2025 Air Quality Annual Status Report (ASR)

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

Date: 24 June 2025

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Local Responsibilities and Commitment

This ASR was prepared by officers in the Pollution Control Team of Sandwell Metropolitan Borough Council (referred to as 'Sandwell Council') with the support and agreement of the following officers and departments:

- Elizabeth Stephens – Senior EHO - Air Quality Team Manager (Public Health)
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- Lina Martino – Public Health Consultant
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This ASR has been approved by: 

Liann Brookes-Smith – Interim Director of Public Health

This ASR has been signed off by a Director of Public Health.

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Executive Summary: Air Quality in Our Area

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

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

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

Table ES 1 - Description of Key Pollutants

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

Air Quality in Sandwell

Sandwell is a metropolitan borough in an area commonly referred to as the ‘Black Country’ and within it are the six towns of Oldbury, Rowley Regis, Smethwick, Tipton, Wednesbury and West Bromwich. Located in the West Midlands, Sandwell borders the cities of Birmingham and Wolverhampton as well as the towns of Dudley and Walsall.

Sandwell is a densely populated borough, home to over 347,000 residents across approximately 8,600 hectares. It is well-connected to the motorway network, with five junctions that link to either the M5 or M6, providing key routes to the South West, South East, and North West of the UK. Despite its urban landscape, Sandwell has 1,200 hectares of parks, playing fields, and local green spaces, along with over 30 miles of canals, these offer much needed and valuable recreational and environmental benefits.

Local Air Quality Management

Sandwell's Pollution Control and Regulatory Services teams have responsibility for overseeing air quality regulation across both residential and commercial areas. The teams investigate statutory complaints related to smoke emissions and enforce smoke control regulations. They also issue permits for industrial activities under the Environmental Permitting Regulations and provide expert consultation on planning applications to minimise the impact on air quality from development.

To drive air quality improvements, Sandwell Council also works closely with a wide range of other partners and organisations, examples include our neighbouring local authorities, the West Midlands Combined Authority, Transport for West Midlands (TfWM), National Highways, the NHS, University of Birmingham, Black Country Transport, The Canal and River Trust, EarthSense, Living Streets and British Cycling.

Air Pollution Monitoring

In 2024, Sandwell operated five continuous automatic air quality monitoring stations. All stations measure nitrogen dioxide (NO_2), and four of these stations also monitor PM_{10} and $PM_{2.5}$ concentrations and one additionally monitors ozone (O_3). There are 119 diffusion tube monitoring sites in the borough monitoring NO_2. Of these sites 22 have triplicate tube deployment to help improve data accuracy.

Sandwell's Air Quality Management Area (AQMA)

The whole of Sandwell borough was declared an Air Quality Management Area (AQMA) in July 2005 as there were exceedances of the national air quality objective for NO_2 at numerous locations across the borough.

In 2018, there were seven 'Priority Zones' for NO_2 reduction and an additional two 'hot spot' locations. Leap forward to 2024 and there are now no exceedances of the national

objective for NO_2 at any sites. Furthermore, due to errors found in the fall-off-with distance calculation for one monitoring site in both 2022 and 2023 (see Chapter 3.2.1) it has been determined that Sandwell has been compliant with the NO_2 Air Quality Objective since 2022.

Table ES 2- Sandwell NO2 Key Priority Zones for 2020 to 2025 and Historical Non-Compliance with NO2 National Objectives

Zone	Historic Area No.	Description of Area	NO_2 Compliant						
			2018	2019	2020	2021	2022	2023	2024
1	13	High Street / Powke Lane, Blackheath	X	X	✓	✓	✓	✓	✓
2	11	Bearwood Road, Smethwick	X	X	✓	✓	✓	✓	✓
3	1	M5 Corridor - Blakeley Hall Road, Oldbury to Birmingham Road (A41), West Bromwich	X	X	✓	X	✓	✓	✓
4	10	Newton Road / Birmingham Road (A34), Great Barr	X	X	✓	✓	✓	✓	✓
5	14	Bromford Lane (including Kelvin Way / Brandon Way Junction), West Bromwich	X	✓	✓	✓	✓	✓	✓
6	16	All Saints Way / Expressway, West Bromwich	X	✓	✓	✓	✓	✓	✓
7	15	Trinity Way / Kenrick Way, West Bromwich	X	X	✓	✓	✓	✓	✓
Hotspot 1		Mallin Street, Smethwick	X	X	✓	✓	✓	✓	✓
Hotspot 2		Gorsty Hill, Blackheath	X	✓	✓	✓	✓	✓	✓

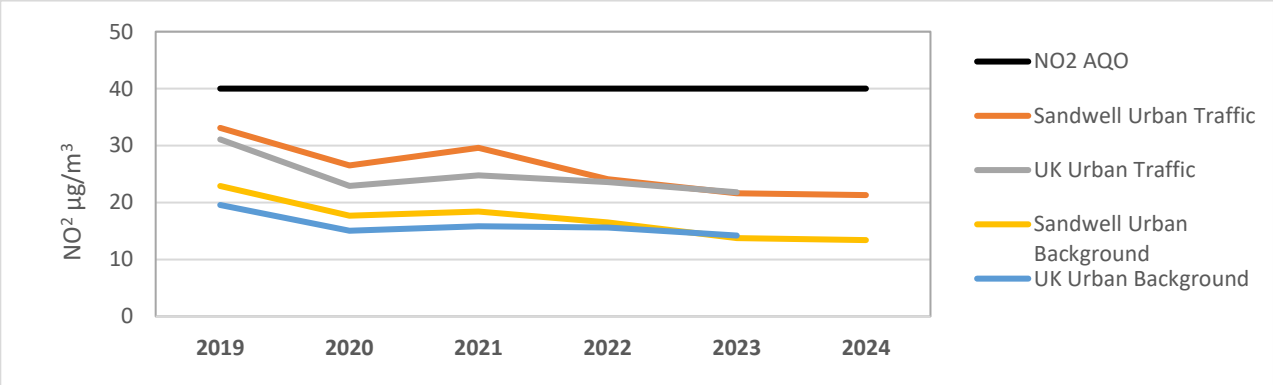
Sandwell Council recognise that after three consecutive years of compliance, there is a requirement to consider the revocation of the borough's Air Quality Management Area (AQMA). Given Sandwell's densely urban environment and ongoing elevated concentrations of NO_2 across much of the borough (above 30µg/m^3) there must be confidence that compliance with the national objective can be sustained for five years before revoking the AQMA. Achieving legal compliance with the national air quality objective of 40µg/m^3 for NO_2 does not mean that Sandwell's concentrations are safe in terms of the impact on population health. The World Health Organisation (WHO) have set

