Basingstoke and Deane Annual Status Report 2025

Report for: Basingstoke and Deane Council

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Contact:
Jekabs Jursins, Gemini Building, Fermi Avenue, Harwell, Didcot, OX11 0QR, UK

T: +44 (0)7729 068754
E: Jekabs.Jursins@ricardo.com

Author:
Olivia Blythe

Approved by:
Oliver Marshall

Signed

Ricardo reference:
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Basingstoke and Deane

2025 Air Quality Annual Status Report (ASR)

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

Date: June 2025

Information	Basingstoke and Deane Details
Local Authority Officer	Rhys Gilbert
Department	Environmental Protection
Address	Civic Offices, London Road
Telephone	01256 845625
E-mail	rhys.gilbert@basingstoke.gov.uk
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Local Responsibilities and Commitment

This ASR was prepared by the Environmental Protection Team of Basingstoke and Deane Borough Council with the support and agreement of the following officers and departments:

Basingstoke and Deane Borough Council

Mark Lambert, Head of Climate Change and Sustainability

Sam Taylor, Climate Emergency Project Manager

Chris Pritchard, Climate Change Communications and Engagement Officer

Emma Gover, Principal Transport Officer

Joanne Brombley, Planning Policy Manager

Adam Whtibread, Fleet Manager

Hampshire County Council

Luke Hughes, Travel Plan Advisor

Samuel Whitfield, Principal Transport Planner

This ASR has been approved by:

Tom Payne, Head of Environment and Community Services

This ASR has not been signed off by a Director of Public Health but is provided to them for information.

If you have any comments on this ASR, please send them to Rhys Gilbert at:

Civic Offices, London Road, Basingstoke, RG21 4AH

Telephone: 01256 845272

Email: rhys.gilbert@basingstoke.gov.uk

Executive Summary: Air Quality in Our Area

Air Quality in Basingstoke and Deane

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

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

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

Table ES 1 - Description of Key Pollutants

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

Air quality has been monitored by Basingstoke and Deane Borough Council as part of the local authority review and assessment process since the mid-1990s. Further information

on air quality monitoring, including our annual air quality status reports, can be found on the Basingstoke and Deane Borough Council website[1].

Since the publication of the 2024 Annual Status report, there have been some changes to the diffusion tube network. Monitoring of NO_2 has ceased at DT 47 and 58 in May 2024. DT 47 was retired due to consistently achieving compliance with air quality objectives, as addressed in the 2024 Annual Status Report (ASR). DT 58 was retired due to the removal of the street furniture it was attached to. Three new monitoring sites were positioned in June 2024, which have been included in this year's ASR. These new sites are roadside and were deployed to investigate NO_2 levels in areas of high-volume traffic flow in the borough. The NO_2 air quality monitoring results are addressed in Section 3.2.1 of this report.

Where data was available and the diffusion tube location had remained the same, all sites except sites 47, 55, and 50 observed a decrease from 2023 to 2024, which is in line with the UK national trend of a steady decrease since 2006, as emissions from road vehicles and power generation have continued to fall.[2]

The increases at sites 50 and 55 from 2023 to 2024 were negligible (increases of 0.2µg/m^3 and 0.1µg/$m^{3,}$ respectively) and do not currently appear to be causes for concern. For site 47, although there was a noticeable increase in NO_2 levels, the concentrations remained well below the relevant objective. Since the site was decommissioned in March 2024, the data collected is insufficient, and therefore the observed increase is not a concern.

The observed increase in annual mean NO_2 concentrations in 2021 compared to 2020 is also in line with the national trend and was likely to be partly due to the easing of restrictions during the COVID-19 pandemic, which led to an increase in road traffic flows. In 2024, all diffusion tubes had an annual NO_2 mean below the annual mean objective for NO_2 of 40 µg/m^3.[3]

[1] https://www.basingstoke.gov.uk/air-quality

[2] Nitrogen dioxide (NO2) - GOV.UK

[3] Nitrogen dioxide (NO2) - GOV.UK

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[4] sets out actions that will drive continued improvements to air quality and to meet the new national interim and long-term targets for fine particulate matter ($PM_{2.5}$), the pollutant most harmful to human health. The Air Quality Strategy[5] provides more information on local authorities' responsibilities to work towards these new targets and reduce fine particulate matter in their areas.

The Road to Zero details the Government's approach to reduce exhaust emissions from road transport through a number of mechanisms, in balance with the needs of the local community.[6] This is extremely important given that cars are the most popular mode of personal travel, and the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

Although there is currently no Air Quality Action Plan in place within the Council area, Basingstoke and Deane Borough Council has taken forward several initiatives in pursuit of improving local air quality, including the publication of its Air Quality and Climate Change Action Plan 2021-2030[7]. This Plan focuses on reducing emissions from buildings and transport, which are the biggest emitters of pollution in the area and aims to address both air quality and climate change in tandem in order to be cost-effective and ensure coherence between plans.

Additionally, Basingstoke and Deane Borough Council continues to implement the following measures across the borough area:

- Increased use of hydrogenated vegetable oil (HVO), with carbon emissions up to 98% lower than diesel according to government conversion factors, alongside lower

[4] Environmental Improvement Plan 2023 - GOV.UK (www.gov.uk)

[5] Air quality strategy: framework for local authority delivery - GOV.UK

[6] Reducing emissions from road transport: Road to Zero Strategy - GOV.UK (www.gov.uk)

[7] https://www.basingstoke.gov.uk/content/page/65004/Climate%20Change%20and%20Air%20Quality%20Strategy.pdf

NO_x and $PM_{2.5}$ emissions, to fuel operational vehicles including its grass mowers, its street and precinct sweepers (now 77 vehicles). From April 2024, the refuse vehicles used for the borough's kerbside waste and recycling collections will also run on HVO.

- The continued adoption of electric vehicles for council operations, including a six-week trial from April 2024 of an electric bin truck for kerbside waste and recycling collections, Figure 1. The trial did not lead to further uptake of this technology at this time. Future opportunities for electric-powered refuse vehicles will be explored as and when operational constraints allow. The Council has 11 EVs in its fleet, with a minimum of 2 more being added in 2025.
- The roll-out of electric vehicle charging points and the adoption of an EV Charging Strategy in February 2025, which guides the Council's approach.[8]

Supporting more people to travel in cleaner and greener ways, including by working with Hampshire County Council to increase the number of electric vehicle chargers on streets and in residential areas and by installing chargers at borough council-owned community centres and car parks, as well as by offering local taxi drivers a grant towards electrically powered hackney carriages,

- Figure 2. 7 drivers applied for and received the £5,000 grant in 2024.
- The promotion of educational programmes such as the nationally accredited school travel planning scheme 'Modeshift STARS' (Sustainable Travel Accreditation and Recognition for Schools). Six schools are now accredited and work is ongoing with a further four schools to support them towards accreditation. Two schools have also improved their accreditation level.
- Clean Air Day promoted across council communication channels with 864 pupils taking part. 823 primary age taking part in Scooter Challenge 2024 (now known as Clean Air Challenge).

[8] Electric Vehicle Charging Strategy 2025

- Two Clean Air Project sessions delivered at St Bede's School to engage children in learning about air quality and using air quality monitors in and around the school grounds. This was linked with an anti-idling campaign previously run in school.
- 3319 pupils and 90 adults took part in the 2024 ‘Walktober’ across Basingstoke.

- The Basingstoke and Deane Transport Strategy to support a high-quality public transport network.

Figure 1 - An electric bin truck trialled for kerbside waste and recycling collections

Figure 2: An electrically powered hackney carriage wrapped in the council’s Sustainable Basingstoke branding at the taxi rank outside Basingstoke train station.

Conclusions and Priorities

Monitoring at locations relevant for public exposure has shown that the annual objective of 40µg/m^3 for NO_2 concentrations has not been exceeded within the Basingstoke and Deane Borough Council area in 2024, hence an Air Quality Management Area is not required.

Generally, concentrations of NO_2 are significantly below the annual objective, and levels are steadily declining year on year. This tends to indicate that actions and measures implemented to improve air quality are having a positive effect. However, there is still more work to do to influence positive behavioural changes and reduce reliance on the internal combustion engine to cut emissions further. At the time of writing, the Climate Change and Air Quality Strategy is under consultation which is due to close on the 1st of August 2025.[9]

Monitoring ceased at two sites in May 2024, and three new sites were deployed in June 2024. There will be a continual review of monitoring locations on an annual basis to identify new locations where there is relevant public exposure.

[9] Draft updated Climate Change and Air Quality Strategy

How to get Involved

Our Clean Air Basingstoke Campaign promotes the following messages:

- Where available, use public transport. This reduces the number of private vehicles in operation reducing pollutant concentrations through the number of vehicles and reducing congestion.
- Walk or cycle and use Cycle Parking if your journey allows. Choosing to walk or cycle for your journey means the number of vehicles is reduced and also there is the added benefit of keeping fit and healthy.
- Car/lift sharing – Where a number of individuals are making similar journeys, such as travelling to work/school, car sharing reduces the number of vehicles on the road and therefore total emissions being released.
- Alternative fuel / more efficient vehicles –fully electric, hybrid fuel and more fuel-efficient cars are available, and all have different levels of benefits by reducing the number of emissions being released.
- If you are carrying out building works, consider future-proofing your home by installing an electric vehicle charge point. A fast (7kW) charger is recommended and there are grant schemes available to assist with the cost in certain situations
- Turning engines off where possible – Reduce the number of idling vehicles, for example when dropping children at school or waiting at level crossings, will help reduce harmful emissions from vehicle exhausts.
- Burn only authorised smokeless fuels where possible.
- Avoid lighting bonfires, but, if necessary, don't light them when pollution levels are high or while the weather is still and cold. Only burn dry material and never burn household waste, especially plastic, rubber, foam, or paint. Levels of pollution can be quite high on bonfire night and other events/festivals with bonfires, and sensitive people, including people with respiratory conditions, may notice some effects.
- Wood-burning stoves are increasing in popularity, but burning wood produces a lot of air pollutants. To minimise your contribution to air pollution, buy a Defra approved stove and burn only well-seasoned wood. If buying wood for immediate use, ensure that it displays the Woodsure Ready to Burn Logo.

Further information can be found here: Domestic biomass

The Environmental Protection Team provides advice to a number of internal departments, external agencies, and members of the public regarding air quality in accordance with relevant legislation. Residents of Basingstoke and Deane Borough Council are increasingly aware of the impact of air quality in the UK and actively report incidents of unauthorised burning from commercial and residential premises. This public knowledge and information sharing is welcomed by officers. It provides a mechanism for further education and awareness raising with the public regarding individual actions and their impact on local air quality. Additional information and leaflets regarding the work undertaken by the Environmental Protection Team can be found using the following link: Air Quality.

Vulnerable individuals and groups can keep informed of current levels and forecasts of air pollution from Defra at the following link Pollution forecast - Defra, UK.

The council promoted these messages through its residents' newspaper, *Your Place* (previously called *Basingstoke & Deane Today)*, which was printed twice a year and delivered to all households in the borough, although it has recently been replaced with a new publication called *Your Place.* The council has also used a regular e-newsletter and its social media channels. Printed materials were also regularly sent out to community venues across the borough through its leaflet distribution service.

The council also uses its Sustainable Basingstoke initiative, including its website[10], Facebook page and newsletter, to help celebrate existing and drive further action across

[10] https://sustainable-basingstoke.co.uk/

the borough to tackle climate change, improve air quality and enhance the natural environment.

With a separate design style and more informal tone compared to its corporate identity, the council uses Sustainable Basingstoke to reach different groups of residents to help them to understand how they can become greener and live more sustainably by making changes to their everyday lives, for example in how they travel and get around.

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Tables

1 Local Air Quality Management

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

BDBC adopted a Climate Change and Air Quality Strategy in March 2021.[11] Shaped through public consultation, our Climate Change and Air Quality Strategy sets out our approach to lead by example as we enable and inspire change, challenging and working with our partners, businesses, communities and others to cut emissions across the borough.

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 Basingstoke and Deane Borough Council to improve air quality and any progress that has been made.

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

[11] Climate Change and Air Quality Strategy (basingstoke.gov.uk)

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.

Basingstoke and Deane Borough Council currently does not have any declared AQMAs. A local Air Quality Strategy is in place to prevent and reduce polluting activities. The Local Air Quality Strategy is available online.

