45.9	46.3	44.5		52.4	51.9	48.8	52.3	45.1	47.8	<b>40.2</b>	37.9	
DT075	Saltford - The Crown	368375	166988	37.1	18.8	30.1	23.4	17.2	19.3	24.6	24.3	24.1	27.3	29.4	29.9	25.5	21.4	-	
DT077	Saltford - Bath Road	368778	166687	28.9	22.5	21.8	19.3	20.9	21.3	23.1	21.9	22.3	20.1	22.9	22.2	22.3	18.7	-	
DT096a	Temple Cloud 1	362219	157923	52.1	46.7	45.2	47.4	48.4	50.9	48.2	46.6	53.3	53.8	53.3	49.2	-	-	-	Triplicate Site with DT096a, DT096b and DT096c - Annual data provided for DT096c only
DT096b	Temple Cloud 1	362219	157923	48.0	46.5	51.8	50.4	50.6	59.3	48.1	49.0	43.4	54.6	50.6	47.3	-	-	-	Triplicate Site with DT096a, DT096b and DT096c - Annual data provided for DT096c only
DT096c	Temple Cloud 1	362219	157923	49.2	44.1	47.1	47.5	45.5	53.9	50.1	46.3	53.4		47.7	48.3	49.5	<b>41.6</b>	-	Triplicate Site with DT096a, DT096b and DT096c - Annual data provided for DT096c 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 (0.84)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT108a	Temple Cloud 2	362179	158055	36.9	25.6	39.1	30.0	29.1	34.7	34.4	28.1	33.7	34.9	37.6	35.5	-	-	-	Triplicate Site with DT108a, DT108b and DT108c - Annual data provided for DT108c only
DT108b	Temple Cloud 2	362179	158055	42.1	33.1	35.1	30.4	29.6	36.4	33.6	27.7	34.3	38.1	39.1	36.1	-	-	-	Triplicate Site with DT108a, DT108b and DT108c - Annual data provided for DT108c only
DT108c	Temple Cloud 2	362179	158055	46.0	35.2	35.9	27.3	27.9	32.6	30.2	27.9	35.3	36.9	38.8	35.7	34.0	28.6	-	Triplicate Site with DT108a, DT108b and DT108c - Annual data provided for DT108c only
DT109a	Temple Cloud 3	362344	157658	37.5	24.9	34.4	31.6	26.4	27.3	30.2	28.4	30.4	28.5	30.5	30.1	-	-	-	Triplicate Site with DT109a, DT109b and DT109c - Annual data provided for DT109c only
DT109b	Temple Cloud 3	362344	157658	34.0	25.3	36.1	31.9	27.3	29.4	28.9	28.1	29.7	28.9	29.9	31.3	-	-	-	Triplicate Site with DT109a, DT109b and DT109c - Annual data provided for DT109c only
DT109c	Temple Cloud 3	362344	157658	39.0	25.5	35.7	32.5	26.2	26.5	30.7	28.2	31.3		29.9	34.9	30.3	25.4	-	Triplicate Site with DT109a, DT109b and DT109c - Annual data provided for DT109c only
DT252a	Temple Cloud 9	362195	158007	43.9	30.5	44.3	35.6	31.9	38.5	39.6		41.8	42.7	41.9	41.3	-	-	-	Triplicate Site with DT252a, DT252b and DT252c - Annual data provided for DT252c only
DT252b	Temple Cloud 9	362195	158007	41.5	30.5	41.3	35.1	31.1	40.8	38.9	35.3	41.9	42.1	40.4	41.0	-	-	-	Triplicate Site with DT252a, DT252b and DT252c - Annual data provided for DT252c only
DT252c	Temple Cloud 9	362195	158007	44.3	29.8	42.8	36.3	33.6	42.3	34.4	37.3		46.8		39.3	38.8	32.6	-	Triplicate Site with DT252a, DT252b and DT252c - Annual data provided for DT252c only
DT253a	Temple Cloud 10	362243	157846	42.3	37.4	35.1	36.7	39.6	42.5	41.7	38.3	40.8	38.9	41.8	39.3	-	-	-	Triplicate Site with DT253a, DT253b and DT253c - Annual data provided for DT253c only
DT253b	Temple Cloud 10	362243	157846	49.7	43.2	40.4	42.1	41.9	47.3	44.7	36.9	43.1	42.0	45.9	38.8	-	-	-	Triplicate Site with DT253a, DT253b and DT253c - Annual data provided for DT253c only
DT253c	Temple Cloud 10	362243	157846	54.0	42.2	36.8	38.6	42.2	47.5	47.1	37.6	43.0	43.0	42.1	40.9	41.8	35.1	<b>42.1</b>	Triplicate Site with DT253a, DT253b and DT253c - Annual data provided for DT253c only
DT254a	Temple Cloud 11	362262	157799	39.3	25.6	42.3	36.0	31.3	36.4	37.3	33.7	40.5	43.7		44.9	-	-	-	Triplicate Site with DT254a, DT254b and DT254c - Annual data provided for DT254c only
DT254b	Temple Cloud 11	362262	157799	41.4	28.5	46.4	35.8	31.1	40.0	39.2	33.7	37.9	40.3	42.9	41.5	-	-	-	Triplicate Site with DT254a, DT254b and DT254c - Annual data provided for DT254c only
DT254c	Temple Cloud 11	362262	157799	40.1	26.6	46.7	32.9	29.4	40.4	37.6	34.1	39.8	40.4	42.9	43.2	38.0	31.9	-	Triplicate Site with DT254a, DT254b and DT254c - Annual data provided for DT254c only
DT255a	Temple Cloud 12	362284	157741	45.0	39.0	41.8	40.8	35.7	41.3	44.1	38.6	41.6	41.2	43.8	41.0	-	-	-	Triplicate Site with DT255a, DT255b and DT255c - Annual data provided for DT255c only
DT255b	Temple Cloud 12	362284	157741	46.8	40.0	40.4	37.0	38.3	44.6	46.1	40.3	43.7	42.3	46.4	45.3	-	-	-	Triplicate Site with DT255a, DT255b and DT255c - Annual data provided for DT255c only
DT255c	Temple Cloud 12	362284	157741	48.9	37.9	40.7	43.3	41.9	43.4	47.9	42.0		41.8	45.3	40.5	42.3	35.5	-	Triplicate Site with DT255a, DT255b and DT255c - Annual data provided for DT255c only
DT269	Westfield 5	367321	153823	25.7	14.7	23.6	16.3	10.2	11.1	10.8			16.6	18.7	23.4	17.1	14.4	-	



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 (0.84)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT032	Whitchurch	361242	167652	43.1	28.4	35.3	29.8	23.3	29.4	34.1	29.6	31.5	34.5	35.4	37.4	32.6	27.4	-	
DT098	Whitchurch 2	361276	167555	34.7	18.2	35.3	27.3	20.6	23.2	25.7	28.4	31.0	24.0	23.3	28.8	26.7	22.4	-	
DT100	Whitchurch 4	361326	167606	30.6	20.1	26.1	21.5	21.4		22.4	21.2	23.4	21.7	23.5	26.2	23.5	19.7	-	
DT101	Whitchurch 5	361235	167824	40.1	37.8	34.5	30.8	32.0	33.7	34.5	32.9	31.8	32.6	37.8	35.0	34.5	28.9	-	

- All erroneous data has been removed from the NO<sub>2</sub> 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 2022 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.

**Notes:**

Exceedances of the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

NO<sub>2</sub> annual means exceeding 60µg/m<sup>3</sup>, indicating a potential exceedance of the NO<sub>2</sub> 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 & North East Somerset Council During 2022**

Bath & North East Somerset Council has not identified any new sources relating to air quality within the reporting year of 2022.

### **Additional Air Quality Works Undertaken by Bath & North East Somerset Council During 2022**

During 2022, Bath & North East Somerset Council carried out further monitoring for Benzene and also using indicative Zephyr analysers results are detailed in Appendix F.

Bath and North East Somerset Council has also carried out work on comparing background monitoring to the background maps and added new sites which are compliant with the micro siting requirements for the CAZ project. The results from these projects are summarised in Appendix H.

### **QA/QC of Diffusion Tube Monitoring**

The diffusion tubes were analysed by Gradko in 2017-2022. 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 2022.

### **Diffusion Tube Annualisation**

During 2022 12 diffusion tubes (12 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
DT278	0.9734	0.9692	0.9884	0.9620	0.9732	13.2	12.9
DT279	0.9158	0.9536	0.9100	0.9277	0.9268	13.4	12.4
DT293	0.8397	0.7787	0.8460	0.7565	0.8052	27.7	22.3
DT298	1.0406	1.0024	1.0256	1.0510	1.0299	11.2	11.6
DT299	1.0108	1.0392	1.0048	1.0685	1.0308	34.8	35.9
DT300	1.0108	1.0392	1.0048	1.0685	1.0308	15.9	16.4
DT301	0.9925	1.0300	0.9868	1.0520	1.0154	11.1	11.3
DT302	1.0108	1.0392	1.0048	1.0685	1.0308	24.6	25.4
DT303	1.0108	1.0392	1.0048	1.0685	1.0308	16.1	16.6
DT304	0.9532	0.9873	0.9524	1.0093	0.9756	49.3	48.1
DT305	0.9532	0.9873	0.9524	1.0093	0.9756	46.3	45.2
DT115	0.9450	0.9424	0.9441	0.9225	0.9385	20.3	19.1

### Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2023 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  $\text{NO}_x/\text{NO}_2$  continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Bath & North East Somerset Council have applied a local bias adjustment factor of 0.84 to the 2022 monitoring data. A summary of bias adjustment factors used by Bath & North

East Somerset Council over the past five years is presented in Table C.2. The local bias calculation is shown in Table C.3.

A local bias factor is where this represents local conditions, and in Bath and North East Somerset this has been calculated using co-located diffusion tubes at the Bath A4 Roadside site (CM8). 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 2022 Bath & North East Somerset Council have used the local bias factor as this better represents the diffusion tubes in the Bath AQMA. The national bias factor for 2022 was lower (0.83)<sup>16</sup> and therefore the local bias factor represents a worst-case result at locations which are less representative of the local bias. In 2018 and 2020-21 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.

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<sup>16</sup> 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
2022	Local	-	0.84
2021	Local	-	0.87
2020	Local	-	0.89
2019	National	06/20	0.92
2018	Local	-	0.96

**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	12				
Bias Factor A	0.84 (0.78 - 0.91)				
Bias Factor B	19% (10% - 28%)				
Diffusion Tube Mean ( $\mu\text{g}/\text{m}^3$ )	29.6				
Mean CV (Precision)	2.8%				
Automatic Mean ( $\mu\text{g}/\text{m}^3$ )	24.9				
Data Capture	96%				
Adjusted Tube Mean ( $\mu\text{g}/\text{m}^3$ )	25 (23 - 27)				

**Notes:**

A single local bias adjustment factor has been used to bias adjust the 2022 diffusion tube results.

**NO<sub>2</sub> Fall-off with Distance from the Road**

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO<sub>2</sub> concentration at the nearest location relevant for exposure has been estimated using the Diffusion Tube Data Processing Tool/NO<sub>2</sub> fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO<sub>2</sub> 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 8.2  $\mu\text{g}/\text{m}^3$  was used in Bath (from Alexandra

Park, DT23) 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 6 sites with concentrations above 36 µg/m<sup>3</sup> were distanced adjusted: DT222, DT224, DT304, DT305, DT295 and DT253. A further site was adjusted as the site was located further from the road (e.g., on the side of a building) than the nearest façade to ensure they were not above 36 µg/m<sup>3</sup> (DT055).

