Buckinghamshire Council

2024 Air Quality Annual Status Report (ASR)

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

Date: June 2024

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Executive Summary: Air Quality in Our Area

Air Quality in Buckinghamshire Council

Breathing in polluted air affects our health and costs the NHS and our society billions of pounds each year. Air pollution is recognised as a contributing factor in the onset of heart disease and cancer and can cause a range of health impacts, including effects on lung function, exacerbation of asthma, increases in hospital admissions and mortality. In the UK, it is estimated that the reduction in healthy life expectancy caused by air pollution is equivalent to 29,000 to 43,000 deaths a year[1].

Air pollution particularly affects the most vulnerable in society, children, the elderly, and those with existing heart and lung conditions. Additionally, people living in less affluent areas are most exposed to dangerous levels of air pollution[2].

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.

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

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

Buckinghamshire Council is a unitary local authority in England, the area of which comprises most of the ceremonial county of Buckinghamshire equivalent to 1,874 km^2 with an estimated population of 543,973 (Office for National Statistics, 2019). It was created in April 2020 from the areas that were previously administered by Buckinghamshire County Council including the districts of Aylesbury Vale, Chiltern, South Bucks and Wycombe.

Buckinghamshire is predominately rural but has several market towns including Amersham, Aylesbury, Beaconsfield, Buckingham, Chesham, Gerrards Cross, High Wycombe, Iver and Marlow. The main source of air pollution in Buckinghamshire is from road transportation. There are four motorways which run through the Buckinghamshire Council Area, M4, M25, M40 and the A404(M) and the other main routes of traffic are the A40, A41, A412, A413, A418, A421, A4010. There are currently 128 Environmental Permits issued by Buckinghamshire Council to businesses including but not limited to petrol stations, dry cleaners, brickworks, crematoria, foundries, cement batchers, manufacturers of timber and wood-based products and vehicle refinishers.

Currently nitrogen dioxide (NO_2) is the major pollutant of concern within Buckinghamshire and is monitored using chemiluminescence continuous monitors and passive diffusion tubes.

The majority of Buckinghamshire already meets the Air Quality Objectives (AQOs) (set by the UK Government) for NO_2. In 2023, there was a general decrease in concentrations recorded at most monitoring locations which is in line with the national trend.

The Strategic Environmental Protection Team are in the process of revoking four of the nine Air Quality Management Areas (AQMAs) that have been declared for exceedances of the annual mean nitrogen dioxide objective. The team are also updating Buckinghamshire's Air Quality Action Plan (AQAP) and plan to conduct a public consultation on the revocation of the AQMAs and AQAP in the summer of 2024. For further information on the AQMAs visit the UK Air website at https://uk-air.defra.gov.uk/aqma/list.

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[3] sets out actions that will drive continued improvements to air quality and to meet the new national interim and long-term targets for fine particulate matter ($PM_{2.5}$), the pollutant of most harmful to human health. The Air Quality Strategy[4] 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[5] details the Government's approach to reduce exhaust emissions from road transport through a number of mechanisms, in balance with the needs of the local community. This is extremely important given that cars are the most popular mode of personal travel, and the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

Below are some of the actions taken by Buckinghamshire Council to improve air quality within the county.

Clean Air Day 2023

Figure 1 - Screenshots of posts published on social media by Buckinghamshire Council on Clean Air Day 2024

Buckinghamshire Council supported Global Action Plan on Clean Air Day on 15th June 2023 by posting messages on social media such as X (formally Twitter) and Facebook. Articles were also placed for the attention of the staff on the intranet. Examples of tweets and posts can be seen above

[3] Defra. Environmental Improvement Plan 2023, January 2023

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

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

The council also partnered with Ricardo E&E who undertook a project on Clean Air Day to illustrate how people can reduce their own exposure to air pollution by choosing a quieter route to walk along. As part of the project employees from Ricardo E&E walked two routes between the two council offices in Aylesbury whilst carrying air quality monitors on their backs. One route was along A41 which passed through the Friarage Road Air Quality Management Area and the other route was one away from traffic through a park and back streets. The results of the air quality monitoring clearly showed that you are exposed far less pollution on quieter routes than those along busy roads. Posts were published on Facebook and X (formally Twitter) and the council plan to utilise the information captured to inform staff of less polluted routes between the offices.

Figure 2 - Ricardo E&E undertaking air quality monitoring while walking along two different routes in Aylesbury.

Climate Change & Air Quality Strategy Progress Report

The Climate Change and Air Quality Strategy published in October 2021 sets out what Buckinghamshire council will do, and how we will work with partners and residents to achieve net-zero for carbon emissions for Buckinghamshire by 2050 and to improve air quality across Buckinghamshire pursuant to achieving national air quality objectives.

An update report has been published by the council which outlines the progress made during 2022 – 2023 against the targets set out within the Strategy. A copy of the Progress Report for 2022 – 2023 can be accessed on the Climate Change pages of the council's website by clicking here. There are also and two action plan updates (Sept and Dec), which update on specific actions.

Clean Up Our Air Initiative

To coincide with Clean Air Day Buckinghamshire Council launched the Clean Up Our Air Campaign on 15th June 2024. The initiative works with the Local Community Boards to

provide materials to the local community to enable them, local schools, or environment groups to carry out campaigns and to raise awareness of local air quality issues. The Air Quality toolkits included access to data from a locally sited multi-pollutant monitoring sensor, equipment and signs for anti-idling campaigns, power point presentations and a plethora of information available on Council website to download.

The main aim of the Clean up Our Air Campaign is to:

1. To educate residents, businesses, and visitors to the area on how they can reduce emissions.
2. To give a basic understanding on dispersion and how this information can be used to reduce exposure to air pollution.
3. To inform on what the Council are doing to reduce air pollution in their area and how volunteers, schools, local groups and community boards can help.
4. Get an appreciation of co-benefits, such as increase in wellbeing and a reduction in impact on Climate Change.

Officers from the Strategic Environmental Protection Team also attended several Community Board meetings and community events to introduce the initiative to the members and members of the community.
More information about the initiative is available on the Buckinghamshire Council Clean Up Our Air webpage by clicking this link: https://www.buckinghamshire.gov.uk/community-and-safety/clean-up-our-air-campaign/. This project was funded by a Defra Air Quality Grant.

Figure 3 - Airly sensor and solar panel outside Juniper Hill School, Flackwell Heath with an anti-idling sign below (Left).

Figure 4 - Installation of an Airly Sensor by Ricardo E&E outside Millbrook Combined School, High Wycombe (Right).

Electric Vehicle Charging

Buckinghamshire Council is committed to installing 1,000 public charging points across Buckinghamshire by 2027 starting with a 30% increase in 2023. This ambition is outlined within the Council's Electric Vehicle Action Plan. More information on the plan can be found on the Electric Vehicles page on the Council's website.

To help meet this target Buckinghamshire Council received just over £70,000 in funding from the Office for Zero Emission Vehicles (OZEV) to support the installation of new on-street electric vehicle (EV) charging points in Wendover. The money will be used as match-funding for the council's existing £110,000 investment in the Wendover EV pilot scheme, which aims to promote the use of EVs in the area.

The EV pilot scheme will include the installation of 10 on-street lamppost charging points in locations where there is a lack of off-street parking in Wendover and in-pavement cable channels. Both options will offer slow charging suitable for overnight charging of EVs.

The in-pavement cable channels are being installed to enable those residents who do not have a driveway to use their own EV chargers outside their house to charge their cars

overnight whilst parked on the street in an easily accessible way. This is because the in-pavement cable channel ensures pedestrian safety by preventing trip hazards from trailing cables across pavements. It also means that residents can use their own cheaper electricity rather than relying on more expensive public charge points. To date 3 in-pavement channels have been installed and the council has received positive feedback from those residents using them. The usage of the channels will be monitored by the council until November 2025 and a decision will be made on whether to offer the in-pavement channels to more residents of Buckinghamshire.

A separate project is also being developed which includes the installation of two 7kW dual point charging units (4 charge points per unit) in 3 Buckinghamshire Council owned car parks and 8 Parish Council owned carparks. This equates to 44 charge points in total and they will be in areas where there is a high density of residents with no off-street parking available. The project has been out to tender and it is planned that the charge points will start to be installed by October 2024.

Figure 5 - Buckinghamshire Highways installing in-pavement channel in Wendover.

Buckinghamshire Council Local Plan

As a relatively new unitary authority Buckinghamshire Council must produce a new local plan within 5 years of coming into being (by April 2025). Having an up-to-date plan in place brings many benefits for Buckinghamshire. In August 2020, the government consulted on a Planning White Paper that proposed significant reforms to the planning system. Later in May 2022, the government published the Levelling Up and Regeneration Bill.

Consequently, progress on the local plan is limited until the government has confirmed the detail and timetable for the proposed changes.

It is a priority for the Strategic Environmental Protection team that Air Quality is given the attention required with the new local plan to enable the Council to allow future development without compromising air quality. The team have responded to all internal and external consultations drawing the attention of planning policy to potential opportunities and issues.

More information of the Buckinghamshire Local Plan can be found on the planning pages of the council's website.

Local Transport Plan

Buckinghamshire Council is in the process of updating its Local Transport Plan. This will be the fifth Transport Plan for Buckinghamshire (LTP5) and it will set out the ambitions, policies and plans for delivering transport improvements for all types of transport across the county until 2040. The initial public consultation on the vision and objectives took place in June 2023. alongside the vision and objectives consultation for the Local Plan for Buckinghamshire.

The LTP5 policies will be developed using feedback received during the consultation, current transport challenges in Buckinghamshire and government priorities. An implementation plan will also be created to deliver the policies. A further public consultation on the draft LPT5 policies and action plan will be held before adoption of the final plan.

The Strategic Environmental Protection Team will feed into all consultations in relation to the plan to ensure that air quality is considered as part of the plan.

More information on LTP5 can be found on the our local transport plan pages of the council's website.

‘Pick Me Up’ Demand Responsive Transport (DRT) Service

The ‘demand responsive transport’ (DRT) service launched in September 2022 which operates around High Wycombe has been expanded to include Flackwell Heath. The service operated by Carousel Buses has proven to be popular with local residents with close to 100 people per day travelling by the end of the first week of service. By June 2024, this had increased to 300 passengers per day and the service continues to attract new passengers, now providing over 1500 rides per week. The service was introduced to reach residents living in parts of the town not serviced by regular bus routes and demonstrates the role that demand-responsive transport plays in improving air quality and traffic congestion in the town.

E-Scooter Trial

Buckinghamshire Council, as part of the Department for Transport (DfT) trials, have implemented an Electric Scooter rental trial in Aylesbury, High Wycombe, and Princes Risborough to help support a ‘green’ alternative to local travel that is convenient, clean, and affordable. The trial has been extended by the Department for Transport until 31st May 2026 to continue their assessment of impacts and allow legislation to be put in place to legalise e-scooters. The continuation of the e-scooter trial also supports the council’s Climate Change and Air Quality Strategy by promoting sustainable low-carbon transport alternatives for shorter trips.

In 2023, more than 100,000 rides covering approximately 107,000 miles were made on the trial e-scooters.

Figure 6 - Zipp e-scooter.

Electric Bike Hire Trial

Two electric bike (e-bike) hire schemes have been launched in Aylesbury and High Wycombe, alongside the existing e-scooter hire schemes which are both operated by Zipp Mobility. Twenty-five e-bikes will be available for public hire across the towns. Customers can register and hire the e-bikes through an app and will be charged per minute of usage.

The e-bike trial provides a new sustainable travel option for residents and visitors in Aylesbury and High Wycombe. The addition of e-bikes to our existing e-scooter offering, means that people now have a choice of which wheels they want to use for commuting or leisure trips.

Figure 7 - Cabinet Member for Transport Steven Broadbent with one of the new Zipp e-bikes

BetterPoints Bucks

Launched in January 2023, BetterPoints Bucks is a behaviour change programme, underpinned by academic research, that incentivises and rewards people for making positive changes to their lives. Delivered through an app and online platform it enables Local Authorities to incentivise, track, reward, and measure activities such as walking, cycling, wheeling and public transport and engaging directly with local audiences.

Within Buckinghamshire, the vision is to use a systems-based approach which works across active travel and health, recognising shared aims of encouraging people to be more active to tackle obesity, reduce smoking prevalence, whilst also reducing solo car use to improve air quality and reduce congestion. The latest version of Better Points

calculates CO_2 and NO_2 avoided, in real time on all journeys not made by car and highlights this on the app.

The app has proven to be very successful and at the end of its first year after being launched there were 3,066 registered users. It is estimated that in that year 159,036 car journeys have been replaced by other forms of sustainable transport and 301,476g of NO_2 has been mitigated.

BetterPoints Bucks also encourages residents to share their stories on how they are using the app in the feature called ‘Ditch the Car Star’. One of the latest winners of Ditch the Car Star, Frank from High Wycombe said:

"I plan my trips so that travel by bus or brisk walk is always my first choice. It makes the trip a lot more scenic and adventurous. **Ditching the car has now become a way of life** and made the way I travel a lot more exciting.”

More information on BetterPoints Bucks can be found on their website at https://bucks.betterpoints.uk/.

Love Exploring

Love Exploring is an app encouraging communities to explore their local area, parks, and green spaces more through walking. It creates bespoke activities to bring audio guides and augmented reality games to local areas. Free to all, the games and guided trails include quizzes that get the user hunting for clues as they explore the place they are visiting. Love exploring was launched in several parks at the beginning of 2023 and due its popularity has been expanded to cover a total of 21 parks throughout Buckinghamshire.

Over the 2023/24 year there were over 2,100 users with more than 750 games been played. 93% rated the app as brilliant and 43% enjoyed learning something from having played a game.

Balanceability

Balanceability prepares 2 – 4-year-olds to ride a bicycle by providing structured sessions to encourage activity and support the development of motor skills in early years. In Buckinghamshire, a train the trainer session for 15 staff across five family centres was delivered for early years practitioners to deliver ongoing programmes. All sites were provided with 10 balance bikes and equipment (helmets and resource packs) plus marketing materials to promote to targeted families. In addition to the training, local

provider, Club Sport, delivered a 6-week programme to each site in Autumn 2023 to support the implementation and provide a wider offering.

After attending the sessions, the children had become confident in using balance bikes, listening to instructions and were aware of social space around them. One parent also bought a balance bike after the course. In addition, due to the success of the project the team would like to explore rolling out the programmes across sites in Chesham.

The project was developed in collaboration with Leap, Children Services, Transport Strategy, The Clare Foundation and Schools Sustainable Travel officers.

Healthy Planning Network

The Healthy Planning Network has been set up by the Public Health team to strengthen links across planning and health teams. Members of the network include officers from the Public Health, Planning Policy, Development Management, Strategic Environmental Protection and Transport Strategy Teams. The aim of the network is to also provide a forum for health and planning officers to come together to discuss planning and health infrastructure issues, to help embed health and wellbeing into planning policies and decisions, providing health and wellbeing evidence for Local Plans and other strategies, promote use of the Joint Strategic Needs Assessment, Health and Wellbeing Strategy, public health intelligence and other health strategies as evidence for local planning, explore the production of Buckinghamshire-wide guidance for use at local level as best practice and the use of health impact assessment as a tool guiding planning process.

Modeshift STARS Education

A total of 72 schools and 1 college across the county have now gained accreditation for their school travel plans as part of the national Modeshift STARS (Sustainable Travel Accreditation and Recognition for Schools) scheme.

The Modeshift STARS scheme recognises and rewards schools and other organisations that have shown excellence in supporting sustainable and active travel. Schools can gain awards ranging from Green for entry level work, up to Platinum for outstanding achievement in encouraging families to use more sustainable and active ways to travel to and from school.

Following the latest round of accreditation, 16 schools in Buckinghamshire now have Green awards, 36 have Bronze awards, 12 have Silver awards, 3 have Gold awards and 5 6 have achieved a Platinum award.

Buckinghamshire Council actively supports and encourages schools and individuals to take part in active travel as its part of tackling climate change and improving air quality within Buckinghamshire, aiming for carbon neutrality or net-zero in terms of carbon emissions by 2050. The council is also motivating children to create safe spaces around schools, such as Modeshift STARS Walking Bubbles, which can encourage families to park at least five minutes away from their destination, using a form of active transport to travel the rest of the way.

More information can be found on the Buckinghamshire School Travel Planning website.

Upgraded Traffic Lights in the Stoke Road Air Quality Management Area

Following a successful bid for funding from the Department for Transport, Buckinghamshire Council installed new 'intelligent' traffic lights at the Aylesbury gyratory, a designated air quality management area, which uses some of the latest technology to reduce congestion and make the busy junction safer for all users.

By responding as needed to traffic flow, the system helps to reduce congestion and avoid potential build ups, keeping traffic moving as freely as possible. For example, on clear roads the system will minimise delays by changing lights more frequently and where there is congestion in a particular area, the lights can adjust to get more traffic away from that location. These upgraded traffic lights will help towards improving the air quality within the AQMA and the Strategic Environmental Protection team will be reviewing the results of the air quality monitoring undertaken in the area to evaluate what impact the upgraded system will bring.

New Southeast Aylesbury Link Road (SEALR)

The Southeast Aylesbury Link Road (SEALR) is a 2-phase project that will create 1.1 miles of dual carriageway connected by 3 roundabouts to form a crucial part of the Aylesbury Orbital Link Road. The project will respond to the realignment of the A4010 as the single carriageway Stoke Mandeville Relief Road and also Aylesbury's future development plans.

SEALR aims to reduce the effects of the Stoke Mandeville Relief Road by providing a link between the A413 Wendover Road and the B4443 Lower Road. The project will also provide a dual carriageway link to connect the B4443 Lower Road, the Southwest Aylesbury Link Road and the Stoke Mandeville Relief Road.

Completing this project will reduce congestion by redirecting traffic around town via the Orbital Link Roads, which will have a positive impact on air quality within Aylesbury

particularly the Stoke Road AQMA and improve walking and cycling by providing two new cycleways/footways.

Figure 8 - Plan of the new South East Aylesbury Link Road (SEALR)

Projects funded by the Air Quality Grant Scheme

- In 2021/22 Buckinghamshire Council received Capital funding of £578,000 for the renovation of a 26 tonne Refuse Collection Vehicle to include an electric powertrain (and other items required for five years' worth of maintenance). A contract was awarded to Lunaz in 2022. However, difficulty sourcing parts and other complications has meant that the completion date has been extended to Spring 2025.
- In 2021/22 Buckinghamshire Council (working with Spelthorne and Ricardo E&E) also received £91,273 of funding to create Air Quality Toolkits. The grant funding is now coming to an end with over half of the council's Community Boards taking up the offer of the toolkit. The toolkits provided the Community Boards with materials to enable them, local schools, and organisations to carry out campaigns and to raise awareness of local air quality issues. Also included was access to the use of one air quality sensor, campaign materials, advice, and toolkits on how to run campaigns. Whilst the team are unable to continue to fund the running costs of the sensors, we will continue to provide campaign materials and advice where possible.
- In 2022/23 Buckinghamshire Council were awarded £120,000 to provide travel planning and eco driving support for local businesses. The main aim of this project is to enable greater collaboration with local businesses and encourage low emission vehicle practices and improvements to the fleet travelling in and around Buckinghamshire.

Thereby reducing emissions from traffic and encouraging safer driving. A Travel plan consultant has been appointed and Bucks Business First has started recruiting business. A promotional event taking place on 14th June 2024 will raise awareness of the project to more local businesses.

Conclusions and Priorities

No exceedances of the annual mean nitrogen dioxide objective were recorded within Buckinghamshire during 2023. 8 locations, Site ID numbers AV17, 18, 36, 30, 40 and 44 within the Aylesbury Vale area and site ID number W48 and 51 within the Wycombe area, recorded concentrations within 10% of the annual mean objective. This required a fall off with distance calculation and the inputs used to calculate these fall-off with distance values are shown in table C.4. Once the calculation had been completed the concentration of NO_2 was found to be significantly below the average annual objective at all sites, apart from site ID numbers AV36 which remained within 10% of the annual mean objective.

All other diffusion tube sites in 2023 reported concentrations well below the annual mean objective of 40 µg/m^3.

Following a significant decrease at most monitoring locations in Buckinghamshire in 2020 and 2021 due to the COVID-19 pandemic it is noted that in 2023 concentrations at all monitoring sites have not returned to pre-pandemic levels.

Monitoring completed in the Tring Road AQMA, Chesham AQMA, South Bucks AQMA and AQMA No. 1 (M40) measured NO_2 concentrations comfortably below the annual mean objective of 40 µg/m^3. We therefore will be proceeding with the revocation of these AQMAs in 2024.

Buckinghamshire Council's priorities for 2024

Unitary Authority and Better Buckinghamshire programme

Since the creation of the Strategic Environmental Protection Team in August 2021 all suppliers and contracts for air quality monitoring equipment held by the legacy councils have now been aligned into one contract.

The next step is to continue working on the consolidation of all Air Quality Action Plans into one. A draft Air Quality Action plan, which has been appraised by Defra will be subjected to public consultation during 2024. The post consultation amended plan will be resubmitted to Defra for appraisal

Buckinghamshire Council Local Plan

Buckinghamshire Council must produce a Local Plan within five years of coming into being, that is by April 2025. As such the council at the beginning of the plan making process.

It is a priority for the Strategic Environmental Protection team that Air Quality is given the attention required to enable the Council to allow future development without compromising Air Quality. The team have responded to all internal and external consultations drawing the attention of planning policy to potential issues.

Implementation of Defra Air Quality Grant Projects

The Strategic Environmental Protection Team will continue to progress and implement the projects awarded funding through the Defra Air Quality Grant.

National Infrastructure Projects

In addition, there are several National Infrastructure Projects (NIPs) currently being constructed within Buckinghamshire over the next few years. If not managed appropriately they have the potential to cause a large and significant impact on local air quality.

East West Rail (EWR) - East West Rail is a major railway project. It aims to deliver much-needed transport connections for communities between Oxford and Cambridge. Construction on connection 1 between Oxford and Milton Keynes started in 2020 with the aim of having trains running in 2025. Further information on the progress of the project and what measures EWR have in place to reduce disruption on the local community can be found here on the Network Rail website.