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

☒ **Basingstoke and Deane Borough Council confirm that all current AQAPs have been submitted to Defra.**

2.2 Progress and Impact of Measures to address Air Quality in Basingstoke and Deane Borough Council.

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

- The Council provide detailed information regarding the measures completed during 2023 and their priorities for the coming year, which focus on maintaining and improving air quality levels across the borough, primarily through traffic management.
- Annual mean NO_2 concentrations in 2023 were significantly below the annual objective, with the Council reporting steady decreases year-on-year. The highest annual mean NO_2 concentration reported in 2023 was 28.9 µg/m^3 at roadside site DT35.
- The Council has robust QA/QC procedures, which were applied appropriately and accurately to the 2023 monitoring data.
- Annualisation was required for one site in 2023 (KS1), with appropriate calculations clearly outlined and justified in the QA/QC section of the report.
- A national bias adjustment factor of 0.81, from the latest Defra spreadsheet, was applied to the 2023 monitoring data, with this choice clearly justified by the Council.
- No distance correction calculations were required.
- Defra recommends that Directors of Public Health approve draft ASRs. Sign off is not a requirement, however collaboration and consultation with those who have responsibility for Public Health is expected to increase support for measures to improve air quality, with co-benefits for all.
- The Council show a continued commitment to air quality monitoring and measures to improve air quality within their jurisdiction, despite low pollutant concentration levels. This is to be commended.
- In "QA/QC of Diffusion Tube Monitoring", the Council states that there were instances where the DEFRA LAQM dates have been deviated from. If some months followed the DEFRA calendar while others did not, it is recommended to list the individual months that were or were not in line with the DEFRA calendar for clarification. For 2024 monitoring data, the monitoring dates matched the DEFRA LAQM dates for every month in 2024.
- As mentioned in last year's appraisal, in chapter "$PM_{2.5}$ – Local Authority's approach to reducing emissions and/or concentrations" the Public Health Outcome

Framework indicator D01 regarding mortality caused by fine particulate matter is mentioned, however, no statistics and a comparison to the English average is provided. Concrete numbers should be included in future reports. This comparison has been made in chapter "$PM_{2.5}$ – Local Authority's approach to reducing emissions and/or concentrations" of this ASR.

- Although the Council do not monitor $PM_{2.5}$ concentrations directly, they outline plans in place which could indirectly contribute to reductions in their emissions within their jurisdiction, through reductions in road traffic emissions. This includes the Basingstoke Transport Strategy and the Local Transport Plan. This highlights the Council's proactive and dedicated approach to monitoring and addressing air quality in their jurisdiction and is to be commended.
- The Council clearly presents and discusses trends in NO_2 concentrations in the report, with a robust comparison made to the air quality objective.
- Figure D.2 could be split into multiple maps to zoom in on the diffusion tube locations for clarity. This should be considered in future reports. In this report, Appendix D: Map(s) of Monitoring Locations and AQMAs contains several zoomed in maps showing diffusion tube locations.

Basingstoke and Deane Borough Council has taken forward a number of direct measures during the current reporting year of 2025 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.1. Twelve measures are included within Table 2.1, with the type of measure and the progress Basingstoke and Deane Borough Council have made during the reporting year of 2025 are presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.1.

More details on these measures can be found in their respective Action Plans. Key completed measures continue from those as reported in the previous ASR and include:

- Introduction of new nitrogen dioxide monitoring sites across the Borough.
- Continued promotion of messages around the Clean Air Basingstoke campaign as well as those related to car-sharing, walking, and cycling through printed and digital communications channels for the council and its Sustainable Basingstoke initiative.

This includes the council's bi-annual residents' newspaper, *Your Place* (previously called *Basingstoke & Deane Today),* as well as social media and newsletters.

- Continued promotion of a climate change toolkit with a focus on encouraging positive behaviour change amongst our staff and residents.
- Develop a Local Walking and Cycling Infrastructure Plan for the Borough with Hampshire County Council, which was adopted in early 2023, and with further work underway to focus on routes in and around the town centre.
- Install a Rapid (50kWh) EV charger project at Basingstoke Train Station with additional charge points provided in Bramley, Kingsclere and a number of community centres in addition to chargers on the Borough Council's campus, supplementing existing installations. This has grown to over 50 charge points in the last year with details promoted on the website.
- Continue to trial EVs within our council fleet, with the notable additional of an electric van for our events team in 2024/25. Since May 2022, HVO diesel is used to operate all ride-on mowers and 70% of the council's operational fleet now utilise HVO.
- Continued utilisation of the council's Green Team to promote sustainable behaviour among residents, communities and organisations, including messaging around air quality

Basingstoke and Deane Borough Council expect the following measures to be completed over the course of the next reporting year:

- Establish the Green Team's 'Sustainable Travel' messaging and advice offer, which has recently launched
- Adopt an updated Climate Change and Air Quality Strategy, following consultation over summer 2025

Basingstoke and Deane Borough Council's priorities for the coming year are to:

- Continue to meet our statutory obligations in relation to Local Air Quality Management.
- Adopt and implement an updated Climate Change and Air Quality Strategy
- Continue to lobby and work with Hampshire County Council and other key stakeholders to reduce air pollution levels within the Borough through the Local Plan and Transport Policies.

- Roll out on-street EV chargers across the borough with HCC, with funding provided by the Borough Council. This will result in around 40 additional locations with multiple charge points.
- Continue to promote Defra's 'Clean Burn" Project via our website and social media channels and
- Raise public awareness and encourage positive behaviour changes amongst our staff and residents.
- Promote the Council's Green Team, to support residents and businesses to reduce energy use, minimise emissions and implement actions to improve air quality in the borough.

Basingstoke and Deane Borough Council worked to implement these measures in partnership with the following stakeholders during 2024:

- Hampshire County Council
- The Highways Authority
- Department for Transport
- Stagecoach
- Southwestern Railway
- Housing Associations
- Local Environmental Campaign Groups

Basingstoke and Deane Borough Council anticipate that the measures stated above and in Table 2.1 will ensure that the national air quality objectives continue to be met across the borough.

Table 2.1 – Progress on Measures to Improve Air Quality

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
9	Climate Change and Air Quality Strategy and Action Plan	Public Information	Via the Internet	2021	2025	Basingstoke & Deane Borough Council, Hampshire County Council; DfT				Planning	Net zero Council by 2025; net zero Borough by 2030 is the current target. These may be revised subject to the outcome of consultation and adoption of the new strategy by the end 2025. This will be reflected in the next update to the AST	Reduction in carbon emissions.	The original strategy was adopted in March 2021. Updated strategy set to be adopted by the end of 2025.	Objectives are being reviewed and proposed to be more closely aligned to national targets. These extended the dates to achieve 'Net zero'.
3	Council Fleet Improvements	Vehicle Fleet Efficiency	Fleet efficiency and recognition schemes		Live	Basingstoke & Deane Borough Council, Hampshire County Council; DfT				Implementation	Reduced vehicle emissions.	Corporate KPI have been adopted for this measure but are currently under review for 2025 onwards. The existing KPI was achieved.	BDBC operate 8 HGV sweepers. 5 meet Euro 6, and 3 meet Euro 5 standards. The HVO trial has been rolled out to a lot more vehicles, all sweepers run on HVO as well as all diesel vehicles at our main depot. For operational vehicles, wherever suitable electric alternatives are identified they are being replacing the diesel/HVO vehicles. A minimum of 2EVs will be purchased this year. The fleet make up is EV:11. HVO:77, Diesel 20, Petrol 2	Continued funding, continued work with Serco.
6	Public EV Charge Points	Promoting Low Emission Transport	Provision of EV chargers	2019	Live & ongoing	Basingstoke & Deane Borough Council, Hampshire County Council; DfT				Implementation	Reduced vehicle emissions.	A corporate KPI has been adopted for this measure. Increase in EV ownership/use.	Work is underway with HCC to install a programme of lamp and bollard chargers across the borough with the first phase expected to be installed by summer 2025. .	Funding. Response by the public.
1	Transport Strategy	Traffic Management	Strategic highway improvements, Re-prioritising Road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	2019	Live	Basingstoke & Deane Borough Council, Hampshire County Council; DfT				Implementation	Reduced vehicle emissions.	Measured concentration at NO_2 diffusion tubes in Winton Square.	Live	Funding; reliance on Hampshire County Council and DfT.
2	New anti-idling powers	Traffic Management	Anti-idling enforcement	2019	2025	Basingstoke & Deane Borough Council, Hampshire County Council; DofT				Implementation	Reduced vehicle emissions.	Reduction in idling.	Live	These powers are no longer available to BDBC. Measures to be replaced

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
														by educational messages around positive behaviours.
4	Public Transport	Alternatives to private vehicle use	Other	2019	Live	Basingstoke & Deane Borough Council, Hampshire County Council; DfT	Stagecoach			Implementation	Reduced vehicle emissions.	Reduction in private vehicle usage, increase in bus usage	Live	Continued funding.
5	School Travel	Public Information	Via other mechanisms		Live	Hampshire County Council; DfT				Implementation	Reduced vehicle emissions, especially near schools.	Reduction in private vehicle usage. Increase in awareness.	Live	Funding: reliance on grants. Requires consistent and regular engagement with school.
7	Taxi Licensing	Promoting Low Emission Transport	Taxi Licensing conditions		Live	Basingstoke & Deane Borough Council, Hampshire County Council; DfT				Implementation	Reduced vehicle emissions.	Improvement in taxi fleet. Increase in EV taxis and licensed vehicles. The existing corporate KPI was met. This is being reviewed and the new KPI will be reflected in the next ASR update.	In 24/25 the target was 7 ULEZ licensed vehicles, but by the end of the year 17 had been licensed.	Uptake of low emission taxis.
8	Clean Air Basingstoke and Deane	Public Information	Via the Internet	2019	Live	Basingstoke & Deane Borough Council, Hampshire County Council; DfT				Implementation	Reduced vehicle emissions.	Reduction in idling (a key focus of the campaign). Increase in public awareness of air quality.	Implementation on-going	Effects limited, public information only.
10	Local Cycling and Walking Infrastructure Strategy	Transport Planning and Infrastructure	Walking and cycling networks and connectivity with new development and key destinations. Undertaking of individual feasibility studies on key routes to outline improvements and submit funding bids		Live	Basingstoke & Deane Borough Council, Hampshire County Council; DfT				Implementation	Reduced vehicle emissions.	Decrease in vehicle usage, increase in cycle usage.	Live	Funding for upkeep.
11	Design and Sustainability Supplementary Planning Document	Policy Guidance and Development Control	Sustainable Procurement Guidance		Adopted 2018	Basingstoke & Deane Borough Council, Hampshire County Council; DfT				Implementation	N/A	N/A	Completed	Supporting the Local Plan 2011-2029
12	Local Plan Update	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance		TBC	Basingstoke & Deane Borough Council, Hampshire County Council; DfT				Implementation	N/A	N/A	The council is updating its adopted Local Plan to cover the period to at least 2042 and this has climate change issues at its heart. The Plan is due for adoption by 2027 following the completion of statutory consultations	Funding, lengthy timeline, support from residents.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
													and an examination in public.	

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

As detailed in Policy Guidance LAQM.PG22 (Chapter 8) and the Air Quality Strategy[12], local authorities are expected to work towards reducing emissions and/or concentrations of fine particulate matter ($PM_{2.5}$)). There is clear evidence that $PM_{2.5}$ (particulate matter smaller 2.5 micrometres) has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

Using the Defra Background Maps, the maximum modelled $PM_{2.5}$ concentration in 2024, using 2021 as a base year, within Basingstoke and Deane Borough Council is 8.30 µg/m^3, and the average is 5.69µg/m^3.[13] Basingstoke and Deane Borough Council is taking the following measures to address $PM_{2.5}$ directly, and many of the twelve measures detailed in Table 2.1 implemented to reduce other pollutants will also reduce $PM_{2.5}$.

The Public Health Outcomes Framework (PHOF) is a Department of Health data tool for England, intended to focus public health action on increasing healthy life expectancy and reducing differences in life expectancy between communities. The PHOF includes an indicator, D01, which is the fraction of mortality attributable to particulate air pollution. The most recent result in 2023 for Hampshire, which includes Basingstoke and Deane, is 4.8. The average value for England is 5.2, and so Basingstoke and Deane is below the national average D01.[14]

The approach used in partnership with Public Health colleagues, includes the encouragement of active travel, such as the Basingstoke and Deane Cycling Strategy,[15] which also has wider public health benefits captured in other indicators such as increased physical activity (Indicator 2.13) and reducing excess weight at various ages (Indicators 2.6 & 2.12).