a guideline of 10µg/m³ for annual average NO_2 concentrations, which reflects the much lower levels considered necessary for meaningful protection of public health[1]. The WHO state that all policymakers should strive towards meeting this guideline if they are serious in reducing health risks.

Nitrogen Dioxide (NO_2) – Local and National Trends Compared

In 2024, Sandwell recorded only marginal reductions in average annual NO_2 concentrations, with urban traffic locations showing a decrease by 0.3µg/m³ compared to 2023, and urban background concentrations falling by only 0.4µg/m³. Sandwell has tracked (albeit above) the UK-wide average in NO_2 levels over the last six years – which has demonstrated a clear downward trend. National urban traffic and background data for 2024 was unavailable at the time of writing to establish if this trend has continued.

Figure 1.3 - Comparison of Annual Mean NO_2 Concentrations in Sandwell Compared with the UK Annual Mean 2019 - 2024

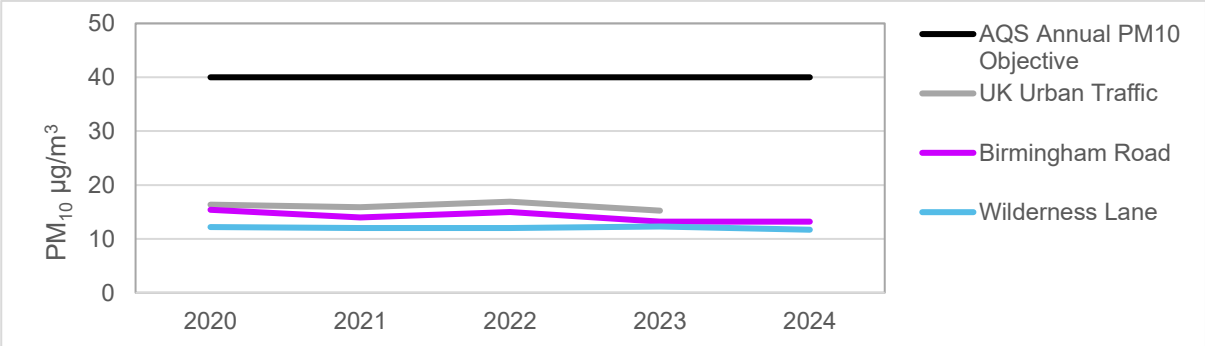


Particulate Matter (PM_{10})

PM_{10} concentrations have demonstrated an overall downward trend over the last five years in Sandwell. Although in 2024 Brimingham Road recorded identical average annual concentrations of 13.2µg/m³ as in 2023 see **Figure 1.4**.Wilderness Lane in West Bromwich recorded an increase of 1.5 µg/m³ from 2023 with a concentration of 11.7µg/m³. Sandwell had been tracking around 2µg/m³ below the UK average, but due to UK data not being available for 2024 it is not possible to determine if this pattern has continued.

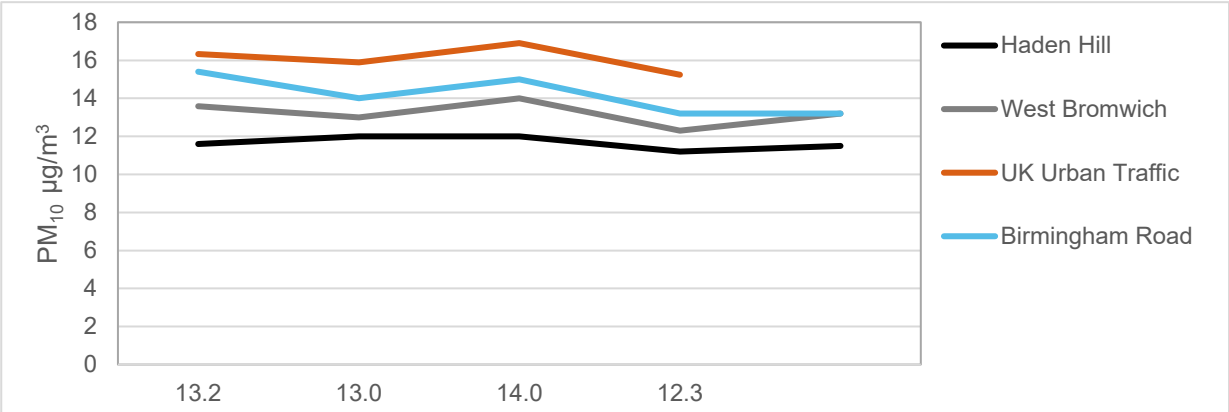
[1] WHO global air quality guidelines: https://www.who.int/publications/i/item/9789240034228

Figure 1.4 - Comparison between the UK and Sandwell's Annual Average PM_{10} Concentrations at Urban Traffic Sites 2020-2024



The PM_{10} concentrations at Sandwell's urban background sites are shown in **Figure 1.5**. These remain similar to the UK averages recorded between 2020 and 2023. Data shows a slight increase between 2023 and 2024. With PM_{10} increasing by 0.9µg/m^3 at Haden Hill and 0.3µg/m^3 at West Bromwich. It will be interesting to see if this increase is replicated on a national level.