**Table C.4 – NO<sub>2</sub> Fall off With Distance Calculations (concentrations presented in µg/m<sup>3</sup>)**

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	25.8	8.2	29.6	
DT222a, DT222b, DT222c	1.8	2.3	36.6	8.2	35.1	
DT224a, DT224b, DT224c	1.1	1.5	39.7	8.2	38.0	<i>Predicted concentration at Receptor within 10% the AQS objective.</i>
DT304	1.6	2.4	40.4	8.2	37.5	<i>Predicted concentration at Receptor within 10% the AQS objective.</i>
DT305	3.2	5.3	38.0	8.2	34.1	
DT295	2.3	3.0	40.2	6.0	37.9	<i>Predicted concentration at Receptor within 10% the AQS objective.</i>
DT253a, DT253b, DT253c	3.6	1.5	35.1	5.0	<b>42.1</b>	<i>Predicted concentration at Receptor above AQS objective.</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 tool<sup>17</sup>

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 2022 there were 48 triplicate sites in Bath & North East Somerset. One triplicate site in Bath and North East Somerset showed poor precision for individual periods in April (DT217). All other 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 NO<sub>2</sub> (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 PM<sub>10</sub> (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.
- 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 2016-2022 the continuous data for Guildhall, Windsor Bridge, Chelsea House and Bath A4 Roadside PM<sub>10</sub> was corrected by Air Quality Data Management (AQDM).

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

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<sup>17</sup> [Local Bias adjustment tool website](#).

### **PM<sub>10</sub> and PM<sub>2.5</sub> Monitoring Adjustment**

The PM<sub>10</sub> measurements are made using an unheated BAM1020 and have been corrected by dividing by 1.2 as recommended in the LAQM.TG22. The PM<sub>2.5</sub> measurements are made using a heated BAM1020 and are not corrected.

### **Automatic Monitoring Annualisation**

All automatic monitoring locations within Bath & North East Somerset Council recorded data capture of greater than 75% therefore it was not required to annualise any monitoring data.

### **NO<sub>2</sub> Fall-off with Distance from the Road**

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO<sub>2</sub> concentration at the nearest location relevant for exposure has been estimated using the NO<sub>2</sub> fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO<sub>2</sub> concentrations corrected for distance are presented in Table B.1.

No automatic NO<sub>2</sub> monitoring locations within Bath & North East Somerset Council required distance correction during 2022.