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

[13] Background Mapping data for local authorities - 2021 - DEFRA UK Air - GOV.UK

[14] Public Health Outcomes Framework - Data | Fingertips | Department of Health and Social Care (Accessed May 2025)

[15] https://www.basingstoke.gov.uk/cyclestrategy

Basingstoke Transport Strategy

The Transport Strategy, in partnership with Hampshire County Council was formally adopted by both authorities in July 2019.[16,17] It provides a framework for more detailed work on specific projects, which will be progressed to deliver transport improvements in and around the town. During 2022, this has included the ongoing highway improvements at Brighton Hill Roundabout which are targeted towards addressing the congestion that can occur at this key junction, which previously resulted in extensive queues and journey time delays, whilst also providing an enhanced and safer environment for pedestrians and cyclists. The Brighton Hill Roundabout works were completed in Winter 2023.

This improvement scheme also takes into account development currently underway along the A30 corridor as well as upon the western side of Basingstoke more generally as well as seeking to improve links for pedestrians and cyclists. The Transport Strategy has been used to inform the Local Plan Update, including the proposed site allocations and the associated policy wording. This strategy is being supplemented by ongoing technical work to support the operation of a high-quality public transport network together with the proposed Active Travel (walking and cycling) improvements set out in the Hampshire County Council adopted Local Walking and Cycling Infrastructure Plan (LWCIP)[18] for the Borough. This is supported by delivery of improved facilities for pedestrians and cyclists, such as the recently completed link between Churchill Way and Houndmills employment area, part of a wider link between Basingstoke town centre and major development at Manydown North. Figure 3 shows the footpath and cycle path through Eastrop Park, Basingstoke.

[16] https://www.basingstoke.gov.uk/transport-strategy

[17] Basingstoke Transport Strategy, July 2019, available online at: https://democracy.basingstoke.gov.uk/documents/s17643/Transport%20-%20Appendix%201%20Transport%20Strategy.pdf

[18] Basingstoke and Deane Borough Local Walking and Cycling Infrastructure Plan (LWCIP) https://www.basingstoke.gov.uk/cyclestrateg

Figure 3 - A footpath and cycle path through Eastrop Park,

The Local Transport Plan (Hampshire County Council, 2024)[19] for Hampshire sets out the transport strategy for the County for the period to 2050.

At present, road traffic is one of the main sources of $PM_{2.5}$. However, it is not just fumes from car exhausts that have a detrimental impact on human health but also the tiny particles that are released from their brakes and tyres. A report published by the Air Quality Expert Group (AQEG)[20] has predicted particulate matter from tyre and brake wear will account for 10 per cent of national emissions of $PM_{2.5}$ by 2030 (Brake, tyre and road surface wear call for evidence: summary of responses - GOV.UK (www.gov.uk).[21] Increasingly stringent 'Euro Standards' legislation to reduce exhaust emissions from road transport have been very successful in addressing exhaust PM, to the point that it is already estimated to be a smaller source than non-exhaust PM and expected to be less than 10% of total road transport PM by 2030. As other emission sources of PM are addressed, it is estimated that the non-exhaust component will increase in importance, growing from less than 8% of national emissions in 2017 to 10% in 2030. Therefore, reducing the overall reliance on the internal combustion engine (ICE) is of key importance and not simply replacing the ICE with electric vehicles.

The Local Transport Plan proposes strategies to improve transport within the County including measures to reduce the need to travel, widen travel choice and reduce dependence on the private car, alongside investment in low-carbon vehicle technologies and increasing active travel. The Local Transport Plan has considered the health impacts of policies and measures, such as the health benefits of physical activity and changes to air quality, noise and traffic accident numbers considering the Department of Health guidance on Transport and Health Resource (Department for Transport, 2011).

Hampshire County Council (HCC) has prepared a new draft Local Transport Plan (LTP4) which sets out its vision for future transport and travel infrastructure, which proposes various transformational changes which:

- Shifts away from planning for vehicles, towards planning for people and places.
- Meets national priorities to decarbonise the transport system.

[19] Local Transport Plan 4 (hants.gov.uk)

[20] https://uk-air.defra.gov.uk/research/aqeg/

[21] https://www.gov.uk/government/calls-for-evidence/air-quality-brake-tyre-and-road-surface-wear-call-for-evidence/outcome/brake-tyre-and-road-surface-wear-call-for-evidence-summary-of-responses

- Reduces reliance on private car travel.
- Supports sustainable economic development and regeneration; and promote active lifestyles.

The LTP4 has been the subject of a recent public consultation (2022) and was adopted in early 2024 more on the LTP4 can be found online.[22]

In response to the local Climate Emergency declarations, the vision of HCC's LTP4 is towards a carbon neutral, resilient and inclusive transport system, designed around people, which supports health, wellbeing and quality of life for all, supports a prosperous economy and protects the environment.

With respect to air quality, the LTP4 recognises that long-term exposure to NO_2 and particulate matter (PM_{10} and $PM_{2.5}$) adversely affects a wide range of health conditions (including heart and lung conditions). Noting that electric and hydrogen-powered vehicles have no air pollutant tailpipe emissions, the LTP4 acknowledges that an increase in the use of these vehicles could be beneficial, albeit that the particulates from tyres and brakes still represents a challenge. Whilst noting that often communities and destinations close to main roads can suffer from poorer air quality, Policy C8 of the LTP4, looks towards managing the harmful health effects of poor air quality due to transport.

Under Policy C8 Hampshire County Council will:

- Undertake a strategic co-ordination role on actions to reduce all transport-related pollutants, including the impact of nitrogen dioxide (NO_2) and particulates (PM) on air quality and traffic related noise levels, in line with our statutory requirements – working closely with the district and borough councils, the neighbouring unitary authorities of Portsmouth and Southampton, and other relevant stakeholders.
- Work with partners locally to determine appetite and investigate capability to set local air quality ambitions, given the available scientific evidence on the impact of transport related air pollutants on human health.
- Seek to prevent new air quality problems, as well as seeking solutions for existing locations with poor air quality – working towards no Air Quality Management Areas (AQMAs) resulting from transport emissions.

[22] Local Transport Plan | Hampshire County Council (hants.gov.uk)

- Take actions to reduce emissions in locations where pollutants are in excess of statutory air quality levels, prioritising locations with the highest proportion of vulnerable people (including older people, children, and those with existing health issues).
- Require developers to reduce exposure to air pollution. Where this cannot be achieved or exposure is made worse, developers must mitigate the impacts of developments on air quality or provide financial contributions for the County Council to deliver local measures to mitigate the impacts (see also Section 7.7, Development and Master planning, Policy DM2).

Implementation of Policy C8 will be supported by:

- Developing a strategic overview of air quality issues across the county and helping to coordinate actions to tackle transport emissions.
- Supporting district councils to carry out air quality reviews, identify and monitor Air Quality Management Areas (AQMAs), and prepare and implement Air Quality Action Plans in locations where AQMAs have been declared and Air Quality Strategies where an AQMA is not declared, in line with our statutory duties.
- Ensuring all residents (especially those most vulnerable to the impact of poor air) are aware of the dangers of air pollution and the avoidance steps they can take.
- Seeking to minimise the County Council's own transport emissions by ensuring our vehicle fleets, procurement activities and contracts specify low emission standards.
- Seeking to protect the most vulnerable by considering more stringent air quality assessment criteria for priority locations (e.g., schools, nurseries, hospitals).
- Working with local planning authorities to influence the location and design of development to reduce the need to travel and reduce dependency on the private car (see Core Policy C5), and Development and Master planning policies.
- Encouraging walking, cycling, public transport, and use of smaller and more efficient vehicles (see Core Policy C2 regarding smaller delivery vehicles, Core Policy C6, and theme policies) - to reduce the adverse environmental impacts resulting from emissions, noise, and traffic intrusion.
- Managing the flow (volume and speed) and type of traffic in areas with poor air quality, especially in town and village centres (see Balancing Travel Demand, Policy BTD1-BTD3).

- Accelerating the shift to low emission vehicles, for example, through the provision of electric vehicle charging infrastructure (see Future Mobility, Policy FM2) and seeking funding and other opportunities to work towards the replacement of the existing diesel fleet of buses with zero emission buses (see Public Transport, Policy PT1)
- Exploring the use of new demand management and enforcement measures in locations where poor air quality adversely impacts on the health of residents and visitors, including emissions based charging or low emission zones – based on the polluter pays principle (see Balancing Travel Demand, Policy BTD3)

Planning Policy

Planning policy is also a particularly important mechanism for controlling $PM_{2.5}$ emissions, and Basingstoke and Deane Borough Council is focused on preventing particulate matter concentrations being inadvertently increased. Policy CN9 within the adopted Local Plan (2011-2029)[23] states that the council will work in partnership to promote a safe, efficient, and convenient transport system which will:

- Build on the borough's strategic location, through improvements to strategic road and rail connections to the wider area.
- Promote transport choice, through improvements to public transport services and supporting infrastructure, and providing coherent and direct cycling and walking networks to provide a genuine alternative to the car and facilitate a modal shift.
- Improve access to Basingstoke town centre and rail station by all modes of transport and ensure good integration between transport modes.
- Manage congestion and provide consistent journey times; and
- Promote and improve safety, security, and healthy lifestyles.

Development should seek to minimise the need to travel, promote opportunities for sustainable transport modes, improve accessibility to service and support the transition to a low carbon future. Development proposals will be permitted that:

- Integrate into existing movement networks.

[23] https://www.basingstoke.gov.uk/planningpolicy

- Provide safe, suitable, and convenient access for all potential users.
- Provide an on-site movement layout compatible for all potential users with appropriate parking and servicing provision; and
- Do not result in inappropriate traffic generation or compromise highway safety.

Development proposals that generate significant amounts of movement must be supported by a Transport Statement or Transport Assessment and will normally be required to provide a Travel Plan.

Development should be of high quality, sustainable in design, construction, and layout, offering maximum flexibility in the choice of travel modes, including walking, and cycling, and with accessibility for all potential users. Development will be permitted where it:

- Does not have a severe impact on the operation, safety, or accessibility to the local or strategic highway networks.
- Mitigates impacts on the local or strategic highway networks, arising from the development itself or the cumulative effects of development, through the provision of, or contributions towards, necessary and relevant transport improvements, including those secured by legal agreements or through the Community Infrastructure Levy.
- Protects and where possible enhance access to public rights of way.
- Provides appropriate parking provision, in terms of amount, design and layout, in accordance with the adopted Parking Standards.
- Provides appropriate waste and recycling storage areas and accessible collection points for refuse vehicles, in accordance with the Design and Sustainability Supplementary Planning Document.[24]
- Ensures that all development proposals provide a co-ordinated and comprehensive scheme that does not prejudice the future development or design of suitable adjoining sites.

In a partnership between the Borough Council and Hampshire County Council, a Transport Strategy has been prepared for Basingstoke. This is focussed on ensuring that access to the town is maintained and improved and which highlights concerns that could be made

[24] https://www.basingstoke.gov.uk/design-and-sustainability-spd

worse if improvements are not made, such as traffic congestion, an inability of public transport to compete with the car and poor-quality walking and cycling routes.

The transport strategy includes a range of measures for improving transport including:

- Improving access to and within the town centre.
- Creating new developments which are well-planned and integrated with the existing transport network.
- Providing a step change in the quality of local public transport.
- Developing high quality priority strategic walking and cycling corridors.
- Managing journey times and reliability.
- Maintaining strong strategic transport connections; and
- Forward planning of the transport network to meet future needs.

The strategy was adopted by both authorities in July 2019, and it provides a framework for more detailed work on specific projects which will be progressed to deliver transport improvements in and around the town. This will also inform future decisions on key planning applications as well as the Local Plan Update.