Figure 1.5 - Comparison between the UK and Sandwell's Annual Average PM_{10} Concentrations at Urban Background Sites 2020-2024



Fine Particulate Matter ($PM_{2.5}$) – Local and National Trends Compared

$PM_{2.5}$ is an air pollutant of growing concern due to the abundance of associated health impacts from exposure.

- Long-term exposure to high concentrations of $PM_{2.5}$, is strongly linked to premature death, particularly among individuals with heart or lung disease. It also contributes to respiratory conditions such as asthma and COPD and increases the likelihood of heart attacks and strokes as well as increasing the risk of lung cancer. Research highlights clear associations with cognitive decline and dementia, and adverse birth

outcomes, such as low birth weight and preterm births as well as permanently stunting the growth of children's lungs.

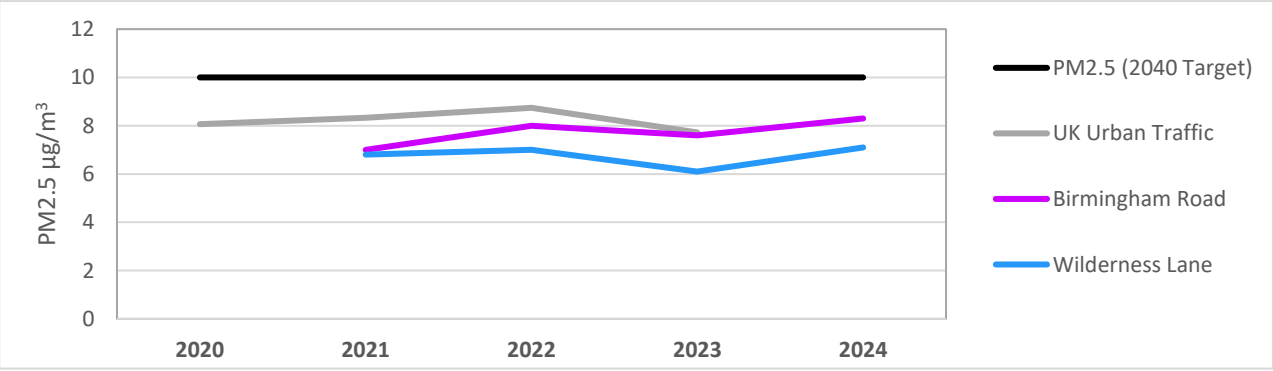
- Short term exposure to high concentrations of $PM_{2.5}$ is associated with respiratory irritation such as worsening of asthma and lung conditions, cardiovascular impacts such as irregular heartbeats and reduced lung function. All these result in increased hospital admissions and deaths.

In 2023, the government introduced the Environmental Targets (Fine Particulate Matter) (England) Regulations, setting a maximum annual $PM_{2.5}$ concentration target of 10µg/m³ for English local authorities by 2040. Sandwell had already anticipated the need for improved monitoring with the expansion of the borough's $PM_{2.5}$ monitoring network in 2021, increasing from a single site at Haden Hill to a further three locations. This expansion has allowed the tracking of air quality trends more effectively and enabled the comparison of local data against national patterns over the past four years.

Whilst monitoring data has shown clear evidence of decreasing NO_2 concentrations across the borough, concentrations of $PM_{2.5}$ have failed to demonstrate a downward trend over the last four years at either of the borough's urban traffic or background sites.

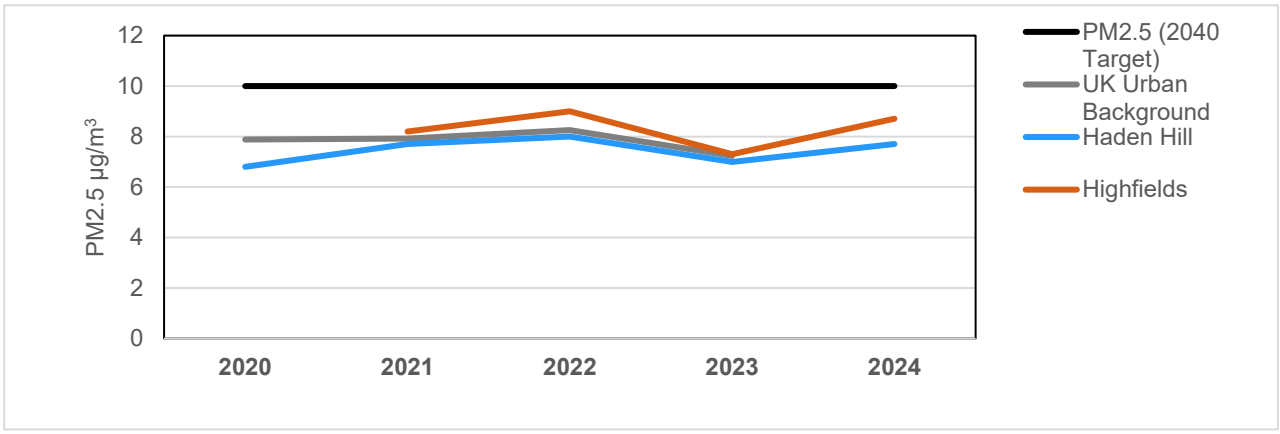
Birmingham Road and Wilderness Lane (urban traffic sites) have seen $PM_{2.5}$ concentrations increase by 1µg/m^3 and 0.8µg/m^3 respectively since 2023. Annual $PM_{2.5}$ concentrations at the Wilderness Lane site have been tracking approximately 2µg/m^3 below the UK average for three years as shown in **Figure 1.6**. Whilst Birmingham Road concentrations have increased marginally but remained 0.1 µg/m^3 below the UK average in 2023. Comparison with national urban traffic data for 2024 was not possible as it was not available at the time of writing.