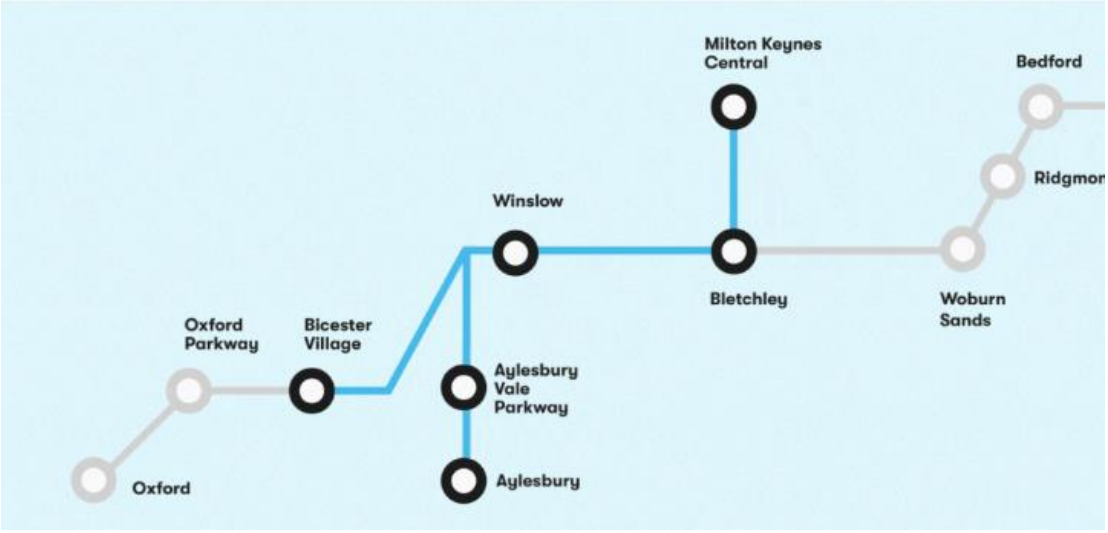

Figure 9 - Map of Connection Stage One of East West Rail – Bicester to Bletchley/Milton Keynes

High Speed 2 (HS2) - Route wide sources of air quality impacts identified include highway construction traffic, highway interventions, and the use of Non-Road Mobile Machinery (NRMM), which may have temporary effects on local air quality. These effects may occur in the vicinity of HS2 construction sites, as well as alongside several roads used by the construction traffic moving to and from each site. The effects are mostly from changes in NO_2 concentrations and particulate matter, including PM_{10} and $PM_{2.5}$.

A mass haul strategy to cope with the movement of excavated material to various locations along the route is in place. HS2 have committed to, wherever practicable, keep the movement of this material within the boundary of the HS2 project thereby reducing the need to use HGVs on the public roads. Internal haul roads have been developed which follow the rail trace through the middle of the earthwork areas (i.e., embankments, cuttings). Substantial activity including digging out the north portal at South Heath and excavating the cutting from there to Wendover has taken place. To connect parts of this area of the route an overhead earth conveyor system is being constructed at the northwest of the South Heath Cutting. Where possible HS2 are trying to reduce HGV movements by using rail.

The HS2 environmental statement (as amended) included an assessment of the impacts of the scheme on air quality during both construction and operation. The HS2 Air Quality Strategy and HS2 Phase One Information Paper E31 “Air Quality” summarises the impacts and the project includes a HS2 Air Quality Action Plan which was revised in 2019. More information can be found at Monitoring the environmental effects of HS2.

Officers will continue to carefully monitor the effects of the project on air quality in the Buckinghamshire Council administrative area, provide challenge where appropriate and seek further mitigation where reasonable to do so**.**

Local Engagement and How to get Involved.

Emissions from road transportation are the major source of air pollution in Buckinghamshire. Therefore, members of the public can help reduce local air pollution concentrations by choosing to use more sustainable transport options such as walking, cycling, car sharing and/or use public transport. They can also reduce reliance on cars for trips where possible.

There are increasing opportunities within the Buckinghamshire Council area to use sustainable transport options, such as improved walking routes and cycling routes.

Information on these routes can be found on the Council's website Cycling and walking | Buckinghamshire Council.

When using a car for trips, emissions can be minimised by ensuring that the vehicle is not over revved, and that the engine is switched off when the vehicle is stationary (parked) or is likely to be stationary for a period.

Air quality monitoring data is hosted on the Air Quality England website (Buckinghamshire Council - Air Quality monitoring service (airqualityengland.co.uk) which allows access to existing and historical air quality levels.

For further information on Air Quality and how to reduce emissions and exposure to pollution please refer to the Clean Air Hub website run by the Charity Global Action Plan.

Clean Air Hub: The UK's go to source for information on clean air and air pollution

Local Responsibilities and Commitment

This ASR was prepared by Strategic Environmental Protection Team of Buckinghamshire Council with the support of the following departments:

- Transport Strategy and Funding Team
- Energy and Climate Change Team
- Public Health Team
- Taxi Licensing Team
- Building Control Team

The ASR contents have been agreed by the Strategic Environmental Protection Manager

The overall ASR has been signed off by the Director of Public Health.

Dr Jane O'Grady

Director of Public Health at Buckinghamshire Council

If you have any comments on this ASR please send them to Cerys Williams or Deborah Ferady at:

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1 Local Air Quality Management

This report provides an overview of air quality in Buckinghamshire Council during 2023. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995), as amended by the Environment Act (2021), and the relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in order to achieve and maintain the objectives and the dates by which each measure will be carried out. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by Buckinghamshire 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 D.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 Buckinghamshire Council can be found in Table 2.1. The table presents a description of the nine AQMAs that are currently designated within Buckinghamshire Council. Maps of AQMAs and the air quality monitoring locations in relation to the AQMAs can be found on the council's air quality management reviews and annual report webpage. The air quality objectives pertinent to the current AQMA designations are as follows:

- NO_2 annual mean

Monitoring data in four of the AQMAs has been comfortably below the annual mean objective for nitrogen dioxide (NO_2) for five years or more. Furthermore, predictions of future trends in NO_2 show that the probability of the objectives being exceeded again is highly unlikely. Technical guidance published by Defra clearly states: "*There should not be any declared AQMAs for which compliance with the relevant objective has been achieved for a consecutive five-year period.*"

Consequently, Buckinghamshire Council are revoking the following AQMAs:

- Tring Road AQMA
- Chesham AQMA
- South Bucks AQMA
- AQMA No. 1 (M40)

All nine of the AQMAs were declared prior to the creation of Buckinghamshire Council on 1st April 2020. Therefore, there was a need to review and consolidate the four AQAPs developed by the legacy areas for their respective air quality management areas into a single AQAP for Buckinghamshire.

Subsequently, Buckinghamshire Council have drafted an updated AQAP for Buckinghamshire which has been appraised by Defra. The council are in the process of preparing to go out to public consultation on the plan and to inform that the four AQMAs are to be revoked. The consultation is planned to start in July 2024 for a period of 10 weeks.

Following consultation the plan, with any amendments, will need to be resubmitted to Defra for comment and be formally adopted by the Council before being published on its website. The AQMAs will also be formally revoked, and revocation orders submitted to Defra.

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
Friarage Road AQMA	16th June 2008	NO2 Annual Mean	An area encompassing several properties along the A418 (Friarage Road and Oxford Road) in Aylesbury	NO	44 µg/m3	No Exceedance	1 year	Aylesbury Air Quality Action Plan	https://www.buckinghamshire.gov.uk/environment/air-quality/air-quality-management-reviews-and-annual-reports/
Stoke Road AQMA	16th June 2008	NO2 Annual Mean	An area encompassing the junction of the A413 Wendover Road, Walton St and the B4443 Stoke Road in Aylesbury	NO	59 µg/m3	No Exceedance	2 years	Aylesbury Air Quality Action Plan	https://www.buckinghamshire.gov.uk/environment/air-quality/air-quality-management-reviews-and-annual-reports/

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
Tring Road AQMA	4th July 2005	NO2 Annual Mean	An area encompassing a stretch of the A41 Tring Road and properties bordering it between the Oakfield Road/King Edward Avenue junction and Queen Street in Aylesbury	NO	40 µg/m3	No Exceedance	5 years	Aylesbury Air Quality Action Plan	https://www.buckinghamshire.gov.uk/environment/air-quality/air-quality-management-reviews-and-annual-reports/
Chesham AQMA	20th August 2007	NO2 Annual Mean	A small part of the A416 including Broad Street and Berkhampstead Road	NO	50 µg/m3	No Exceedance	5 years	Air Quality Action Plan (AQAP) 2019	https://www.buckinghamshire.gov.uk/environment/air-quality/air-quality-management-reviews-and-annual-reports/
South Bucks AQMA	2004	NO2 Annual Mean	An area surrounding the M25,	NO	42.8 µg/m3	No Exceedance	6 years	Buckinghamshire Air Quality Action	https://www.buckinghamshire.gov.uk/environment/air-quality/air-quality-management-reviews-and-annual-reports/

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
			M40 and M4 motorways					Plan - South Bucks Area	
South Bucks District Council AQMA No 2	August 2018	NO2 Annual Mean	Iver Parish	NO	44 µg/m3	No Exceedance	4 years	Buckinghamshire Air Quality Action Plan - South Bucks Area	https://www.buckinghamshire.gov.uk/environment/air-quality/air-quality-management-reviews-and-annual-reports/
AQMA No.1 (M40)	Declared 1st August 2001 Amended 22nd December 2017	NO2 Annual Mean	Along the M40 Motorway throughout District. Area includes land and property to each side of the carriageway that were modelled to have exceeded national air quality objectives for NO2 (annual mean)	YES	n/a	No Exceedance	6 years	Wycombe District Air Quality Action Plan	https://www.buckinghamshire.gov.uk/environment/air-quality/air-quality-management-reviews-and-annual-reports/

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
AQMA No.2 (High Wycombe)	22nd December 2017	NO2 Annual Mean	Main arterial roads of High Wycombe including West Wycombe Rd, Oxford St, Hughenden Rd, Abbey Way, Marlow Hill, Bridge St, Crendon St, Queen Victoria Rd, Easton St, London Rd and Amersham Hill (part of). Area also includes properties to the side of these roads where exceedance	NO	52 µg/m3	No Exceedance	4 years	Wycombe District Air Quality Action Plan	https://www.buckinghamshire.gov.uk/environment/air-quality/air-quality-management-reviews-and-annual-reports/

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
			s were modelled to include an area that passed through a significant part of a building or plot of land.						
AQMA No.3 (Marlow)	22nd December 2017	NO2 Annual Mean	Area incorporates the High Street (between Station Rd / Pound Ln roundabout and West St / Spittal St roundabout), West St (between High St / Spittal St roundabout and Westwood	NO	52 µg/m3	No Exceedance	4 years	Wycombe District Air Quality Action Plan	https://www.buckinghamshire.gov.uk/environment/air-quality/air-quality-management-reviews-and-annual-reports/

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
			Rd), Spittal St, Chapel St, Little Marlow Rd (between Chapel St and Foxes Piece School)						

☒ Buckinghamshire Council confirm the information on UK-Air regarding their AQMA(s) is up to date.

☒ Buckinghamshire Council confirm that all current AQAPs have been submitted to Defra.

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

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

- The Council have responded to and addressed to comments made following last year's appraisal (2022 ASR), this is appreciated, and it is encouraged that the Council continue to do this. All content that received positive comments in the appraisal on last years (2023) ASR have been included in this year's report.
- Overall, the report is detailed and concise, providing a good overview of the work the Council is undertaking to improve air quality within their area, and satisfies the criteria of the relevant reporting standard. The Council should continue their good work.

Buckinghamshire Council has taken forward a number of direct measures during the current reporting year of 2023 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. 31 measures are included within Table 2.2, with the type of measure and the progress Buckinghamshire Council have made during the reporting year of 2023 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.2.

More detail on these measures can be found in their respective Action Plans, Climate Change and Air Quality Strategy and the Freight Strategy.

Key completed measures are:

- Working with partners both internally and external to the Council the Strategic Environmental Protection Team has produced a draft Air Quality Action Plan that was submitted to Defra for appraisal in December 2023. In conclusion Defra stated that the "AQAP covers a wide scope, given the amalgamation of the four legacy districts, and is detailed, well grounded, and contains several wide-ranging measures commensurate to the level and extent of exceedances." Public consultation on the appraised plan has been delayed by the General election.

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

- The Strategic Environmental Protection team will be looking into using the new Buckinghamshire wide transport model to get a better understanding on where monitoring locations may be required in the future.
- Apply for funding from the Air Quality Grant, if possible.
- Continue with the process of having a draft consolidated Air Quality Action Plan approved and published on the Council's website and submitted to Defra as a final document.

Buckinghamshire Council's priorities for the coming year are:

- Continue to gather monitoring data on NO_2 concentrations throughout Buckinghamshire and particularly within the AQMAs.
- Continue to work with various Departments across the council on projects which will improve air quality within Buckinghamshire including the roll out of air quality toolkits to the local community boards to enable Air Quality campaigns to be carried out locally either by the boards or local schools. The team will provide ongoing support to each board and will also top up the toolkit with up-to date and relevant campaign materials throughout the year.
- Buckinghamshire Council are in the process of producing a new local plan for the new authority. It is a priority for the Strategic Environmental Protection team to continue working in partnership with the planning policy team to ensure air quality is included as a key consideration. The team have responded to all internal and external consultations drawing the attention of planning policy to potential issues. The team will also support the work on the development of a Buckinghamshire wide Supplementary Planning document.
- The Strategic Environmental Protection team will be looking into using the new Buckinghamshire wide transport model to get a better understanding on where monitoring locations will be required in the future.
- The Strategic Environmental Protection team will work collaboratively with council teams and other agencies to deliver the council's flagship programme to improve opportunities for people in Buckinghamshire known as Opportunity Bucks. This is the council's local response to the government's Levelling Up White Paper published in February 2022 which sets out 12 national missions designed to spread opportunity across the whole UK and improve everyday life and life chances for people in underperforming places. Visit the Opportunity Bucks pages on the Buckinghamshire Council website for full information on the scheme.

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

- Bucks Business First
- LEAP
- Hillingdon Borough Council
- Heathrow Air Quality Working Group

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

- There are several National Infrastructure Projects being developed in the area. The extent to which the council can further influence these locally is in some cases very limited.
- There are several barriers to HGV movement on the road network in the Iver area, including width and weight restrictions and low bridges which mean that HGV flows are restricted to certain routes, further focussing their impact on particular locations. This prevents the diversion of HGVs to more appropriate roads in terms of environment and place.

Buckinghamshire Council anticipates that the measures stated above and in Table 2.2 will achieve compliance in all 9 AQMAs. Table 2.2 has been updated to include progress on the current measures. A revised action plan will be developed and published in Autumn 2024 and a revised table will be included in the 2025 ASR.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
1	Introduce new planning policy to include electric charging points within large and commercial developments	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2017	2021	Local Authority Strategic Environmental Protection Team and Planning Departments	Local Authority	NO	Funded	£10k - 50k	Completed	Reduced tailpipe emissions	NOx	The VALP has been published and policy on EVs included.	In 2024, Public Health commissioned the Town & Country Planning Association (TCPA) to produce a Healthy Planning Framework for Buckinghamshire. The purpose of the framework is to: • Support the public health team to raise awareness of the links between planning and public health, to ensure that opportunities to maximise the health benefits of new developments through the Local Plan are realised. • Provide evidence, guidance and inspiration on creating healthier places for PH and Planning in Bucks. • Enable and facilitate collaboration between planning and PH teams. The framework will be used by all those involved and invested in healthy Planning in Buckinghamshire. The next steps are for us to localise the framework, adding in Buckinghamshire-specific data.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
2	Improvement of A418 Oxford Road corridor leading to and including Friarage Road AQMA	Traffic Management	Strategic highway improvements, Re-prioritising road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	2018	2021	Local Authority Transport Department and Buckinghamshire's Local Enterprise Partnership	DfT's National Productivity Investment Fund (NPIF) and Developer Funding	NO	Funded	£1 million - £10 million	Completed	Improved traffic flow and reduced vehicle emissions	NOx	Scheme completed in February 2021	Additional monitoring location introduced in 2022 to ensure the AQMA is adequately monitored. Result is exceedance of the annual mean objective.
3	Low Emission Strategy for Buckinghamshire	Policy Guidance and Development Control	Low Emissions Strategy	2018	2021	Local Authority Environmental Health and Energy and Climate Change Departments	Local Authority	NO	Funded	< £10k	Completed	Reduced emissions	NOx	Climate Change and Air Quality Strategy has been published	An annual progress was published in October 2023 for this report. Please see https://www.buckinghamshire.gov.uk/environment/sustainability-and-climate-change/energy-and-climate-change/the-climate-change-and-air-quality-strategy/

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
4	Encourage the uptake of Electric cars and Bikes	Public Information	Other	2020	2022	Local Authority Environmental Protection, Local Authority Economic Development, Global action Plan and Business Engagement Groups	Defra and Local Authority	YES	Funded	£50k - £100k	Completed	Reduced vehicle emissions	Increase in the uptake of Electric Cars and Bikes	This project has now been completed. More information on the project and the final report can be found here: https://www.buckinghamshire.gov.uk/parking-roads-and-transport/parking/electric-vehicles/electric-vehicles-in-business/	
5	Implementation of a Freight Strategy	Freight and Delivery Management	Route Management Plans/ Strategic routing strategy for HGV's	2018	2032	Local Authority Strategic Environmental Protection Team and Transport Departments	Local Authority	NO	Not Funded	£10k - 50k	Planning	Reduced vehicle emissions	Improved HGV fleet	A pilot scheme is being run within Ivinghoe where a 7.5 tonne weight restriction is being applied, giving access for local needs. the zone is now moving through a 2-stage implementation phase. Stage 1 We covered the design, procurement and positioning of signs around the zone. This was completed at the end of February 2023 making the restriction order legal. Stage 2 We will work with our neighbouring authorities on the installation of advance notice signage. This will ensure we let HGV drivers and operators know about this restricted zone before they reach the perimeter. We expect the work to be completed in the first half of 2023.	Buckinghamshire Council are working with the Wexham and Iver Community Board to develop an action plan to reduce the impact of HGVs on the villages.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
6	Working with key stakeholders and appointed consultants to ensure that any impacts associated with National Planning Infrastructure (NPI) projects.	Transport Planning and Infrastructure	Other	2006	Various	Local Authority Strategic Environmental Protection Team, High Speed 2 (HS2), East West Rail (EWR) and London Luton Airport Ltd (LLAL)	HS2 and EWR	NO	Funded	£10k - 50k	Implementation	Limited short-term increase in emissions	NOx and PM	During the construction phase of each of these developments Buckinghamshire Council will continue to work with the relevant agencies and organisations to minimise impacts upon air quality.	

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
7	Electric Scooter Rental Trial within Aylesbury, Wycombe and Princes Risborough	Alternatives to private vehicle use	Other	2020	2024	Local Authority, Department for Transport, Zipp Mobility	Department for Transport	NO	Funded	£50k - £100k	Implementation	Reduced vehicle emissions	No of Scooters Hired	During January and December 2022 there have been more than 130,000 rides covering over 160,000 miles.	The scheme has been extended until the end of May 2026.
8	Implementation of Environmental Permitting Regulations	Environmental Permits	Measures to reduce pollution through IPPC Permits going beyond BAT	2016	Ongoing	Local Authority Environmental Health Department	Local Authority and Permitting Fees	NO	Funded	< £10k	Implementation	PM10	No of Permitted Processes with Environment Management schemes	Permitting officer encourages the uptake of Environmental Management schemes to reduce emissions	
9	Community/ public engagement to promote and educate on sources of air pollution, impacts on health and how concentrations can be reduced	Public Information	Via other mechanisms	2021	2023	Local Authority Strategic Environmental Protection Team and Communications Departments	Local Authority	NO	Funded	< £10k	Implementation	Not measurable	Uptake of toolkits	Multi-pollutant sensors have been purchased and we are in the process of installing them in local schools. The Community Boards have received their toolkits.	Continue to encourage Community Boards to carry out campaigns.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
10	Publication of Electric Vehicle Charging Point Strategy	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2019	2022	Local Authority Environmental Health and Transport Strategy Departments	Local Authority	NO	Funded	< £10k	Completed	Reduced vehicle emissions	NOx and PM	Buckinghamshire Council's Electric Vehicle Action Plan was published in June 2022. A link to the document can be found here: https://www.buckinghamshire.gov.uk/parking-roads-and-transport/parking/electric-vehicles/	Buckinghamshire Council received just over £70,000 in funding from the Office for Zero Emission Vehicles (OZEV) to support the installation of new on-street electric vehicle (EV) charging points in Wendover
11	Increase number of cycling networks within the district	Transport Planning and Infrastructure	Cycle network	2020	2020	Local Authority Environmental Health and Transport Departments	Government's Emergency Active Travel Fund	NO	Funded	£500k - £1 million	Completed	Reduced vehicle emissions	NOx and PM	Buckinghamshire Council received a DfT grant, to make active travel more accessible and enjoyable for residents and people who work in the area.The fund will be used to develop fun and engaging materials to inspire students to walk, cycle, or use scooters to get to school. Create new safe and inviting green travel spaces. Offering an alternative to driving by delivering new walking, wheeling and cycling routes in Bucks.	

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
12	E-Bike rental scheme at Waddesdon Greenway	Transport Planning and Infrastructure	Public cycle hire scheme	2020	2026	Local Authority, Aylesbury Garden Town, Waddesdon Manor and Chiltern Railways	Department for Transport	NO	Funded	£10k - 50k	Implementation	Reduced vehicle emissions	NOx and PM	Installation of a second docking station at Aylesbury Vale Parkway train station – This scheme has now ended.	New trial to be launched see measure 31
13	Installation of electric charging points at Council Offices	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2015	2015	Local Authority Strategic Environmental Protection Team and Department for Transport	OLEV funding (75%) and private companies	NO	Funded	£10k - 50k	Completed	Reduced vehicle emissions	NOx and PM	EV charging points have been installed at all Council Offices	The Council has started installing EV charging points in their depots.