A copy of the jointly adopted Transport Strategy, the associated Implementation Plan and a summary document of the Mass Rapid Transit scheme are available to download below:

Main Strategy - July 2019 (PDF) [8 Mb]

Implementation Plan - July 2019 (PDF) [2 Mb]

Mass Rapid Transit for Basingstoke - July 2019 (PDF) [5 Mb]

The Transport Strategy sits within the framework of the Hampshire Local Transport Plan (LTP). The LTP provides the long-term framework for transport policies within the borough. LTP4 was adopted in early 2024 and proposes transformational changes which shift away from planning for vehicles towards planning for people and places. It aims to meet national priorities to decarbonise the transport system and reduce reliance on private car travel. To assist in meeting these objectives, the council will, working in partnership with Hampshire County Council and others, aim to:

- Improve accessibility to services.
- Reduce the need to travel, and

- Achieve more sustainable travel behaviour through the policies and proposals within the Local Plan.

2.3.1 Local Plan Update and Neighbourhood Plans

The Basingstoke and Deane Local Plan 2011 – 2029 was adopted in May 2016.[25] National guidance promotes the concept of an on-going cycle of plan making and review, which is reinforced by the statutory requirement to review Plans every five years. Following a review, in May 2019 the council took the decision to launch the preparation of an updated Local Plan. A draft Local Plan Update (LPU) was published for consultation (Regulation18) in early 2024. A further Regulation 18 consultation is due to take place in late 2025, responding to changes to national planning policy and an increased housing number for the borough. The draft Plan puts climate change at its heart and sets out an ambitious set of policies aimed at mitigating and adapting to climate change. As well as an overarching policy which sets out how the Plan will reduce the borough's carbon footprint to support the council's climate emergency declaration and ecological emergency declaration, a number of more detailed climate change policies are also included relating to energy standards, sustainability requirements, and renewable energy.

Climate change and air quality themes are also addressed in a number of made Neighbourhood Plans which form part of the Development Plan for the relevant parished areas. There are currently 15made (adopted) Neighbourhood Plans which cover a significant part of the borough's rural areas, including Whitchurch, Overton, Oakley, Old Basing and Kingsclere.

2.3.2 Electric vehicle charging

The Borough Council funded the creation of the first dedicated publicly owned electric vehicle (EV) charging hub in Hampshire. The hub at Feathers Yard car park in Basingstoke town centre opened in November 2020. The project relocated an EV rapid charger from Central Car Park (mentioned in the 2019 ASR) to Feathers Yard and provide six additional fast chargers (22kWh), which give EV drivers a better choice of charger type and a dedicated car park for their use, the car park is free to EV users only.

[25] Adopted Local Plan 2011-2029 (basingstoke.gov.uk)

Additional chargers have been installed in more than 20 locations across the borough.

Working directly with Hampshire County Council to fund a scheme of on-street chargers within the Borough, with first chargers expected to be commissioned in summer 2025.

Information on EV charging points in Basingstoke can be found online.

`Information on public charging points across Hampshire can be found online.[26]

Figure 4 - EV Charge Points in the Borough

There are also 6 EV Charge points at Festival Place, and these can be found in the blue section of level 5 of the car park, in addition to chargers in the Basingstoke railway station car park.[27]

[26] Electric vehicles | Hampshire County Council (hants.gov.uk)

[27] Basingstoke Car Parking | Station Parking | Festival Place

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

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

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Basingstoke and Deane Borough Council did not undertake automatic (continuous) monitoring at any sites during 2024. NB. 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.

3.1.2 Non-Automatic Monitoring Sites

Basingstoke and Deane Borough Council undertook non-automatic (i.e. passive) monitoring of NO_2 at 29 sites during 2024. Table A.1 in Appendix A presents the details of the non-automatic sites.

Since the previous ASR, there have been some changes to the diffusion tube network. Monitoring ceased at two sites in May 2024, and three new sites were deployed in June 2024. These new sites are roadside and were deployed to investigate NO_2 levels in areas of high-volume traffic flow in the borough. DT 47 was retired due to consistently achieving compliance with air quality objectives, as addressed in the 2024 Annual Status Report (ASR). DT 58 was retired due to the removal of the street furniture it was attached to.

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. For the bias adjustment factor, a national adjustment value was used as a local value was not available due to there being no suitable triplicate sites within the Basingstoke and Deane Borough Council.

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: Supporting Technical Information / Air Quality Monitoring Data QA/QC.

3.2.1 Nitrogen Dioxide (NO_2)

Table A.2 in Appendix A compare the ratified and adjusted monitored NO_2 annual mean concentrations for the past five years with the air quality objective of 40µg/m^3. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

All sites, except from 47, 50, and 55, observed a decrease from 2023 to 2024. The increases at sites 50 and 55 from 2023 to 2024 were negligible (increases of 0.2µg/m^3 and 0.1µg/m^3 respectively) and do not currently appear to be causes for concern. It will be apparent in subsequent ASRs whether this increase is noise in the results or if there is a definite increase occurring at these sites. For site 47, there is an increase in NO_2, however, as this site was decommissioned in March 2024, there is insufficient data capture and so this increase is ignored.

For diffusion tubes, the full 2024 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.

3.2.2 Particulate Matter (PM_{10})

Particulate matter (PM_{10}) is not a pollutant of concern in Basingstoke and Deane Borough as far as exceedances of the air quality objectives for PM_{10} are concerned. The 2019 ASR provided a historic analysis of the monitoring, reviews and assessments carried out for PM_{10} in Basingstoke and Deane over the past 20 years.[28]

[28] Basingstoke and Deane Borough Council 2019 Air Quality Annual Status Report, available online at Air Quality Annual Status Report ASR 2019 (basingstoke.gov.uk)

Although PM_{10} is not a pollutant of concern for the Borough in terms of exceedances of the air quality objectives, air quality assessments will continue to analyse PM_{10} emissions where relevant.

3.2.3 Particulate Matter ($PM_{2.5}$)

Particulate matter ($PM_{2.5}$) is not currently a pollutant of concern in Basingstoke and Deane Borough as far as exceedances of the air quality objectives for $PM_{2.5}$ are concerned.

In April 2023, Defra published a new Air Quality Strategy for local authorities, which included two legally binding $PM_{2.5}$ concentration targets which local authorities are responsible in working towards achieving:

- 10 µg/m^3 annual mean concentration $PM_{2.5}$ nationwide by 2040, with an interim target of 12 µg/m^3 by January 2028;
- 35% reduction in average population exposure by 2040, with an interim target of a 22% reduction by January 2028, both compared to a 2018 baseline.[29]

From latest available 1 km x 1 km background maps for $PM_{2.5}$ for 2024 (using 2021 baseline) , the entire Basingstoke and Deane Borough Council area has an average background annual mean $PM_{2.5}$ concentration of 5.69 µg/m^3 which currently satisfies both $PM_{2.5}$ objectives.[30] This is an improvement on the average background annual mean $PM_{2.5}$ concentration of 9.1 µg/m^3 in 2018.

Considering each data point at 1 km resolution from 2024 background concentration projections, 100% of the council area is still below the 12 µg/m^3 concentration objective for 2028 and 99% of the council area is below the 10 µg/m^3 concentration objective for 2040.

The National Air Quality Strategy also stipulates that all local authorities must aim to achieve “an average population exposure reduction target of 35% in 2040 compared to a 2018 baseline”. Using 2018 baseline data, the average $PM_{2.5}$ concentration of 8.5 µg/m^3 in 2018 should be improved to 5.5 µg/m^3 by 2040.

[29] Air quality strategy: framework for local authority delivery - GOV.UK

[30] Background Mapping data for local authorities - 2021 - DEFRA UK Air - GOV.UK

Basingstoke and Deane Borough Council will be proactive in further reducing $PM_{2.5}$ emissions within the area and their control in order to maintain the projected compliance with the new $PM_{2.5}$ objectives.

3.2.4 Sulphur Dioxide (SO_2)

Sulphur dioxide is not a pollutant of concern in Basingstoke and Deane Borough as far as exceedances of the air quality objectives for SO_2 are concerned.

Appendix A: Monitoring Results

Table A.1 – Details of Non-Automatic Monitoring Sites

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
18	Northwoods	Roadside	463665	151839	NO_2	No	1.0	1.7	No	2.8
17	Crossing Signpost - Victoria Street	Kerbside	463654	151851	NO_2	No	1.0	0.4	No	3.2
35	Sansome & George	Roadside	463636	151847	NO_2	No	0.0	1.8	No	2.0
20	Winton Square (2-way sign)	Kerbside	463625	151846	NO_2	No	1.0	0.5	No	2.5
12	CCTV lamppost	Kerbside	463606	151841	NO_2	No	6.0	0.9	No	2.9
22	Agra House	Urban Centre	463637	151855	NO_2	No	0.0	1.3	No	3.7
9	Opposite Lamb Brookes	Roadside	463640	151856	NO_2	No	4.0	1.4	No	2.9
19	Opposite Hairdressers	Roadside	463658	151912	NO_2	No	0.0	2.0	No	2.8
13	36 New Road	Roadside	463977	152047	NO_2	No	7.6	4.2	No	2.8
55	Skyline Plaza	Kerbside	463983	152394	NO_2	No	2.0	1.0	No	2.9
WMP1	War Mem. Park	Urban Background	464050	151732	NO_2	No	50.0	48.0	No	2.8
64	Leisure Park	Roadside	461530	152009	NO_2	No	53.0	2.0	No	3.1
50	Roman Rd/Wykeham Drive	Roadside	460275	151853	NO_2	No	40.2	1.8	No	3.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube Co-located with a Continuous Analyser?	Tube Height (m)
49	Roman Rd/Portway Place	Roadside	460643	152286	NO_2	No	7.3	2.0	No	3.0
OV1	12 London Rd Overton	Roadside	451608	149672	NO_2	No	1.5	1.0	No	2.2
OV2	Red Lion Overton	Roadside	451324	149677	NO_2	No	1.5	1.0	No	2.2
2	279 Winchester Rd	Roadside	462296	150749	NO_2	No	0.0	6.0	No	2.4
59	2 Buckleberry Way	Roadside	462399	153946	NO_2	No	15.0	3.5	No	2.9
47	Bramley Bakery	Roadside	465559	159459	NO_2	No	16.6	3.3	No	3.0
SR1	15 Sherborne Rd	Roadside	463424	152838	NO_2	No	2.0	0.5	No	3.0
OR1	Oakridge Rd	Roadside	464333	153525	NO_2	No	5.0	2.0	No	2.6
57	Spindles Close/Subway	Urban Background	464860	153143	NO_2	No	45.0	21.0	No	3.2
58	Spindles Close / lampost	Roadside	464820	153237	NO_2	No	49.0	9.0	No	3.0
62	Black Dam Ponds	Urban Background	465211	151819	NO_2	No	100.0	100.0	No	3.1
66	Venture Roundabout	Roadside	464343	150990	NO_2	No	20.0	10.0	No	3.0
PW1	Popley Way	Roadside	463424	154182	NO_2	No	6.0	2.0	No	2.8
OB1	Byfleet Avenue, Old Basing	Roadside	466918	152021	NO_2	No	17.5	15.3	No	2.8[3]
OB2	Lyde Court, Old Basing	Roadside	467593	152155	NO_2	No	4.4	2.0	No	2.8[3]
SH1	151 Worting Rd	Roadside	462195	151815	NO_2	No	11.2	7.5	No	2.8[3]

Notes:

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

(2) N/A if not applicable.

(3) The heights provided are educated estimated based on equivalent locations and officer feedback.