Figure 1.6 - Comparison between the UK and Sandwell's Annual Average $PM_{2.5}$ Concentrations at Urban Traffic Sites 2021-2024



The urban background $PM_{2.5}$ concentrations at Haden Hill have fluctuated since 2020, although there has been a 10% increase between 2023 and 2024 up from 7µg/m^3 to 7.7µg/m^3. Highfields has followed a similar fluctuation, although the increase between last year and 2024 is greater at 1.4µg/m^3 (up 19%). Historically, Sandwell has tracked national concentrations quite closely, see **Figure 1.7,** however UK 2024 data was unavailable for comparison at the time of publication.

Figure 1.7 - Comparison between the UK and Sandwell's Annual Average $PM_{2.5}$ Concentrations at Urban Background Sites 2021-2024



Actions to Improve Air Quality

Despite significant improvements in air quality over recent decades, ongoing action remains essential to safeguard both public health and the environment from the harmful effects of air pollution.

Sandwell's Boroughwide Smoke Control Area

The 'Borough Council of Sandwell Smoke Control Order 2022' came into effect on July 1, 2024, designating the entire borough of Sandwell as a Smoke Control Area. This Smoke Control Order (SCO) prohibits the emission of smoke from chimneys (as outlined in section 20 of the Clean Air Act 1993) and applies to all buildings and moored vessels within the borough's boundaries.

This Order has provided the council with a platform to raise awareness about the significant health risks that are bought about by domestic burning. This is an issue well understood in air quality circles but still largely unrecognised by the public, as reflected by the continuing rise in the sale of wood and solid fuel burning stoves.

To maximise the impact of the SCO the council have undertaken the following actions:

- Established an Air Quality Education and Enforcement Officer post, for two years. This role includes leading education campaigns on Smoke Control Areas and outdoor burning, engaging with residents and businesses to promote compliance with air quality laws, investigating pollution complaints and enforcing penalties, and inspecting retailers to ensure adherence with relevant solid fuel regulations.
- Information leaflets have been published for residents explaining the Smoke Control Area rules. These include guidance for all homeowners and a tailored version for canal boaters, covering the purpose of the SCO, its health impacts, and compliance requirements.

Leaflets now available to Sandwell residents and businesses explaining how to comply with the Smoke Control Order

- A guidance leaflet for retailers selling solid fuel has been published. This explains how to comply with the Air

Quality (Domestic Solid Fuel Standards) (England) Regulations 2020 along with related consumer protection laws. The leaflet is being shared with retailers when undertaking premises inspections to encourage regulatory compliance and promote responsible sales practices.

- All three leaflets are available on Sandwell Council's Air Quality Website[2].
- Commissioned the Canal and River Trust to install signage at the nine boundary crossing points into Sandwell to highlight the existence of the Smoke Control Area and encourage compliance amongst boaters.
- Two webinars were held in January 2025 entitled '*Cosy or Costly'*, one for Council Staff and the other for elected members in support of the Clean Air Night campaign run by Global Action Plan. These interactive sessions were used to highlight the real health, environmental and costs associated with woodburning. The plan is to hold the sessions again in the autumn.

Auntie Duck Air Quality Education Programme

In June 2024, and in support of Clean Air Day, the 'Auntie Duck Air Quality Education Programme' was launched. At the heart of this programme is a story book written by the Dog, Duck and Cat Charitable Trust, in collaboration with Sandwell's Air Quality Officers.

Through story telling Auntie Duck helps children to navigate the potentially complex world of air pollution. After flying in from abroad to visit her nephew 'Duck', she shares with him her experience of breathing in dirty air on her travels and carefully explains the sources of air pollution, the impact on health and what everyone can do to reduce their own pollution footprint. Aimed at 7 to 9-year-olds, the programme includes a comprehensive resource pack featuring two lesson plans aligned with Key Stage 2 of the National Curriculum, worksheets, and interactive activities for teachers, parents, and

[2] www.sandwell.gov.uk/downloads/download/1066/sandwell-smoke-control-area-information-leaflets

guardians. A free printed copy of the storybook is also being offered to every primary school in Sandwell.

Book reading sessions have already been held at many of the borough's libraries and at Sandwell General Hospital, whilst schools have also enjoyed assemblies, book readings

Children enjoying an Auntie Duck book reading and assembly at two primary schools in Sandwell

and Auntie Duck days where officers have led a range of activities including making air pollution catchers, and completing word searches and quizzes focused on air quality.

School children completing the Auntie Duck air pollution wordsearch

At the time of publication approximately 20% of primary schools in Sandwell have engaged with the storybook and the feedback has been very positive. The long-term plan is that every primary school in Sandwell will have engaged with the Auntie Duck programme by 2030. Working in partnership with our active travel and road safety officers, as well as organisations such as Living Streets, the council are confident that this can be achieved.

The WMCA, in agreement with the six other constituent authorities, has recently committed Defra air quality grant funding to promote and expand the 'Auntie Duck Air Quality Education Programme,' enabling its implementation across all seven constituent local authorities in 2025. Sandwell's ambition is that 'Auntie Duck' becomes the familiar face of 'air quality' resulting in higher levels of awareness and engagement which will translate into positive behaviour change.

Sandwell has also created its own dedicated Auntie Duck webpage[3], which provides information about the programme and links to all the free resources. Schools and organisations are required to register to access the materials, enabling monitoring of uptake and to help shape the future development of the programme. Partnership work with the WMCA, and the Dog, Duck and Cat Trust will continue to ensure that all resources are reviewed, updated and expanded where necessary.

Active Travel

Encouraging active and sustainable travel remains a key priority in Sandwell. When a journey, usually taken by car, is replaced with walking, wheeling, or cycling there are tangible benefits to both local air quality and health.

During 2024/25 Sandwell's Active Travel Officer (ATO) has collaborated closely with schools, businesses, and community organisations across our borough.

Sandwell Council has a range of resources to help support behaviour change and provide key education and awareness around active travel and how it links with air quality.