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

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

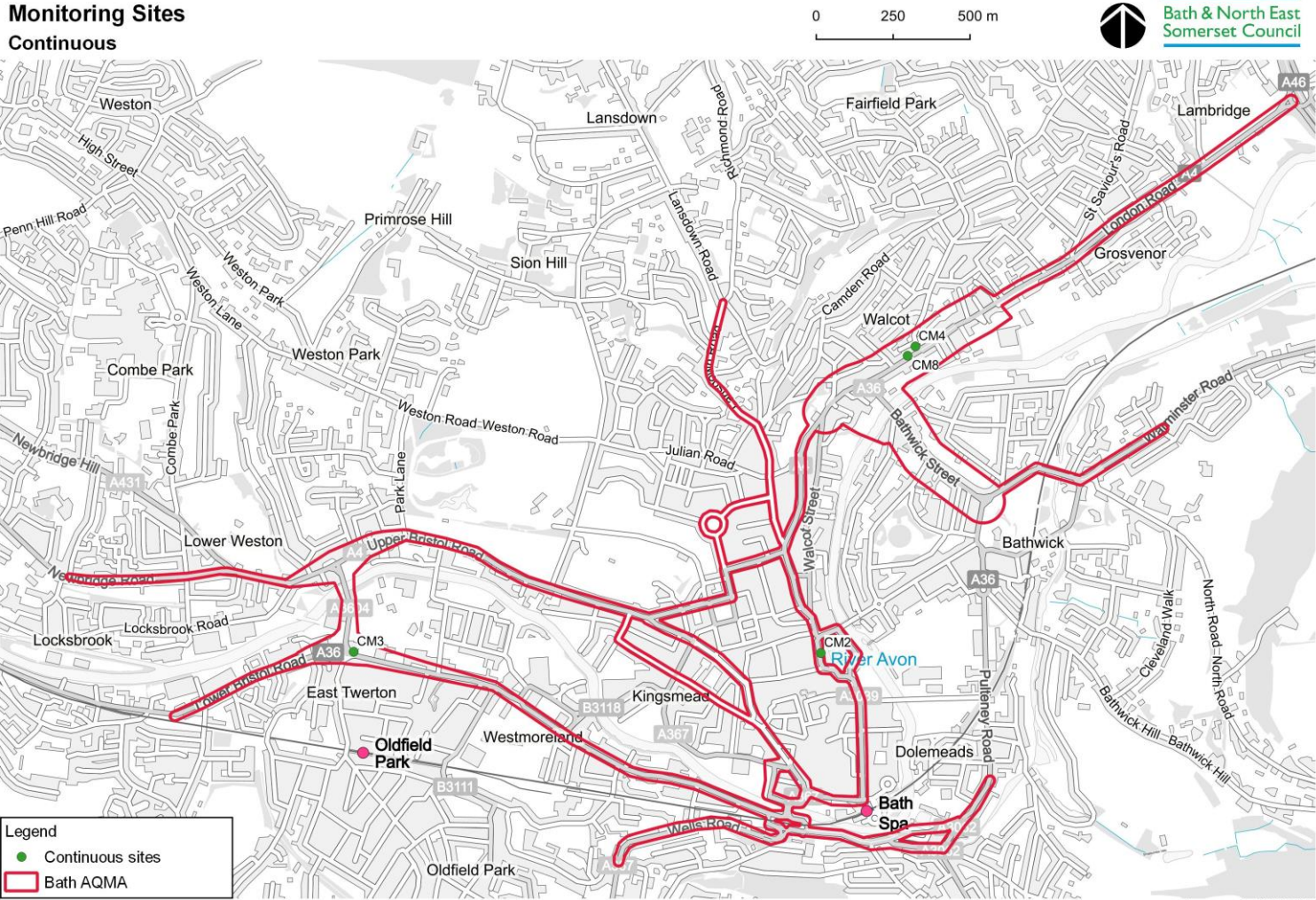


Figure D.2 – Map of the non-automatic monitoring sites and AQMA – Bath – Centre

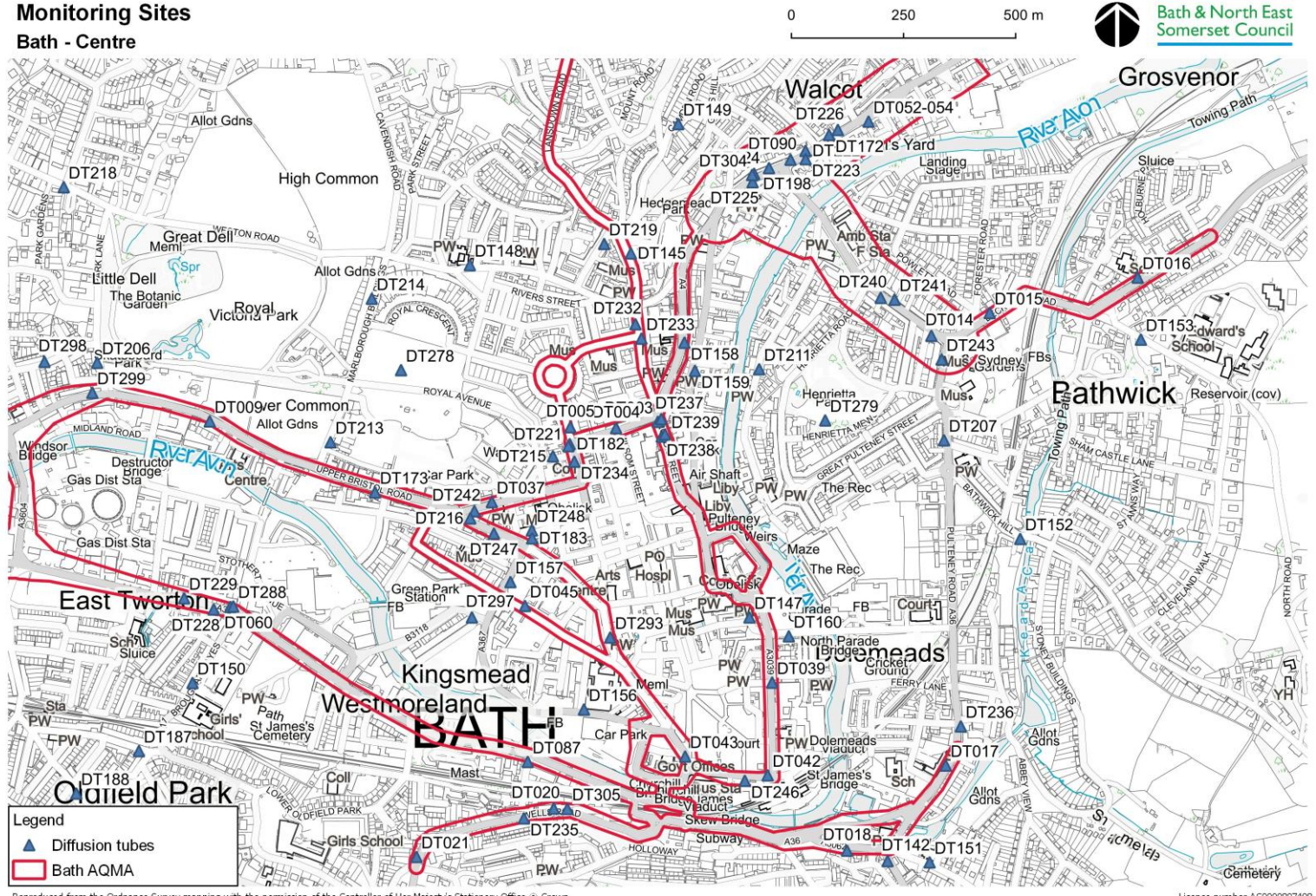




Figure D.4 – Map of the non-automatic monitoring sites and AQMA – Bath – South

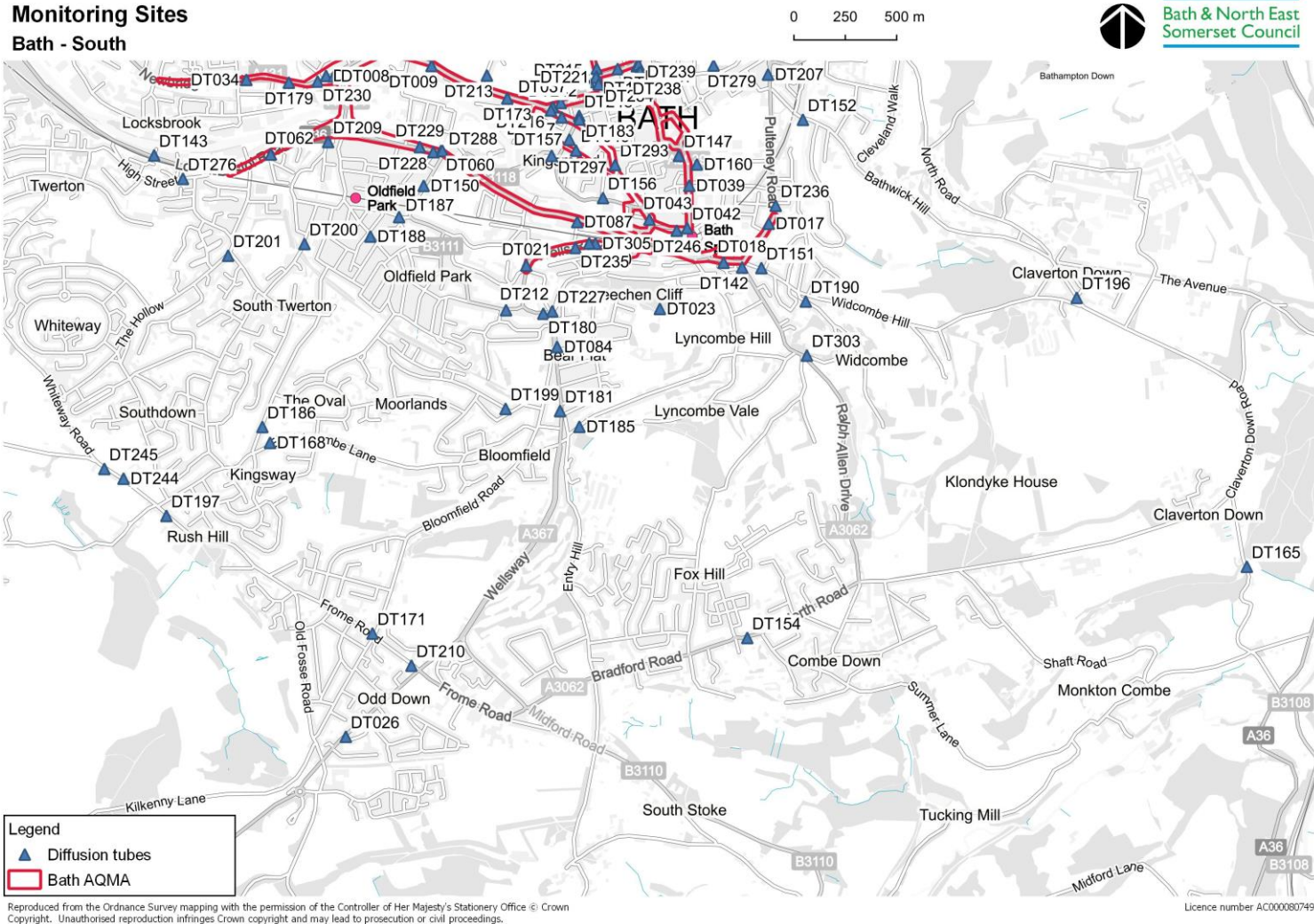
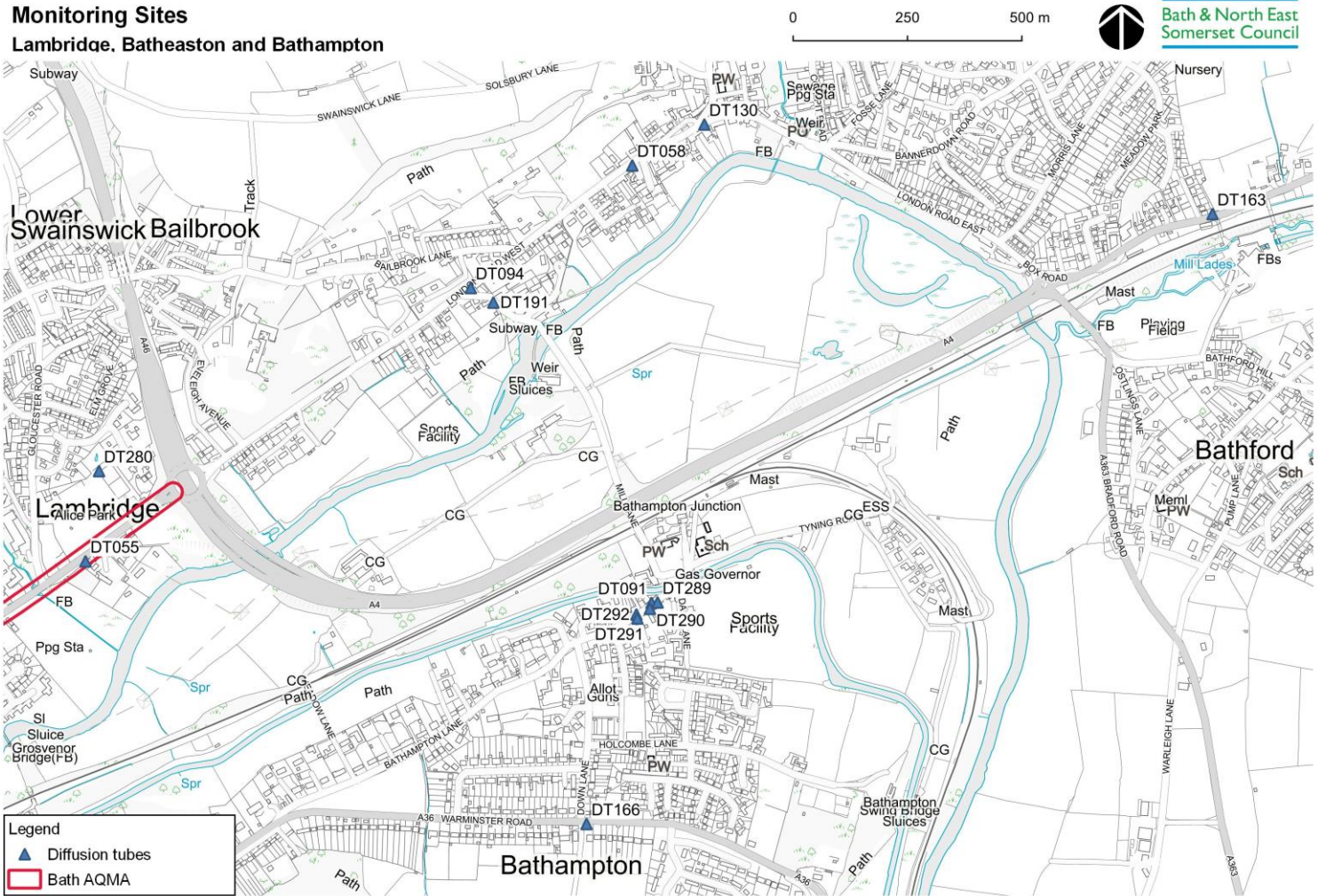


Figure D.5 – Map of the non-automatic monitoring sites and AQMA – Bathampton, Batheaston and Lambridge



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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