Table A.2 – Annual Mean NO_2 Monitoring Results: Non-Automatic Monitoring (µg/m^3)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
18	463665	151839	Roadside	100.0	100.0	19.9	22.1	21.7	20.0	20.1
17	463654	151851	Kerbside	100.0	100.0	21.4	23.2	24.9	21.3	20.3
35	463636	151847	Roadside	100.0	100.0	24.4	25.4	26.3	28.9	27.5
20	463625	151846	Kerbside	100.0	100.0	24.1	27.1	28.3	25.2	23.5
12	463606	151841	Kerbside	92.5	92.5	21.4	23.2	24.9	21.6	20.2
22	463637	151855	Urban Centre	100.0	100.0	21.8	24.3	24.3	21.9	21.3
9	463640	151856	Roadside	100.0	100.0	20.9	24.6	23.5	22.4	21.2
19	463658	151912	Roadside	92.5	92.5	20.2	23.7	22.3	20.8	19.6
13	463977	152047	Roadside	100.0	100.0	20.9	23.6	22.5	21.0	19.5
55	463983	152394	Kerbside	100.0	100.0	16.9	21.3	20.3	18.7	18.8
WMP1	464050	151732	Urban Background	100.0	100.0	0.0	0.0	12.3	10.9	9.9
64	461530	152009	Roadside	92.5	92.5	15.4	22.8	24.1	23.2	21.8
50	460275	151853	Roadside	100.0	100.0	12.0	18.0	16.2	15.2	15.4
49	460643	152286	Roadside	100.0	100.0	13.7	19.7	18.4	17.3	16.9
OV1	451608	149672	Roadside	90.6	90.6	0.0	0.0	19.6	14.7	13.9
OV2	451324	149677	Roadside	100.0	100.0	0.0	0.0	13.6	12.3	11.6
2	462296	150749	Roadside	92.5	92.5	16.0	19.0	18.1	16.4	14.5
59	462399	153946	Roadside	100.0	100.0	17.7	23.7	22.9	20.8	20.3
47	465559	159459	Roadside	100.0	17.0	23.5	13.7	13.6	11.7	14.9
SR1	463424	152838	Roadside	100.0	100.0	0.0	0.0	17.1	16.1	14.7
OR1	464333	153525	Roadside	92.5	92.5	0.0	0.0	20.2	17.7	16.4
57	464860	153143	Urban Background	100.0	100.0	19.2	19.4	18.5	17.4	16.1
58	464820	153237	Roadside	100.0	32.1	18.2	17.4	19.7	16.7	15.4

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
62	465211	151819	Urban Background	100.0	100.0	14.2	17.8	17.9	15.7	14.1
66	464343	150990	Roadside	100.0	100.0	20.1	26.2	25.6	24.3	21.8
PW1	463424	154182	Roadside	90.6	90.6	0.0	0.0	16.3	15.0	13.5
OB1	466918	152021	Roadside	100.0	58.5					14.2
OB2	467593	152155	Roadside	100.0	58.5					15.1
SH1	462195	151815	Roadside	100.0	58.5					15.6

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

☒ **Diffusion tube data has been bias adjusted.**

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

Notes:

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

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

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

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

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

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

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

Figure A.1. a - Trends in Annual Mean NO_2 Concentrations, for diffusion tubes from Bramley to London Road, via Reading and Blackdam roundabouts.

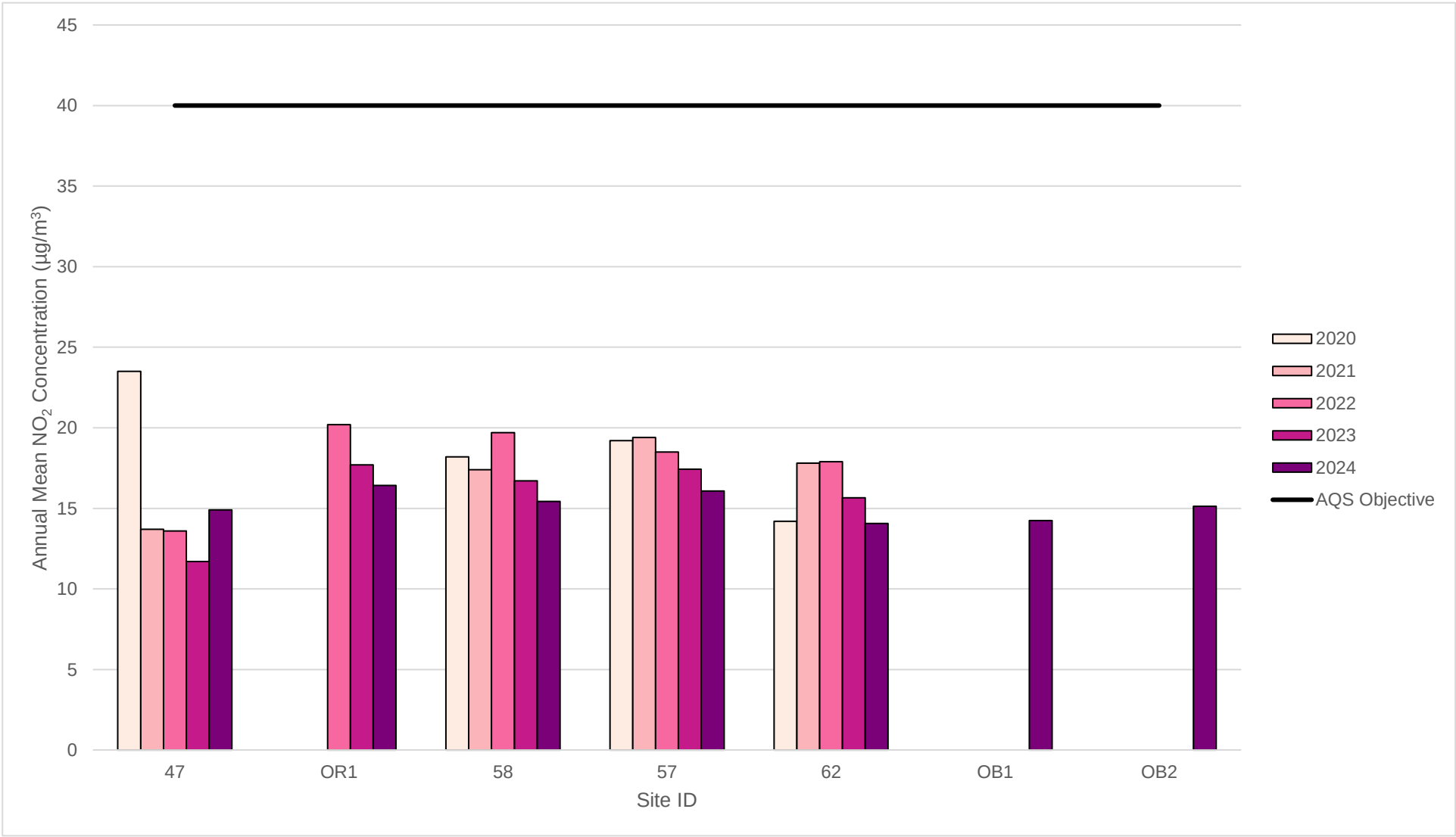


Figure A.1. b - Trends in Annual Mean NO_2 Concentrations, for diffusion tubes surrounding Winston Square and New Road.

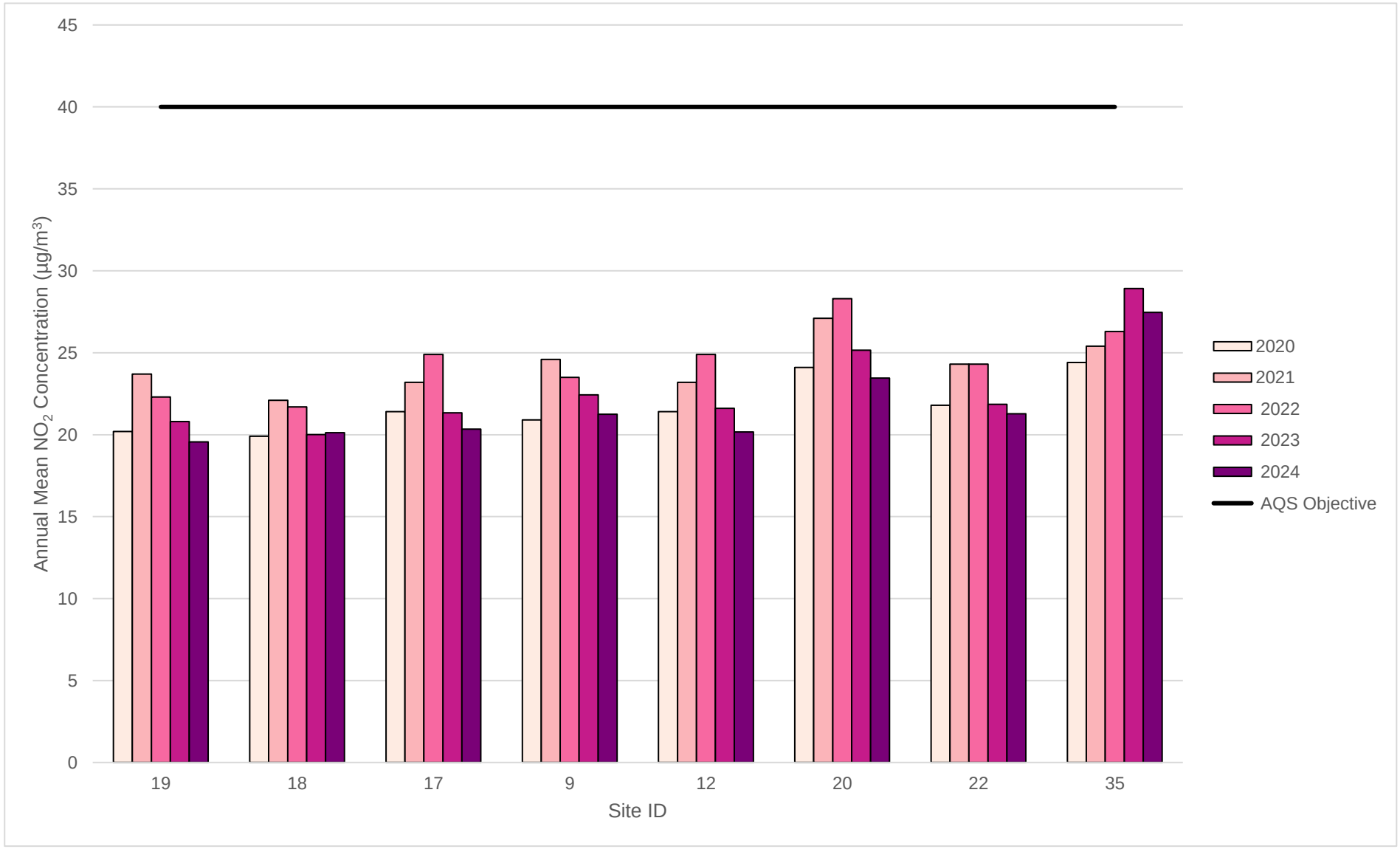


Figure A.1. c - Trends in Annual Mean NO_2 Concentrations, for diffusion tubes from Popley Way / A340 to Hackwood Road.