- Active travel is promoted within our 'Auntie Duck Air Quality Education Programme' as it incorporates lesson plans that teach children about the importance of participating in active travel, and the benefits/impact that this can have on air quality.
- The Air Quality Team have produced a digital Flipbook[4] outlining key initiatives that connect air quality, active travel, and road safety, offering a clear menu of options to teachers and other educators.
- Our Active Travel Officer delivers school assemblies to promote active travel and annual awareness days, working collaboratively with internal and external partners to encourage safer and more sustainable travel.

[3] Sandwell Council's Auntie Duck webpage - https://www.sandwell.gov.uk/auntieduck

[4] Active Travel and Air Quality Menu Flipbook - https://heyzine.com/flip-book/644d06528b.html#page/1

- Sandwell Council actively promotes and supports the adoption of the Modeshift STARS[5] scheme to the borough's schools. The scheme guides schools (and other organisations) on how to produce and deliver effective Travel Plans. Schools that demonstrate excellence by supporting cycling, walking and other forms of sustainable and active travel receive formal accreditation for doing so.

Sandwell's active travel highlights in 2024

- Twenty-two schools (both primary and secondary) joined Modeshift STARS. Of these fourteen have achieved Green (Approved Travel Plan) accreditation, and some of these schools are now working towards their next level of Bronze (Good Travel Plan) accreditation level.
- Promotion of 'Living Streets' and associated activities including their 'WOW - Walk to School Challenge'. There are now 30 Sandwell schools engaged with the WOW programme (13 new schools, 17 continuing schools) which involves student self-monitoring and reporting of how they travel to school each day. By travelling sustainably for a minimum of 1 day per week each month, they are rewarded with a badge.

Yew Tree Primary School in Great Barr, being awarded their Modeshift STARS certificate.

- Promotion of Bikeability training, delivered by Bike Right, with 78 schools across Sandwell, including both primary and secondary, with children learning practical skills and building confidence in cycling on roads.
- Production of a new 'Walking and Cycling in Smethwick' map, providing information on new cycle routes and walking times.

[5] Modeshift STARS - https://modeshift.org.uk/modeshift-stars/

- In September 2024, following the completion of the new A457 cycle route in Smethwick, Sandwell Council partnered with British Cycling and Sustrans to offer a free guided ride to showcase the new cycle path. Led by British Cycling, the 5-mileround trip started at Galton Bridge Rail Station in Smethwick. During the afternoon 33 people also enjoyed free bike repairs, security advice, free locks and lights, and14 cyclists joined the guided ride.

Cycling event to celebrate the opening of the new A457 cycle route in

- Active travel presentations and focus groups were held at faith centres and community centres across the borough to identify local barriers to walking and cycling. The main concerns raised at these session was the limited awareness of quiet routes and safety issues, highlighting the need for improved information and infrastructure to support safer, more accessible active travel options.
- The development of an active travel workplace offer. This includes promoting Modeshift STARS for business as well as other programmes and initiatives such as TravelWise, Living Streets ‘Walking Works’ programme and the Cycle 2 Work scheme. A pilot programme will commence in July 2025, which will be rolled out to target key businesses within Sandwell to provide information and resources to support behaviour change and encourage more uptake of active travel.

Partnership Working

Sandwell’s Air Quality team continue to collaborate with internal and external stakeholders to enable effective engagement and appreciation of the significant health and environmental impacts of air pollution. The council are very reliant on a range of trusted partners to help deliver air quality messages into the wider community.

The team welcomed the opportunity to present at a series of webinars hosted by the NHS ICB Children and Young People's Asthma Transformation Team. These sessions provide a valuable platform to share insights on the health impacts of air pollution. The team are always keen to connect with asthma nurses working in schools and local communities, equipping them with practical tips and advice to share with children and their families.

The Air Quality team have also worked with Sandwell Council's Road Safety team and Transportation team to co-ordinate their contacts with schools and to share information. They have also collaborated with Asthma + Lung UK supporting their Clean Air Champions project as well as the Canal & River Trust, Living Streets, Modeshift STARS, WMCA, University of Birmingham, British Triathlon and British Cycling. The ongoing support an enthusiasm from these teams is invaluable and the council will continue to build on these partnerships.

Highlights of the air quality activities taking place in the borough through a quarterly 'Air Quality Newsletter'[6] which is sent out to a wide range of stakeholders, this can also be viewed and downloaded from our website.

Conclusions and Priorities

Exceedances of National Air Quality Objectives

Sandwell has not recorded any exceedances of the nitrogen dioxide national air quality objective in 2024, demonstrating three years of compliance at all monitoring sites. Although Sandwell Council could revoke its Air Quality Management Area (AQMA), it has been determined, given the densely urban environment and elevated concentrations of NO_2 that this would only be appropriate once compliance with the national objective has been sustained for five years.

Significant Trends

Sandwell continued to show an overall downward trend in nitrogen dioxide (NO_2) concentrations throughout 2024, with no monitoring sites exceeding the national air quality objective of 40 µg/m³. This positive trend reflects both national patterns observed over the

[6] Sandwell Air Quality Newsletters - https://www.sandwell.gov.uk/downloads/download/553/faith-centres-for-clean-air-newsletters

past decade and the benefits of advancements in vehicle technology, including the growing adoption of hybrid and electric vehicles. These improvements, alongside local air quality initiatives, have contributed significantly to reducing traffic-related pollution in the borough.

Establishing trends in particulate matter concentrations with only four years of data at three sites is more challenging.

Over the past four years, PM_{10} concentrations in Sandwell have shown no significant upward or downward trend.

$PM_{2.5}$ levels increased in 2024 across all monitoring sites, but concentrations have fluctuated since 2021, making it difficult to identify a consistent pattern.