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14	Retrofit Polluting Buses with Clean Technology	Vehicle Fleet Efficiency	Vehicle Retrofitting programmes	2017	2017-2019	Local Authority Strategic Environmental Protection Team and Arriva	Clean Bus Technology Fund 2017	NO	Not Funded	£100k - £500k	Aborted	Reduced vehicle emissions	NOx and PM	Application for funding unsuccessful as Buckinghamshire Council not a Local Authority with a PCM link	Focus on the Bus Service Improvement Plan (see 38)
15	Participate in and support Clean Air Day	Public Information	Via other mechanisms	2017	Annually	Local Authority Strategic Environmental Protection Team and Communications Departments	N/A	NO	Not Funded	< £10k	Completed	Not measurable	Shares and Retweets	Working with the Local Community Boards on setting up campaigns for Clean Air Day 2023	
16	Tree planting	Transport Planning and Infrastructure	Other	2019	2019	Local Authority Ecology Department and Voluntary Groups	Local Authority	NO	Partially Funded	< £10k	Completed	Not measurable	KPI not developed	Trees planted within several parks and open spaces	The publication of the AQEG report Impacts of Vegetation on Urban Air Pollution the Council cannot promote tree planting as a cost-effective method of reducing exposure to NO2. However, it will continue to support local communities and schools in planting trees for other reasons.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
17	Green Wall	Transport Planning and Infrastructure	Other	2012	2022	Buckinghamshire Council and Chesham Town Council	Defra and LA	NO	Funded	< £10k	Completed	Not measurable	KPI not identified	The team can no longer maintain the green wall and looking for another team to take it over.	The Green wall was removed in March 2024
18	Taxi policy to encourage LPG/low emission vehicles	Promoting Low Emission Transport	Taxi emission incentives	2019	2015	Local Authority Strategic Environmental Protection Team and Taxi Licensing.	Local Authority	NO	Not Funded	< £10k	Completed	Not measurable	Increase in the number of EV taxis	The council adopted this policy on 24th February 2021	

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
19	Highway improvements to traffic flow	Traffic Management	Other	2010	2030	Local Authority Environmental Health and Local Authority Urban Transport Management	LA	NO	Not Funded	£10k - 50k	Planning	Reduced vehicle emissions	Smoother running traffic	No progress to date	Several projects to be included here: Iver Health Street Project and the ITMF bid
20	Parking Enforcement	Traffic Management	Anti-Idling enforcement	2011	2025	Local Authority Environmental Health	LA	NO	Not Funded	< £10k	Planning	Reduced vehicle emissions		No progress to date	Waiting for the Transport Secretary to increase fines.
21	Review of parking restrictions in AQMA	Traffic Management	Other	2010	2016	Local Authority Parking	LA	NO	Funded	< £10k	Completed	Reduced vehicle emissions	Smoother running traffic	An audit has been undertaken on Iver High Street to identify areas where parking is a safety issue. Double yellow lines will be introduced here but concerned it may not be enough.	Public understandably believe the illegal parking is slowing down the lorries on the High Street in Iver. Need to consider speed limit when redesigning parking restrictions.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
22	Planning Policy	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2016	2025	Local Authority Strategic Environmental Protection Team and Local Authority Planning Policy and Local Authority Development Management	LA	NO	Partially Funded	< £10k	Planning	Not measurable	Buckinghamshire Council SPD published	Research into SPD currently used in England by other authorities	Healthy Planning Framework (see measure 1)
23	Working with Local Community to reduce air pollution	Public Information	Via other mechanisms	2009	2030	Local Authority and Community Boards	LA and Community Board	NO	Not Funded	< £10k	Implementation	Reduced vehicle emissions		Currently deploying the toolkits to each community board and developing a camping for Clean Air Day	Work with community boards on projects to improve air quality in their area.
24	Develop a business case to obtain funding to deliver a Relief Road for Iver Village	Traffic Management	Other	2019	2021	Local Authority Transport Strategy	S106	NO	Not Funded	> £10 million	Planning	Reduced vehicle emissions	Reduction in congestion	Draft Business Case	Further analysis of additional scope options has demonstrated that the cost of delivering a Relief Road for Iver remains prohibitively high. The proposed Iver Neighbourhood Plan does not include provision for a relief road, reflecting concerns about deliverability. In all proposed iterations, the relief road does not directly benefit all of the Ivers. The Neighbourhood Plan does not support delivery of a major transport intervention which cannot directly benefit all of the Ivers. The Council respects the views of the Parish Council and local people and as such will not be making representations to the Planning Inspector to include a relief road for the Ivers within the proposed Neighbourhood Plan.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
25	Carry out a feasibility study to ascertain whether a Clean Air Zone/Low Emission Zone is the best method for reducing NOx in Iver and Marlow	Promoting Low Emission Transport	Company Vehicle Procurement – prioritising uptake of low emission vehicles	2019	2030	Local Authority Environmental Health	CIL and s106	NO	Partially Funded	£50k - £100k	Implementation	Reduced vehicle emissions	Improved vehicle fleet	Feasibility study completed for Marlow. Does not recommend a Clean Air Zone. Information from this report will be extrapolated to consider the feasibility of a Clean Air zone in other AQMAs	
26	Set up a working group to explore options to provide off road parking on Iver High Street to enable parking restrictions to be placed on Iver High Street.	Traffic Management	Workplace Parking Levy, Parking Enforcement on highway	2019	2025	Local Authority Environmental Health, Local Authority Parking, Community Board	Community Board/S106	NO	Not Funded	£10k - 50k	Implementation	Reduction in Emissions on Iver High Street	Reduction in congestion	Scheme developed and subjected to public consultation	A Wexham and Iver Air Quality Task and Finish group has been set up by the Wexham and Ivers Community Board to further consider this as well as other measures.
27	Work with local schools and business to develop Green Travel Plans. Identify good examples and use as champions	Promoting Travel Alternatives	Workplace Travel Planning	2019	2025	Local Authority Strategic Environmental Protection Team, Local Authority Travel Planning	Local Authority	NO	Not Funded	< £10k	Implementation	Not measurable	Increase in Active travel to school and work	Currently 3 schools have achieved a Platinum rating, 7 schools gold, 6 schools' silver, 39 schools' bronze and 9 schools green.	Will be working on encouraging businesses to join Modeshift Stars during 2023/4
28	Promote Vehicle retrofitting programmes, and where possible explore financial incentives to encourage uptake.	Vehicle Fleet Efficiency	Vehicle Retrofitting programmes	2019	2024	Local Authority Environmental Health, Local Authority Energy and Climate Change, Local Authority Transport strategy	Local Authority /Grants/s106	NO	Not Funded	£10k - 50k	Planning	Not measurable	Improved HGV fleet	No progress to date	Funding

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
29	Promote driver training and ECO aids	Vehicle Fleet Efficiency	Driver training and ECO driving aids	2019	2025	Local Authority Environmental Health, Local Authority Energy and Climate Change, Local Authority Transport strategy	Local Authority /Grants/s106	NO	Partially Funded	£10k - 50k	Planning	Not measurable	No of Eco-Driving raining and eco aids taken up	Grant received to promote Eco-Driving Aids in Buckinghamshire	
30	Work with Local Industrial Estates and explore the provision of alternative Fuel Infrastructure to promote Low Emission HGVs	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2019	2026	Local Authority Environmental Health, Local Authority Energy and Climate Change, Local Authority Transport strategy	Grants/s106	NO	Not Funded	< £10k	Planning	Not measurable	Availability of alternative fuel	No progress to date	Funding
31	Investigate various cycle hire schemes available and identify a scheme that may be suitable	Alternatives to private vehicle use	other	2019	2025	Local Authority Strategic Environmental Protection Team, Local Authority Energy and Climate Change, Local Authority Transport strategy	Grants/s106	NO	Not Funded	< £10k	Implementation	Not measurable	Cycle Hire Scheme	Buckinghamshire Council will be launching a e bike trial scheme initially in Aylesbury and High Wycombe to run alongside their e scooter trial scheme and extending it to Princes Risborough at an appropriate time during the scheme. It is hoped that by introducing e bikes to the residents of Buckinghamshire it will provide a cleaner and healthier mode of local travel to a wider age group and help towards the target of zero emissions. The scheme will last for a year and if successful will be made a permanent option of local travel within Buckinghamshire.	Focus is on suitable infrastructure to enable an increase in cycling participation

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[6], 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.

Buckinghamshire Council is taking the following measures to address $PM_{2.5}$:

Continue to attend the Health Protection Assurance Committee and use this platform to highlight the importance of reducing $PM_{2.5}$ concentrations on public health and to further engage with Public Health and other departments in Buckinghamshire Council to work with the team to improve air quality.

Measures outlined in the action planning section above should also reduce the emissions of $PM_{2.5}$ in the area. However, some measures to be included in the new action plan such as ensuring compliance with Permitting regulations and promoting the use of cleaner fuels for wood burning stoves may have minor impact on NO_2 but would have a greater impact on the reduction of $PM_{2.5.}$ The Council will also compel applicants of NIPs and other local developments to follow good construction practice to minimise fugitive dust.

Buckinghamshire Council has four smoke control areas three of which are located within Aylesbury and a fourth that covers the central area of High Wycombe. A map showing the locations of the smoke control areas can be found on the smoke control page on the council's website. Smoke control areas are areas where smoke cannot be emitted from a domestic chimney unless an authorised fuel is burnt, or an exempt appliance is used. The main aim of such areas is to reduce the amount of pollution, in particular PM pollutants, emitted into the atmosphere from domestic burning.

The Public Health Outcomes Framework has been set up by Government to get a better understanding of trends in public health to enable them to fulfil their vision of improving the nation's health and to improve the health of the poorest fastest. Included within the framework is an indicator for $PM_{2.5}$. Indicator D.01 can be found in Section D know as

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

Health Protection. The objective of section D is to protect the population's health from major incidents and other threats, whilst reducing health inequalities. The figures below show the latest data available on the Office for Health Improvement & Disparities Website Public Health Outcomes Framework.

The fraction of mortality attributable to particulate air pollution is slightly higher in Buckinghamshire than most of its neighbours and although over the last 10 years it has been both above and below the national average for England it does follow a similar trend.

Area	Recent Trend	Count	Value	95% Lower CI	95% Upper CI
England	–	-	5.8	-	-
South East region	–	-	5.7	-	-
Slough	–	-	7.1	-	-
Windsor and Maidenhead	–	-	6.6	-	-
Reading	–	-	6.6	-	-
Bracknell Forest	–	-	6.5	-	-
Milton Keynes	–	-	6.5	-	-
Wokingham	–	-	6.5	-	-
Buckinghamshire UA	–	-	6.4	-	-
Medway	–	-	6.4	-	-
Portsmouth	–	-	6.2	-	-
Surrey	–	-	6.2	-	-
Southampton	–	-	6.1	-	-
Oxfordshire	–	-	6.0	-	-
West Berkshire	–	-	5.8	-	-
Hampshire	–	-	5.8	-	-
Kent	–	-	5.4	-	-
Isle of Wight	–	-	4.8	-	-
West Sussex	–	-	4.7	-	-
Brighton and Hove	–	-	4.5	-	-
East Sussex	–	-	3.9	-	-

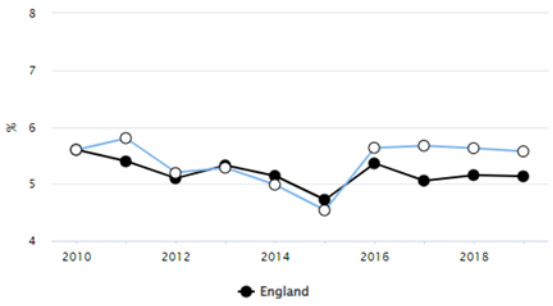
Source: Background annual average PM2.5 concentrations for the year of interest are modelled on a 1km x 1km grid using an air dispersion model, and calibrated using measured concentrations taken from background sites in Defr a's Automatic Urban and Rural Network (https://uk-air.defra.gov.uk/interactive-map). By approximating LA boundaries to the 1km by 1km grid, and using census population data, population weighted background PM2.5 concentrations for each lower tier LA are calculated. This work is completed under contract to Defra, as a small extension of its obligations under the Ambient Air Quality Directive (2008/50/EC). Concentrations of total PM2.5 are used for estimating the mortality burden attributable to particulate air pollution (COMEAP, 2022).

Figure 10 - Fraction of Mortality attributable to particulate air pollution (new method) 2022.

D01 - Fraction of mortality attributable to particulate air pollution

Proportion - %

Show confidence intervals Show 99.8% CI values ▶ More options



Recent trend: Could not be calculated

Period		Buckinghamshire UA Count	Value	95% Lower CI	95% Upper CI	South East	England
2010	○	-	5.6%*	-	-	5.5%	5.6%
2011	○	-	5.8%*	-	-	5.5%	5.4%
2012	○	-	5.2%*	-	-	5.1%	5.1%
2013	○	-	5.3%*	-	-	5.2%	5.3%
2014	○	-	5.0%*	-	-	4.9%	5.1%
2015	○	-	4.5%*	-	-	4.7%	4.7%
2016	○	-	5.6%*	-	-	5.9%	5.4%
2017	○	-	5.7%*	-	-	5.6%	5.1%
2018	○	-	5.6%*	-	-	5.6%	5.2%
2019	○	-	5.6%	-	-	5.2%	5.1%

Source: Background annual average $PM_{2.5}$ concentrations for the year of interest are modelled on a 1km x 1km grid using an air dispersion model, and calibrated using measured concentratio ns taken from background sites in Defra's Automatic Urban and Rural Network (http://uk-air.defr a.gov.uk/interactive-map.) Data on primary emissions from different sources and a combination of measurement data for secondary inorganic aerosol and models for sources not included in th e emission inventory (including re-suspension of dusts) are used to estimate the anthropogenic (human-made) component of these concentrations. By approximating LA boundaries to the 1km by 1km grid, and using census population data, population weighted background $PM_{2.5}$ concentr ations for each lower tier LA are calculated. This work is completed under contract to Defra, as a small extension of its obligations under the Ambient Air Quality Directive (2008/50/EC). Concentr ations of anthropogenic, rather than total, $PM_{2.5}$ are used as the basis for this indicator, as burde n estimates based on total $PM_{2.5}$ might give a misleading impression of the scale of the potential influence of policy interventions (COMEAP, 2012).

Figure 11 - Fraction of mortality attributable to particulate air pollution trend 2010 to 2018.

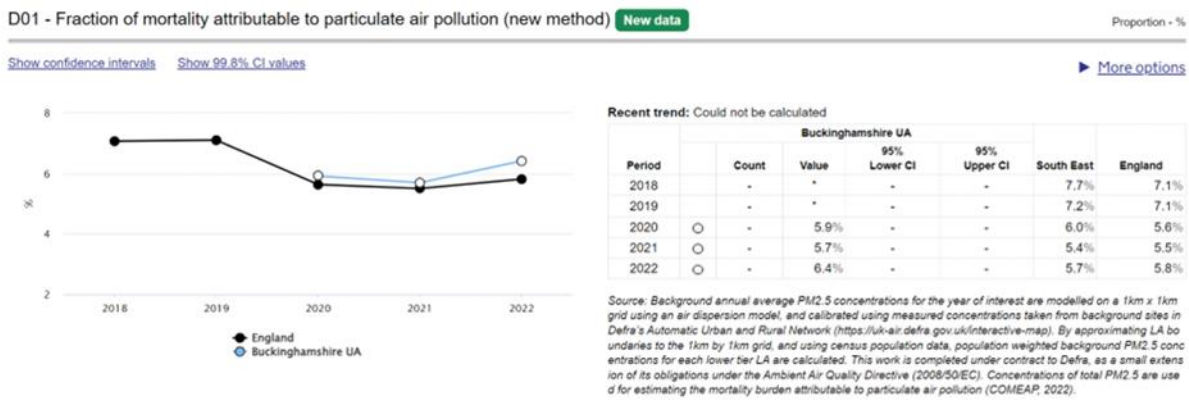


Figure 12 - Fraction of mortality attributable to particulate air pollution trend 2020 to 2022 (new method)

It is widely reported the wood burning stoves are a significant source of $PM_{2.5}$ emissions. Early evidence seems to suggest there is an increase in the number of residents within Buckinghamshire are fitting wood burning stoves. Figures on the number of HETAS notifications received by Buckinghamshire Council in connection to the installation of stoves/wood burners in domestic properties has been obtained from our Building Control Department, see graph below. This shows that following a downward trend in 2018 – 2021 there has been a sharp increase in the number of stoves/wood burners being installed in domestic properties with approximately 900 notifications received in 2021 compared to approximately 1500 notifications in 2022 and 2023. The Strategic Environmental Protection Team are also seeing an increase in the number of new chimneys and flues being included in planning applications.

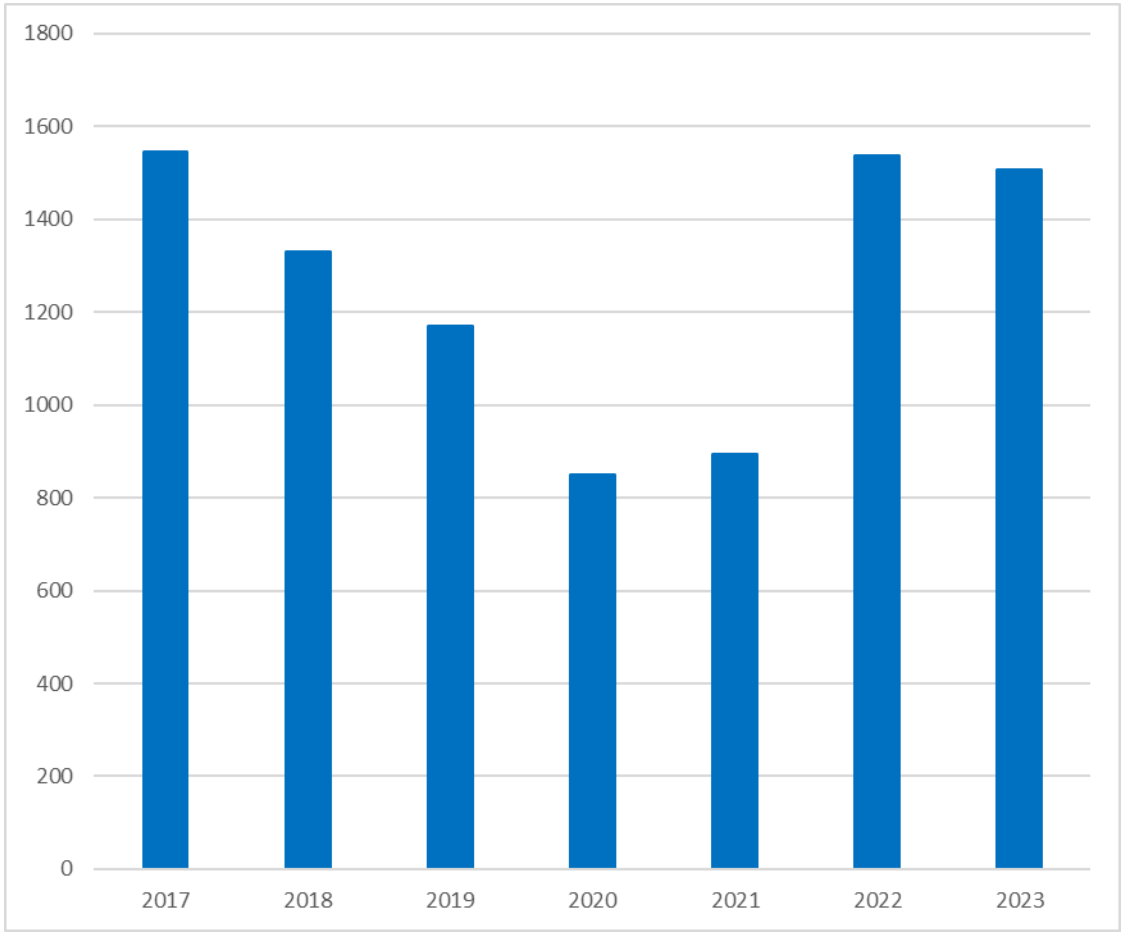


Figure 13 - HETAS Notifications to Building Control

Research by Kantar has revealed that most people are unaware of the impact of wood burning stoves on Air Quality. The following research by Kantar on behalf of Defra provides useful information on burning in domestic premises in the UK - Burning In UK Homes and Gardens Research Report. The Strategic Environmental Protection Team is concerned that that the installation of wood burning stoves will continue to rise in future years resulting in an increase in $PM_{2.5}$ emissions.

With the support of our communications team the Strategic Environmental Protection Team conducted a campaign on Clean Air Night to help educate members of the public about the risks to human health from domestic burning. On this day social media posts developed by Defra and Global Action plan were posted by our social media team. Overnight statistics from Clean Air Night 2024 posts are presented below.

- X (formerly twitter) - 6,600 impressions, 109 engagements including 10 link clicks
- Facebook - 1,456 impressions, 75 engagements including 1 link click.
- Instagram - 133 impressions, 0 engagements

The Environment Act 2021 became law on the 9th of November 2021. The Act introduces legislation that will improve air and water quality, tackle waste, increase recycling, halt the decline of species, and improve our natural environment.

The following indicators amongst others were published in December 2022.

- An Annual Mean Concentration Target for $PM_{2.5}$ levels in England to be 10 µg m^{-3} or below by 2040.
- A Population Exposure Reduction Target for a reduction in $PM_{2.5}$ population exposure of 35% compared to 2018 to be achieved by 2040.

On the 1st of May 2023 Defra published their framework for local authorities to make best use of their powers and make air quality improvements for their communities.

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

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

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Buckinghamshire Council undertook automatic (continuous) monitoring at 2 sites during 2023. Site ID Number CM1 is located immediately adjacent to AQMA No.1 (M40) at 40 Marcourt Way, Stokenchurch and Site ID Number CM2 is located within the High Wycombe AQMA at Abbey School. It should be noted that CM1 at Stokenchurch was closed in October 2023. Table A.1 in Appendix A shows the details of the automatic monitoring sites. The Air Quality England – Buckinghamshire page presents automatic monitoring results for Buckinghamshire Council.

A map showing the location of the monitoring site is located on the council's air quality management reviews and annual report webpage. Further details on how the monitor was calibrated and how the data has been adjusted are included in Appendix C.

3.1.2 Non-Automatic Monitoring Sites

Buckinghamshire Council undertook non- automatic (i.e. passive) monitoring of NO_2 at 155 sites with 176 diffusion tubes during 2023. Table A.2 in Appendix A presents the details of the non-automatic sites.

Maps showing the location of the monitoring sites are provided on the council's air quality management reviews and annual report webpage. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including bias adjustments and any other adjustments applied (e.g. annualisation and/or distance correction), are included in Appendix C.

3.2 Individual Pollutants

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

3.2.1 Nitrogen Dioxide (NO_2)

Table A.3 and Table A.4 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).

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

Table A.5 in Appendix A compares the ratified continuous monitored NO_2 hourly mean concentrations for the past five years with the air quality objective of 200µg/m^3, not to be exceeded more than 18 times per year.

Automatic Monitoring Sites

As illustrated in Table A.3 and Figure A.1 the results from the continuous monitoring have remained consistency below the annual mean objective of 40 µg/m^3 for the last five years.

In 2023 the Stokenchurch monitor, Site ID Number CM1, recorded an annual average of 18.42 µg/m^3 with 65% data capture. The Wycombe Abbey 5 monitor, Site ID number CM2, recorded and annual average of 23 µg/m^3 with 85% data capture.

Where automatic monitoring has been completed for less than 75% of the year, annualisation techniques can be used to estimate an annual average from a part year average. Annualisation is the process of estimating annual means from the extrapolation of short-term monitoring results. The methodology consists of using concentration data from nearby continuous monitoring sites to assist in estimating annual mean concentrations at the site(s) in question. The annualisation calculation for the Stokenchurch monitor can be found in Appendix C.

There were no exceedances of the NO_2 1-hour mean objective (200µg/m^3 not to be exceeded more than 18 times/year) at either location during 2023, see Table A.5.

Non-Automatic Monitoring Sites

As illustrated in Table A.3 the results from the diffusion tube monitoring undertaken over the last five years indicates that levels of NO_2 have continually reduced throughout Buckinghamshire during this period.