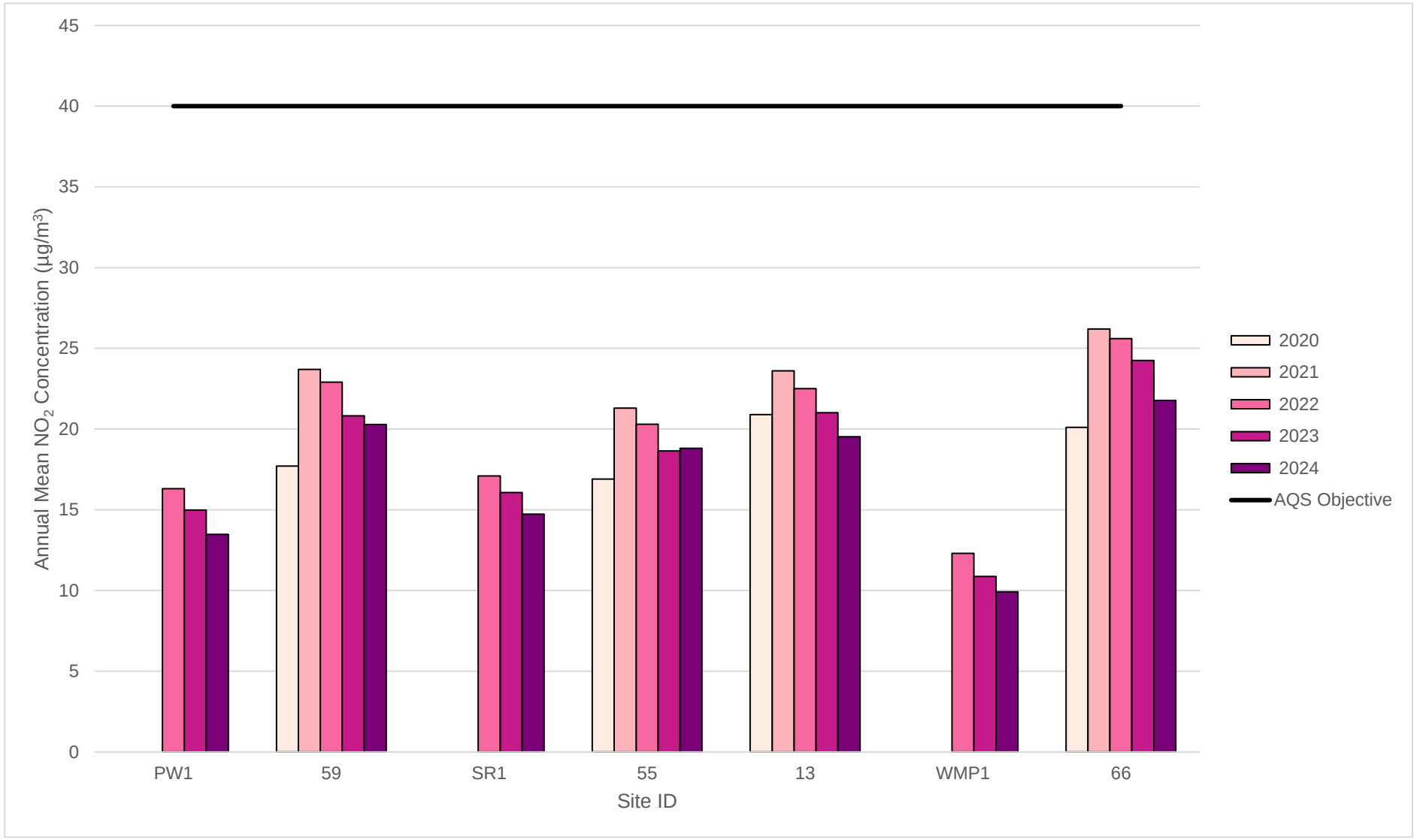
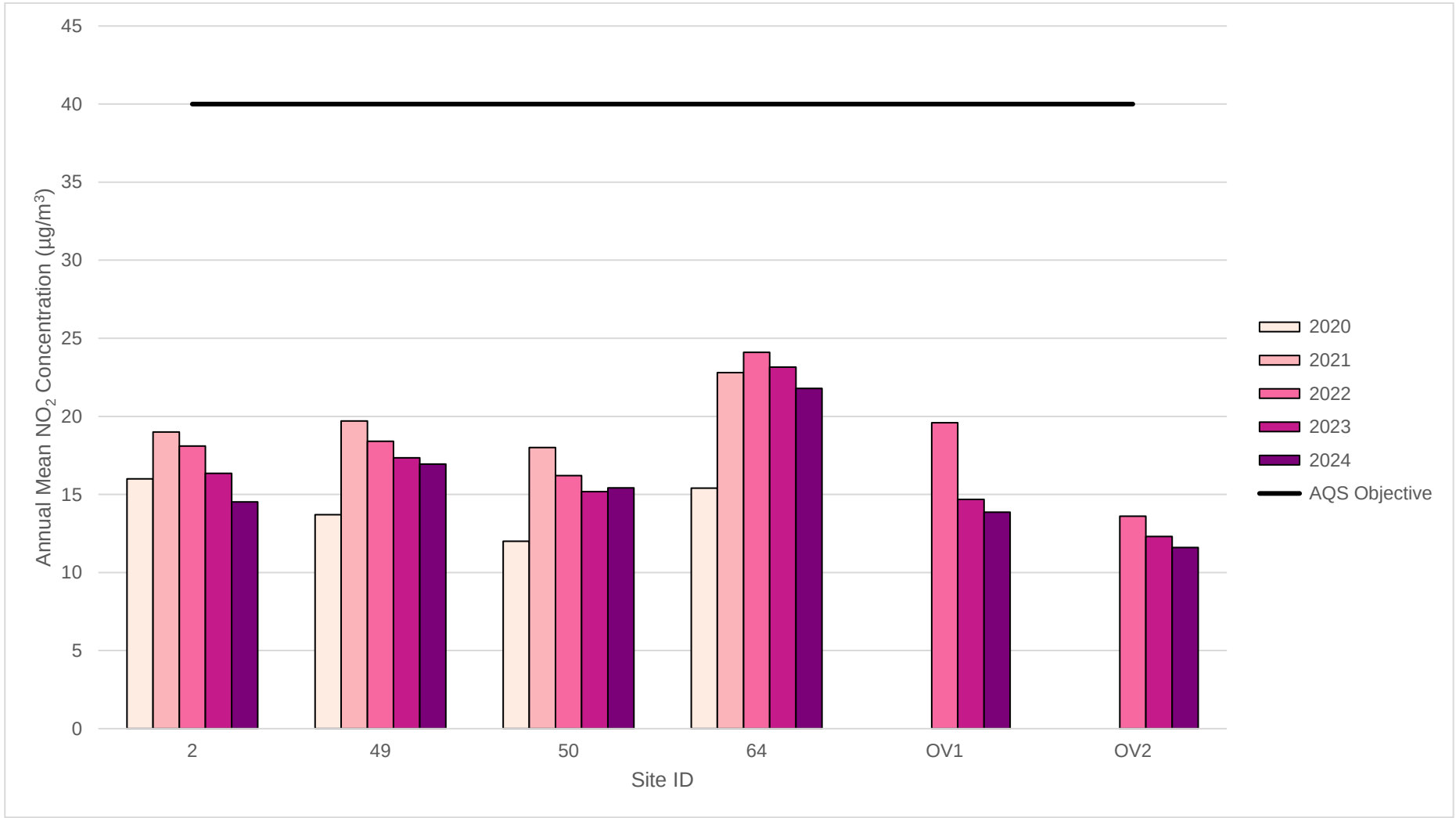


Figure A.1. d - Trends in Annual Mean NO_2 Concentrations, for diffusion tubes from the Worting to South Ham areas, and Overton.



Appendix B: Full Monthly Diffusion Tube Results for 2024

Table B.1 – NO_2 2024 Diffusion Tube Results ($\mu g/m^3$)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.84)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
18	463665	151839	28.5	26.1	21.4	19.6	21.4	20.4	18.4	20.6	26.2	25.6	32.5	27.0	24.0	20.1		
17	463654	151851	29.3	26.8	24.2	21.9	21.0	21.1	22.5	21.1	25.8	20.8	29.2	26.9	24.2	20.3		
35	463636	151847	34.5	36.5	33.1	29.4	30.5	30.6	33.5	29.7	31.9	32.5	36.3	34.0	32.7	27.5		
20	463625	151846	29.5	30.8	27.6	24.0	28.7	24.9	26.6	24.3	27.6	31.7	33.0	26.1	27.9	23.5		
12	463606	151841		24.9	22.6	20.1	26.1	19.1	23.5	21.1	27.7	27.5	26.9	24.7	24.0	20.2		
22	463637	151855	30.1	26.3	23.1	23.9	25.2	21.4	25.3	22.8	25.5	27.9	29.1	23.4	25.3	21.3		
9	463640	151856	31.2	25.5	21.5	22.4	22.3	22.8	24.0	22.0	28.5	26.6	31.2	25.6	25.3	21.2		
19	463658	151912	28.5	26.9	20.1	18.2	19.7		20.9	20.1	23.5	25.5	28.4	24.4	23.3	19.6		
13	463977	152047	26.7	22.3	22.8	21.4	23.2	19.4	23.1	20.2	24.6	25.1	28.3	21.9	23.2	19.5		
55	463983	152394	25.9	24.2	17.6	20.0	20.1	20.3	21.4	19.1	24.7	22.8	29.5	23.2	22.4	18.8		
WMP 1	464050	151732	19.0	13.5	11.2	9.9	8.9	8.2	8.0	8.1	10.5	13.4	17.7	13.2	11.8	9.9		
64	461530	152009		27.7	26.3	24.2	25.4	22.9	27.0	21.8	25.2	30.1	31.1	23.6	25.9	21.8		
50	460275	151853	22.2	19.6	18.9	15.6	18.3	14.5	16.4	17.2	16.8	20.4	23.0	17.3	18.3	15.4		
49	460643	152286	23.0	20.2	19.8	19.9	20.2	16.5	16.8	16.4	21.4	25.3	26.2	16.3	20.2	16.9		
OV1	451608	149672	20.5	18.3	16.6	13.1	15.5	13.5	14.7	14.5	15.2	19.4	20.3		16.5	13.9		
OV2	451324	149677	18.6	15.5	13.3	10.9	12.2	10.7	11.4	11.3	13.6	15.7	18.0	14.4	13.8	11.6		
2	462296	150749	23.3	19.3	19.1		16.7	11.0	15.6	12.4	16.5	20.0	19.9	16.5	17.3	14.5		
59	462399	153946	26.4	21.9	22.0	22.7	26.3	19.7	25.6	20.1	25.2	31.4	28.0	20.5	24.2	20.3		

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.84)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
47	465559	159459	18.4	17.1											17.7	14.9		
SR1	463424	152838	22.5	20.8	16.9	12.7	14.7	15.2	17.7	14.1	15.8	17.7	23.0	19.1	17.5	14.7		
OR1	464333	153525	24.5	20.9	18.7	16.7	18.7	15.4		14.4	19.0	24.5	23.4	18.7	19.5	16.4		
57	464860	153143	24.7	20.6	17.0	16.9	19.1	13.3	16.5	13.5	19.5	25.2	25.2	18.1	19.1	16.1		
58	464820	153237	24.4	19.5	18.4	15.9									19.5	15.4		
62	465211	151819	23.2	17.1	15.7	15.5	18.6	13.8	15.8	13.0	17.2	15.0	20.6	15.5	16.7	14.1		
66	464343	150990	31.1	27.2	25.6	24.0	24.2	26.2	25.0	22.4	27.8	25.9	27.9	23.7	25.9	21.8		
PW1	463424	154182	21.4	19.8	17.1	14.3	14.2	12.2	13.6	11.9	15.4		21.7	14.8	16.0	13.5		
OB1	466918	152021						14.7	15.6	15.0	16.2	18.6	21.2	17.8	17.0	14.2		
OB2	467593	152155						15.1	16.1	15.2	18.4	19.1	24.7	17.7	18.1	15.1		
SH1	462195	151815						15.9	16.8	13.9	21.1	20.5	23.8	18.3	18.6	15.6		

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

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

☐ **Local bias adjustment factor used.**

☒ **National bias adjustment factor used.**

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

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

Notes:

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

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

See Appendix C for details on bias adjustment and annualisation.

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

New or Changed Sources Identified Within Basingstoke and Deane Borough Council During 2024

Basingstoke and Deane Borough Council has not identified any new sources relating to air quality within the reporting year of 2024.

Additional Air Quality Works Undertaken by Basingstoke and Deane Borough Council During 2024

Since the publication of the 2024 Annual Status report, there have been some changes to the diffusion tube network. Monitoring of NO_2 has ceased at DT 47 and 58 in May 2024. DT 47 was retired due to consistently achieving compliance with air quality objectives, as addressed in the 2024 Annual Status Report (ASR). DT 58 was retired due to the removal of the street furniture it was attached to. Three new monitoring sites were positioned in June 2024, which have been included in this year's ASR. These new sites are roadside and were deployed to investigate NO_2 levels in areas of high-volume traffic flow in the borough.

Basingstoke and Deane Borough Council has not completed any additional works within the reporting year of 2024.

QA/QC of Diffusion Tube Monitoring

The supplier used for diffusion tubes in 2024 was Gradko, with the method of preparation being 20% TEA in water. The monitoring dates in 2024 are identical to the DEFRA LAQM dates for every month in 2024.

Diffusion Tube Annualisation

Annualisation was required for the sites 58, OB1, OB2, and SH1, which had valid data captures of 32.1%, 58.5%, 58.5%, and 58.5%, respectively. This lies below the required data capture of 75%, where annualisation is required for any site with data capture less than 75% but greater than 25%. Details of the annualisation are presented in Table C.1.

Table C.1 – Annualisation Summary (concentrations presented in µg/m^3)

Site ID	Annualisation Factor Reading New Town	Annualisation Factor Southampton Centre	Annualisation Factor Portsmouth	Annualisation Factor Swindon Walcot	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
58	0.9374	1.0132	0.8330	0.9771	0.9402	19.5	18.4
OB1	0.9986	0.9592	1.0455	0.9859	0.9973	17.0	17.0
OB2	0.9986	0.9592	1.0455	0.9859	0.9973	18.1	18.0
SH1	0.9986	0.9592	1.0455	0.9859	0.9973	18.6	18.6

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2025 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG22 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO_2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Basingstoke and Deane Borough Council have applied a national bias adjustment factor of 0.84 to the 2024 monitoring data. A summary of bias adjustment factors used by Basingstoke and Deane Borough Council over the past five years is presented in Table C.2.