While $PM_{2.5}$ concentrations remain below the UK government's 2040 target of 10 µg/m³, there is no safe level of exposure for health. The ongoing aim for Sandwell Council is to implement measures that further reduce $PM_{2.5}$ levels, moving closer to the World Health Organisation's more stringent guideline of 5 µg/m³. It will be interesting to see if 'stretch targets' can be agreed by authorities within the West Midlands to support this ambition.

Sandwell's Air Quality Priorities for 2025

Sandwell Council is currently drafting a new Air Quality Action Plan (AQAP) for the period 2025 to 2030. This is scheduled to be released for public consultation in August 2025. Our aim is that the new AQAP will prioritise actions that are most effective at reducing emissions of nitrogen dioxide (NO_2) and $PM_{2.5}$ across the borough. With a comprehensive suite of measures aimed at delivering sustained improvements in local air quality.

The council's air quality priorities for 2025 are as follows:

Compliance with the Annual Mean NO_2 Objective and Reduction in $PM_{2.5}$ Concentrations

Determining compliance with legal objectives and determining actual pollution concentrations within our borough, requires reliable and accurate data collection. Maintaining our air quality monitoring network, including our five monitoring stations and our 119 diffusion tube sites is essential for us to maintain our understanding of air quality in Sandwell.

Encouraging Active and Sustainable Travel

The Council will prioritise increasing active and sustainable travel, particularly with schools, through the work of its Active Travel Officer. Schools will be supported in achieving Modeshift STARS accreditation and in participating in the Living Streets WOW programme, promoting walking, cycling, and public transport as preferred travel choices.

Reducing $PM_{2.5}$ Emissions from Domestic Burning

Emissions from solid fuel burning are to be addressed through education-led enforcement of the new borough-wide Smoke Control Area. Delivery of this initiative is through the employment of a dedicated officer, partially funded by Defra, between 2024 till 2026.

Protecting the Health of Young People

To prioritise school-focused air quality initiatives, including the rollout of the Auntie Duck Air Quality Engagement programme to our primary schools. The council will also be supporting the development of an accredited air quality education scheme for secondary schools in collaboration with the WMCA. These actions will contribute to Sandwell's ambition to become a UNICEF Child Friendly Community.

Partnership with WMCA – West Midlands Air Quality Framework (2025)

Sandwell Council will collaborate with the West Midlands Combined Authority (WMCA) to continue with the implementation of the regional Air Quality Framework. Whether this is education programmes, development planning, behaviour change campaigns or stretch targets, these all recognise the cross-border nature of air pollution, and the need for coordinated action, policy alignment, and shared communications across the region.

Regulating emissions from commercial and industrial sources

To work pro-actively with businesses through the environmental permitting regulations, to ensure best practice and minimise emissions from commercial and industrial activities.

Development Planning

Ensure that all new developments are given proper consideration and assessment for air quality through the planning process to mitigate and prevent a worsening of air quality in our borough.

How to get Involved

Sandwell Metropolitan Borough Council actively engages a broad range of stakeholders to identify and implement measures aimed at improving local air quality. This includes collaboration with internal departments, external organisations, and the wider community.

Engagement methods encompass online and in-person meetings, workshops, public consultations, and outreach activities at community centres, schools, and libraries. The Council also works closely with charities and interest groups whose activities directly or indirectly support improving local air quality.

The council work closely with the Black Country's NHS ICB and their Children and Young People Asthma Transformation Team. This bi-monthly working group is working on a variety of approaches to integrate air quality awareness into children's asthma management.

Sandwell's Active Travel Officer has increased the council's engagement with a range of charitable organisations including British Triathlon, British Cycling, Cycling UK, Living Streets and Sustrans to support initiatives that encourage more active lifestyles and less car dependency.

Sandwell's Air Quality Action Plan 2020-2025 is in the process of being updated with a new five-year plan. Our 'AQAP 2025-2030 Steering Group has received a lot of interest and has been attended by more than 20 stakeholders who represent a range of internal departments and external organisations including staff from Sandwell's Transport and Road Safety, Climate Change and Planning teams, Transport for West Midlands, WMCA, NHS, AECOM, National Highways, British Cycling, Mums for Lungs and Black Country Transport. The steering group has been very engaged with the process and identified a list of potential air quality improvement measures to be included in the draft AQAP, for public consultation in July/August 2025.

How You Can Help

All the options mentioned below are easily accessible via the Council's webpage. Participation in any of these initiatives can help raise awareness of air quality and promote the reduction of harmful air pollutant emissions.

- Sandwell Council's Interactive Cycle Map[7] helps residents explore on and off-road cycling routes, including segregated paths, traffic-calmed routes and canal towpaths. It also highlights cycle parking infrastructure locations, cycle shops and more.

[7] https://sandwell.activemap.co.uk/

- The GoJauntly[8] walking route planner app provides information on free walking routes around the local community, to promote safe, greener and stress-free walking routes.
- Liftshare Sandwell[9] offers a way to reduce traffic, emissions, alleviate stress and save money.
- TravelWise in Sandwell[10] is a one stop shop providing a wide range of information on planning sustainable travel, including carshares, public transport routes, cycle routes and walking journeys.
- Resilient Residents[11] has sections with information on Going Green, Health and Wellbeing and Saving Money.
- The Sandwell Cycling and Walking Infrastructure Plan 2020[12] explains Sandwell Council's aims to increase walking and cycling uptake, the targeting of resources and the delivery of improvements to the walking and cycling environment.
- Air Quality Sandwell[13] is where you can find out about air quality in Sandwell, what the Council are doing and reports detailing Sandwell's air quality history.
- The Healthy Sandwell[14] website offers health and wellbeing support to residents', providing information and services on walking and increasing physical activity. Specific information about Active Travel in Sandwell can be found under 'Active Trave'[15].
- Details of Sandwell's Smoke Control Area[16] are provided on this government web page, whilst further information is also available on Sandwell's Air Quality website, including the decision to designate all of Sandwell as a smoke control area, following public consultation.