No exceedances of the annual mean nitrogen dioxide objective were recorded within Buckinghamshire during 2023. 8 locations, Site ID numbers AV17, 18, 36, 30, 40 and 44 within the Aylesbury Vale area and site ID number W48 and 51 within the Wycombe area, recorded concentrations within 10% of the annual mean objective. This required a fall off with distance calculation and the inputs used to calculate these fall-off with distance values are shown in table C.4. Once the calculation had been completed the concentration of NO_2 was found to be significantly below the average annual objective at all sites. apart from site ID numbers AV36 which remained within 10% of the annual mean objective.

All other diffusion tube sites in 2023 reported concentrations well below the annual mean objective of 40 µg/m^3.

Defra's NO_2 index shows the annual mean, averaged over all included sites that had annual data capture greater than or equal to 75%. Since 2021, NO2 concentrations at the roadside have fallen each year to reach the lowest point in the time series in 2023. Concentrations in 2023 are lower than they were before and during lockdown restrictions, with 2023 concentrations (21.8 µg/m^3) being 30 per cent lower than 2019 levels (31.1 µg/m^3). The results recorded within Buckinghamshire in 2023 largely reflects the national trend with few exceptions.

In 2023, Buckinghamshire Council undertook a review of all diffusion tube monitoring locations within the county. This resulted in 8 sites being added to the monitoring network and 4 sites being removed.

Site ID numbers within the Aylesbury Vale area, Site ID numbers CDC within the Wycombe Area were added. These sites were added to the monitoring network for the following reasons.

- Concerns had been raised by members of the public and/or local politicians on the possible impact of increased traffic in the area as a result of NIPs and large developments

- Concerns had been raised by residents with regards to emissions from trains at a sidings in Aylesbury
- The Strategic Environmental Protection team are ensuring that areas not previously identified in the screening process are monitoring concentrations below the objective.

All sites recorded concentrations below the annual mean objective concentrations of 40 µg/m^3.

Site ID numbers CDC1, 1a, 2 and 2a in the Chiltern Area were all removed. This is because the sites were monitoring concentrations significantly below the annual mean objective concentrations of 40 µg/m^3.

Based on the monitoring results obtained during 2023, and the previous four years of results, as discussed in the Air Quality Management Areas section we will be starting the process of revoking the Tring Road, Chesham, South Bucks AQMAs and AQMA No.1 (M40) in 2024. No other amendments are proposed within the remaining AQMAs.

Summary of Results within each AQMA

Tring Road AQMA – All monitoring locations within the Tring Road AQMA, Site ID numbers AV12, 28 and 29, were below the annual mean nitrogen dioxide national air quality objective. The highest recorded concentration in this AQMA in 2023 was located at Site ID number AV29, 149 Tring Road, with a reading of 25.9 µg/m^3. Three other monitoring locations Site ID numbers AV13, AV30 and AV38 are also present immediately adjacent to the AQMA. These also recorded concentrations below the objective.

Concentrations at all monitoring sites have been consistently below the annual mean air quality objective for nitrogen dioxide for the last 6 years. Based on guidance from Defra which states where there have been no exceedances of the annual mean air quality objective for the past five years, local authorities must proceed with plans to revoke the AQMA, Buckinghamshire Council recommended within its 2023 Annual Status Report that the process to revoke this AQMA should begin in 2023 and this action was endorsed by Defra. Consequently, the Tring Road AQMA will be revoked in 2024.

Friarage Road AQMA – Monitoring is undertaken at 2 locations, Site ID numbers AV20 and AV36, within the Friarage Road AQMA. In 2022, Site ID number AV36 located at 51 Friarage Road recorded an exceedance of the annual mean nitrogen dioxide objective with a concentration of 41.1 µg/m^3 once the fall off from distance calculation was completed to the nearest sensitive receptor. In 2023 this site no longer exceeded the

annual mean objective but was within 10% of the objective with a concentration of 39.4 µg/m^3 once the fall off from distance calculation was completed to the nearest sensitive receptor.

The other monitoring site within the AQMA, Site ID number AV20, was below the annual mean nitrogen dioxide national air quality objective. In addition, three other monitoring locations Site ID numbers AV21, 22 and 23 which are located immediately adjacent to the AQMA were also below the objective.

As pollutant concentrations remain within 10% of the annual mean objective for nitrogen dioxide, it is recommended that this AQMA is retained, and monitoring will continue to observe future trends in concentrations.

Stoke Road AQMA – All monitoring locations within the Stoke Road AQMA, Site ID numbers AV14/41/42 (a triplicate site) 15, 16 and 18, were below the annual mean nitrogen dioxide national air quality objective. However, Site ID number AV18, located at 1-5 Wendover Road, did remain within 10% of the annual mean objective once the fall off from distance calculation was completed with a recorded concentration of 37.6 µg/m^3.

Three other monitoring locations, Site ID numbers AV17, 39 and 40, are also present within a close proximity of the AQMA. These all recorded concentrations within 10% of the annual mean objective. However, once the fall off from distance calculation was completed these were no longer within 10% of the objective with concentrations of 31.9 µg/m^3 at Site ID number AV17, 33.6 µg/m^3 at Site ID number AV39 and 35.9 µg/m^3 at Site ID number AV 40.

Concentrations at most monitoring sites within the Stoke Road AQMA have shown a steady reduction and have been consistently below the annual mean nitrogen dioxide national air quality objective. However, monitoring data from 2023 has shown a slight increase in concentrations at Site ID numbers AV16 and 18. Despite this slight increase no sites either within the AQMA or just outside it is recorded as being within 10% of the annual mean objective once the fall off from distance calculation was completed.

This AQMA has only been compliant for two years and therefore it is recommended that the AQMA should remain, and monitoring will continue to observe future trends in concentrations. It is anticipated that if the current downward trend persists and assuming there are no significant increases in monitored nitrogen dioxide concentrations the Stoke Road AQMA could be revoked in 2027.

Chesham AQMA - All monitoring locations within the Chesham AQMA, Site ID numbers CDC8/8a, 9/9a, 11/11a, 12/12a and 29, were below the annual mean nitrogen dioxide national air quality objective. The highest recorded concentration in this AQMA in 2023 was located at Site ID number CDC12/12a, at the Police Station, Broad Street with a reading of 27.0 µg/m^3.

Concentrations at all monitoring sites within the Chesham AQMA have been consistently below the annual mean air quality objective for nitrogen dioxide since 2019. Like the Tring Road AQMA, based on guidance from Defra which states where there have been no exceedances of the annual mean air quality objective for the past five years, local authorities must proceed with plans to revoke the AQMA, the Chesham AQMA will be revoked in 2024.

South Bucks AQMA – The monitoring location immediately within the South Bucks AQMA, Site ID number SB46 at Alderbourne Cottage, Tatling End, was below the annual mean nitrogen dioxide national air quality objective with a concentration of 17.7 µg/m^3. Monitoring along this AQMA has been challenging due to the presence of trees and lack of infrastructure. However, these challenges also make it less likely that exceedances of the air quality objective.

Concentrations at all monitoring sites within the South Bucks AQAM have been consistently below the annual mean air quality objective for nitrogen dioxide since 2018.

An information request was also submitted to National Highways for the results of any air quality monitoring they have completed within this AQMA. This showed that monitoring was only completed in 2018 and 2019 at two locations within the AQMA with concentrations below the annual mean nitrogen dioxide national air quality objective being recorded.

Based on guidance from Defra which states where there have been no exceedances of the annual mean air quality objective for the past five years, local authorities must proceed with plans to revoke the AQMA, the South Bucks AQMA will be revoked in 2024.

South Bucks District Council AQMA No 2 - All monitoring locations within the South Bucks District Council No 2 AQMA, Site ID numbers SB1, 2, 4, 21, 22, 24, 25, 26, 27, 28/ 29, 30/31, 32/33, 34/35, 36, 42 and 49, were below the annual mean nitrogen dioxide national air quality objective. The highest recorded concentration in this AQMA in 2023 was located at Site ID number SB30/31, Colne Cottage, 6 Thorney Land North, Iver, with a reading of 27.4 µg/m^3.

All monitoring locations have been below the annual mean air quality objective for nitrogen dioxide since 2020. Guidance from Defra and LAQM.TG (22) indicates that where compliance was achieved during the first year of the influence of the COVID-19 pandemic in 2020, which greatly impacted the traffic impact on local air quality, and if compliance with the objective is achieved in 2022, 2023 and 2024, consideration should be given to revocation of the AQMA.

As compliance of the objective was first achieved in 2020 the South Bucks District Council AQMA No.2 should be retained, and monitoring will continue to observe future trends in concentrations. If the monitoring data from 2024 indicates there has been a continued downward trend in nitrogen dioxide concentrations the AQMA will be considered for revocation in 2025.

AQMA No.1 (M40) - AQMA No.1 (M40) is located exclusively within the boundary of the M40 highway which is managed by Highways England and for this reason no monitoring is undertaken by Buckinghamshire Council within the AQMA itself. However, monitoring is undertaken using diffusion tubes at two locations Sites ID numbers W15/16/17 a triplicate site and 40 immediately adjacent to the AQMA. These two monitoring locations were below the annual mean nitrogen dioxide national air quality objective. The highest recorded concentration in this AQMA in 2023 was located at Site ID number W15/16/17, 40 Marcourt Road, Stokenchurch with a reading of 25.9 µg/m^3.

Concentrations at all monitoring sites within AQMA No.1 (M40) have been consistently below the annual mean air quality objective for nitrogen dioxide since 2018 with concentrations below 10% of the objective, 36 µg/m^3, at all sites between 2020 and 2023.

An information request was also submitted to National Highways for the results of any air quality monitoring they have completed within this AQMA. A response from National Highways stated that no monitoring data was available within this location.

As previously discussed, guidance from Defra and LAQM TG.22 states where there have been no exceedances of the annual mean air quality objective for the past five years, local authorities must proceed with plans to revoke the AQMA. For this reason, AQMA No.1 (M40) will be revoked in 2024.

AQMA No.2 (High Wycombe) - Monitoring is undertaken at 10 locations within the AQMA No.2 (High Wycombe) AQMA, at Site ID numbers W4, W5, W8, W18, W20, W51, W52 W59, W60 and W61 All locations were below the annual mean nitrogen dioxide national air quality objective. The highest recorded concentration in this AQMA in 2023 was located

at Site ID number 51, Bridge Street, High Wycombe, with a reading of 36.8 µg/m^3 which is within 10% of the annual mean objective. However, once the fall off from distance calculation was completed the concentration fell to of 35.6 µg/m^3 which is no longer within 10% of the objective.

All monitoring locations have been below the annual mean air quality objective for nitrogen dioxide since 2020. Guidance from Defra and LAQM.TG (22) indicates that where compliance was achieved during the first year of the influence of the COVID-19 pandemic in 2020, which greatly impacted the traffic impact on local air quality, and if compliance with the objective is achieved in 2022, 2023 and 2024, consideration should be given to revocation of the AQMA.

As compliance of the objective was first achieved in 2020 AQMA No.2 (High Wycombe) should be retained, and monitoring will continue to observe future trends in concentrations. If the monitoring data from 2024 indicates there has been a continued downward trend in nitrogen dioxide concentrations consideration will be given to revoking the AQMA in 2025.

AQMA No.3 (Marlow) - Monitoring is undertaken at 3 locations, Site ID numbers W2, 21 and 49 within the AQMA. 10 other monitoring locations Site ID numbers W29, 43, 41, 53, 30, 31, 42, 52, 35 and 36, are also present immediately adjacent to the AQMA and have been included within the assessment of the AQMA. All monitoring locations were below the annual mean nitrogen dioxide national air quality objective. The highest recorded concentration in this AQMA in 2023 was located at Site ID number W21 at Chapel Street Crossing with a reading of 33.1 µg/m^3.

All monitoring locations, excluding location W31, Marlow High Street, have been below the annual mean air quality objective for nitrogen dioxide since 2019. Location W31 has been compliant since 2020.

As compliance of the objective was first achieved at all monitoring locations in 2020, AQMA No.2 (Marlow) should be retained, and monitoring will continue to observe future trends in concentrations. If the monitoring data from 2024 indicates there has been a continued downward trend in nitrogen dioxide concentrations consideration will be given to revoking the AQMA in 2025.

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Inlet Height (m)
CM1	Stokenchurch	Suburban	476604	195436	NO2	Yes, M40 AQMA	Chemiluminescent;	1.5	23	1.5
CM2	Wycombe Abbey 5	Roadside	486352	192478	NO2	Yes Wycombe AQMA	Chemiluminescent	45.9	7.5	2

Notes:

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

(2) N/A if not applicable

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

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
AV1	West Street, Buckingham	Roadside	469518	234006	NO2	No	0.0	1.5	No	3.0
AV2	3 Bridge Street, Buckingham	Roadside	469587	233939	NO2	No	0.0	2.0	No	3.0
AV4	Candleford Court, Bridge Street, Buckingham	Roadside	469672	233862	NO2	No	0.0	5.0	No	3.0
AV5	Oxfam, Market Square, Buckingham	Roadside	469610	233982	NO2	No	0.0	8.0	No	3.0
AV6	16 Market Sq, Buckingham	Roadside	469597	233999	NO2	No	1.0	2.0	No	3.0
AV7	6 High Street, Buckingham	Roadside	469727	234117	NO2	No	0.5	3.0	No	3.0
AV8	29 High Street, Winslow	Roadside	476979	227698	NO2	No	0.0	2.5	No	3.0
AV9	27 Elmhurst Road, Aylesbury	Roadside	481891	214979	NO2	No	11.0	2.0	No	3.0
AV10	181 Aylesbury Road, Bierton	Roadside	483948	215645	NO2	No	1.0	2.0	No	3.0
AV11	Cambridge Street, Aylesbury	Roadside	482177	214093	NO2	No	1.0	1.0	No	3.0
AV12	87 Tring Road, Aylesbury	Roadside	483128	213637	NO2	Yes - Tring Road	2.5	3.0	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)
AV13	183 Tring Road, Aylesbury	Roadside	483601	213590	NO2	No	13.0	3.0	No	3.0
AV14	25 Wendover Road, Aylesbury	Roadside	482436	213121	NO2	Yes - Stoke Road	1.0	2.5	No	3.0
AV16	31 Stoke Road, Aylesbury	Roadside	482376	213039	NO2	Yes - Stoke Road	3.0	2.5	No	3.0
AV17	Viridian Square, Walton Street, Aylesbury	Roadside	482278	213271	NO2	No	4.0	2.0	No	3.0
AV18	1 -5 Wendover Road, Aylesbury	Roadside	482374	213170	NO2	Yes - Stoke Road AQMA	2.0	1.0	No	3.0
AV19	Exchange Street, Aylesbury	Roadside	482237	213717	NO2	No	2.5	0.5	No	3.0
AV20	Friarage Road/Oxford Road Roundabout, Aylesbury	Roadside	481451	213588	NO2	Yes - Friarage Road AQMA	7.0	2.0	No	3.0
AV21	Oxford Road, Aylesbury	Roadside	481381	213823	NO2	No	8.5	5.0	No	3.0
AV22	10 Gatehouse Road, Aylesbury	Roadside	481408	213940	NO2	No	12.5	0.5	No	3.0
AV23	Moorlands House, Friarage Road, Aylesbury	Roadside	481514	213860	NO2	No	4.0	2.0	No	3.0
AV24	Stonehaven Road/Bicester Road, Aylesbury	Roadside	480710	214576	NO2	No	12.0	3.0	No	3.0
AV25	Buckingham Road, Aylesbury	Roadside	481768	214276	NO2	No	5.0	3.0	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)
AV26	High Street, Wendover	Roadside	486811	207795	NO2	No	1.0	3.0	No	3.0
AV27	91 Leighton Road, Wing	Roadside	488573	222902	NO2	No	2.5	1.5	No	3.0
AV28	133 Tring Road, Aylesbury	Roadside	483337	213644	NO2	Yes - Tring Road AQMA	4.5	2.5	No	3.0
AV29	149 Tring Road, Aylesbury	Roadside	483394	213646	NO2	Yes - Tring Road AQMA	10.0	3.0	No	3.0
AV30	Oakfield Road, Aylesbury	Roadside	483488	213729	NO2	No	1.5	3.0	No	3.0
AV31	41 Aston Clinton Road, Aylesbury	Roadside	484902	213138	NO2	No	6.5	2.4	No	3.0
AV32	Mandeville Road, Aylesbury	Roadside	482157	212768	NO2	No	3.7	1.6	No	3.0
AV33	Weedon Road, Aylesbury	Roadside	481743	214967	NO2	No	0.2	4.2	No	3.0
AV34	New Street, Aylesbury	Roadside	481766	214182	NO2	No	0.3	3.3	No	3.0
AV35	Long Meadow, Aylesbury	Urban Background	483660	212602	NO2	No	13.3	0.9	No	3.0
AV36	51 Friarage Road, Aylesbury	Roadside	481607	213704	NO2	Yes - Friarage Road AQMA	0.2	3.0	No	3.0
AV37	Oscar Lodge, New Street, Aylesbury	Roadside	482038	213981	NO2	No	3.3	3.1	No	2.4
AV38	116 Tring Road, Aylesbury	Roadside	483573	213579	NO2	No	11.2	2.9	No	2.2

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
AV39	Viridian Square 2, Aylesbury	Roadside	482289	213256	NO2	No	2.1	3.1	No	2.5
AV40	9 Walton Terrace, Walton Street, Aylesbury	Roadside	482328	213242	NO2	No	0.6	3.1	No	2.4
AV15, AV41, AV42	2 Stoke Road, Aylesbury	Roadside	482444	213090	NO2	Yes - Stoke Road AQMA	1.0	1.0	No	1.5
AV43	Rear of Viridian Square, Aylesbury	Roadside	482163	213235	NO2	No	0.0	22.0	No	2.0
AV44	Footpath adjacent to Viridian Square	Roadside	482209	213168	NO2	No	8.3	6.8	No	2.0
AV45	A421/ London Road Buckingham	Roadside	470069	232898	NO2	No	11.3	4.7	No	2.5
AV46	Embleton Way, Buckingham	Roadside	469581	232793	NO2	No	30.7	3.6	No	2.5
CDC3	Petrol St Nashleigh Hill, Chesham	Roadside	496326	202932	NO2	No	18.6	1.4	No	1.5
CDC4	St Columbas Church, Berkhampstead Road, Chesham	Roadside	496305	202884	NO2	No	11.1	1.5	No	1.5
CDC5, CDC5a	305 Berkhampstead Road, Chesham	Roadside	496261	202656	NO2	Yes - Chesham AQMA	12.9	1.5	No	1.5
CDC6, CDC6a	336 Berkhampstead Road, Chesham	Roadside	496272	202699	NO2	Yes - Chesham AQMA	5.6	1.3	No	1.5
CDC7, CDC7a	Dentist Chesham	Roadside	496278	202743	NO2	Yes - Chesham AQMA	4.0	1.7	No	1.5

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
CDC8, CDC8a	Jolly Sportsman PH, Chesham	Roadside	496247	202328	NO2	Yes - Chesham AQMA	2.0	1.9	No	1.5
CDC9, CDC9a	170 Broad Street, Chesham,	Roadside	496215	202300	NO2	Yes - Chesham AQMA	5.8	1.6	No	1.5
CDC11 CDC11a	Uplands Court Broad Street, Chesham	Roadside	496133	202072	NO2	No	6.0	3.7	No	1.5
CDC12 CDC12a	Police St Broad Street, Chesham	Roadside	496107	202033	NO2	No	6.6	2.1	No	1.5
CDC13 CDC13a	St Marys Way, Chesham	Roadside	495850	201510	NO2	No	7.5	1.4	No	1.5
CDC14 CDC14a	St Marys roundabout Outside New Flats, Chesham	Roadside	495869	201436	NO2	No	1.2	1.3	No	1.5
CDC15	75 High Street Great Missenden	Roadside	489484	201234	NO2	No	1.5	0.9	No	1.5
CDC16	10 Wycombe Road Prestwood	Roadside	487002	200812	NO2	No	11.4	1.3	No	1.5
CDC17	Broombarn Lane Little Missenden	Roadside	487991	200978	NO2	No	15.4	3.4	No	1.5
CDC18	Speed bumps Old Amersham	Roadside	495298	197520	NO2	No	7.8	2.3	No	1.5
CDC19	Amersham Hosp Old Amersham	Roadside	495446	196797	NO2	No	17.4	2.0	No	1.5
CDC20	Stanley Hill, Amersham	Roadside	496760	197100	NO2	No	27.5	1.3	No	1.5

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
CDC21 CDC21a	Gore Hill, Amersham	Roadside	495960	196940	NO2	No	8.3	0.9	No	1.5
CDC23	Hervines Park Amersham	Urban Background	495708	198806	NO2	No			No	1.5
CDC24 CDC24a	Rickmansworth Road Amersham	Roadside	496550	198720	NO2	No	24.3	2.2	No	1.5
CDC25	Nightingales Lane Little Chalfont	Roadside	499260	197452	NO2	No	29.8	1.9	No	1.5
CDC27	High Street Chalfon St Peter	Roadside	500050	190810	NO2	Yes - Chesham AQMA	9.0	3.6	No	1.5
CDC28 CDC28a	Vets Chalfont St Giles	Roadside	499250	193750	NO2	No	6.4	1.1	No	1.5
CDC29	157 Broad Street , Chesham	Roadside	496222	202281	NO2	SBDC AQMA 2	2.2	4.0	No	2.5
CDC30	130 Station Road, Amersham	Roadside	496314	198072	NO2	SBDC AQMA 2	0.8	1.6	No	2.2
SB1	Old Slade Lane, Iver	Roadside	503696	178533	NO2	SBDC AQMA 2	13.0	1.0	No	2.5
SB2	Victoria Cescent, Iver	Roadside	504056	180901	NO2	No	7.0	1.0	No	2.6
SB4	Uxbridge Road, Iver Heath,	Roadside	502072	182753	NO2	No	11.0	2.5	No	2.3
SB5	Oxford Road/Knighton-Way Lane, New Denham	Roadside	504754	185138	NO2	No	9.0	2.0	No	2.4
SB8	Packhorse Rd, Gerrards Cross	Roadside	500259	188613	NO2	No	8.0	2.0	No	2.5