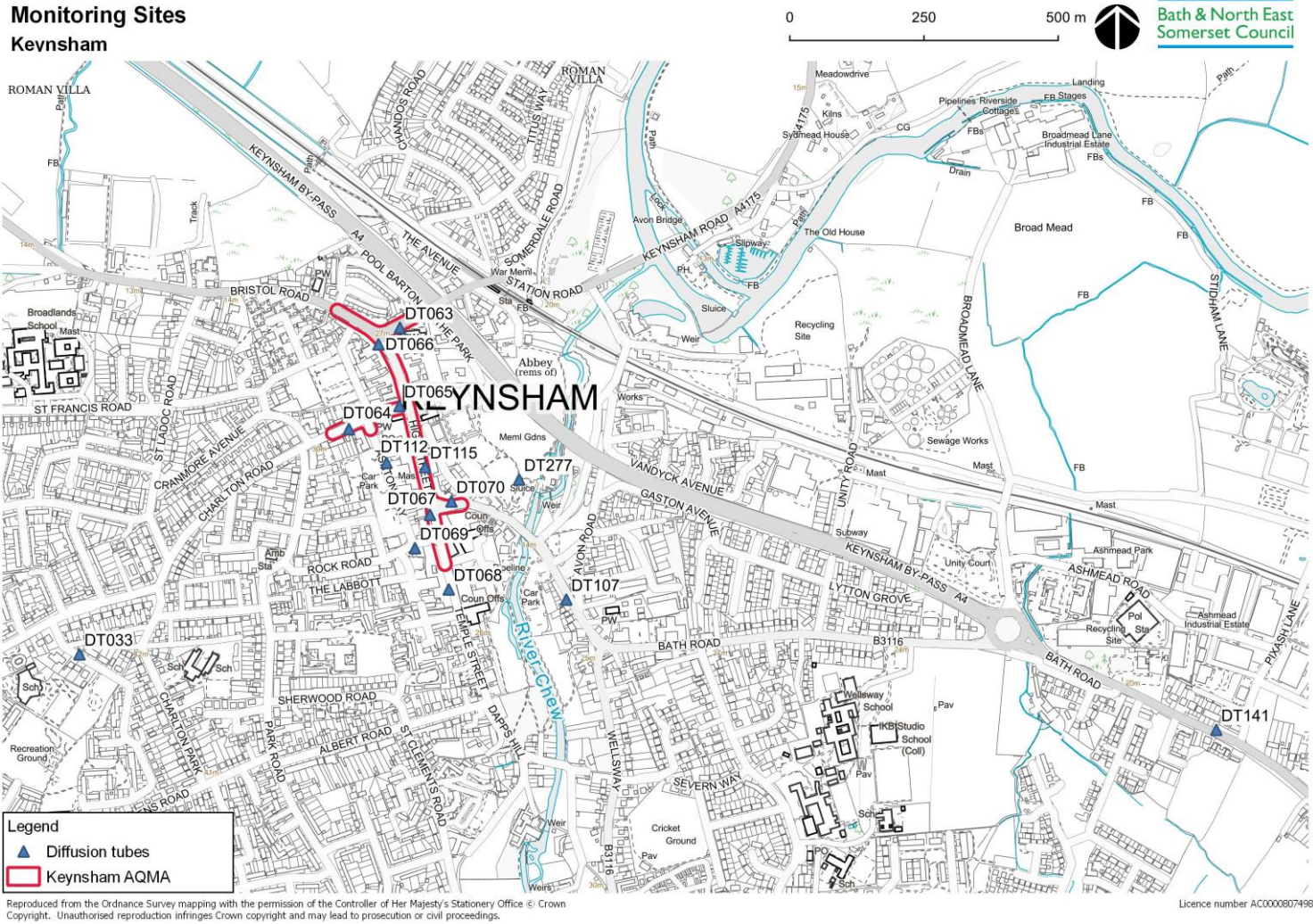






Figure D.9 – Map of the non-automatic monitoring sites– Radstock and Westfield

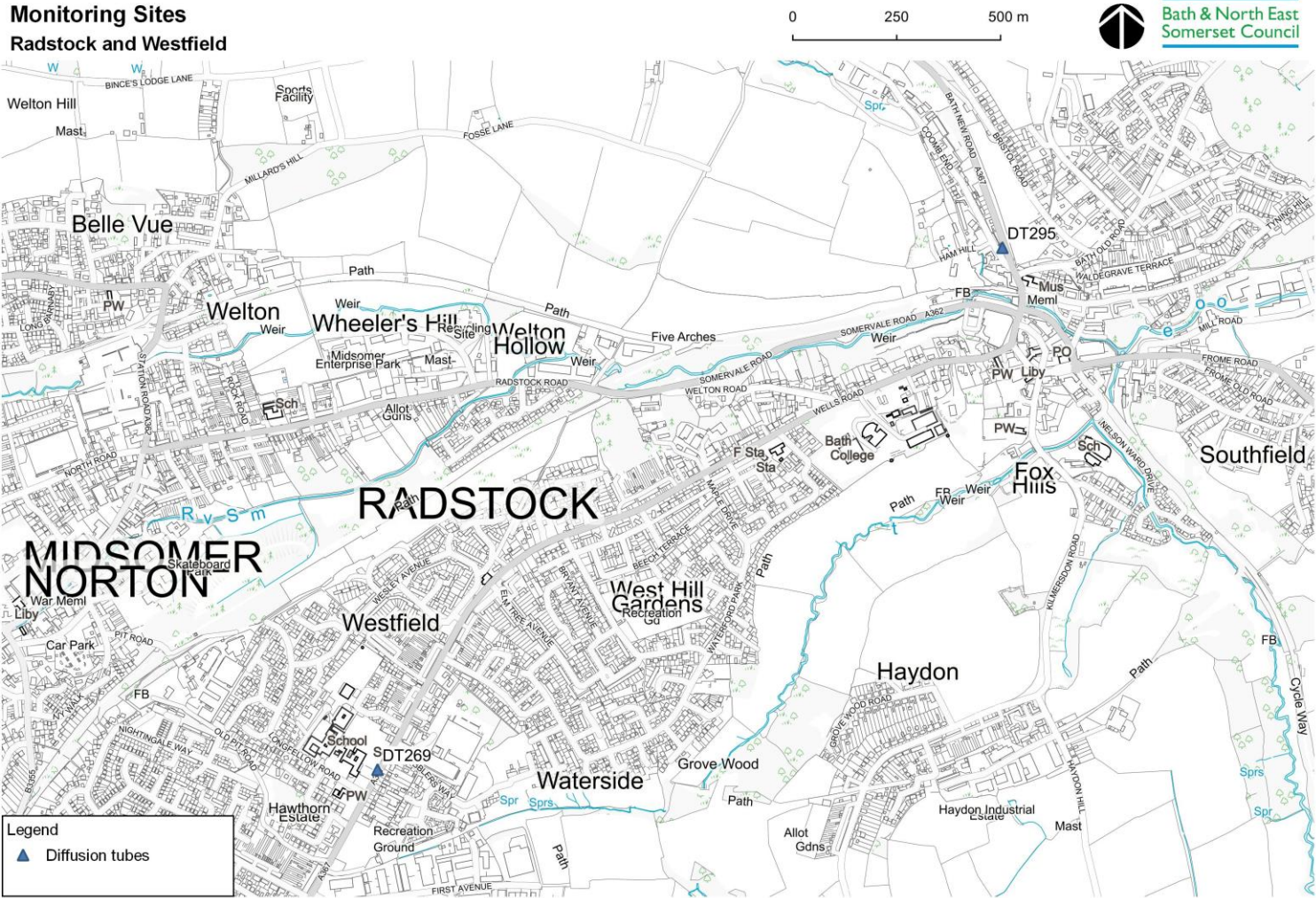


Figure D.10 – Map of the non-automatic monitoring sites and AQMA – Saltford

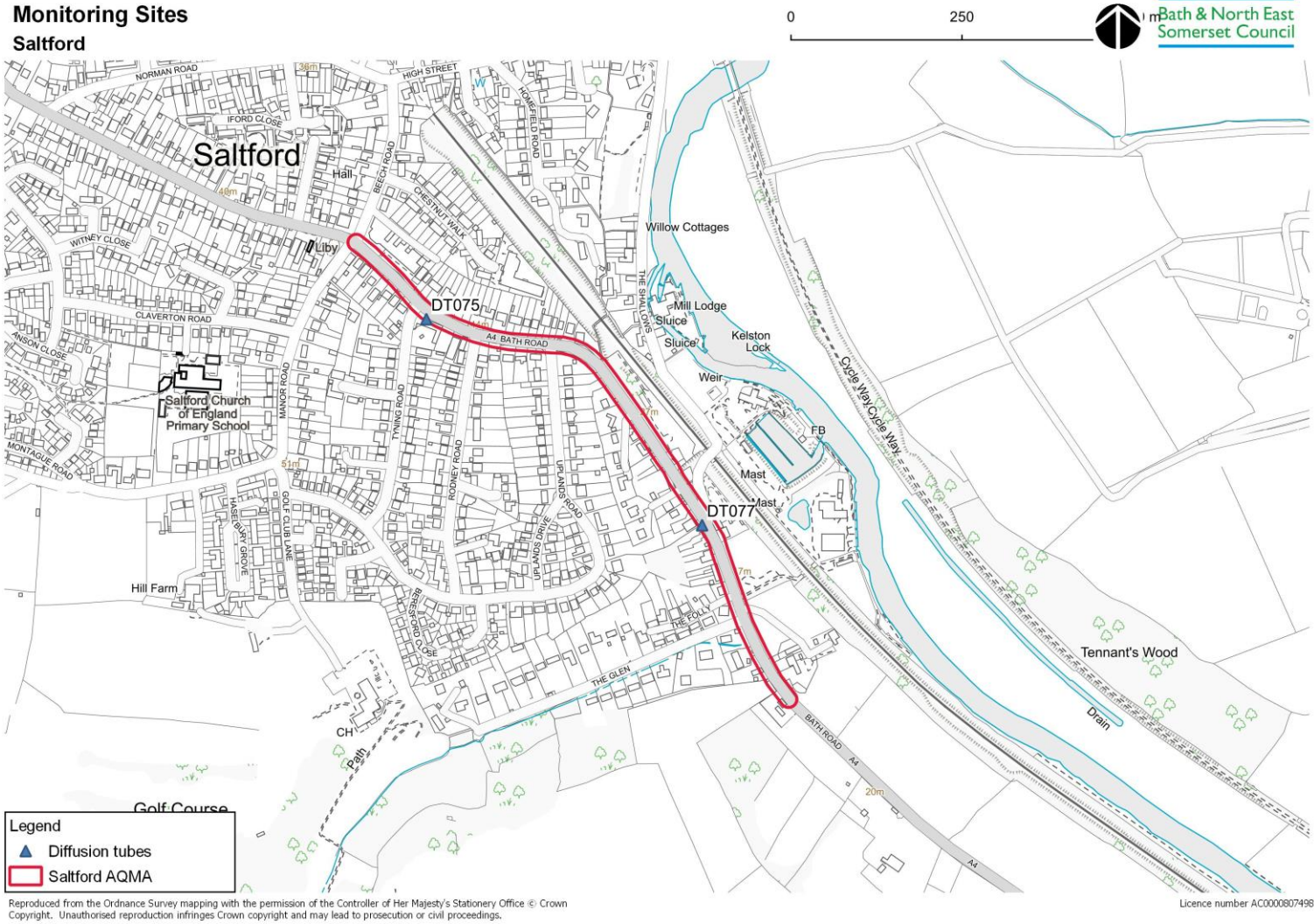


Figure D.11 – Map of the non-automatic monitoring sites and AQMA – Temple Cloud

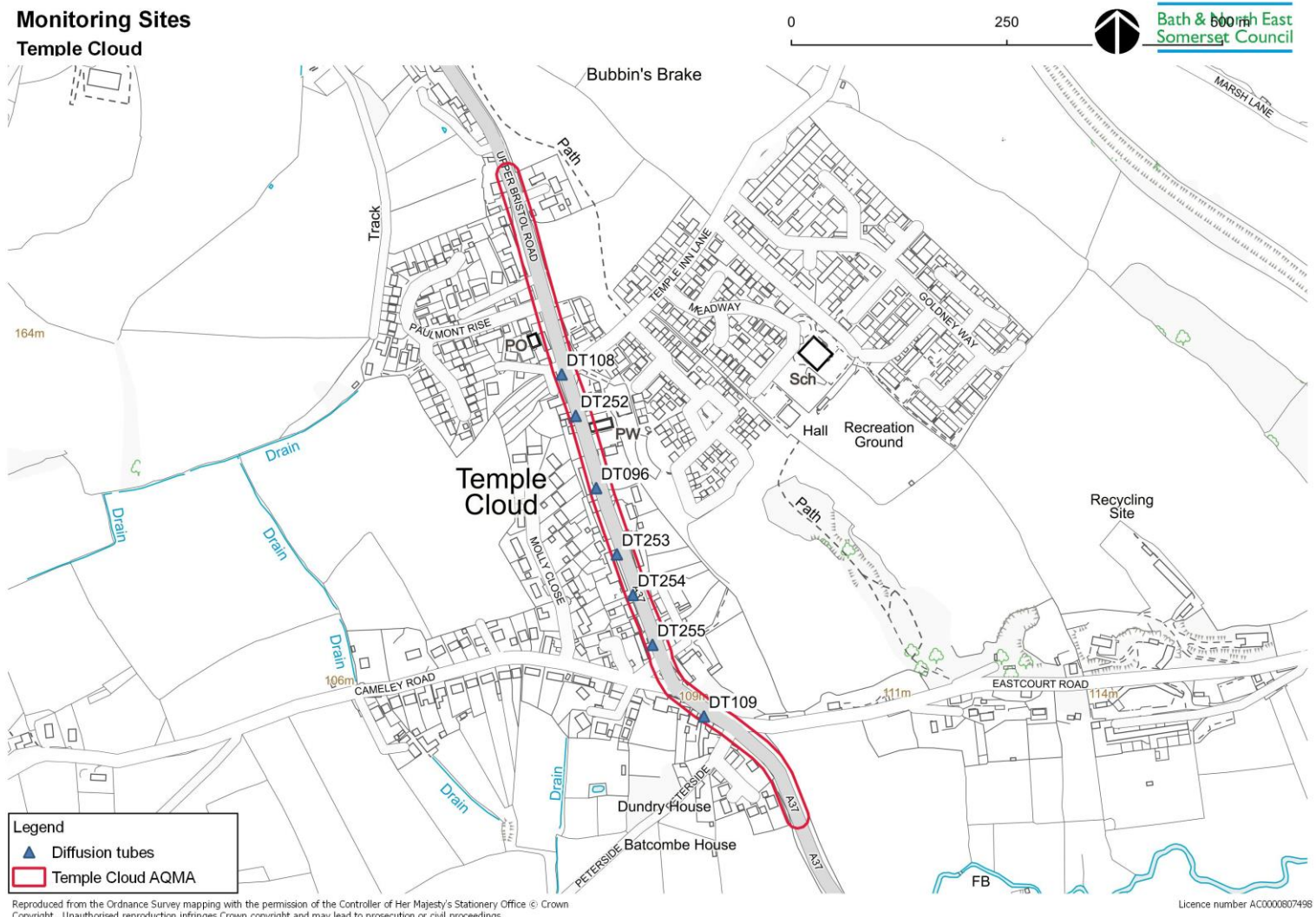
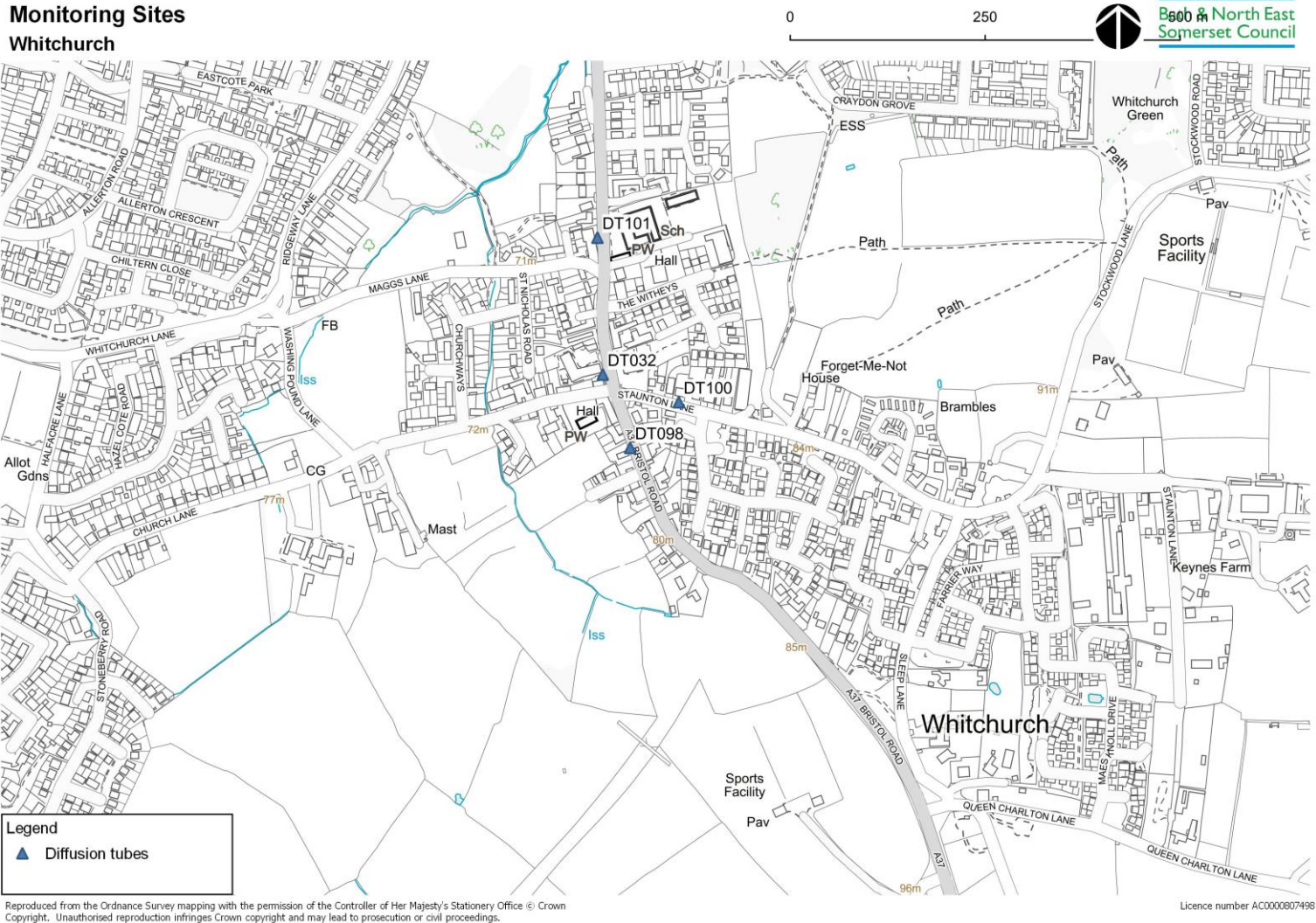


Figure D.12 – Map of the non-automatic monitoring sites – Whitchurch



## Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England<sup>18</sup>

Pollutant	Air Quality Objective: Concentration	Air Quality Objective: Measured as
Nitrogen Dioxide (NO <sub>2</sub> )	200µg/m <sup>3</sup> not to be exceeded more than 18 times a year	1-hour mean
Nitrogen Dioxide (NO <sub>2</sub> )	40µg/m <sup>3</sup>	Annual mean
Particulate Matter (PM <sub>10</sub> )	50µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	24-hour mean
Particulate Matter (PM <sub>10</sub> )	40µg/m <sup>3</sup>	Annual mean
Sulphur Dioxide (SO <sub>2</sub> )	350µg/m <sup>3</sup> , not to be exceeded more than 24 times a year	1-hour mean
Sulphur Dioxide (SO <sub>2</sub> )	125µg/m <sup>3</sup> , not to be exceeded more than 3 times a year	24-hour mean
Sulphur Dioxide (SO <sub>2</sub> )	266µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	15-minute mean

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<sup>18</sup> The units are in microgrammes of pollutant per cubic metre of air (µg/m<sup>3</sup>).