Table C.2 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2024	National	04/25	0.84
2023	National	03/24	0.81
2022	National	03/23	0.83
2021	National	03/22	0.84
2020	National	03/21	0.93

NO_2 Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure has been estimated using the Diffusion Tube Data Processing Tool/NO_2 fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO_2 concentrations corrected for distance are presented in Table B.1.

No diffusion tube NO_2 monitoring locations within Basingstoke and Deane Borough Council required distance correction during 2024.

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

Figure D.1a – Map of Non-Automatic Monitoring Sites 13, WMP1, 66, and 62.

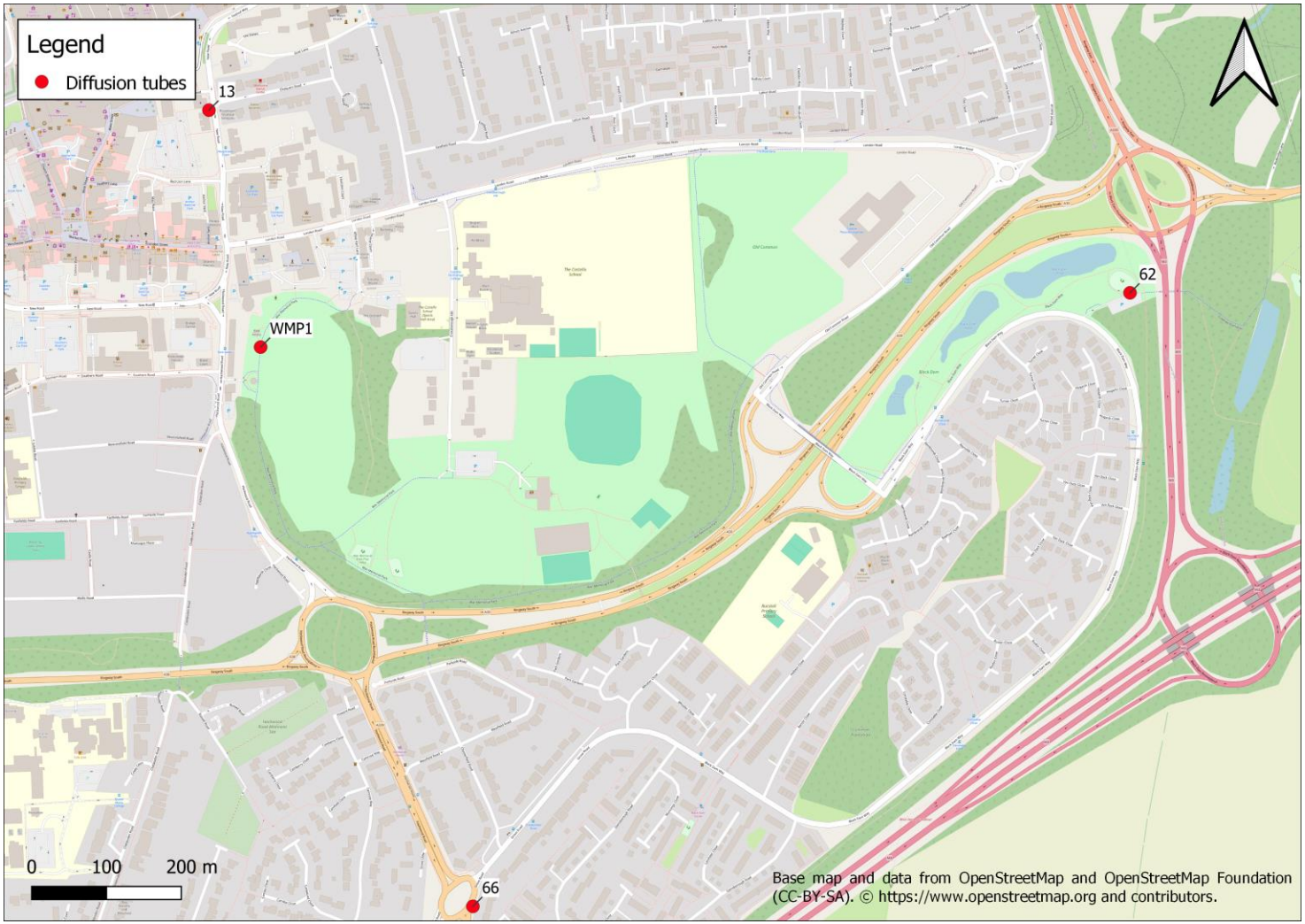


Figure D.2b – Map of Non-Automatic Monitoring Site 47.

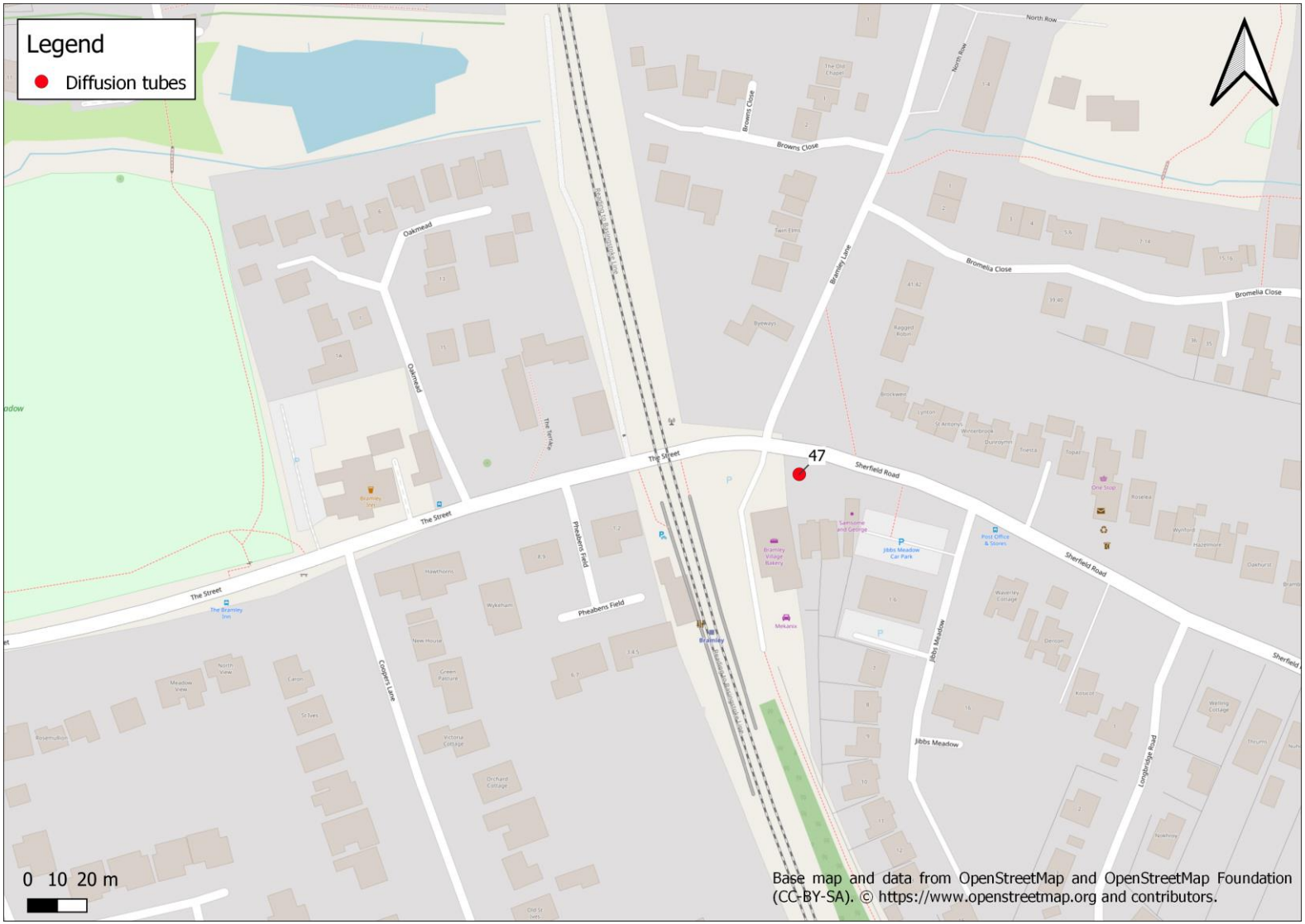


Figure D.3c – Map of Non-Automatic Monitoring Sites 49, 50, 64, SH1, and 2.

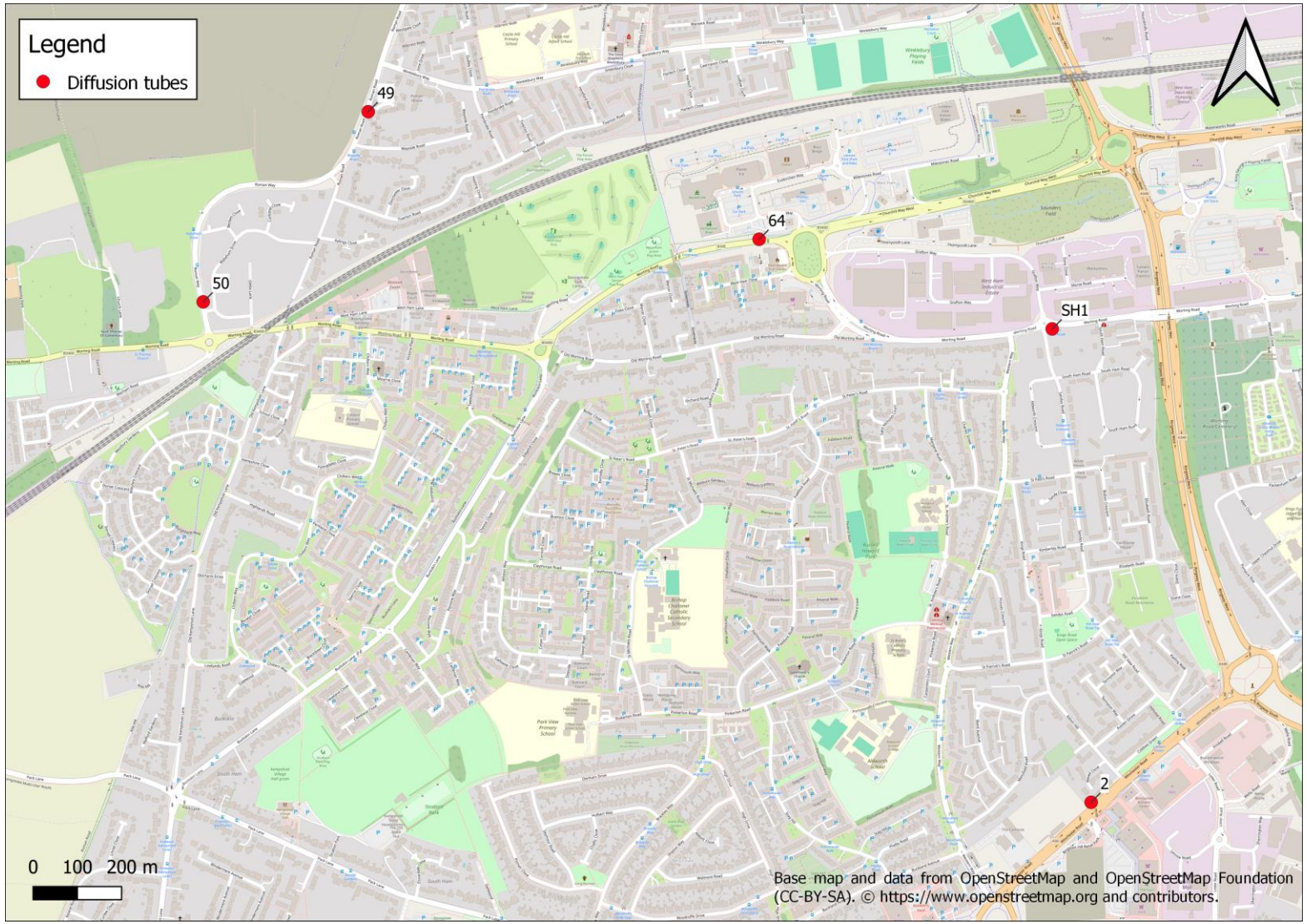


Figure D.4d – Map of Non-Automatic Monitoring Sites PW1, SR1, OR1, 55, 57, 58 and 59.