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
SB12	Beaconsfield Road, Farnham Common	Roadside	496095	185599	NO2	No	25.0	3.0	No	2.4
SB13	Costa, Station Rd, Beaconsfield,	Roadside	493873	191040	NO2	No	20.0	2.0	No	2.2
SB14	North Drive, Beaconsfield	Roadside	584728	192313	NO2	No	20.0	3.0	No	2.0
SB16	High St, Burnham	Roadside	493136	182503	NO2	SBDC AQMA 2	0.0	1.0	No	2.6
SB17	Bath Road,Taplow	Roadside	491668	181187	NO2	SBDC AQMA 2	20.0	1.0	No	2.5
SB21	47 Richings Way, Iver	Roadside	503690	179278	NO2	SBDC AQMA 2	18.0	2.0	No	2.1
SB22	29 Thorney Lane South, Iver	Roadside	503972	179701	NO2	SBDC AQMA 2	25.0	1.6	No	2.3
SB24	Langley Park Road, Iver	Roadside	503050	181176	NO2	SBDC AQMA 2	17.0	1.8	No	2.4
SB25	Bangors Road South, Iver	Roadside	503604	181378	NO2	SBDC AQMA 2	9.0	1.7	No	2.1
SB26	Wood Lane, Iver	Roadside	502100	182473	NO2	SBDC AQMA 2	9.0	3.3	No	2.2
SB27	Church Road, Iver	Roadside	502520	183456	NO2	SBDC AQMA 2	10.0	3.1	No	2.3
SB28, SB29	Swan Pub, High Street, Iver	Roadside	503899	181199	NO2	SBDC AQMA 2	0.4	2.1	No	2.2
SB30, SB31	Colne Cottage, 6 Thorney Lane North, Iver	Roadside	503924	181127	NO2	SBDC AQMA 2	0.6	1.5	No	1.5

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
SB32, SB33	Tower Arms, Thorney Lane South, Iver	Roadside	504047	179475	NO2	SBDC AQMA 2	2.1	2.1	No	2.1
SB34, SB35	Wood Cottages, 2 Slough Road, Iver	Roadside	502217	182870	NO2	No	3.7	1.9	No	2.2
SB36	Black Horse Pub, 95 Slough Road, Iver	Roadside	503022	183070	NO2	No	1.0	n/a	No	2.0
SB37	Aylesbury End, Beaconsfield,	Roadside	494478	190142	NO2	No	1.0	3.5	No	2.0
SB38	Grand Union House, Iver	Roadside	503618	180518	NO2	No	30.0	5.0	No	2.0
SB39	Fulmer, Tatling End	Roadside	501652	187168	NO2	SBDC AQMA 2	18.0	3.0	No	1.5
SB41	Iver Village Junior School, Iver	Roadside	503256	181272	NO2	No	27.0	3.2	No	1.5
SB42	Belle Farm Lodge, Seven Hills Road, Iver Heath	Roadside	502477	184784	NO2	No	16.0	1.0	No	1.5
SB44	Burnham Beeches, Farnham	Roadside	496099	185047	NO2	SBDC AQMA 1	n/a	n/a	No	1.5
SB46	Alderbourne Cottage, Tatling End	Roadside	501568	186763	NO2	No	55.0	34.0	No	1.5
SB47	Wilton Lodge, Beaconsfield	Roadside	494862	190156	NO2	Yes - SBDC AQMA 2	11.2	2.2	No	1.5
SB48	Moorfield Road, Denham	Roadside	504195	187988	NO2	No	16.9	3.1	No	2.2

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
SB49	Costa Coffee, High Street, Iver	Roadside	503759	181200	NO2	No	3.4	2.5	No	2.0
SB50	The Crown, Farnham Royal	Roadside	496008	182953	NO2	No	1.1	3.7	No	2.2
SB51	13 Highway, Station Rd Beaconsifeld	Roadside	493859	191103	NO2	No	2.7	0.8	No	2.1
SB52	Park Lane, Beaconsfield	Roadside	494825	190250	NO2	Yes - Marlow AQMA	8.2	1.0	No	2.2
W1	High Street Crossing, Marlow	Urban Centre	485012	186444	NO2	No	0.0	1.0	No	2.1
W2	Solicitors, Chapel Street, Marlow	Roadside	484966	186773	NO2	Yes - Wycombe AQMA	0.0	2.3	No	2.4
W3	Barber Shop, Cambridge Road, Marlow	Roadside	484753	186888	NO2	Yes - Wycombe AQMA	4.3	6.0	No	2.4
W4	Abbey Accomodation, Abbey School, Marlow Hill, High Wycombe	Roadside	486384	192513	NO2	No	0.0	4.8	No	2.4
W5	Morrisons, Hughenden Road, High Wycombe	Roadside	486471	193665	NO2	Yes - Wycombe AQMA	2.0	1.5	No	2.1
W6	Desborough Road (not Avenue), High Wycombe	Roadside	485869	193231	NO2	No	0.0	3.0	No	2.4
W8	London Road, High Wycombe	Roadside	487101	192766	NO2	No	0.0	3.5	No	2.1

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)
W10	White Horse, West Wycombe Road, High Wycombe	Roadside	485514	193658	NO2	No	1.2	2.0	No	2.1
W12	Dovecot Road, High Wycombe	Roadside	486364	193266	NO2	No	0.0	13.0	No	2.1
W13	School Close, High Wycombe	Roadside	485891	191788	NO2	No	15.0	17.0	Yes	2.1
W14	Amersham Hill (School), High Wycombe	Roadside	487048	193473	NO2	Yes - Wycombe AQMA	0.0	16.0	No	2.1
W15, W16, W17,	40 Marcourt Road, Stokenchurch	Suburban	476602	195435	NO2	No	1.5	14.0	No	2.1
W18	Crendon Street, High Wycombe	Roadside	486785	192987	NO2	Yes - Wycombe AQMA	2.0	3.0	No	2.4
W19	Rail Bridge, Amersham Hill, High Wycombe	Roadside	486842	193144	NO2	Yes - Wycombe AQMA	2.0	7.0	No	2.0
W20	Marsh Retail Park, London Road, High Wycombe	Roadside	488858	191923	NO2	No	0.0	3.5	No	2.1
W21	Chapel Street Crossing, Marlow	Roadside	485070	186871	NO2	No	0.0	1.0	No	2.4
W22	West Wycombe Road, High Wycombe	Roadside	485665	193586	NO2	No	0.0	1.5	No	2.1
W23	Amersham Hill, High Wycombe	Roadside	487787	194657	NO2	No	0.3	0.1	No	2.4
W24	Hughenden Road, High Wycombe	Roadside	486485	193803	NO2	No	4.8	2.0	No	2.4

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
W25	Suffield Road 2, High Wycombe	Urban Background	486079	192883	NO2	No	3.7	1.7	No	2.1
W29	Wedding Centre, Little Marlow Road, Marlow	Roadside	485217	187010	NO2	No	0.1	7.2	No	2.1
W30	Butchers Tap, Spittal Street, Marlow	Roadside	484868	186656	NO2	No	0.0	1.7	No	2.1
W31	Marlow High Street	Urban Centre	484888	186571	NO2	No	1.5	3.0	No	2.1
W32	Knaves Beech, Loudwater, High Wycombe	Roadside	490784	190216	NO2	No	0.0	23.0	No	2.1
W35	West Street 1, Marlow	Roadside	484749	186496	NO2	No	0.0	2.3	No	2.4
W36	West Street 2, Marlow	Roadside	484643	186436	NO2	No	0.3	2.0	No	2.4
W37	West Wycombe Village, High Street, West Wycombe	Roadside	482896	194659	NO2	No	0.0	1.5	No	2.1
W40	Handy Cross Roundabout, Marlow Road, High Wycombe	Suburban	485290	191280	NO2	No	0.0	19.0	No	2.1
W41	55 Chapel Street, Marlow	Roadside	485024	186825	NO2	No	0.0	2.4	No	2.4
W42	Tanning Centre, High Street, Marlow	Urban Centre	485028	186327	NO2	No	6.0	3.5	No	2.4
W43	Glade View, Little Marlow Road, Marlow	Roadside	485182	186974	NO2	No	0.0	4.8	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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
W44	Daws Hill Lane, High Wycombe	Roadside	486607	191725	NO2	No	23.5	1.5	No	2.1
W45	Church Street, High Wycombe	Urban Centre	486520	193110	NO2	No		0.5	No	2.4
W46	Chiltern Shopping Centre, Church Street, High Wycombe	Urban Centre	486474	193121	NO2	Yes - Marlow AQMA	4.7	0.5	No	2.1
W48	Oxford Street, High Wycombe	Urban Centre	486381	193179	NO2	No	6.0	1.0	No	2.4
W49	Waitrose, Chapel Street, Marlow	Roadside	484958	186748	NO2	Yes - Wycombe AQMA	0.2	1.0	No	2.4
W50	Zabida Court, Green Street, High Wycombe	Roadside	485462	193384	NO2	No	2.0	2.0	No	2.4
W51	Bridge Street, High Wycombe	Roadside	486144	193271	NO2	No	0.5	2.0	No	2.4
W52	West Street 3, Marlow	Roadside	484830	186550	NO2	No	0.3	2.0	No	2.4
W53	Chapel Street 2, Marlow	Roadside	484893	186677	NO2	Yes - Wycombe AQMA	0.3	1.5	No	2.1
W54	Desborough Avenue, High Wycombe	Roadside	485763	193278	NO2	No	2.0	1.0	No	2.1
W55	Easton Street, High Wycombe	Roadside	486823	192874	NO2	No	2.0	0.2	No	2.1
W56	Suffield Road 1, High Wycombe	Roadside	486116	192890	NO2	No	11.8	1.3	No	2.4

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
W57	Marlow Road, High Wycombe	Roadside	485353	191416	NO2	Yes - Wycombe AQMA	12.6	3.7	No	2.1
W58	Dentist, London Road, Loudwater, High Wycombe	Roadside	490247	190768	NO2	Yes - Wycombe AQMA	19.9	2.4	No	2.1
W59	Pedestal Roundabout, West Wycombe Road, High Wycombe	Roadside	483442	194645	NO2	Yes - Wycombe AQMA	11.6	6.0	No	2.1
W60	Kwik Fit, London Road, High Wycombe	Kerbside	487561	192616	NO2	No	6.1	0.9	No	2.4
W61	Chapel Lane, High Wycombe	Kerbside	484421	194179	NO2	No	23.4	0.1	No	2.1
W62	Castle Street, High Wycombe	Roadside	486766	193065	NO2	No	1.4	2.2	No	2.1
W64	Aylesbury Road, P. Risborough	Roadside	481187	204010	NO2	No	5.3	2.4	No	2.5
W65	Tower Court, P. Risborough	Roadside	480931	203380	NO2	No	2.8	0.5	No	2.5
W66	Station Road, P. Risborough	Roadside	480445	202991	NO2	No	8.1	10.0	No	2.5
W67	Poppy Court, P. Risborough	Roadside	480442	202718	NO2	No	3.4	3.4	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_2 Monitoring Results: Automatic Monitoring (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023
CM1	476604	195436	Suburban	64.69	64.69	28.90	21.00	18.00	19.00	18.42
CM2	486352	192478	Roadside	84.86	84.86		23.39	26	28	23

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

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

☒ **Where exceedances of the NO_2 annual mean objective occur at locations not representative of relevant exposure, the fall-off with distance concentration has been calculated and reported concentration provided in brackets for 2023**

Notes:

The annual mean concentrations are presented as µg/m³.

Exceedances of the NO_2 annual mean objective of 40µg/m³ are shown in **bold**.

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

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

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

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

Table A.4 – Annual Mean 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 2023 (%) [2]	2019	2020	2021	2022	2023
AV1	469518	234006	Roadside	100	100.0	30.2	21.8	24.1	19.3	25.0
AV2	469587	233939	Roadside	82.35294118	82.4	32.1	22.8	25.6	20.3	26.6
AV4	469672	233862	Roadside	100	100.0	14.9	11.5	11.9	9.8	11.5
AV5	469610	233982	Roadside	92.15686275	92.2	25.2	19.0	18.8	14.6	18.9
AV6	469597	233999	Roadside	100	100.0	35.3	25.4	27.0	20.9	26.3
AV7	469727	234117	Roadside	58.82352941	58.8	28.5	22.1	20.6	15.8	22.0
AV8	476979	227698	Roadside	100	100.0	27.3	21.8	22.7	19.3	20.2
AV9	481891	214979	Roadside	100	100.0	34.1	26.7	27.5	22.8	25.6
AV10	483948	215645	Roadside	90.19607843	90.2	23.2	18.4	18.1	14.8	17.3
AV11	482177	214093	Roadside	100	100.0	31.7	25.0	28.0	24.5	27.3
AV12	483128	213637	Roadside	100	100.0	27.7	21.9	20.4	16.0	21.1
AV13	483601	213590	Roadside	100	100.0	37.4	28.2	32.2	27.4	30.7

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023
AV14	482436	213121	Roadside	90.19607843	90.2	**48.2**	39.1	**42.2**	37.2	35.7
AV16	482376	213039	Roadside	100	100.0	**40.1**	33.8	35.5	31.9	32.6
AV17	482278	213271	Roadside	100	100.0	**49.9**	**40.2**	39.8	33.2	39.8
AV18	482374	213170	Roadside	100	100.0	**41.6**	32.7	37.2	32.8	37.6
AV19	482237	213717	Roadside	100	100.0	**40.7**	31.2	33.0	27.3	29.2
AV20	481451	213588	Roadside	100	100.0	36.6	29.6	31.5	27.5	30.3
AV21	481381	213823	Roadside	100	100.0	21.9	17.2	18.6	15.9	17.7
AV22	481408	213940	Roadside	100	100.0	25.8	20.9	22.8	20.2	19.8
AV23	481514	213860	Roadside	100	100.0	39.8	31.7	36.5	32.7	35.6
AV24	480710	214576	Roadside	92.15686275	92.2	33.6	26.9	28.0	23.9	25.3
AV25	481768	214276	Roadside	100	100.0	29.5	22.8	23.6	19.4	22.3
AV26	486811	207795	Roadside	58.82352941	58.8	25.9	18.3	19.8	15.2	17.7
AV27	488573	222902	Roadside	100	100.0	32.5	24.7	27.4	23.1	23.9
AV28	483337	213644	Roadside	100	100.0	32.5	25.3	26.1	21.6	24.2

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023
AV29	483394	213646	Roadside	84.31372549	84.3	35.6	27.7	27.4	22.0	25.9
AV30	483488	213729	Roadside	100	100.0	26.2	21.6	22.3	19.5	21.2
AV31	484902	213138	Roadside	100	100.0			32.2		24.8
AV32	482157	212768	Roadside	90.19607843	90.2			25.0		19.0
AV33	481743	214967	Roadside	90.19607843	90.2			23.6		21.3
AV34	481766	214182	Roadside	90.19607843	90.2			39.8		32.0
AV35	483660	212602	Urban Background	100	100.0			12.6		10.1
AV36	481607	213704	Roadside	94.11764706	94.1					39.9
AV37	482038	213981	Roadside	92.15686275	92.2					33.3
AV38	483573	213579	Roadside	90.19607843	90.2					18.1
AV39	482289	213256	Roadside	100	100.0					37.5
AV40	482328	213242	Roadside	100	100.0					36.9
AV15, AV41, AV42	482444	213090	Roadside	100	100.0					29.8
AV43	482163	213235	Roadside	76.47058824	76.5					15.0

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023
AV44	482209	213168	Roadside	66.66666667	66.7					**43.3**
AV45	470069	232898	Roadside	83.33	43.1					17.2
AV46	469581	232793	Roadside	100	51.0					34.6
CDC3	496326	202932	Roadside	100	100.0	28.4	21.7	22.5	18.3	18.5
CDC4	496305	202884	Roadside	100	100.0	25.5	19.5	20.7	17.1	17.8
CDC5, CDC5a	496261	202656	Roadside	100	100.0	29.1	18.0	21.7	15.5	21.9
CDC6, CDC6a	496272	202699	Roadside	100	100.0	26.7	18.7	24.5	21.1	19.4
CDC7, CDC7a	496278	202743	Roadside	92.15686275	92.2	26.9	17.3	23.0	18.5	19.9
CDC8, CDC8a	496247	202328	Roadside	100	100.0	35.9	21.4	29.7	22.8	26.5
CDC9, CDC9a	496215	202300	Roadside	100	100.0	32.2	24.3	28.3	24.4	25.7
CDC11, CDC11a	496133	202072	Roadside	100	100.0	36.2	27.7	27.2	21.4	25.2
CDC12, CDC12a	496107	202033	Roadside	92.15686275	92.2	33.8	20.8	29.0	23.1	27.0
CDC13, CDC13a	495850	201510	Roadside	100	100.0	29.6	19.6	24.4	19.3	19.7

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023
CDC14, CDC14a	495869	201436	Roadside	100	100.0	34.6	26.1	27.3	22.0	25.4
CDC15	489484	201234	Roadside	90.19607843	90.2	18.3	13.7	13.8	10.8	12.0
CDC16	487002	200812	Roadside	94.11764706	94.1	19.3	13.2	13.4	9.4	12.0
CDC17	487991	200978	Roadside	90.19607843	90.2	17.4	11.9	12.7	9.3	11.2
CDC18	495298	197520	Roadside	100	100.0	23.1	15.4	17.0	12.4	15.0
CDC19	495446	196797	Roadside	82.35294118	82.4	25.4	17.0	20.9	16.6	16.6
CDC20	496760	197100	Roadside	100	100.0	36.9	26.0	27.4	20.6	23.1
CDC21, CDC21a	495960	196940	Roadside	100	100.0	34.6	25.3	27.1	21.5	23.0
CDC23	495708	198806	Urban Background	100	100.0	11.8	7.9	8.0	5.4	7.4
CDC24, CDC24a	496550	198720	Roadside	90.19607843	90.2	23.7	17.0	16.9	12.4	24.1
CDC25	499260	197452	Roadside	92.15686275	92.2	27.6	18.9	20.1	14.7	18.3
CDC27	500050	190810	Roadside	100	100.0	24.1	16.9	18.4	14.1	15.6
CDC28, CDC28a	499250	193750	Roadside	100	100.0	28.7	18.9	20.2	14.1	17.6

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023
CDC29	496222	202281	Roadside	100	100.0					20.3
CDC30	496314	198072	Roadside	100	100.0					32.9
SB1	503696	178533	Roadside	100	100.0	25.2	16.1	16.2	10.2	14.6
SB2	504056	180901	Roadside	100	100.0	27.7	17.4	18.3	11.7	15.9
SB4	502072	182753	Roadside	100	100.0	**42.0**	29.0	30.7	22.6	26.0
SB5	504754	185138	Roadside	100	100.0	31.6	22.0	24.5	18.9	19.1
SB8	500259	188613	Roadside	100	100.0	35.4	22.8	24.8	17.1	19.2
SB12	496095	185599	Roadside	66.66666667	66.7	32.3	23.1	26.4	21.4	21.2
SB13	493873	191040	Roadside	100	100.0	30.5	22.1	23.2	18.0	21.2
SB14	584728	192313	Roadside	92.15686275	92.2	37.9	25.6	25.5	17.3	24.4
SB16	493136	182503	Roadside	100	100.0	24.1	15.2	17.1	11.8	12.0
SB17	491668	181187	Roadside	100	100.0	19.7	13.6	15.9	12.6	19.8
SB21	503690	179278	Roadside	82.35294118	82.4	30.9	20.9	23.3	17.4	23.5
SB22	503972	179701	Roadside	100	100.0	37.2	25.4	28.1	21.1	23.3

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 2023 (%) (2)	2019	2020	2021	2022	2023
SB24	503050	181176	Roadside	100	100.0	29.5	19.8	21.7	15.9	18.2
SB25	503604	181378	Roadside	100	100.0	32.7	22.7	22.8	16.2	18.3
SB26	502100	182473	Roadside	82.35294118	82.4	29.1	20.0	20.7	14.9	17.8
SB27	502520	183456	Roadside	100	100.0	37.3	26.8	30.3	24.5	23.7
SB28, SB29	503899	181199	Roadside	90.19607843	90.2	36.8	25.7	30.2	24.3	25.5
SB30, SB31	503924	181127	Roadside	92.15686275	92.2	**43.6**	26.4	32.6	23.2	27.4
SB32, SB33	504047	179475	Roadside	100	100.0	39.2	26.4	28.6	20.8	25.9
SB34, SB35	502217	182870	Roadside	100	100.0	28.9	19.3	22.5	17.2	18.4
SB36	503022	183070	Roadside	100	100.0	39.1	28.4	30.0	23.4	25.4
SB37	494478	190142	Roadside	90.19607843	90.2	29.6	19.0	20.4	13.8	19.6
SB38	503618	180518	Roadside	92.15686275	92.2	28.0	18.0	21.2	15.6	16.7
SB39	501652	187168	Roadside	100	100.0	38.7	26.3	28.5	21.0	23.8
SB41	503256	181272	Roadside	100	100.0	25.5	19.1	20.6	16.8	16.8

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023
SB42	502477	184784	Roadside	100	100.0	28.2	19.4	19.1	13.1	16.9
SB44	496099	185047	Roadside	100	100.0	17.4	10.7	11.6	7.4	9.8
SB46	501568	186763	Roadside	100	100.0	30.7	20.4	22.3	16.1	17.7
SB47	494862	190156	Roadside	100	100.0	**42.1**	28.3	29.6	20.8	21.8
SB48	504195	187988	Roadside	90.19607843	90.2					19.7
SB49	503759	181200	Roadside	100	100.0					23.7
SB50	496008	182953	Roadside	84.31372549	84.3					21.4
SB51	493859	191103	Roadside	90.19607843	90.2					18.3
SB52	494825	190250	Roadside	100	100.0					20.2
W1	485012	186444	Urban Centre	82.35294118	82.4	23.8	17.5	17.8	18.4	17.0
W2	484966	186773	Roadside	100	100.0	37.4	26.1	31.2	32.3	27.8
W3	484753	186888	Roadside	92.15686275	92.2	32.1	22.5	22.8	23.4	22.2
W4	486384	192513	Roadside	90.19607843	90.2	**48.8**			26.3	25.6
W5	486471	193665	Roadside	100	100.0	36.4	26.0	27.3	23.4	25.6

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023
W6	485869	193231	Roadside	92.15686275	92.2	35.4	25.2	24.2	25.6	26.2
W8	487101	192766	Roadside	94.11764706	94.1	35.3		30.2	29.7	27.8
W10	485514	193658	Roadside	82.35294118	82.4	**42.9**	23.7	32.6	32.2	28.6
W12	486364	193266	Roadside	100	100.0	25.9	32.1	19.7	20.5	18.3
W13	485891	191788	Roadside	100	100.0	26.2		18.3	19.8	19.3
W14	487048	193473	Roadside	23.52941176	23.5	19.1		14.1	14.6	21.5
W15, W16, W17	476602	195435	Suburban	33.33333333	33.3	25.6	20.7		18.4	25.9
W18	486785	192987	Roadside	100	100.0	38.7	16.9	32.8	31.9	28.9
W19	486842	193144	Roadside	100	100.0	38.3		34.3	34.5	31.0
W20	488858	191923	Roadside	100	100.0	34.3	30.3	23.8	24.1	22.7
W21	485070	186871	Roadside	100	100.0	**43.7**	29.5	33.8	35.0	33.1
W22	485665	193586	Roadside	100	100.0	39.1	25.5	28.8	31.0	27.8
W23	487787	194657	Roadside	100	100.0	30.9	32.7	22.3	25.1	21.6
W24	486485	193803	Roadside	100	100.0	**40.9**	29.5		31.7	31.5

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023
W25	486079	192883	Urban Background	90.19607843	90.2	27.1	23.4	31.6	21.1	18.0
W29	485217	187010	Roadside	100	100.0	17.9	20.6	14.3		13.2
W30	484868	186656	Roadside	92.15686275	92.2	29.8	27.3	22.6	12.4	20.5
W31	484888	186571	Urban Centre	100	100.0	27.6	12.9	19.3	23.0	19.7
W32	490784	190216	Roadside	92.15686275	92.2	26.6	21.8	19.0	19.3	17.5
W35	484749	186496	Roadside	100	100.0	30.8	17.6	23.4	17.4	21.3
W36	484643	186436	Roadside	100	100.0	31.4	19.3	23.6	22.1	21.0
W37	482896	194659	Roadside	100	100.0	32.1	29.2	27.0	22.8	22.4
W40	485290	191280	Suburban	100	100.0	30.1	36.0	21.4	25.1	21.4
W41	485024	186825	Roadside	100	100.0	37.1	22.3	30.8	21.2	29.6
W42	485028	186327	Urban Centre	100	100.0	27.6	21.3	19.9	30.3	19.3
W43	485182	186974	Roadside	90.19607843	90.2	24.8	22.5	18.5	22.3	17.2
W44	486607	191725	Roadside	92.15686275	92.2	21.1	24.1	19.4	19.6	17.8
W45	486520	193110	Urban Centre	100	100.0	25.9	21.4	21.4	18.3	22.8

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023
W46	486474	193121	Urban Centre	49.01960784	49.0	36.5	19.4	32.0	22.0	28.6
W48	486381	193179	Urban Centre	92.15686275	92.2		28.7	35.8	32.5	36.1
W49	484958	186748	Roadside	100	100.0	**40.7**	19.0	30.4	35.2	30.2
W50	485462	193384	Roadside	92.15686275	92.2	**43.8**	15.4	23.2	34.5	22.6
W51	486144	193271	Roadside	92.15686275	92.2	31.2	14.0	36.7	23.8	36.8
W52	484830	186550	Roadside	92.15686275	92.2	39.2	19.9	21.7	35.2	19.9
W53	484893	186677	Roadside	100	100.0	30.4	26.6	22.9	22.1	20.9
W54	485763	193278	Roadside	84.31372549	84.3	32.7	25.5	24.3	22.3	23.7
W55	486823	192874	Roadside	82.35294118	82.4	30.1	20.1	22.9	28.2	18.6
W56	486116	192890	Roadside	90.19607843	90.2	29.2	17.5	18.3	22.9	17.0
W57	485353	191416	Roadside	92.15686275	92.2		21.2	26.7	28.2	26.9
W58	490247	190768	Roadside	100	100.0		29.2	32.1	30.3	27.2
W59	483442	194645	Roadside	100	100.0	26.4	36.0	37.8	34.8	31.7
W60	487561	192616	Kerbside	100	100.0	37.5	24.1	27.6	27.6	26.4

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 2023 (%) (2)	2019	2020	2021	2022	2023
W61	484421	194179	Kerbside	82.35294118	82.4	**40.3**	37.1	33.1	29.9	27.0
W62	486766	193065	Roadside	47.05882353	47.1	**46.7**	25.5	28.3	27.0	23.0
W64	481187	204010	Roadside	94.11764706	94.1					15.2
W65	480931	203380	Roadside	86.2745098	86.3					25.8
W66	480445	202991	Roadside	94.11764706	94.1					10.4
W67	480442	202718	Roadside	94.11764706	94.1					16.2

☒ **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**.