## 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.

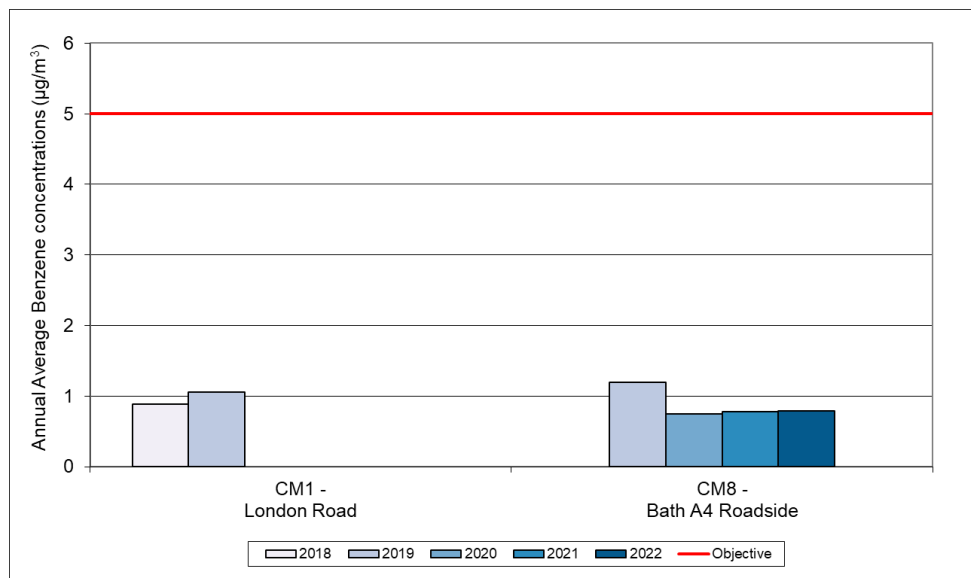
Monitoring results for benzene are shown in Table F.1 and Figure F.1. The results show that there are no exceedances of the benzene objectives during 2021. Trends in benzene show that levels remain similar to previous years (Figure F.1).

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

Site ID	Site Name	Data Capture for 2022 (%)	2018	2019	2020	2021	2022
CM1	London Road	-	0.9	1.1	-	-	-
CM8	Bath A4 Roadside	100	-	1.2	0.8	0.8	0.8

**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 NO<sub>2</sub> 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 are being used to adjust timings of the traffic lights in Gay Street/Queen Square to discourage traffic in Gay Street when pollution 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 alternates between the continuous analyser at Windsor Bridge (CM3) and Gay Street. During 2022 an additional Zephyr (Zephyr 3) was purchased to carry out surveys across the district in response to requests.

The traffic lights are set to trigger based on the 15-minute NO<sub>2</sub> 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/m<sup>3</sup> 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 2022. Due to the impacts of the partial and full closure of Cleveland Bridge, traffic flows were disrupted throughout 2022, particularly around Queen Square. Whilst concentrations of NO<sub>2</sub> were consistently monitored along Gay Street, the UTMC was not implemented so to avoid any further disruptions to traffic flows.

**Table F.2 – NO<sub>2</sub> Thresholds to trigger a traffic light change (µg/m<sup>3</sup>)**

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



During 2022 regular 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 PM<sub>10</sub> and PM<sub>2.5</sub> 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 show, although indicative show no exceedances of the air quality objectives.

The monitoring at Darlington Street was carried out to compare the concentrations whilst Cleveland Bridge was operating with only light duty vehicles on temporary lights and when open to all vehicles (with an 18T weight restriction). The results show that there are slightly higher concentrations once the bridge re-opened. On comparing the results to other locations in the city similar trends were seen which indicate that the changes are due to seasonality rather than changes in traffic.

The monitoring at Temple Cloud was to consider the differences in particulates in summer and winter. Due to restrictions the locations were on opposite sides of the road in Summer and Winter which may have affected the results. The results indicate there are higher concentrations during the winter period. On comparing these results with other locations on [UK Air Quality Website](#), the results show similar trends with a high PM period in early December. This is likely to be a combination of local sources and PM brought in by other air masses from Europe.

**Table F.3 – NO<sub>2</sub> Monitoring Results: Zephyr analyser**

Site	Dates at site	Mean NO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>2</sub> 1-Hour Means > 200 µg/m <sup>3</sup> (2)	Data Capture 2022(%) (1)
<b>Zephyr 1</b>				
Gay Street	1/1/22-31/12/22	26	0	87.5%
<b>Zephyr 2</b>				
Darlington Street (average)	24/8/22-7/12/22	17	0 (65)	27.2%
Darlington Street (before)	24/8/22-30/9/22	16	0 (47)	10.3%
Darlington Street (after)	1/10/22-7/12/22	19	0 (67)	16.9%
<b>Zephyr 3</b>				
Combe Park	13/5/22-9/6/22	19	0 (61)	7.4%
Wells Road	15/3/22-29/4/22	34	0 (94)	12.3%
Wellsway	8/8/22-13/9/22	7	0 (30)	9%
Widcombe School (indoor)	13/9/22-20/10/22	5	0 (25)	10.1%
Temple Cloud (average)		20	0 (73)	13.1%
Temple Cloud (summer)	16/6/22-13/7/22	29	0 (80)	7%
Temple Cloud (winter)	9/12/22-31/12/22	12	0 (61)	6.1%

**Notes:**

Exceedances of the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> 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 99.8<sup>th</sup> percentile of 1-hour means is provided in brackets.

**Table F.4 – PM Monitoring Results: Zephyr analysers**

Site	Dates at site	Annual Mean PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>10</sub> 24-hour Means >50 µg/m <sup>3</sup> <sup>(2)</sup>	Annual Mean PM <sub>2.5</sub> (µg/m <sup>3</sup> )	Data Capture 2022 (%) <sup>(1)</sup>
<b>Zephyr 1</b>					
Gay Street	1/1/22-31/12/22	14	1	13	87.5%
<b>Zephyr 2</b>					
Darlington Street (average)	24/8/22-7/12/22	9	0 (15)	7	27.2%
Darlington Street (before)	24/8/22-30/9/22	8	0 (12)	7	10.3%
Darlington Street (after)	1/10/22-7/12/22	10	0 (16)	7	16.9%
<b>Zephyr 3</b>					
Combe Park	13/5/22-9/6/22	8	0 (13)	8	7.4%
Wells Road	15/3/22-29/4/22	20	1 (38)	19	12.3%
Wellsway	8/8/22-13/9/22	9	0 (17)	8	9%
Widcombe School (indoor)	13/9/22-20/10/22	6	0 (9)	6	10.1%
Temple Cloud (average)		12	0 (27)	10	13.1%
Temple Cloud (summer)	16/6/22-13/7/22	9	0 (14)	9	7%
Temple Cloud (winter)	9/12/22-31/12/22	16	0 (32)	12	6.1%

**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 90.4<sup>th</sup> percentile of 24-hour means is provided in brackets.

## Appendix G: Supporting Technical Information - Air Quality Action Plan Review

The Bath Air Quality Action Plan (2009) was developed in recognition of the legal requirement of the local authority to work towards air quality objectives under Part IV of the Environment Act 1995 and relevant regulations under that part.

Having received feedback from the Department of Environment, Food and Rural Affairs (Defra) on the 2022 Annual Status Report, Bath and North East Somerset Council were advised to provide an updated Air Quality Action Plan (AQAP) for the Air Quality Management Area (AQMA) within Bath.

Monitoring of air quality prior to 2009 showed that the annual mean national objective for nitrogen dioxide (NO<sub>2</sub>) was being exceeded at several locations along main roads in Bath. This area was consulted on, and the major road network area was declared as an AQMA for NO<sub>2</sub> in July 2008, see Figure G.1.

The highest concentration of NO<sub>2</sub> was recorded at a heavily trafficked area with 3 adjacent residential properties at Lambridge (just east of the junction with the old Gloucester Road) with an annual mean more than 80 µg/m<sup>3</sup> in 2009.

Walcot Terrace (just east of the Cleveland junction on London Road); London Road (Snow Hill); and St James' Parade had at least 60 µg/m<sup>3</sup> as an annual average concentration in 2009.

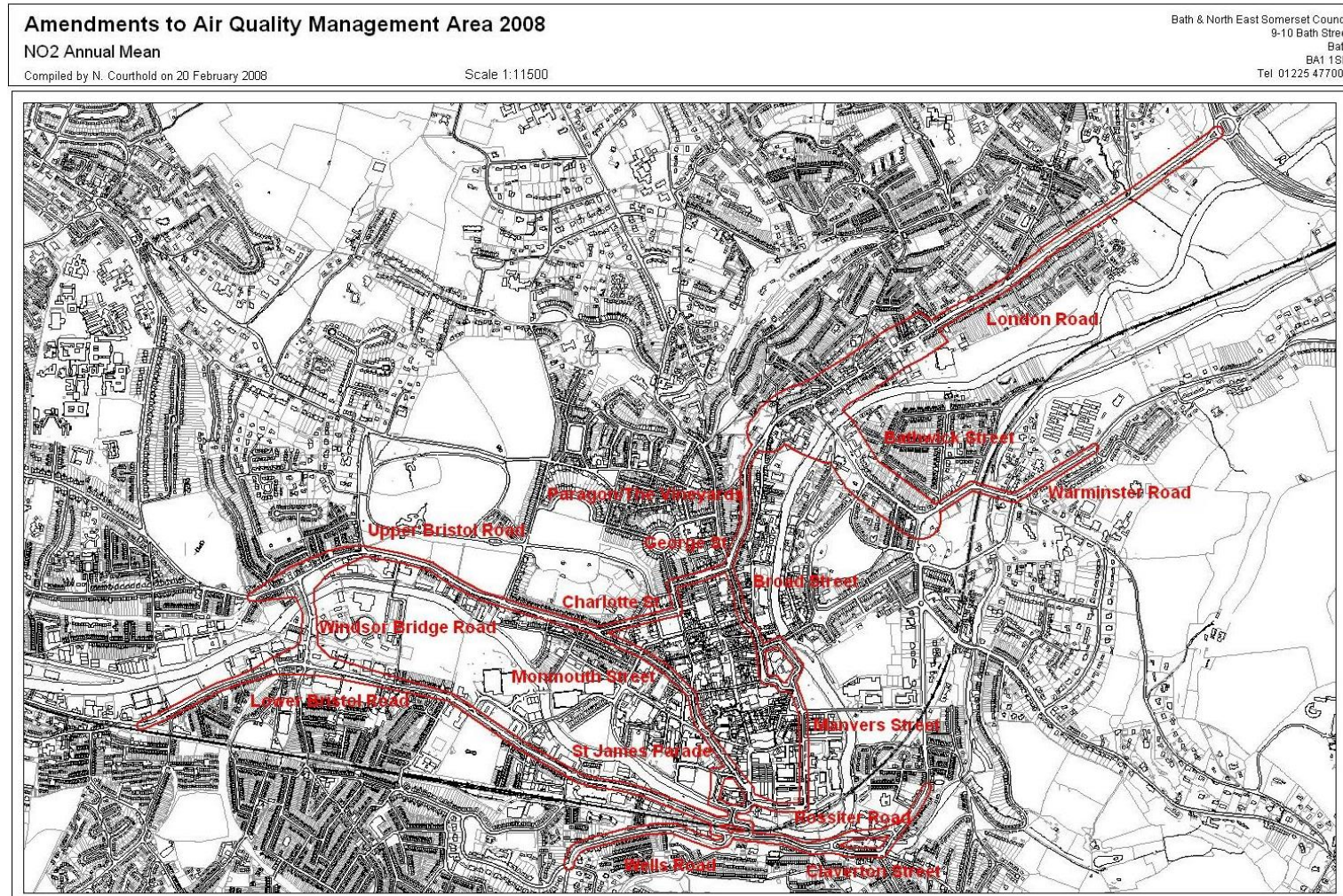
Cleveland Place West; Bathwick Street; Broad Street; Somerset Street; The Paragon; Widcombe Parade; Somerset Street (east of Corn Street); Manvers Street; Wells Road (bottom); Kennet House; Morley Terrace; Windsor Bridge; Argyle Terrace and Beckford Road had annual average concentrations in excess of 50 µg/m<sup>3</sup> in 2009.