[8] https://www.gojauntly.com/sandwell
[9] https://liftshare.com/uk/community/sandwell
[10] https://www.sandwell.gov.uk/info/200284/roads_travel_and_parking/1830/travelwise_in_sandwell
[11] https://www.sandwell.gov.uk/resilientresidents
[12] https://www.sandwell.gov.uk/downloads/download/2500/sandwell_cycling_and_walking_infrastructure_plan
[13] https://www.sandwell.gov.uk/consumer-advice/air-quality
[14] https://www.healthysandwell.co.uk/
[15] https://www.healthysandwell.co.uk/active-travel/
[16] https://uk-air.defra.gov.uk/data/sca/

- Reporting repetitive bonfires[17] can help reduce air pollution and help prevent them from becoming a nuisance. Guidelines are also provided on how to help minimise the impact on neighbour's health and safety should you choose to burn any garden waste.
- Sandwell have partnered with GetComposting[18] to reduce methane and potential emissions from garden waste being burned, this website provides information about the importance of composting and offers discounts.
- If you are a resident who is concerned about air pollution you may be interested in joining Mums for Lungs[19]. This is a group who campaign for better air quality and it's not just for mums they have dads, grandparents and anyone with or without children join. Mums for Lungs are keen to hear from Sandwell residents who would be interested in finding out more about their work.
- Air quality and climate change are closely linked. Sandwell's Climate Change[20] website provides tips on how to take action to reduce the causes of climate change.
- Planting and preserving trees are important in improving air quality. Sandwell's Tree Preservation Orders and Urban Tree Policy[21] highlight the importance of trees and new tree planning. The Woodland Trust[22] is a woodland conservation charity, and they provide information on how to plant a tree and how to get involved with tree planting and other projects in Sandwell.
- Sandwell has committed to the Black Country Ultra Low Emission Vehicle Strategy[23], a programme committed to delivering a network of electric vehicle charging points and ULEV public service vehicles. Maps of planned on-street residential chargers are available to view and you can make suggestions for future locations.

[17] https://www.sandwell.gov.uk/info/200274/pollution/3188/report_a_bonfire_problem
[18] https://www.sandwell.gov.uk/info/200160/bins_and_recycling/2194/composting
[19] https://www.mumsforlungs.org/
[20] https://www.sandwell.gov.uk/info/200274/pollution/4402/climate_change_and_air_quality_in_sandwell
[21] https://www.sandwell.gov.uk/info/200248/parks_and_green_spaces/4916/trees
[22] https://www.woodlandtrust.org.uk/search/?q=sandwell
[23] http://www.blackcountrytransport.org.uk/projects/ultra-low-emission-vehicle-programme.html

- Sandwell's LitterWatch Eco Bus[24] is a project designed to educate children and adults about their local environment, air pollution, climate change and recycling. It is a free service available to all Sandwell schools and community groups.
- Switching to energy efficient bulbs and appliances, improving insulation, and replacing your boiler with a lower NO_x option can help reduce carbon emission and improve air quality. Find out if your eligible for support through the Boiler Upgrade Scheme[25].
- If you are interested in switching to renewable energy providers (who source energy from renewables such as wind, solar and water) then the Good With Money guide to the Top 5 UK Green Energy Suppliers in 2025[26] is a helpful place to start. This guide highlights companies that offer 100% renewable electricity and, in some cases, green gas. Which can help reduce your carbon footprint and support the transition to a cleaner energy system.
- Businesses that would like electric vehicle charge point installed can still take advantage of the Government's Workplace Charging Scheme (WGS). The WGS is a voucher-based scheme that provides a contribution towards the up-front costs of the purchase and installation of electric vehicle chargers. Employers can apply for vouchers using the Workplace Charging Scheme application[27].
- The walk and cycle Sandwell Facebook page[28] is for pedestrians and cyclists to discuss their experiences (good and bad) when travelling around the borough and to help the Council identify where improvements are possible.

[24] https://www.litterwatch.org.uk/
[25] https://www.gov.uk/apply-boiler-upgrade-scheme
[26] https://good-with-money.com/2025/06/05/top-5-green-energy-providers-in-2025/
[27] https://www.find-government-grants.service.gov.uk/grants/workplace-charging-scheme-2
[28] https://www.facebook.com/walkandcyclesandwell/

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1 Local Air Quality Management

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

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether 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 Sandwell Council to improve air quality and any progress that has been made.

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

2 Actions to Improve Air Quality

2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority should prepare an Air Quality Action Plan (AQAP) within 18 months. The AQAP should specify how air quality targets will be achieved and maintained and provide dates by which measures will be carried out.

A summary of the AQMA declared by Sandwell Council can be found in Table 2.1. The table presents a description of the AQMA that is currently designated within Sandwell Appendix D: Maps (s) of Monitoring Locations and AQMAs provides maps of the AQMA of the air quality monitoring locations within our boroughwide AQMA. The air quality objective pertinent to the current AQMA designation is as follows:

- NO_2 annual mean

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
Sandwell AQMA	Declared 2005	NO_2 Annual Mean	Boroughwide AQMA	YES	58.51	42.3*	3 years	Air Quality Action Plan Sandwell Council 2020-2025	https://www.sandwell.gov.uk/downloads/file/951/air-quality-action-plan-2020-2025

* (*Highest concentration of annual mean NO_2 concentration recorded in the borough by diffusion tube ref. C1D located on Grafton Road, West Bromwich. It should be noted that when the fall-off with distance calculation is applied this is reduced to 27.8µg/m^3*).

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

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

2.2 Progress and Impact of Measures to address Air Quality in Sandwell

Defra's appraisal of last year's ASR concluded that overall, the report was well structured, detailed, and provides the information specified in the Guidance. The following comments were provided by Defra in response to the report, Sandwell's response to these is provided in green font where appropriate.

1. In Table B.1, the bias adjustment factor is missing from the heading of the 'Annual Mean; Annualised and Bias Adjusted' column.