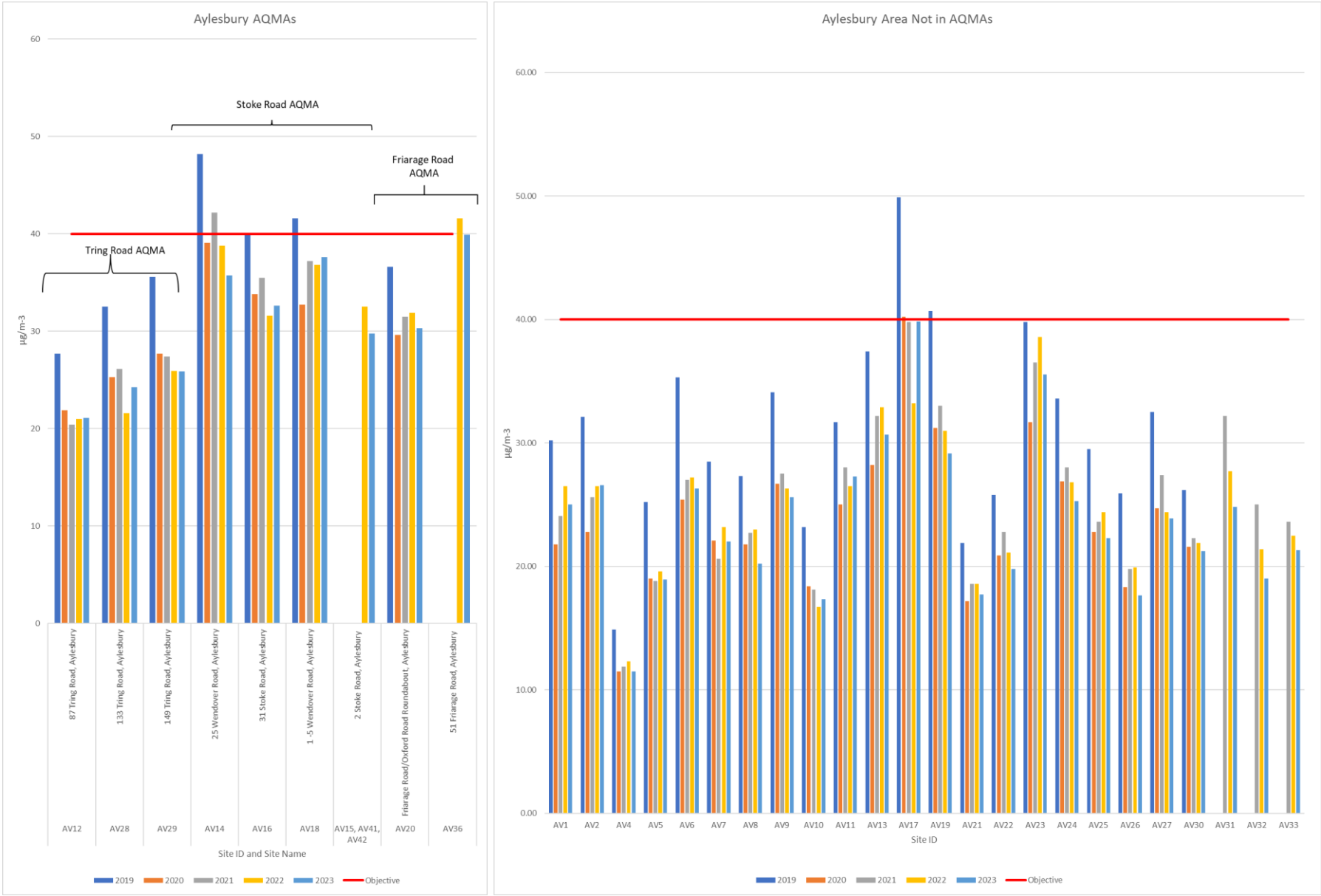
Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

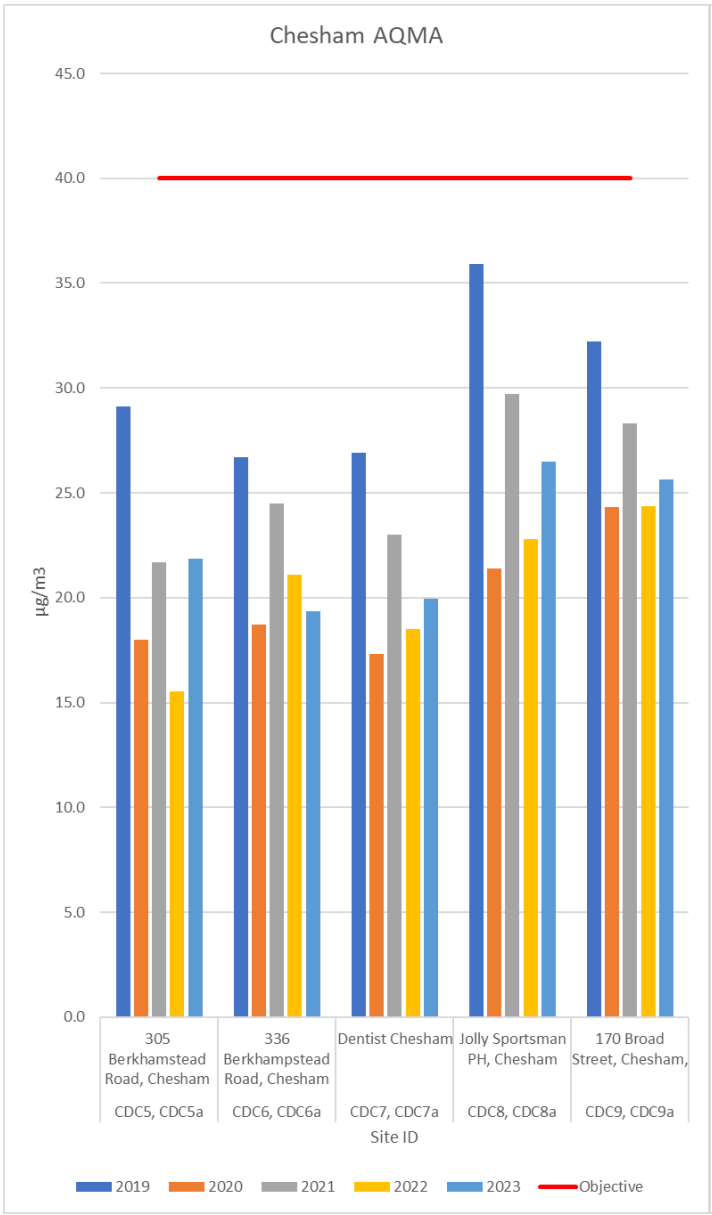
Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

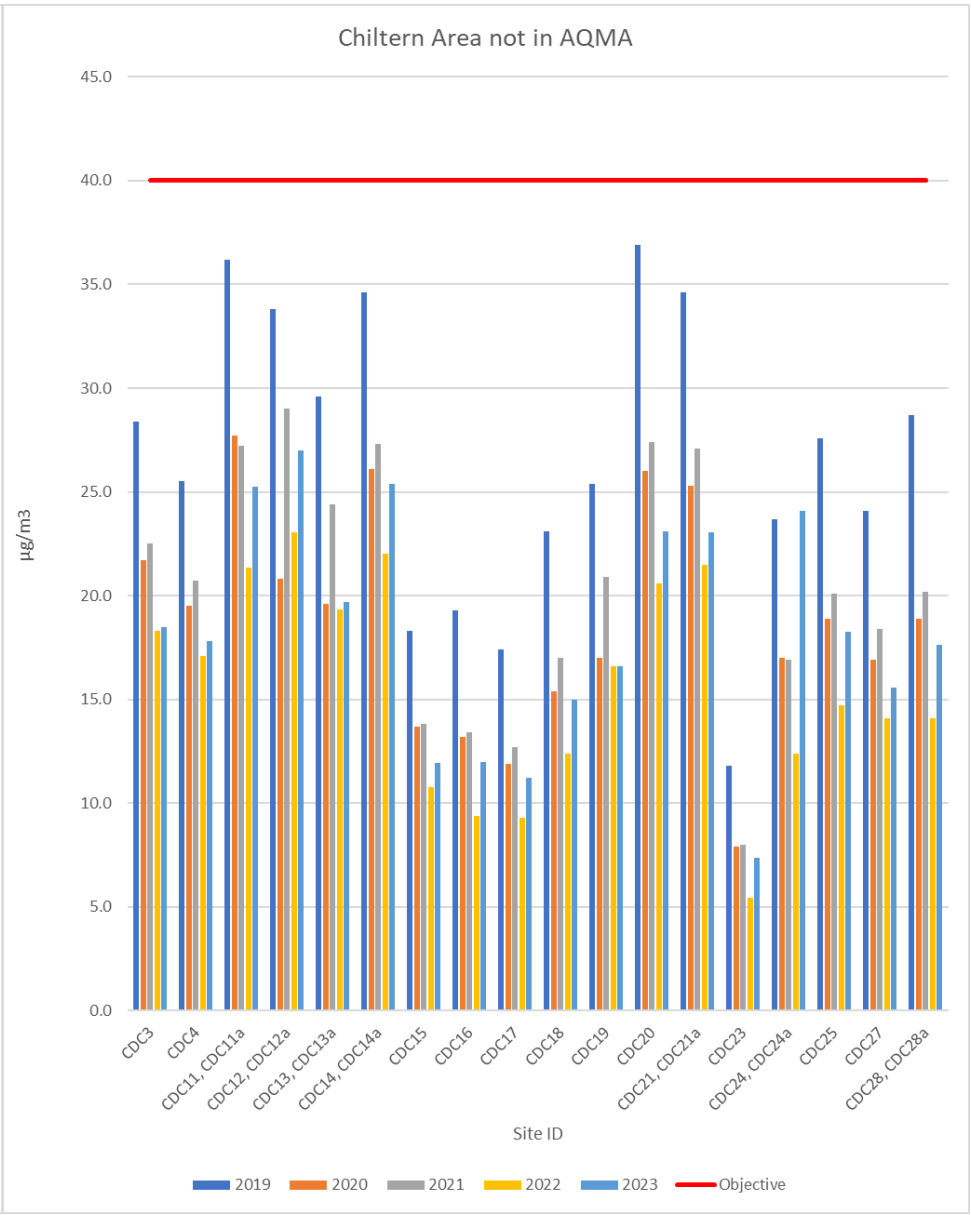
(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

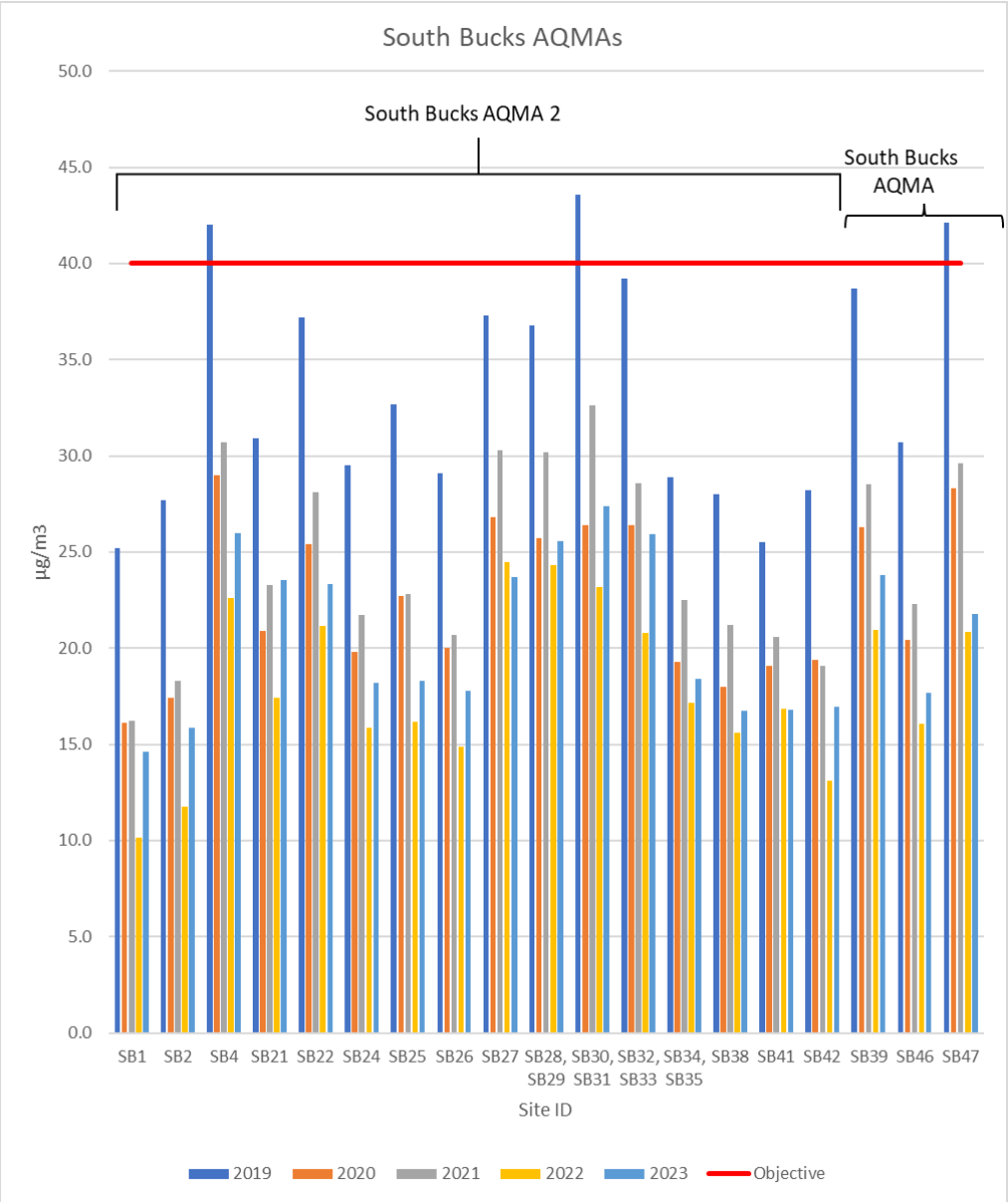
(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

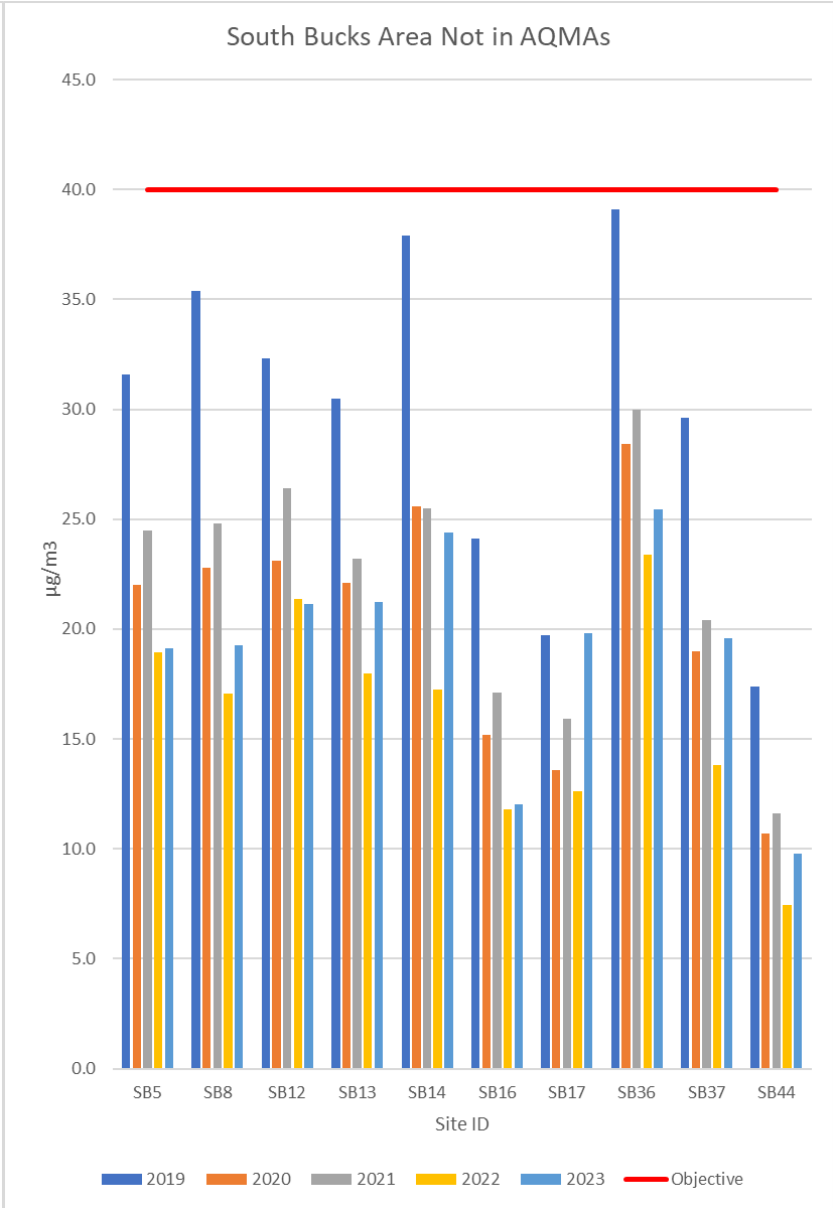
Figure A.1 – Trends in Annual Mean NO_2 Concentrations

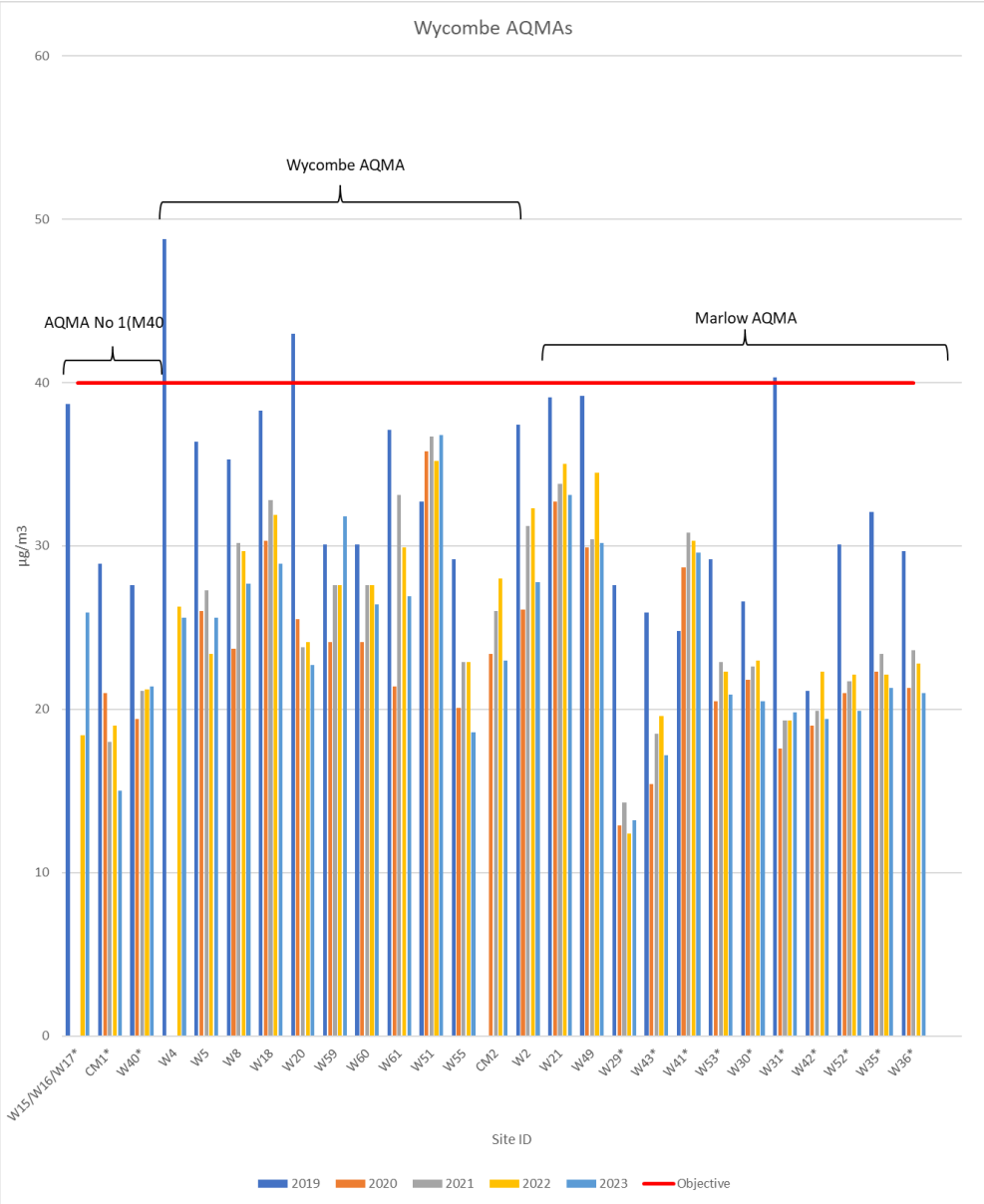



Chesham AQMA
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
µg/m3
305 Berkhamstead Road, Chesham
336 Berkhampstead Road, Chesham
Dentist Chesham
Jolly Sportsman PH, Chesham
170 Broad Street, Chesham,
CDC5, CDC5a
CDC6, CDC6a
CDC7, CDC7a
CDC8, CDC8a
CDC9, CDC9a
Site ID
2019
2020
2021
2022
2023
Objective