The 2009 AQAP supported existing measures in progress, in addition to proposing new measures to reduce concentrations of NO<sub>2</sub>. As detailed in Table G.2, these measures included a feasibility study into a Low Emission Zone, recharging points for electric vehicles and possible Cleveland Bridge HGV restrictions.

The 2009 AQAP within Bath was superseded by the Bath Clean Air Plan introduced in 2017, the Bath Clean Air Plan looked to bring compliance with the limit value for annual mean NO<sub>2</sub> concentrations within Bath in the shortest possible time.

This appendix aims to provide a progress update on those measures identified within the 2009 AQAP, as well as reviewing the diffusion tube and continuous analyser concentrations that previously exceeded the objective value of 40 µg/m<sup>3</sup>.

Figure G.1 - The Bath Air Quality Management Area



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## Annual concentrations of nitrogen dioxide in Bath

Air pollution monitoring has taken place in Bath and North East Somerset since the early 1960s with programmes to measure smoke and sulphur dioxide (SO<sub>2</sub>). This has been expanded over the years and in 2009 included 90 sites monitoring NO<sub>2</sub>, particulate matter (PM<sub>10</sub>), carbon monoxide (CO) and benzene. As of 2022, the Council has over 150 diffusion tube sites monitoring NO<sub>2</sub>, with four chemiluminescence analysers: Guildhall (CM2), Windsor Bridge (CM3), Chelsea House (CM4) and the affiliated Automatic Urban and Rural Network Site located on A4 London Road (CM8). Between these analysers, concentrations of NO<sub>x</sub>, NO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> and benzene are monitored.

Table G.1, below, outlines the concentrations of nitrogen dioxide, in micrograms per cubic metre (µg/m<sup>3</sup>), for those diffusion tube sites that were previously identified in the 2009 Bath Air Quality Plan, and their concentrations up to 2022. Where a site is no longer active, an alternative location has been provided within the vicinity of the area where possible. Note that there may be some variations in the annual results as the method for diffusion tube collection, and thus bias adjustment process for the annual averages, has changed since the publication of the 2009 Bath AQAP.

**Table G.1 - Annual NO<sub>2</sub> concentrations in micrograms per cubic metre (µg/m<sup>3</sup>) from 2009 to 2022.**

Site ID	Location	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Key Comments
DT062	Argyle Terrace	52	49	46	46	45	48	49	48	45	39	37	33	34	30	Monitoring remains active.
DT014	Bathwick Street	56	52	50	48	50	54	51	45	44	36	33	29	20	19	Monitoring remains active.
DT015	Beckford Road	51	52	41	41	43	43	35	37	34	30	27	22	20	18	Monitoring remains active.
H13 (historical)	Belvedere	42	44	-	-	-	-	-	-	-	-	-	-	-	-	Monitoring closed in 2011 as another diffusion tube was sited nearby. Lansdown Road (DT145) is now the closest monitor, see further below.
DT003	Broad Street	58	<u>60</u>	<u>60</u>	<u>62</u>	59	<u>62</u>	57	48	48	-	-	-	-	-	Monitoring closed in 2017 as the pole was removed. Monitoring restarted as Broad Street 4 in 2019, see below.
DT239	Broad Street 4	-	-	-	-	-	-	-	-	-	-	37	26	32	29	See above.
DT037	Charlotte Street	45	46	39	42	43	44	44	46	38	33	30	26	24	22	Monitoring remains active.
DT051	Cleveland Place West	59	<u>61</u>	<u>60</u>	51	55	58	55	50	-	-	-	-	-	-	Monitoring closed in 2017. Monitoring started at Cleveland Terrace in 2019, see below, as this location was nearer to residential properties and exposure.

Site ID	Location	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Key Comments
DT225	Cleveland Terrace	-	-	-	-	-	-	-	-	-	-	37	32	32	29	See above.
DT019	Gay Street/Queen Square	45	48	-	-	-	-	-	-	-	-	-	-	-	-	Monitoring closed in 2011 as other diffusion tubes were sited nearby. As present, sites located along Gay Street are near but not at the exact location.
DT005	Gay Street – Top	42	42	43	43	42	48	40	41	36	32	31	22	23	21	Monitoring remains active.
DT001	High Street/ Guildhall	42	46	44	43	45	46	40	40	36	-	-	-	-	-	Monitoring closed in 2019 as concentrations were below the objective at the façade and away from residential properties. A continuous analyser, the Guildhall, was also situated nearby.
H20 (historical)	Kennet House	55	59	-	-	-	-	-	-	-	-	-	-	-	-	Monitoring closed in 2011 as another diffusion tube was located nearby. As present, St James Parade (DT043) remains the closest location, see further below.
DT055	Lambridge	<u>82</u>	<u>81</u>	<u>62</u>	<u>62</u>	<u>60</u>	<u>64</u>	<u>65</u>	<u>60</u>	46	40	36	29	28	26	Monitoring remains active.
DT047	Lansdown Crescent	45	48	41	42	41	42	38	38	31	-	-	-	-	-	Monitoring closed in 2017. Instead, Lansdown Road (below), was placed closer to Camden Road and the residential properties.
DT145	Lansdown Road	-	-	-	-	-	-	-	-	33	31	26	21	20	19	See above.
DT046	Little Stanhope Rd	49	46	43	39	43	41	41	40	37	-	-	-	-	-	Monitoring closed in 2017. At present, monitoring at James Street West (DT045) remains near but not in the exact location.
DT011	London Road	46	49	48	48	48	51	44	41	38	33	-	-	-	-	Monitoring closed in 2017 as other locations were situated nearby. Walcot Terrace (DT052-054) and the continuous analysers (CM1 and CM8), both included below, are situated nearby.



Site ID	Location	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Key Comments
DT025	Lower Bristol Road	42	43	-	-	-	-	-	-	-	-	-	-	-	-	Monitoring closed in 2011. Monitoring resumed as Lower Bristol Road 3 in 2019, see below,
DT229	Lower Bristol Road 3	-	-	-	-	-	-	-	-	-	-	36	28	30	26	See above.
DT039	Manvers Street	55	53	47	53	49	54	50	44	38	29	33	24	25	23	Monitoring remains active.
DT061	Morley Terrace	51	46	43	44	46	45	43	40	38	-	-	-	-	-	Monitoring closed in 2017. This location was close to Argyle Terrace which was measuring similar concentrations whilst measuring the extent of the AQMA. The continuous analyser at Windsor Bridge is also situated nearby.
DT034	Newbridge Road	41	42	41	45	44	49	42	40	38	33	31	23	22	21	Monitoring remains active.
DT048	The Paragon	57	53	51	48	48	48	44	42	38	-	-	-	-	-	Monitoring closed in 2017 as it didn't define the edges of the AQMA. However, monitoring restarted at the Paragon 2, see below.
DT158	Paragon 2	-	-	-	-	-	-	-	-	-	33	32	24	25	22	See above.
DT044	Somerset Street	58	<u>60</u>	57	55	-	-	-	-	-	-	-	-	-	-	Monitoring closed in 2013. This location was near St James Parade, (DT043) which was closer to exposure, see further below.
DT043	St James' Parade	<u>62</u>	<u>61</u>	55	59	57	58	58	57	-	-	-	-	-	-	Monitoring remains active, however, the original location moved in 2017 due to changes in the road layout. See below.
DT043	St James' Parade	-	-	-	-	-	-	-	-	46	40	39	31	35	30	See above.

Site ID	Location	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Key Comments
DT050	Thomas Street	41	41	37	38	37	38	28	34	30	-	-	-	-	-	Monitoring closed in 2013 as the concentrations were below the objective limit. However, monitoring at Anglo Terrace Façade started in 2019, see below.
DT222	Anglo Terrace Façade	-	-	-	-	-	-	-	-	-	-	49	41	38	37	See above.
DT009	Upper Bristol Road	41	42	47	47	47	49	46	47	40	33	31	26	24	23	Monitoring remains active.
DT060	Victoria Buildings	58	<u>62</u>	55	55	57	55	50	52	46	41	44	38	40	33	Monitoring remains active; however, the location has moved slightly due to some road layout changes.
DT052-054	Walcot Terrace	<u>64</u>	58	57	56	57	57	53	48	44	37	36	29	25	24	Monitoring remains active.
DT020	Wells Road	49	51	50	49	50	51	46	-	-	-	-	-	-	-	Monitoring closed in 2015, however, the diffusion tube was moved further along Wells Road to monitor closer to residential properties. See below.
DT020	Wells Road	-	-	-	-	-	-	<u>62</u>	55	52	49	49	40	43	38	See above.
H41 (historical)	Wells Road – Bottom	54	-	-	-	-	-	-	-	-	-	-	-	-	-	Monitoring closed in 2010 as it was covered by additional diffusion tubes along Wells Road. This location reopened as Wells Road 5 in 2022, see below.
DT305	Wells Road 5	-	-	-	-	-	-	-	-	-	-	-	-	-	38	See above.
DT021	Wells Road/Upper Oldfield Pk	42	49	40	42	48	50	44	47	43	43	37	26	28	27	Monitoring remains active.
DT018	Widcombe High Street	51	50	40	44	43	49	43	-	-	-	-	-	-	-	Monitoring remains active, however, the location moved slightly in 2015 due to changes in the road layout.
DT018	Widcombe High Street (new)	-	-	-	-	-	-	31	28	28	24	23	18	17	17	See above.

Site ID	Location	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Key Comments
CM1	London Road (continuous)	<b><u>63</u></b>	<b><u>60</u></b>	<b>57</b>	<b>56</b>	<b>57</b>	<b>57</b>	<b>54</b>	<b>48</b>	<b>45</b>	38	-	-	-	-	Monitoring closed at this location in 2019 as the site was moved closer to the road. See below for concentrations at the new site.
CM8	London Road A4	-	-	-	-	-	-	-	-	-	-	29	28	27	25	See above.
CM2	Guildhall (continuous)	<b>41</b>	<b>47</b>	<b>42</b>	<b>41</b>	37	34	34	34	30	29	27	19	20	20	Monitoring remains active.
CM3	Windsor Bridge (continuous)	<b>52</b>	<b>59</b>	<b>51</b>	<b>56</b>	<b>46</b>	35	33	33	33	30	29	23	23	21	Monitoring remains active, however, the analysed slightly moved locations in July 2013.