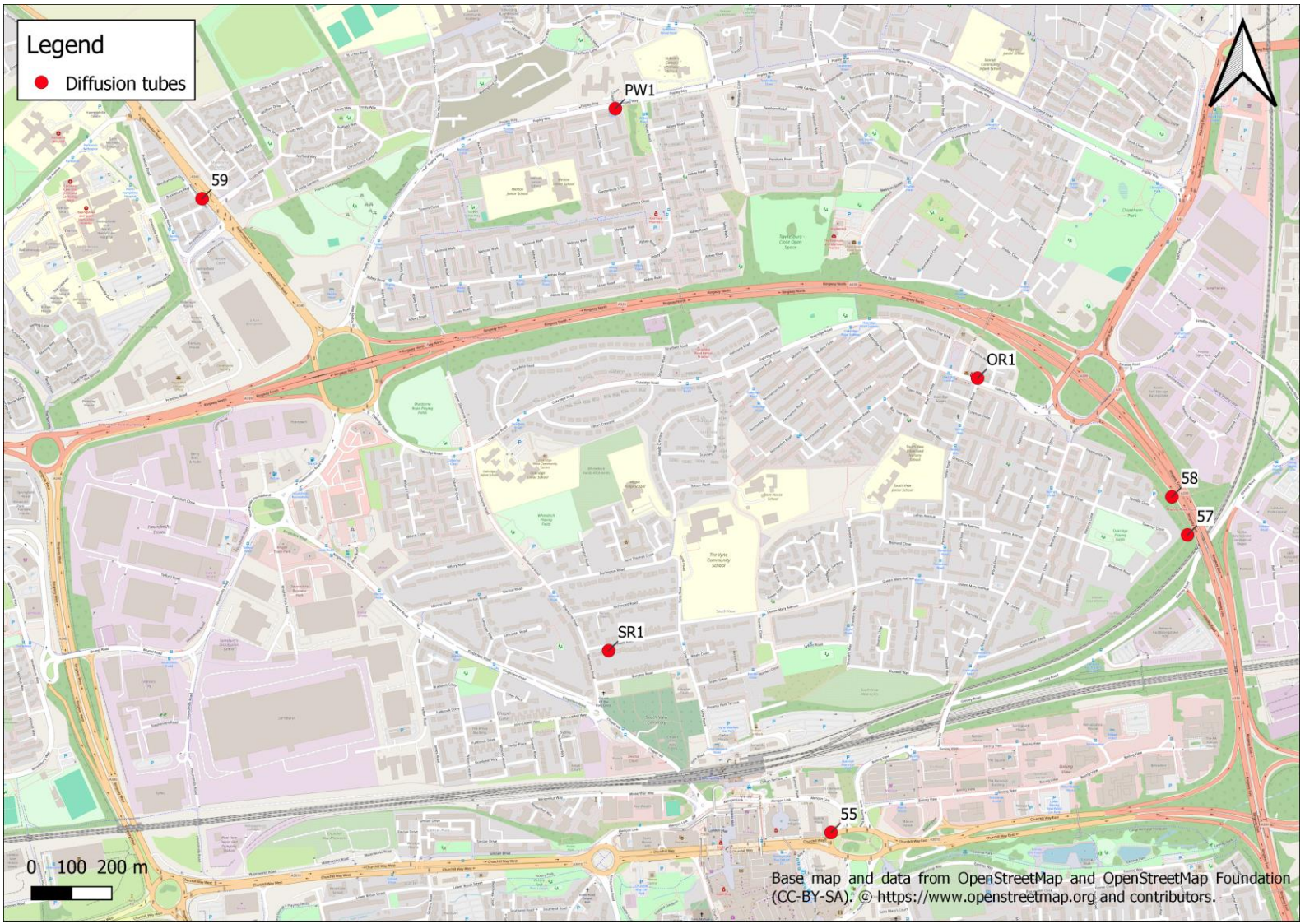


Figure D.5e – Map of Non-Automatic Monitoring Sites OB1 and OB2.

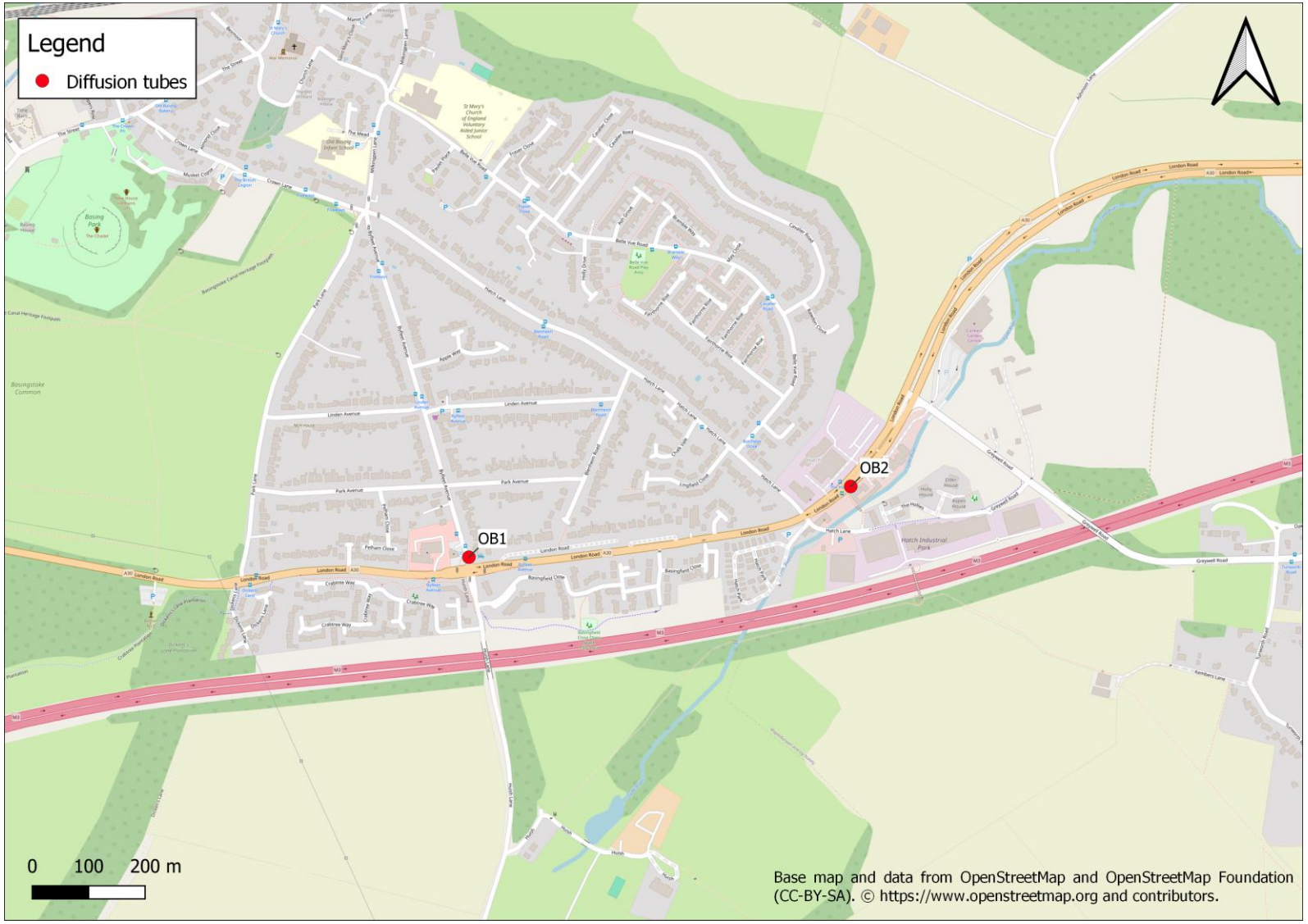


Figure D.6f – Map of Non-Automatic Monitoring Sites OV1 and OV2.

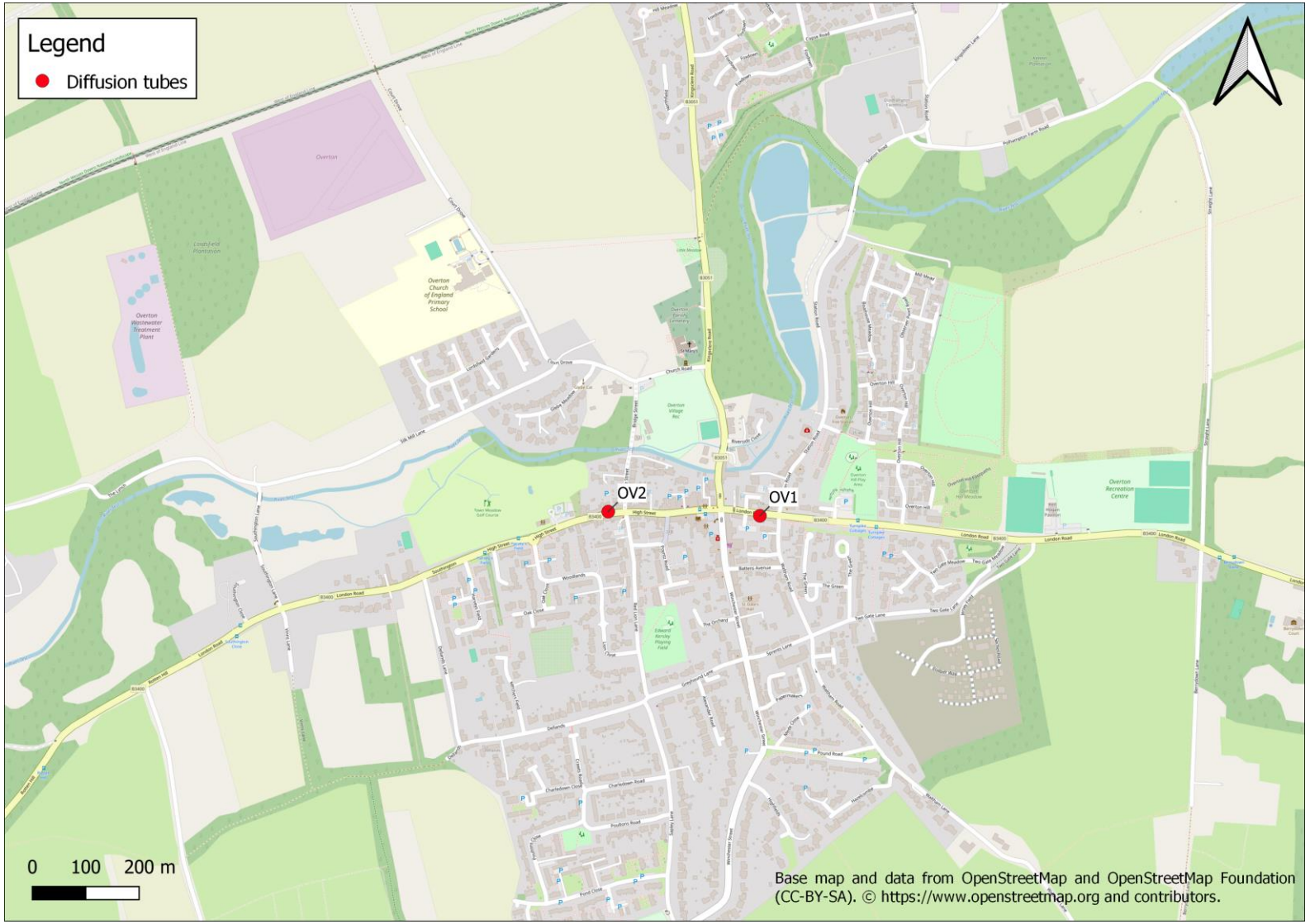


Figure D.7g – Map of Non-Automatic Monitoring Sites 9, 12, 17, 18, 19, 20, 22, and 35.

Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England[31]

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

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

Glossary of Terms

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

References

- Local Air Quality Management Technical Guidance LAQM.TG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Local Air Quality Management Policy Guidance LAQM.PG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Chemical hazards and poisons report: Issue 28. June 2022. Published by UK Health Security Agency
- Air Quality Strategy – Framework for Local Authority Delivery. August 2023. Published by Defra.