Chiltern Area not in AQMA
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
µg/m3
CDC3
CDC4
CDC11, CDC11a
CDC12, CDC12a
CDC13, CDC13a
CDC14, CDC14a
CDC15
CDC16
CDC17
CDC18
CDC19
CDC20
CDC21, CDC21a
CDC23
CDC24, CDC24a
CDC25
CDC27
CDC28, CDC28a
Site ID
2019
2020
2021
2022
2023
Objective


South Bucks AQMAs
South Bucks AQMA 2
South Bucks AQMA
µg/m3
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
SB1
SB2
SB4
SB21
SB22
SB24
SB25
SB26
SB27
SB28, SB29
SB30, SB31
SB32, SB33
SB34, SB35
SB38
SB41
SB42
SB39
SB46
SB47
Site ID
2019
2020
2021
2022
2023
Objective


South Bucks Area Not in AQMAs
µg/m3
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
SB5
SB8
SB12
SB13
SB14
SB16
SB17
SB36
SB37
SB44
Site ID
2019
2020
2021
2022
2023
Objective


Wycombe AQMAs
Wycombe AQMA
AQMA No 1(M40
Marlow AQMA
µg/m3
Site ID
2019
2020
2021
2022
2023
Objective

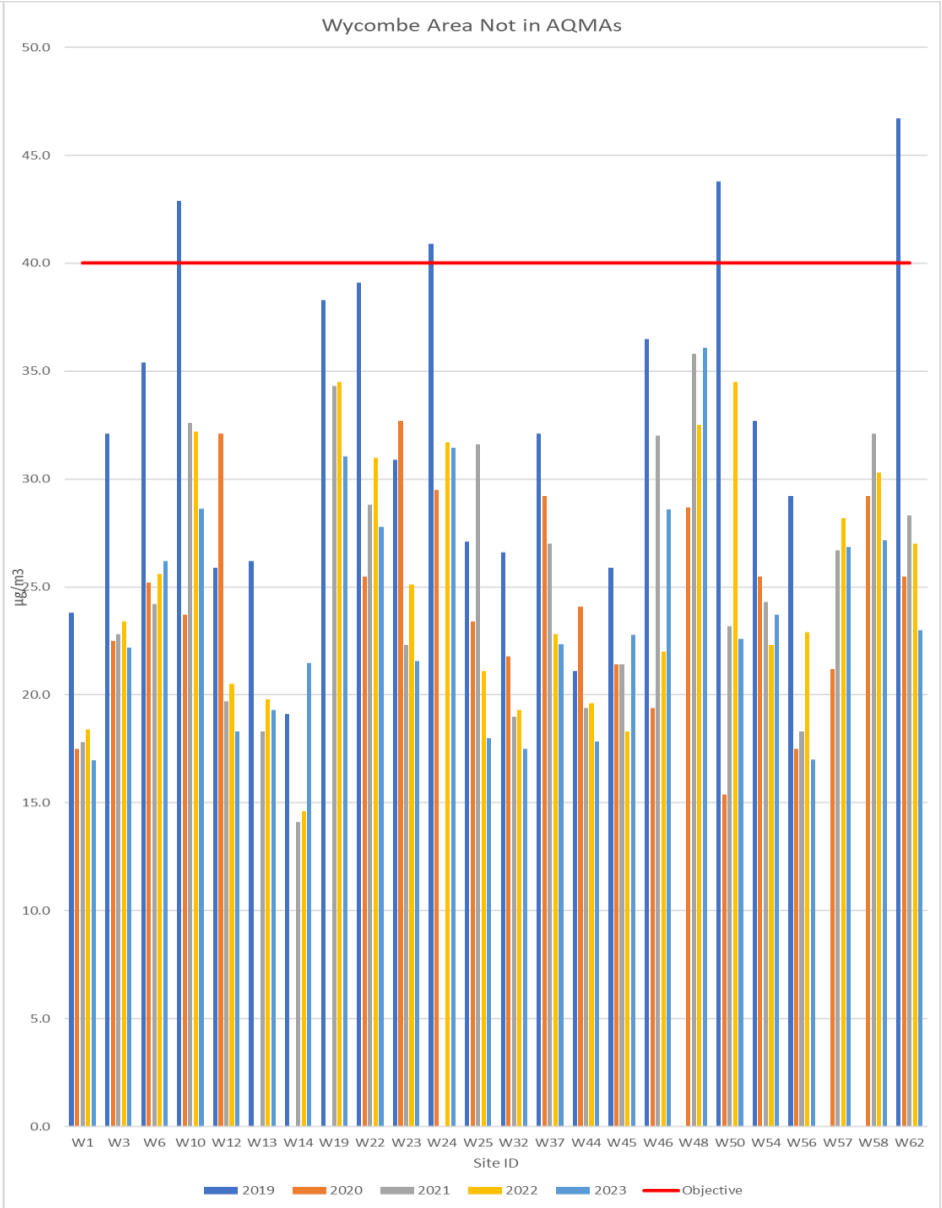

Wycombe Area Not in AQMAs
µg/m3
Site ID
2019
2020
2021
2022
2023
Objective

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023
CM1	476604	195436	Suburban	64.69	64.69	0	0	0	0	0
CM2	486352	192478	Roadside	84.86	84.86			0	0	0

Notes:

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

Exceedances of the NO_2 1-hour mean objective (200µg/m^3 not to be exceeded more than 18 times/year) are shown in **bold**.

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

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

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

Appendix B: Full Monthly Diffusion Tube Results for 2023

Table B.1 – NO_2 2023 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 (7.7)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
AV1	469518	234006	43.0	41.0	31.7	39.0	35.1	31.2	25.0	31.5	35.6	33.7	28.7	18.5	32.5	25.0	-	
AV2	469587	233939	43.3	44.0	32.6	28.9	26.2		29.4	31.6	39.6		40.8	30.8	34.5	26.6	-	
AV4	469672	233862	23.7	20.5	14.8	18.3	14.6	11.0	8.3	12.3	14.6	16.2	17.5	10.3	14.9	11.5	-	
AV5	469610	233982	24.9	30.1	25.5	26.0		23.9	17.3	22.0	26.8	27.5	25.7	21.3	24.6	18.9	-	
AV6	469597	233999	46.8	46.9	31.8	30.0	29.2	28.7	27.5	30.4	38.7	36.8	36.4	32.3	34.2	26.3	-	
AV7	469727	234117	34.2	33.8	30.6	27.5		25.9	24.7	25.2					28.5	22.0	-	
AV8	476979	227698	33.1	25.6	28.7	16.6	22.3	21.0	24.0	25.9	29.9	31.1	33.4	24.0	26.2	20.2	-	
AV9	481891	214979	45.1	41.5	33.4	20.9	25.0	26.1	31.7	29.8	39.7	39.3	41.1	29.1	33.3	25.6	-	
AV10	483948	215645	37.0	32.1	19.7	21.8	17.5	15.6	15.7		21.0	22.7	29.4	19.4	22.5	17.3	-	
AV11	482177	214093	48.0	43.0	33.8	34.4	30.5	31.9	27.3	30.0	39.5	38.8	42.2	30.0	35.4	27.3	-	
AV12	483128	213637	46.4	26.6	27.4	31.8	27.1	26.8	19.0	21.2	24.9	25.3	33.4	23.6	27.4	21.1	-	
AV13	483601	213590	63.3	47.8	41.1	55.6	39.4	38.4	31.2	28.1	40.2	40.8	26.8	37.1	39.8	30.7	-	
AV14	482436	213121	75.0	31.5		17.4	35.9	40.6	49.6	41.1	62.4	55.1	52.7	57.2	46.4	35.7	-	
AV15	482444	213090	54.1	42.1	36.7	44.0	32.1	37.7	29.4	36.2	46.8	44.7	43.2	40.2	-	-	-	Triplicate Site with AV15, AV41 and AV42 - Annual data provided for AV42 only
AV16	482376	213039	54.8	54.6	47.2	35.1	35.9	35.9	37.1	37.0	48.2	47.7	41.5	38.3	42.4	32.6	-	
AV17	482278	213271	69.7	60.2	53.6	41.8	36.0	38.5	53.1	43.2	62.8	58.0	59.9	51.6	51.7	39.8	31.9	
AV18	482374	213170	75.6	52.4	50.7	37.7	35.9	40.8	42.9	32.8	58.2	54.4	53.9	61.6	48.8	37.6	31.2	
AV19	482237	213717	52.8	52.6	39.9	18.6	40.9	42.0	30.8	36.0	45.0	44.4	24.3	33.2	37.9	29.2	-	

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 (7.7)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
AV20	481451	213588	42.0	34.6	46.5	40.8	39.2	39.3	31.3	31.8	42.9	41.4	45.7	35.7	39.3	30.3	-	
AV21	481381	213823	33.0	27.6	20.9	26.7	20.3	21.8	13.3	20.4	25.4	29.1	25.5	15.8	23.0	17.7	-	
AV22	481408	213940	39.0	33.8	23.6	23.8	20.2	20.5	19.0	24.2	28.9	29.9	31.4	18.6	25.7	19.8	-	
AV23	481514	213860	51.2	38.4	44.9	58.2	57.8	54.6	32.2	42.7	50.4	48.9	47.8	27.0	46.2	35.6	-	
AV24	480710	214576	43.7	36.3	35.9	32.9	22.7	23.6	28.5	29.9	39.9	38.3	34.1		32.8	25.3	-	
AV25	481768	214276	40.6	31.3	34.0	24.5	24.1	24.8	20.4	24.2	38.0	36.9	26.5	26.8	29.0	22.3	-	
AV26	486811	207795	42.5	30.2	26.6					22.4		28.3	22.8	16.2	26.2	17.7	-	
AV27	488573	222902	43.0	23.7	36.0	23.4	26.2	28.1	26.9	30.1	41.9	30.1	38.4	25.4	31.0	23.9	-	
AV28	483337	213644	52.6	42.6	32.6	24.6	32.6	29.9	24.4	25.0	34.0	36.0	22.5	30.0	31.5	24.2	-	
AV29	483394	213646	51.9	43.9	32.1			24.3	25.1	23.7	34.5	34.1	44.3	29.2	33.6	25.9	-	
AV30	483488	213729	41.7	34.2	26.6	29.5	21.8	20.2	19.8	21.3	29.3	32.5	36.6	22.3	27.6	21.2	-	
AV31	484902	213138	43.1	27.6	29.7	38.2	28.9	30.6	23.4	34.2	41.6	37.3	37.0	17.1	32.2	24.8	-	
AV32	482157	212768	13.0	41.2		30.0	27.8	21.2	20.6	24.5	31.5	30.2	14.6	17.8	24.7	19.0	-	
AV33	481743	214967	44.0	26.2	27.0	29.8	23.5		20.6	22.4	27.2	30.5	34.2	23.2	27.7	21.3	-	
AV34	481766	214182	47.3	54.0		40.4	49.4	48.9	32.3	38.1	45.2	44.1	33.7	26.4	41.6	32.0	-	
AV35	483660	212602	23.4	10.9	13.5	14.1	9.3	8.4	9.3	11.0	13.3	14.6	20.7	11.4	13.1	10.1	-	
AV36	481607	213704		64.8	55.1	39.8	47.0	47.1	46.9	50.9	62.4	55.5	58.7	40.8	51.8	39.9	39.4	
AV37	482038	213981	57.1	35.4	46.7	40.3	32.3	39.0	39.7	41.7	53.0	47.2	46.9		43.3	33.3	-	
AV38	483573	213579	44.4	21.1	24.4	28.4	23.7		14.3	18.4	18.9	20.0	29.9	20.2	23.5	18.1	-	
AV39	482289	213256	62.7	54.6	56.1	40.5	34.9	37.7	49.9	40.3	60.1	56.9	54.8	40.6	48.7	37.5	33.6	
AV40	482328	213242	67.2	59.1	53.7	51.5	46.4	45.5	42.5	37.0	57.6	48.7	32.4	44.1	47.9	36.9	35.6	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (7.7)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
AV41	482444	213090	48.6	25.5	36.2	4.3	33.5	35.4	33.3	34.3	48.3	44.4	39.8	41.2	-	-	-	Triplicate Site with AV15, AV41 and AV42 - Annual data provided for AV42 only
AV42	482444	213090	56.2	45.3	36.3	39.2	31.7			39.3	50.2	39.9	45.7	41.0	38.7	29.8	-	Triplicate Site with AV15, AV41 and AV42 - Annual data provided for AV42 only
AV43	482163	213235				11.0	16.4	17.4	17.6	16.2	25.5	27.4	26.0	18.1	19.5	15.0	-	
AV44	482209	213168				41.3	28.6	36.0	83.0		48.4	51.3	63.5	60.0	51.4	**43.3**	34.3	
AV45	470069	232898							14.0	20.4	26.7		23.9	15.2	20.2	17.2	-	
AV46	469581	232793							37.2	39.6	46.9	47.9	47.4	34.5	42.3	34.6	-	
CDC3	496326	202932	34.9	22.9	25.1	26.0	17.5	20.1	18.6	20.9	26.5	24.9	30.9	22.4	24.0	18.5	-	
CDC4	496305	202884	33.3	19.1	27.4	23.1	19.9	19.8	19.1	20.4	25.3	27.9	29.3	14.2	23.1	17.8	-	
CDC5	496261	202656	33.0	36.5	32.7	30.5	25.1	23.2	23.5	24.5	32.2	32.6	33.5	27.0	-	-	-	Duplicate Site with CDC5 and CDC5a - Annual data provided for CDC5a only
CDC5a	496261	202656	36.5	36.8	29.8	14.3	26.4	23.5	25.3	25.4	28.6	30.3	31.1	23.1	28.4	21.9	-	Duplicate Site with CDC5 and CDC5a - Annual data provided for CDC5a only
CDC6	496272	202699	36.5	31.5	28.7	28.5	22.9	20.8	19.0	19.4	24.0	18.5	29.8	21.2	-	-	-	Duplicate Site with CDC6 and CDC6a - Annual data provided for CDC6a only
CDC6a	496272	202699	23.2	32.5	30.3	25.7	23.6		17.9	20.7	25.6	32.0	31.3	21.4	25.2	19.4	-	Duplicate Site with CDC6 and CDC6a - Annual data provided for CDC6a only
CDC7	496278	202743	27.6	33.3	29.5	30.4	23.2		20.3	22.8	30.0		27.7	25.0	-	-	-	Duplicate Site with CDC7 and CDC7a - Annual data provided for CDC7a only
CDC7a	496278	202743	36.4	33.6		25.3	20.2	21.1	21.9	22.3	29.8		27.9	15.1	25.9	19.9	-	Duplicate Site with CDC7 and CDC7a - Annual data provided for CDC7a only
CDC8	496247	202328	45.2	39.6	38.0	24.8	35.9	32.7	27.6	29.5	37.8	40.2	33.1	28.8	-	-	-	Duplicate Site with CDC8 and CDC8a - Annual data provided for CDC8a only
CDC8a	496247	202328	44.9	41.9	39.9	39.1	32.8	31.4	25.9	32.4	38.9	36.6	28.9	26.7	34.4	26.5	-	Duplicate Site with CDC8 and CDC8a - Annual data provided for CDC8a only
CDC9	496215	202300	47.4	39.0	33.9	35.3	34.5	23.8	26.0	32.7	35.3	40.7	38.5	17.9	-	-	-	Duplicate Site with CDC9 and CDC9a - Annual data provided for CDC9a only
CDC9a	496215	202300	37.2	36.4	35.7	31.4	28.5	26.0	30.4		36.3	40.2	38.4	27.0	33.3	25.7	-	Duplicate Site with CDC9 and CDC9a - Annual data provided for CDC9a only
CDC11	496133	202072	48.4	29.1		33.3	29.6	28.5	30.0	29.8	36.4	37.9	37.3	27.1	-	-	-	Duplicate Site with CDC11 and CDC11a - Annual data provided for CDC11a only

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 (7.7)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
CDC11a	496133	202072	41.6	39.3	36.3	34.4	30.0	26.7	26.6	29.3	35.1	38.8	26.7	27.4	32.8	25.2	-	Duplicate Site with CDC11 and CDC11a - Annual data provided for CDC11a only
CDC12	496107	202033			38.3	36.7	38.2	35.1	24.5	31.1	36.6	40.7	30.1	23.3	-	-	-	Duplicate Site with CDC12 and CDC12a - Annual data provided for CDC12a only
CDC12a	496107	202033	44.2		39.7	39.2	34.6	37.0	26.5	31.1	38.1	39.2	38.8	28.1	35.0	27.0	-	Duplicate Site with CDC12 and CDC12a - Annual data provided for CDC12a only
CDC13	495850	201510	38.5	32.3	28.1	27.3	23.7	18.9	19.1	20.4	27.3	30.5	30.8	18.8	-	-	-	Duplicate Site with CDC13 and CDC13a - Annual data provided for CDC13a only
CDC13a	495850	201510	30.6	31.1	31.6	25.9	25.2	20.7	16.6	20.5	26.8	24.9	30.9	17.8	25.5	19.7	-	Duplicate Site with CDC13 and CDC13a - Annual data provided for CDC13a only
CDC14	495869	201436	49.8	42.0	35.9	29.8	24.9	24.0	27.4	26.0	34.2	39.1	27.5	25.3	-	-	-	Duplicate Site with CDC14 and CDC14a - Annual data provided for CDC14a only
CDC14a	495869	201436	45.9	40.0	38.3	34.1	26.8	27.8	27.5	29.0	37.5	40.0	39.8	30.0	33.0	25.4	-	Duplicate Site with CDC14 and CDC14a - Annual data provided for CDC14a only
CDC15	489484	201234	19.3	20.9	16.4	18.1	12.1	11.2	9.2		15.5	18.8	18.0	12.4	15.5	12.0	-	
CDC16	487002	200812		14.4	18.7	12.3	13.3	14.6	12.5	12.7	17.0	22.5	18.2	14.7	15.6	12.0	-	
CDC17	487991	200978	22.6	19.2	15.6	6.3	8.3		8.6	11.2	17.8	21.6	18.4	12.6	14.6	11.2	-	
CDC18	495298	197520	32.5	22.3	19.1	18.3	14.9	16.6	14.7	15.7	22.7	20.4	24.4	15.5	19.4	15.0	-	
CDC19	495446	196797	31.1	31.3	26.5	21.2	19.6	19.2	20.9	20.5		10.4		16.9	21.6	16.6	-	
CDC20	496760	197100	32.0	38.9	34.8	35.0	27.4	30.5	19.9	18.4	35.3	40.3	30.7	19.0	30.0	23.1	-	
CDC21	495960	196940	38.2	33.0	33.9	36.4	32.3	32.1	22.8	26.2	32.4	33.9	31.6	20.0	-	-	-	Duplicate Site with CDC21 and CDC21a - Annual data provided for CDC21a only
CDC21a	495960	196940	36.1	34.7	33.5	34.4	28.0	26.6	22.9	25.8	37.5	35.0	18.8	18.3	29.9	23.0	-	Duplicate Site with CDC21 and CDC21a - Annual data provided for CDC21a only
CDC23	495708	198806	17.2	14.5	9.1	10.1	6.6	7.3	6.3	6.7	10.1	12.3	9.9	8.0	9.6	7.4	-	
CDC24	496550	198720	29.8	28.7	22.5	21.1	12.7		16.0	15.3	21.6	26.8	221.1	20.1	-	-	-	Duplicate Site with CDC24 and CDC24a - Annual data provided for CDC24a only
CDC24a	496550	198720	28.5	12.6	22.5	19.6	14.2		16.8	16.4	21.5	21.0	26.5	17.4	31.3	24.1	-	Duplicate Site with CDC24 and CDC24a - Annual data provided for CDC24a only
CDC25	499260	197452	28.8	29.8	19.5	23.0		21.7	23.5	19.8	27.4	29.8	25.3	15.9	23.7	18.3	-	