**Notes:**

The annual mean concentrations are presented as  $\mu\text{g}/\text{m}^3$ .

Exceedances of the NO<sub>2</sub> annual mean objective of 40  $\mu\text{g}/\text{m}^3$  are shown in **bold**.

NO<sub>2</sub> annual means exceeding 60  $\mu\text{g}/\text{m}^3$ , indicating a potential exceedance of the NO<sub>2</sub> 1-hour objective are shown in **bold and underlined**.

All means have been “annualised” if valid data capture for the full calendar year is less than 75%.

## Key findings of NO<sub>2</sub> monitoring in Bath AQMA

The air quality monitoring results presented in Table G.1, above, are, where relevant, adjusted for bias, annualisation (where the annual mean data capture is below 75% and greater than 25%) and distance corrected. Further details on adjustments are provided in Appendix C.

Note that not all the sites identified in the 2009 Air Quality Action Plan were in place in 2022, and where possible, an alternative like-for-like site has been provided. Additionally, whilst some sites were removed and reinstated due to changes in road layouts etc, some sites were removed as they recorded concentrations below the objective limit.

See the 'key comments' column in Table G.1 to see the status of each monitoring site.

Key trends in concentrations of nitrogen dioxide in Bath:

- All diffusion tube sites identified in Table G.1 have decreased NO<sub>2</sub> concentrations in 2022 when compared to 2009.
- In 2022, none of the diffusion tube sites identified in Table G.1 recorded above the annual average objective of 40 µg/m<sup>3</sup>, this compares to 33 sites in 2009.
- Three sites: Wells Road (DT020), Anglo Terrace Façade (DT222) and Wells Road 5 (DT305) recorded NO<sub>2</sub> concentrations between 36-40 µg/m<sup>3</sup>. Monitoring will continue at these locations to ensure concentrations do not increase above the objective.
- None of the diffusion tube sites were at or above 60 µg/m<sup>3</sup>, indicating the 1-hour objective has been met. This compares to four sites in 2009, with Lambridge recording the highest average at 82 µg/m<sup>3</sup>.
- All continuous analyser sites recorded below the objective limit and have decreased concentrations when compared to 2009.

## Actions identified in 2009 Bath AQAP and progress to date in 2022

Bath and North East Somerset Council has taken forward a number of direct measures identified in the 2009 Bath Air Quality Action Plan in pursuit to improving local air quality. Details of all measures completed, in progress or planned are set out in Table G.2 below. 16 measures are included below, with the action number, status and progress made since the implementation of the AQAP. Key comments and findings are also presented below.

**Table G.2 - Progress on the measures to improve air quality identified in the 2009 Bath Air Quality Action Plan**

Action No.	Estimated/Actual Completion Data	Measure Status	Progress to Date	Comments/barriers to implementation
<b>Action 1: Bath Transport Package</b>	Substantially complete.	Complete.	<p>890 additional P&amp;R spaces between 2012 and 2015. Patronage at the 3 P&amp;R sites overall grew by 16% between 2008/09-2016/17. 4 EV charging sockets installed at each P&amp;R site.</p> <p>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&amp;R promotion.</p> <p>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).</p>	Medium effectiveness

Action No.	Estimated/Actual Completion Data	Measure Status	Progress to Date	Comments/barriers to implementation
<b>Action 2: Cleveland Bridge Area Restrictions Feasibility Study</b>	2022	Implementation.	<p>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 2023.</p> <p>Air quality at locations within the vicinity of the bridge will continue to be monitored as traffic volumes return to normal.</p>	<p>EXPECTED MEDIUM EFFECTIVENESS. 2020 works were delayed due to Covid-19. Effects of temporary closure being monitored for impact on air quality.</p>
<b>Action 3: Low Carbon Buses Trial</b>	Complete.	Complete.	<p>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 identified in Table 2.2 (CAZ Retrofitting).</p>	<p><i>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<sub>x</sub> comparison unavailable.</i></p> <p><b>ORIGINAL MEASURE COMPLETE BUT NEW DEVELOPMENTS RE CAZ FUNDED RETROFITTING</b></p>

Action No.	Estimated/Actual Completion Data	Measure Status	Progress to Date	Comments/barriers to implementation
<b>Action 4: Urban Freight Transshipment</b>	Complete (funding ceased).	Aborted.	See Bath CAP 5 and Bath 18 of Table 2.2 in the ASR: E-Cargo Bike last-mile delivery service funding was provided in 2019. Pilot scheme to subsidise delivery costs for businesses.	High level of subsidy required and no funding available – replaced with new E-cargo bike last-mile delivery (see 'Bath 18' in Table 2.2')
<b>Action 5: Improved Enforcement of Traffic Regulation Orders</b>	Complete.	Complete.	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.
<b>Action 6: Bicycle Hire including Electric bikes</b>	2018	Complete/ Aborted.	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.

Action No.	Estimated/Actual Completion Data	Measure Status	Progress to Date	Comments/barriers to implementation
<b>Action 7: Electric Vehicle Infrastructure (EVI)</b>	2023	Implementation/complete.	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. Additionally, under the WECA Green Recovery Fund, B&NES plans to install 27 sites with 44 chargers as part of a 3-year project.	EXPECTED MEDIUM EFFECTIVENESS The West of England GULW Scheme aimed to increase the number of EV chargers sub-regionally from 200 to 400. The majority of chargers delivered off-street, fast (22kw) and rapid (50kw) charges in B&NES carparks.
<b>Action 8: Improve Building Emission Assessments</b>	<i>n/a</i>	<i>Aborted.</i>	<i>No progress</i>	<i>Lack of resource and low priority due to low %age source apportionment.</i>
<b>Action 9: ECOSTars Vehicle Recognition Scheme</b>	<i>n/a</i>	<i>Aborted.</i>	<i>No progress</i>	<i>Low priority due to limited reported effectiveness and lack of resource.</i>



Action No.	Estimated/Actual Completion Data	Measure Status	Progress to Date	Comments/barriers to implementation
<b>Action 10: Review council and emergency service vehicle fleet</b>	2021	Implementation.	<p>Review undertaken by Energy Saving Trust for successful GULW Scheme Bid. The Council pledged to change 25% of light duty fleet to ULEVs by 2021. At the beginning of 2023, 37% of the fleet was electric. Additionally, all large lorries that are a part of the fleet are Euro 6. An additional 4 electric hire pool cars and 1 hybrid are also being used within B&amp;NES.</p> <p>An MoU has been signed by Emergency Service providers – already a high proportion of Euro 6 vehicles.</p>	<p>EXPECTED MEDIUM EFFECTIVENESS.</p> <p>MoU signed by emergency services as a roadmap for meeting Euro 6 compliance for all but cars by 2021. Council fleet also compliant.</p>
<b>Action 11: Monitoring of bus fleet quality</b>	2021	Implementation/complete.	<p><i>Superseded by Bath CAP3. OLEV 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<sup>st</sup> December 2023. See 'Bath CAP 3.</i></p>	<p><i>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.</i></p>

Action No.	Estimated/Actual Completion Data	Measure Status	Progress to Date	Comments/barriers to implementation
<b>Action 12: Transport and travel information</b>	<i>Complete.</i>	<i>Complete.</i>	<i>248 real time bus passenger information displays installed across B&amp;NES. Overall bus passenger satisfaction in 2016 stood at 41% very satisfied and 47% satisfied, in 2016.</i>	<i>Bus checker app implemented as part of LSTF West of England project and available via the <a href="#">Travel West website</a>.</i>
<b>Action 13: Alternative Exhaust Emissions Abatement</b>	<i>November 2020</i>	<i>Complete.</i>	<i>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.</i>	<i>Availability of CVRAS (Clean Vehicle Retrofit Accreditation Scheme) accredited retrofit solutions.</i>
<b>Action 14: Rossiter Road and Widcombe Parade traffic management measures</b>	<i>Complete.</i>	<i>Complete.</i>	<i>Completed 2015 and annual mean NO<sub>2</sub> levels reduced from 49 in 2014 to 28 µg/m<sup>3</sup> in 2016 on Widcombe Parade.</i>	<b>HIGH EFFECTIVENESS</b>

Action No.	Estimated/Actual Completion Data	Measure Status	Progress to Date	Comments/barriers to implementation
<b>Action 15: Promotional website</b>	2022.	Implementation.	Power BI visualisation with an interactive map showing annual data from 2014 to 2021 remains operational. A new 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
<b>Action 16: Corporate Travel Plan</b>	2020.	Implementation.	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 with CO <sub>2</sub> Kge=166 tonnes (up 45 tonnes from 2021/22). This was predictable as both B&NES and the wider district recover, but the swift adoption of both blended working and enhanced virtual technology has enabled this to be managed. In late 2022, B&NES reprocured their managed corporate pool car fleet of 11 low emission cars. For the financial year 2022/23, 72k miles were transferred from grey fleet miles, equating to 6.9 tonnes of CO <sub>2</sub> saved.	MEDIUM EFFECTIVENESS. 1 car is ringfenced for the Peasedown communities HUB. New CTP in development for 2021-2024

## Key completed measures:

- Bath Transport Package- between 2012 and 2015, 890 additional park and ride spaces were added, with additional bus infrastructure work completed. This included raised pavements, real-time passenger information displays and the replacement and addition of new bus shelters.
- The Low Carbon Bus Trial was superseded by Bath CAP3, a measure introduced as part of the 2017 Clean Air Plan. To prepare for the launch of the Clean Air Zone, the council secured government funds to support bus operators to upgrade the remaining 88 buses with engine emissions abatement technology, this programme was complete in June 2022.
- Development of the Council's air quality web pages to improve the display of live air quality data, whilst providing user friendly data visualisations

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

- The repairs surrounding Cleveland Bridge were complete in October 2022, and the bridge fully reopened subject to an 18-tonne weight restriction. However, feasibility work is ongoing into 2023 in response to a 2021 Cabinet request for further investigation into the potential to restrict HGVs over 12-tonnes travelling across the bridge. A public consultation surrounding varying the Bath Clean Air Zone Charging Order 2021 closed in February 2023, with the consultation feedback report due in the spring. The final decision is to be made in the summer of 2023.
- The installation of Electric Charging Infrastructure (EVI) funded by the Go Ultra Low West Fund continued throughout 2022, with 14 chargers successfully operating. By the end of 2023, an additional 5 chargers are planned to be installed under the GULW Fund completing the programme. Under the WECA Green Recovery Fund, additional EVI is planned across B&NES in a 3-year plan.
- Development of an Air Quality Strategy that connects the broad air quality related measures more formerly as well as improving strategic connections with the West of England Combined Authority to ensure effective co-ordination and collaboration with neighbouring authorities and Climate and Ecological Emergency related actions.

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

- Achieving success in relation to the Clean Air Zone in terms of compliance with nitrogen dioxide limits.
- Close cooperation with the Sustainability Team on the declared Climate Emergency and planned carbon neutrality by 2030 across the authority area, particularly in relation to development of the Air Quality Strategy.
- Continue to provide mobile automatic air quality monitoring to respond to monitoring requests following purchase of Zephyr electro-chemical automatic monitor.
- As part of the Enhanced Partnership (EP) Scheme between WECA and participating bus operators, all buses on local buses services within the EP area must meet Euro 6 (VI) standard by December 2023. Additional bus service frequency enhancements are also planned, in Bath this includes the 1 and 5 routes.
- Development of an air quality strategy
- The roll out of Liveable Neighbourhoods and supporting Residents Parking Zone scheme.

## Conclusions and future actions

In 2022, concentrations of nitrogen dioxide were considerably lower than those identified in the 2009 Bath Air Quality Action Plan, with all sites originally included recording below the objective limit of 40 µg/m<sup>3</sup>.

Whilst this is a significant improvement in air quality, three sites recorded annual concentrations between 36-40 µg/m<sup>3</sup>. These sites were Wells Road, Anglo Terrace Façade, and Wells Road 5; however, all sites have shown a reduction when compared to 2009. Monitoring will continue at these locations to ensure concentrations do not increase above the objective.