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 (7.7)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
CDC27	500050	190810	35.2	21.4	19.1	20.7	17.6	15.3	13.7	14.3	21.7	25.6	25.9	17.6	20.2	15.6	-	
CDC28	499250	193750	34.9	28.0	22.9		23.0	16.3	16.0	18.3	23.9	28.7	31.8	15.4	-	-	-	Duplicate Site with CDC28 and CDC28a - Annual data provided for CDC28a only
CDC28a	499250	193750	39.8	28.0	24.5	21.1	23.4	19.9	16.6	18.5	24.8	25.8	21.5	14.5	22.9	17.6	-	Duplicate Site with CDC28 and CDC28a - Annual data provided for CDC28a only
CDC29	496222	202281	33.4	32.6	29.4	24.8	22.5	19.7	19.5	21.7	28.1	31.7	32.3	22.9	26.4	20.3	-	
CDC30	496314	198072	72.6	58.0	48.7	23.9	38.4	34.4	31.9	42.6	44.0	49.7	41.5	34.7	42.7	32.9	-	
SB1	503696	178533	30.8	25.3	17.0	21.2	11.7	13.3	15.0	15.5	23.4	22.2	23.3	14.0	19.0	14.6	-	
SB2	504056	180901	33.9	23.9	25.8	25.1	16.9	16.7	13.1	13.8	24.3	20.2	23.9	13.8	20.6	15.9	-	
SB4	502072	182753	42.2	46.1	35.0	38.7	34.2	30.5	26.1	25.1	41.5	32.9	35.8	21.1	33.7	26.0	-	
SB5	504754	185138	41.3	32.5	25.3	28.7	20.3	21.4	10.3	18.1	28.0	28.5	29.9	18.7	24.8	19.1	-	
SB8	500259	188613	35.2	30.0	24.8	21.9	22.8	22.9	20.0	22.1	32.2	31.2	22.8	18.4	25.0	19.2	-	
SB12	496095	185599	44.9		30.0	27.6	22.1	19.2			29.4		33.0	20.3	27.7	21.2	-	
SB13	493873	191040	40.7	36.6	28.9	30.5	22.7	20.6	20.4	19.7	31.7	26.7	36.8	20.0	27.6	21.2	-	
SB14	584728	192313	40.9	43.1	32.0	31.5	17.9	20.7	28.7	28.1	40.2	37.9	33.1		31.7	24.4	-	
SB16	493136	182503	26.2	18.7	16.3	18.6	10.5	11.0	10.9	12.4	16.1	18.4	18.2	13.9	15.6	12.0	-	
SB17	491668	181187	41.8	33.0	26.0	28.4	23.9	19.7	16.0	21.3	27.3	29.3	29.0	18.4	25.7	19.8	-	
SB21	503690	179278	47.9	37.0	26.2	36.5	28.1	29.4	18.8	27.2	41.3			19.7	30.6	23.5	-	
SB22	503972	179701	43.6	34.0	34.0	25.4	33.6	28.4	21.4	24.0	35.1	33.7	34.5	19.2	30.3	23.3	-	
SB24	503050	181176	43.6	30.1	23.8	32.5	19.6	17.9	15.0	15.9	23.6	24.2	29.2	14.7	23.6	18.2	-	
SB25	503604	181378	35.1	9.8	29.7	29.9	18.0	19.6	20.8	20.7	28.6	28.4	26.6	20.5	23.8	18.3	-	
SB26	502100	182473	32.9	31.8	24.9	27.8		19.3	15.1	19.1	26.2	23.5		14.5	23.1	17.8	-	
SB27	502520	183456	51.1	44.9	32.1	34.8	26.7	23.5	21.5	25.9	29.8	32.0	32.0	22.6	30.8	23.7	-	

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 (7.7)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
SB28	503899	181199	43.9	47.3	34.9	36.6	31.9	27.6	21.0		35.5	33.6	31.7	22.3	-	-	-	Duplicate Site with SB28 and SB29 - Annual data provided for SB29 only
SB29	503899	181199	48.7	44.5	31.2	31.2	30.5	28.2	21.9		37.1	35.1	39.0	24.2	33.2	25.5	-	Duplicate Site with SB28 and SB29 - Annual data provided for SB29 only
SB30	503924	181127	54.5	42.5	33.8		33.4	29.9	28.3	29.8	39.4	35.3	32.1	30.3	-	-	-	Duplicate Site with SB30 and SB31 - Annual data provided for SB31 only
SB31	503924	181127	45.5	51.3	38.6		32.3	30.4	29.0	29.8	40.2	39.8	40.0	28.2	35.6	27.4	-	Duplicate Site with SB30 and SB31 - Annual data provided for SB31 only
SB32	504047	179475	52.9	41.7	37.4	24.9	33.1	27.6	24.1	28.0	42.2	38.0	38.0	23.2	-	-	-	Duplicate Site with SB32 and SB33 - Annual data provided for SB33 only
SB33	504047	179475	52.2	48.2	32.5	34.9	31.6	28.2	23.8	28.0	36.9	38.2	32.4	23.4	33.7	25.9	-	Duplicate Site with SB32 and SB33 - Annual data provided for SB33 only
SB34	502217	182870	39.7	31.6	22.7	32.5	24.2	23.8	16.9	18.9	23.3	22.4	26.5	14.6	-	-	-	Duplicate Site with SB34 and SB35 - Annual data provided for SB35 only
SB35	502217	182870	39.5	34.7	23.2	29.0	22.1	22.7	15.9	19.8	24.5	20.8	22.1	13.1	23.9	18.4	-	Duplicate Site with SB34 and SB35 - Annual data provided for SB35 only
SB36	503022	183070	48.9	43.1	34.7	36.8	31.9	33.3	26.3	28.7	35.2	31.3	30.6	21.0	33.1	25.4	-	
SB37	494478	190142	15.0	17.2	27.6	36.7	25.0	24.9	17.2		28.8	32.5	29.6	21.1	25.4	19.6	-	
SB38	503618	180518	36.1	31.9	20.6	12.2	18.6	18.2	16.1	19.3		26.1	29.0	14.7	21.7	16.7	-	
SB39	501652	187168	23.7	44.1	33.5	33.5	24.4	25.1	27.3	29.0	37.6	37.0	33.2	21.8	30.9	23.8	-	
SB41	503256	181272	37.0	32.3	18.5	26.2	16.1	15.1	15.3	16.7	32.6	25.2	18.2	17.4	21.8	16.8	-	
SB42	502477	184784	32.1	31.8	21.6	22.1	14.8	15.7	18.7	18.5	24.7	25.7	23.2	19.8	22.0	16.9	-	
SB44	496099	185047	20.7	16.8	12.7	11.1	12.6	10.0	10.0	9.6	14.3	15.5	14.3	8.1	12.7	9.8	-	
SB46	501568	186763	26.4	26.9	26.8	31.5	27.6	26.4	12.7	17.1	22.2	23.4	22.4	12.9	23.0	17.7	-	
SB47	494862	190156	42.8	27.7	31.7	35.7	19.4	23.3	26.6	25.4	32.1	28.5	26.5	24.8	28.3	21.8	-	
SB48	504195	187988	40.3	39.4	25.9	25.3	16.0	18.0	17.0		26.6	27.9	31.4	17.0	25.5	19.7	-	
SB49	503759	181200	22.6	43.9	37.2	36.2	24.2	24.0	25.7	29.4	31.6	28.1	35.7	28.0	30.8	23.7	-	
SB50	496008	182953	38.6	31.3	30.6	29.8		24.1	20.7	23.8	23.6		34.9	22.3	27.8	21.4	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (7.7)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
SB51	493859	191103	35.8	30.6	23.1	25.0	20.4		15.5	16.5	27.3	25.5	28.2	17.7	23.8	18.3	-	
SB52	494825	190250	40.1	35.6	27.3	27.1	19.5	18.1	23.9	21.6	26.3	29.4	28.2	24.0	26.3	20.2	-	
W1	485012	186444	30.6	28.1	19.4	21.4	18.4	17.3	17.3		19.8	23.3	27.5		22.0	17.0	-	
W2	484966	186773	47.4	42.1	22.6	40.8	40.2	39.3	28.4	36.3	36.6	36.3	39.6	27.8	36.1	27.8	-	
W3	484753	186888	39.0	33.8	17.4	26.6		24.1	26.4	26.4	33.6	32.7	34.2	28.6	28.8	22.2	-	
W4	486384	192513	39.5	34.3	27.7	35.1	31.9	32.2	54.4		28.1	27.5	33.4	25.0	33.3	25.6	-	
W5	486471	193665	36.7	38.9	34.3	31.7	16.8	23.2	30.3	29.6	40.6	43.5	44.1	31.1	33.3	25.6	-	
W6	485869	193231	42.1	36.8	26.2	38.2	22.5	28.0		33.1	37.4	43.9	38.3	32.4	34.0	26.2	-	
W8	487101	192766		46.5	38.4	43.8	36.6	35.5	27.7	35.6	25.9	34.8	41.2	28.9	36.0	27.8	-	
W10	485514	193658	50.0	33.7	28.9	45.2	30.1	33.1	32.4	34.7	45.1	45.5			37.2	28.6	-	
W12	486364	193266	34.0	19.1	26.6	25.8	18.7	17.8	19.0	22.2	23.3	27.5	30.1	23.2	23.8	18.3	-	
W13	485891	191788	40.3	24.8	29.5	30.3	20.8	19.3	18.8	19.0	26.4	24.9	31.5	19.1	25.1	19.3	-	
W14	487048	193473	23.7	30.1	28.6										27.9	21.5	-	
W15,	476602	195435		22.9			12.5	13.4	70.4						-	-	-	Triplicate Site with W15,, W16, and W17, - Annual data provided for W17, only
W16,	476602	195435		26.4			11.8	12.9	64.8						-	-	-	Triplicate Site with W15,, W16, and W17, - Annual data provided for W17, only
W17,	476602	195435		26.4			11.7	15.0	69.1						28.8	25.9	-	Triplicate Site with W15,, W16, and W17, - Annual data provided for W17, only
W18	486785	192987	43.9	43.3	40.1	42.4	31.6	38.0	27.4	36.4	40.5	45.8	42.3	18.6	37.5	28.9	-	
W19	486842	193144	43.2	46.1	42.6	45.0	33.4	34.3	39.4	44.6	45.7	49.8	44.6	14.7	40.3	31.0	-	
W20	488858	191923	40.4	37.2	34.9	32.7	20.1	18.9	23.3	26.3	28.7	31.7	34.0	28.8	29.4	22.7	-	
W21	485070	186871	59.9	51.4	35.3	39.6	36.0	41.6	35.2	36.9	48.2	44.6	52.8	39.1	42.9	33.1	-	
W22	485665	193586	48.2	46.3	21.0	44.5	29.2	30.7	31.6	36.8	41.3	39.8	38.1	33.2	36.1	27.8	-	

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 (7.7)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
W23	487787	194657	41.7	31.3	29.2	29.2	23.0	23.5	21.2	24.9	29.0	31.1	31.8	24.2	28.0	21.6	-	
W24	486485	193803	48.5	51.3	43.6	41.5	29.7	27.1	34.1	35.4	45.9	48.8	47.2	41.7	40.9	31.5	-	
W25	486079	192883	32.6	32.1	22.4	39.3	18.4		18.3	21.1	22.5	23.2	12.0	21.2	23.4	18.0	-	
W29	485217	187010	25.0	19.9	17.1	17.8	13.4	12.7	13.0	14.3	17.0	22.5	21.1	14.4	17.1	13.2	-	
W30	484868	186656	19.1	26.8	28.2	31.5		25.8	21.3	25.8	30.0	31.1	28.7	22.6	26.7	20.5	-	
W31	484888	186571	42.9	30.2	25.2	28.6	26.4	26.0	15.0	22.7	22.0	27.5	26.4	19.3	25.6	19.7	-	
W32	490784	190216	29.8	24.7	22.8	20.5	13.1	15.6	22.6	20.5	28.2		30.6	23.7	22.7	17.5	-	
W35	484749	186496	34.2	36.3	21.2	30.8	29.7	26.3	17.4	26.3	29.8	28.2	33.0	21.7	27.7	21.3	-	
W36	484643	186436	33.3	28.5	28.0	29.2	25.8	26.6	19.1	23.6	33.0	26.0	32.4	23.1	27.3	21.0	-	
W37	482896	194659	41.1	30.2	33.5	25.4	27.4	27.1	24.7	24.6	31.9	32.5	32.9	19.6	29.0	22.4	-	
W40	485290	191280	30.7	39.3	33.8	29.3	20.6	21.6	22.7	24.4	27.6	34.0	27.5	24.3	27.8	21.4	-	
W41	485024	186825	49.4	47.6	36.1	42.8	38.4	36.1	32.0	34.7	40.7	34.7	41.8	30.5	38.4	29.6	-	
W42	485028	186327	33.7	28.1	28.4	18.7	18.1	20.1	21.6	25.9	28.7	28.3	27.1	24.7	25.1	19.3	-	
W43	485182	186974	27.0	30.9	27.6	20.5	21.0	19.9	15.4	17.7	20.9	27.0		19.8	22.4	17.2	-	
W44	486607	191725	35.4	31.5	21.2	27.2	19.8	19.1	15.7	24.3		24.5	27.1	12.2	23.2	17.8	-	
W45	486520	193110	44.3	32.2	33.0	30.4	26.3	22.4	22.4	27.5	26.9	36.0	35.3	21.9	29.6	22.8	-	
W46	486474	193121	60.9							34.7	33.2	46.7	43.0	31.5	40.7	28.6	-	
W48	486381	193179	60.2	53.2	51.0	46.8	32.5	39.0	50.3	47.3		57.6	48.7	32.4	46.8	36.1	26.7	
W49	484958	186748	49.5	50.5	35.5	43.2	34.9	40.0	30.7	33.2	42.6	47.6	39.6	28.3	39.2	30.2	-	
W50	485462	193384	42.0	37.8	25.4	32.8	24.3	25.0	18.7	28.2	30.2		35.2	27.2	29.3	22.6	-	
W51	486144	193271	65.3	57.0	48.8	44.7	39.5	45.1	38.9	45.4	51.5		54.1	39.3	47.8	36.8	35.5	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (7.7)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
W52	484830	186550	34.6	29.9	29.2	31.8	21.6	24.2	17.4	25.9	29.1	30.1	14.7		25.8	19.9	-	
W53	484893	186677	37.7	34.1	20.6	26.7	24.1	25.0	21.5	24.0	30.5	30.4	31.7	23.4	27.1	20.9	-	
W54	485763	193278	41.7	40.7	32.7	33.8	24.9	22.5	19.1	31.4	31.8		33.1		30.8	23.7	-	
W55	486823	192874	40.7	33.3		28.5	19.5	19.8	24.4	26.9		2.8	36.2	10.7	24.1	18.6	-	
W56	486116	192890	35.2	33.9	20.2	26.3	18.4	16.5	17.2	21.3	22.7	23.4		12.9	22.1	17.0	-	
W57	485353	191416	47.4	27.6	41.3	36.5	27.5	29.1		32.0	39.1	38.5	36.8	31.2	34.9	26.9	-	
W58	490247	190768	53.3	39.5	42.7	43.0	26.3	31.0	27.0	34.5	38.1	36.7	41.3	12.4	35.3	27.2	-	
W59	483442	194645	46.7	22.9	46.0	49.5	38.6	43.0	36.4	44.9	48.2	42.9	37.2	37.3	41.2	31.7	-	
W60	487561	192616	51.0	48.6	37.8	32.4	24.7	27.6	24.0	31.8	32.3	36.4	39.9	29.0	34.3	26.4	-	
W61	484421	194179	40.3	50.5	19.6	36.2	36.3	33.7	24.5	36.7	35.8	41.6			35.0	27.0	-	
W62	486766	193065	46.7			42.1	29.0					39.2	15.5	30.6	32.6	23.0	-	
W64	481187	204010		22.5	22.1	20.8	15.9	16.4	16.3	18.7	19.5	17.7	26.2	19.7	19.7	15.2	-	
W65	480931	203380		43.3	30.7		29.5	28.5	27.2	34.9	35.5	31.2	42.3	31.9	33.6	25.8	-	
W66	480445	202991		21.1	12.2	15.3	8.4	9.2	9.5	10.6	15.3	19.8	16.9	12.1	13.6	10.4	-	
W67	480442	202718		33.2	16.2	23.6	19.9	18.7	14.7	22.2	19.2	23.9	25.6	14.3	21.0	16.2	-	

☒ **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**

☒ **Buckinghamshire Council confirm that all 2023 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 Buckinghamshire Council During 2023

Buckinghamshire Council received several applications for Data Centres in the Southern area of the county. A data centre is a physical facility that organisations use to house their critical applications and data. A data centre's design is based on a network of computing and storage resources that enable the delivery of shared applications and data. The key components of a data centre design include routers, switches, firewalls, storage systems, servers, and application-delivery controllers. To ensure continuous operation even in the event of a power cut data centres also include large numbers of back-up generators usually powered by diesel. Unlike vehicle emissions, which are expected to reduce significantly over the next 10 to 20 years, diesel backup generators will remain polluting at the same load/rate over the lifetime of the proposal, emitting NO_x, PM_{10}, and $PM_{2.5}$.

Considering the significant number of diesel backup generators, and the lifetime associated with the operation of a typical diesel back-up generator (i.e., 30 years), the planning system must be effective compel developers to select the most sustainable technologies, which, once approved, will be in place for a long period of time. Where this has not been achieved, where possible the Council are seeking s106 contributions to mitigate emissions.

Additional Air Quality Works Undertaken by Buckinghamshire Council During 2023

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

QA/QC of Diffusion Tube Monitoring

Nitrogen dioxide analysis procedures are compliant with the Diffusion Tubes for Ambient NO_2 Monitoring: Practical Guidance for users and laboratories (February 2008) and in the majority in adherence with the 2022 Diffusion Tube Monitoring Calendar. There was a small divergence from the calendar in January 2023 this has been accounted for in the

Diffusion Tube Date Processing tool. In 2022 Buckinghamshire Council used SOCOTEC 50% TEA in Acetone diffusion tubes in all areas.

Good versus Poor Precision

For the purposes of Local Air Quality Management, tube precision is separated into two categories, “good” or “poor”, as follows: tubes are considered to have “good” precision where the Coefficient of Variation (CV) of duplicate or triplicate diffusion tubes for eight or more periods during the year is less than 20%, and the average CV of all monitoring periods is less than 10%. Tubes are considered to have “poor” precision where the CV of four or more periods is greater than 20% and/or the average CV is greater than 10%. ESG Didcot / SOCOTEC, 50% TEA in Acetone scored good in all colocation studies in 2023 and no poor.

QA/QC services - Independent AIR-PT scheme

SOCOTEC are UKAS accredited laboratories and participate in the AIR NO_2 PT scheme. Laboratory summary performance for AIR NO_2 PT rounds 55 and 50 for comparing spiked NO_2 diffusion tubes for SOCOTEC can be found in the table below. This table will be updated when further rounds of the scheme have been included.

Air PT Round Conducted in the period	AIR PT AR055 January – February 2023	AIR PT AR056 May - June 2023	AIR PT AR058 July -August 2023	AIR PT AR059 September – October 2023
SOCOTEC	100%	100%	100%	100%

Diffusion Tube Annualisation

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

Site ID	Annualisation Factor London Hillingdon	Annualisation Factor Reading New Town	Annualisation Factor Oxford St Ebbes	Annualisation Factor Borehamwood Meadow Park	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
AV7	1.0201	0.9381	1.0117	1.0436	1.0034	28.5	28.6
AV26	0.9199	0.8758	0.8494	0.8579	0.8757	26.2	22.9
AV44	1.0425	1.1304	1.1262	1.0744	1.0934	51.4	56.2
AV45	1.0093	1.2287	1.0602	1.1135	1.1029	20.2	22.3

Site ID	Annualisation Factor London Hillingdon	Annualisation Factor Reading New Town	Annualisation Factor Oxford St Ebbes	Annualisation Factor Borehamwood Meadow Park	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
AV46	0.9687	1.1909	1.0324	1.0519	1.0610	42.3	44.9
SB12	1.0275	0.9644	0.9883	0.9817	0.9905	27.7	27.5
W15[1],	1.1583	1.1212	1.2173	1.1759	1.1681	-	-
W16[1],	1.1583	1.1212	1.2173	1.1759	1.1681	-	-
W17[1],	1.1583	1.1212	1.2173	1.1759	1.1681	28.8	33.7
W46	0.9202	0.9624	0.8644	0.9064	0.9133	40.7	37.1
W62	0.9806	0.8881	0.9203	0.8797	0.9172	32.6	29.9

[1] Triplicate Site with W15, W16, and W17, - Annual data provided for W17 only.

Diffusion Tube Bias Adjustment Factors

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

Buckinghamshire Council have applied a national bias adjustment factor of 0.77 to the 2023 monitoring data. A summary of bias adjustment factors used by Buckinghamshire Council over the past five years is presented in Table C.2.

Table C.2 – Bias Adjustment Factor

Aylesbury Vale and Wycombe Area and the whole of Buckinghamshire Council Area from 2022 onwards (SOCOTEC 50% TEA in Acetone)

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2023	National	03/24 (28)	0.77
2022	National	03/23 (26)	0.76
2021	National	04/22 (14)	0.83

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2020	National	03/21	0.82
2019	National	03/20	0.87

Chiltern Area (Gradko 50% TEA in Acetone)

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2021	National	04/22 (14)	0.83
2020	National	03/21	0.82
2019	National	03/20	0.87

South Bucks Area (Gradko 20% TEA in Water)

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2021	National	04/22 (32)	0.84
2020	National	03/21	0.81
2019	National	03/20	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.

Table C.3 – Non-Automatic NO_2 Fall off With Distance Calculations (concentrations presented in µg/m^3)

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
AV17	2.0	6.0	39.8	8.9	31.9	
AV18	1.0	3.0	37.6	8.9	31.2	
AV36	3.0	3.2	39.9	8.9	*39.4*	*Predicted concentration at Receptor within 10% the AQS objective.*
AV39	3.1	5.2	37.5	8.9	33.6	
AV40	3.1	3.7	36.9	8.9	35.6	
AV44	6.8	15.1	43.3	8.9	34.3	
W48	1.0	7.0	36.1	12.2	26.7	
W51	2.0	2.5	36.8	12.2	35.5	

QA/QC of Automatic Monitoring

Ricardo E&E were employed to undertake validation and ratification work on the automatic monitoring stations in Buckinghamshire during 2022. The data has been fully validated and ratified to the standards described in the Local Air Quality Management – Technical Guidance LAQM TG (22) and is available on the Air Quality England Website Buckinghamshire Council - Air Quality monitoring service (airqualityengland.co.uk)

Automatic Monitoring Annualisation

The automatic monitoring station at Stokenchurch recorded data capture of less than 75% and above 25%. Therefore, annualisation was required.

Site ID	Annualisation Factor London Hillingdon	Annualisation Factor Reading New Town	Annualisation Factor Oxford St Ebbes	Annualisation Factor Borehamwood Meadow Park	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
CM 1	1.10	1.21	1.21	1.24	1.19	15	18.42

Appendix D: Summary of Air Quality Objectives in England

Table D.1 – Air Quality Objectives in England[7]

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

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

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
DRT	Demand Responsive Transport
EU	European Union
EV	Electric Vehicle
EWR	East West Rail
FDMS	Filter Dynamics Measurement System
GAP	Global Action Plan
HGV	Heavy Good Vehicle
HS2	High Speed 2
LAQM	Local Air Quality Management
LCWIP	Local Cycling and Walking Infrastructure Plan
LEVI	Local Electric Vehicle Infrastructure
LTP5	Local Transport Plan 5
NIP	National Infrastructure Project
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
ORCS	On-Street Residential ChargePoint Scheme

Abbreviation	Description
PHVs	Private Hire Vehicles
SO_2	Sulphur Dioxide
SCA	Smoke Control Area

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.
- Buckinghamshire Council ASR Appraisal report 2023