Bath and North East Somerset Council plan to continue monitoring within Bath, and within the Air Quality Management Area, under the requirements of Bath's Clean Air Plan. As the Clean Air Plan superseded the original Air Quality Action Plan for Bath, B&NES will be fully engaging with the State 2 and State 3 requirements of the Clean Air Plan to ensure that there is continuing compliance.

Overall, it is anticipated that NO<sub>2</sub> concentrations will continue to decrease as natural fleet upgrades are accelerated as a result of the CAZ, and with the additional aid of the Financial Assistance Scheme and Bus Retrofit Programme.

## Appendix H: Supporting Technical Information – Other Monitoring projects

### Comparison of Background Monitoring across Bath

In 2021 additional background sites were added as part of the CAZ project. The aim was to see how the background concentrations across the area. Figure H.1 shows the trends at the 6 urban background sites during 2022. The concentrations at the 6 sites follow similar trends.

Figure H.2 and Table H.1 compare the annual average concentrations in 2021 and 2022 at the six background sites with the equivalent square from the national background maps. The results show that local monitoring is generally slightly higher than the background maps with average ratios of 1.01 in 2022 and 1.03 in 2021.

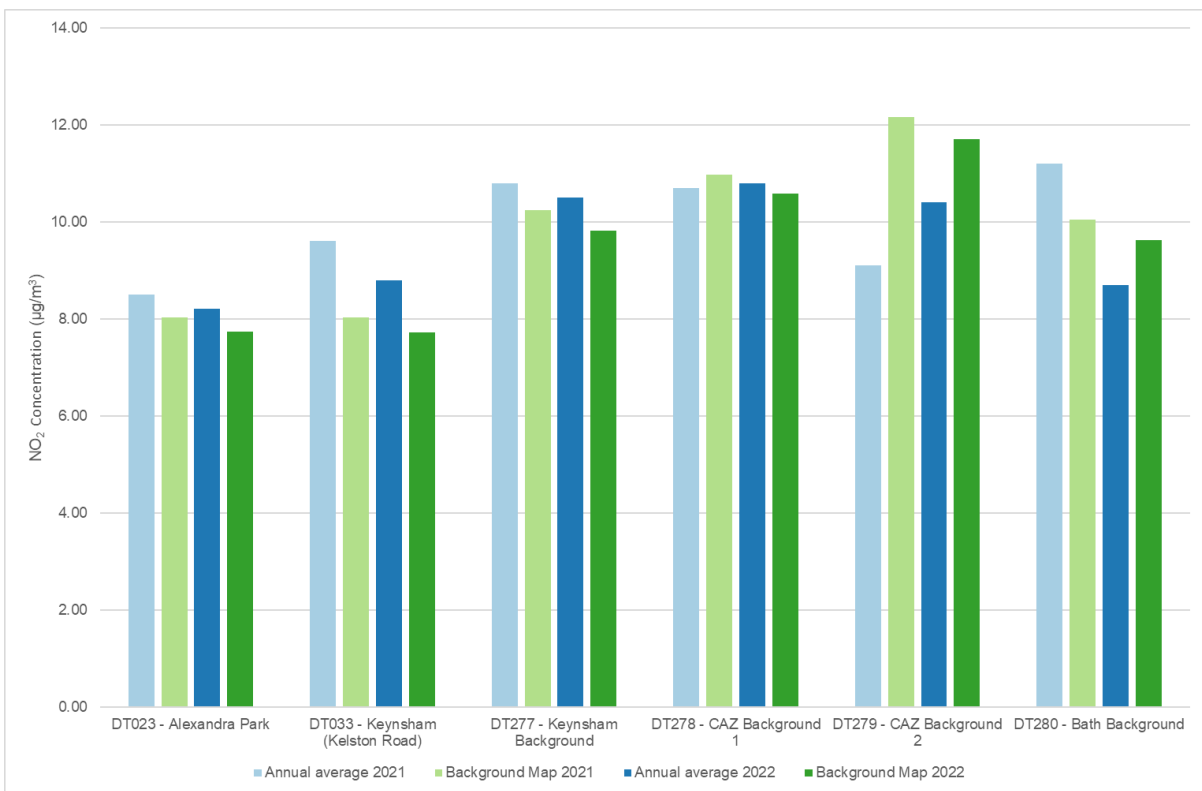
**Figure H.1: Trends in Background NO<sub>2</sub> concentrations in 2022 (µg/m<sup>3</sup>)**



**Table H.1: Comparison of annual average NO<sub>2</sub> monitored background concentrations with the background maps in 2021 and 2022**

	DT023 - Alexandra Park	DT033 - Keynsham	DT277 - Keynsham Background	DT278 - CAZ Background 1	DT279 - CAZ Background 2	DT280 - Bath Background
Annual average 2021	8.5	9.6	10.8	10.7	9.1	11.2
Background Map 2021	8.0	8.0	10.2	11.0	12.2	10.1
Annual average 2022	8.2	8.8	10.5	10.8	10.4	8.7
Background Map 2022	7.7	7.7	9.8	10.6	11.7	9.6
Ratio 2021	1.06	1.20	1.05	0.98	0.75	1.11
Ratio 2022	1.06	1.14	1.07	1.02	0.89	0.90

**Figure H.2 Comparison of annual average NO<sub>2</sub> monitored background concentrations with the background maps in 2021 and 2022**



## 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 Figure H.3 and Figure H.4 below show that the concentrations are similar for the 2 pairs of monitors at both locations.

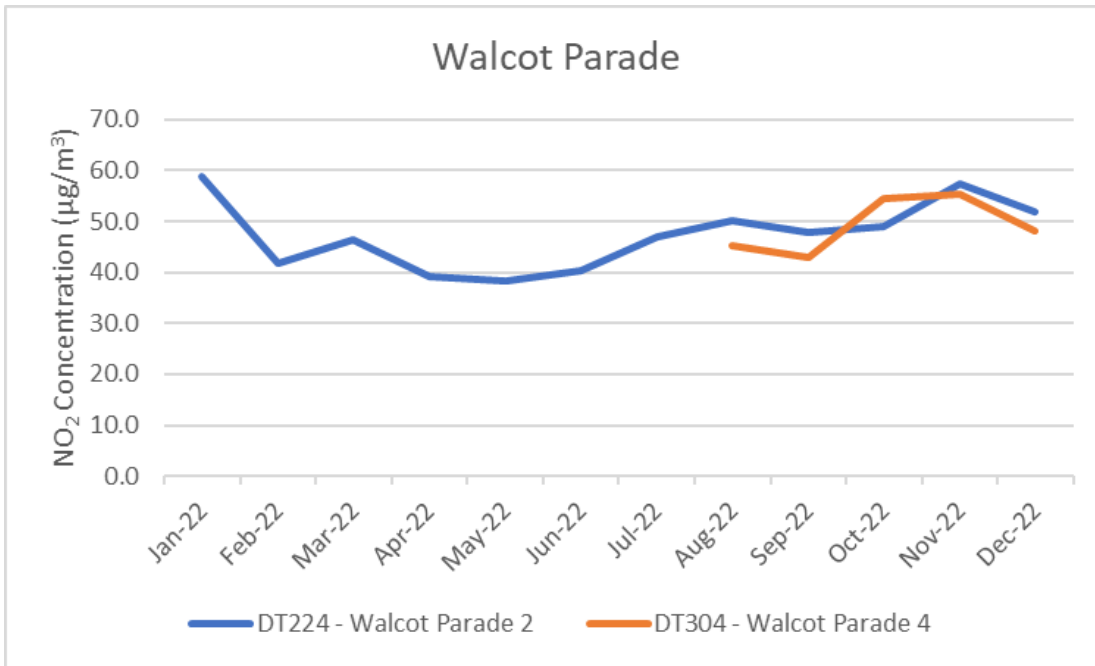
As the new sites were installed in August 2022, the annual averages were annualised using the Diffusion tube processing tool. Despite showing similar monthly concentrations, the site at Walcot Parade (DT304) showed a higher annual average concentration, slightly above the objective, this could be due to the site being slightly closer to the road (and further from the façade). It may also be due to the annualisation estimates. Table H.2 shows a comparison of the full annual average and bias correction compared with the averages for Aug-Dec which are then annualised all sites, this shows the period average to be slightly higher than the annual average for both long-term sites suggesting that the annualised values may have been over-estimated slightly.

**Table H.2: Comparison of Annual average with annualised period averages at sites on Wells Road and Walcot Parade.**

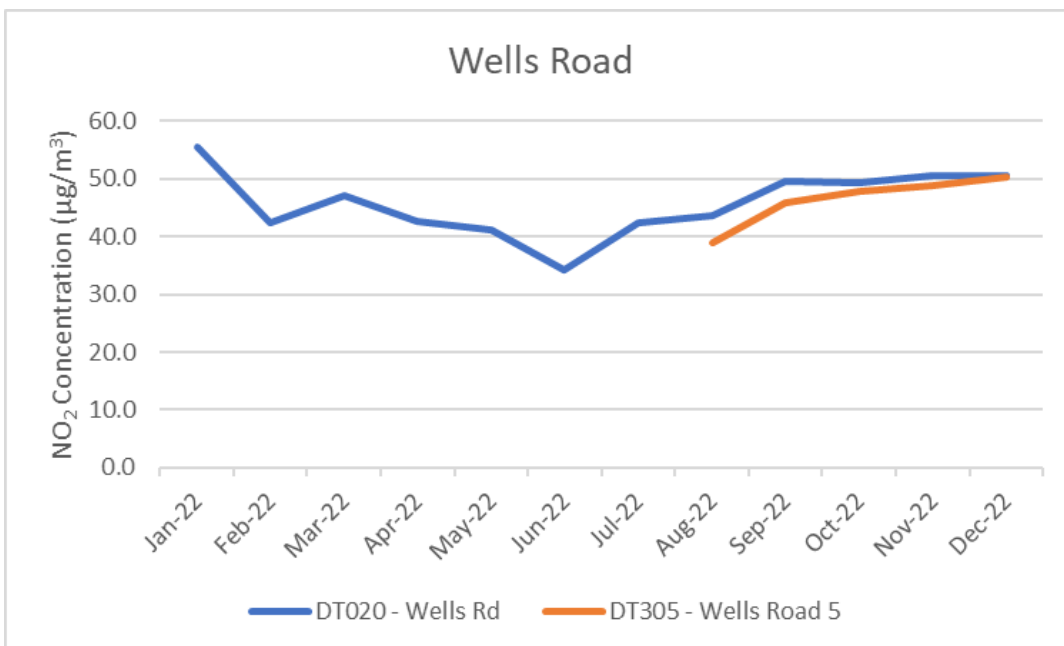
	DT020 - Wells Rd	DT305 - Wells Road 5	DT224 - Walcot Parade 2	DT304 - Walcot Parade 4
Raw Annual Average	45.8	46.3	47.3	49.3
Bias and annual corrected average	<b>38.5</b>	<b>38.0</b>	<b>39.7</b>	<b>40.4</b>
Raw Average (Aug-Dec 2022)	48.8	46.3	51.3	49.3
Bias and annual corrected average	<b>40.0</b>	<b>38.0</b>	<b>42.0</b>	<b>40.4</b>



**Figure H.3: Comparison of monitoring at 2 sites on Walcot Parade**



**Figure H.4: Comparison of monitoring at 2 sites on Wells Road**



## 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 <sub>2</sub>	Carbon Dioxide
CM	Continuous Monitoring
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
EV	Electric Vehicle

Abbreviation	Description
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 <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
OHID	Office for Public Health Improvement & Disparities
OZEV	Office for Zero Emission Vehicles
PCM	Pollution Climate Model
PHV	Private Hire Vehicle
PM <sub>10</sub>	Airborne particulate matter with an aerodynamic diameter of 10µm or less
PM <sub>2.5</sub>	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
P&R	Park and Ride
PAYG	Pay as you go

Abbreviation	Description
PROW	Public Right of Way
QA/QC	Quality Assurance and Quality Control
SO <sub>2</sub>	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 <sup>3</sup>	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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