   The bias adjustment figure of 0.83 was added before uploading the report to Sandwell Council's website.

2. Section 3.1.2 states that there are 5 non-automatic monitoring sites. According to the results tables there are more so this needs to be checked and amended if applicable.

   The amendment was made to confirm that there are 119 non-automatic monitoring sites in Sandwell.

3. In Table A.2, some of the rows have 'Sandwell AQM' instead of 'Sandwell AQMA'. This should all match for completeness.

   The amendments were made to ensure that all rows referred to the 'Sandwell AQMA'.

4. This ASR has received sign off from the Director of Public Health. This is commended.

5. Reference to the Public Health Outcome Framework has been included, which is commended.

   This framework is an important tool for understanding the mortality burden attributable to fine particulate matter in Sandwell, compared with our neighbouring authorities and across England.

6. SMBC maintains a high standards of QA/QC procedures with sufficient supporting evidence and robust analysis shown in this submission.

   Sandwell Council will continue to undertake robust analysis of its data.

7. The Council has included many examples with extensive detail on how they are improving air quality in their jurisdiction. This is commended.

   Sandwell Council remains committed to improving local air quality and takes pride in implementing initiatives that contribute to cleaner air. The Council is dedicated to working collaboratively with local communities to raise awareness of harmful emission sources and to promote practical, achievable actions.

8. Clear trend graphs and maps of monitoring locations have been included in the submission, which is commended.

9. Overall, the Council should continue the good work and continue developing future ASRs.

Sandwell Council has taken forward several direct measures during the current reporting year of 2024 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2.

34 measures are included within Table 2.2, with the type of measure and the progress Sandwell Council have made during the reporting year of 2024 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 Sandwell's Air Quality Action Plan 2020-2025. It should however be recognised that since the plan's inception, several additional initiatives have been implemented, including the establishment of a boroughwide Smoke Control Area, the 'Faith Communities Behaviour Change' project, stakeholder engagement with the WMCA's through their Air Quality Framework, and the launch of our Auntie Duck Air Quality Education programme.

West Midlands Combined Authority (WMCA)

Finalised in 2022, the WMCA's Air Quality Framework[29] builds upon initiatives previously developed by the Sustainable Travel Team within Transport for West Midlands (TfWM), a key branch of the WMCA. Designed to accelerate air quality improvements, the

[29] West Midlands Combined Authority Air Quality Framework – Reference Document, November 2023- https://www.wmca.org.uk/documents/environment-energy/air-quality-framework-reference-document/

Framework complements the Air Quality Action Plans of the seven constituent local authorities.

To drive progress, the Framework has identified priority air quality measures, these are referred to as 'options' with delivery planned until the end of 2026. Recognising the need for a collaborative approach, Sandwell Council has been working closely with both the WMCA Environment Team and the University of Birmingham's WM-Air Team, who are supporting its implementation.

In March 2023, the WMCA also secured a £1 million Defra Air Quality Grant to help fund priority air quality measures across the region. Key benefits to Sandwell from this funding include:

- A behaviour research trial to determine how messaging should be framed to maximise compliance with Sandwell's newly established Smoke Control Area.
- Deployment of 13 air quality sensors to monitor pollutants such as NO_2 and $PM_{2.5}$. These sensors form part of a regional network of 90, with real-time air quality data provided via a dedicated web platform.
- Promotion and additional resources for the Auntie Duck Air Quality Education programme for adoption by all seven West Midlands local authorities.

Key Completed Measures

The following measures, identified in our ASR 2024 were completed in 2024.

Key completed measures are:

- Publication in July 2024 of Sandwell's evaluation report for the 'Faith communities for Clean Air'[30], a project funded via a Defra Air Quality Grant in 2021.
- The creation and launch of the 'Auntie Duck Children's Air Quality Education Programme', this centres around the 'Auntie Duck' air pollution storybook commissioned by Sandwell's Air Quality Team. The book is suitable for Key Stage 2 children, and a free digital copy is also available on-line. Printed copies of the book have been offered to every primary school in Sandwell, alongside 2 lesson plans

[30] https://www.sandwell.gov.uk/downloads/file/3105/faith-communities-for-clean-air-project-evaluation-july-2024

and associated learning activities that meet with PSHE national curriculum requirements.

- Completed participation in the government's 'Third Wave' NO_2 monitoring programme in July 2024. Overseen by the Joint Air Quality Unit (JAQU), this initiative required Sandwell Council to take measures to reduce excessive nitrogen dioxide (NO_2) levels along sections of the A257 in Oldbury and the A41 in West Bromwich. Following strategic traffic management adjustments and upgrades to the bus fleet, our air quality monitoring results in 2022 and 2023 demonstrated no exceedances enabling Sandwell Council to exit the programme.
- Ten primary schools enrolled on the ModeShift STARS active travel for schools' programme, which encourages children to walk, cycle and scooter to school.
- Thirteen primary schools have earned 'Green Level with Approved Travel Plan' status in the Modeshift STARS scheme, recognising their efforts to promote sustainable and active travel.
- Collaboration with the WMCA to enable the deployment of 13 air quality monitoring 'Zephyrs' in Sandwell in 2024, contributing to the broader West Midlands Clean Air website and data-sharing platform. With a total of 90 Zephyrs deployed across the West Midlands, this initiative is part of a larger effort to enhance public awareness of air pollution in the region.
- Successful piloting of the Wednesbury Walking and Cycling map, and the subsequent production and distribution of the Smethwick Walking and Cycling map.
- Provision of air quality information on the 'Black Country 0-18 Healthier Together' website, in collaboration with the NHS Black Country ICB Asthma Transformation Team. This now provides information on air pollution, its health impacts, and ways to reduce exposure. Designed for parents, carers, and health professionals, it also offers translation options for accessibility.
- In collaboration with the Canal and River Trust, the council has installed signage at nine boundary crossing points along Sandwell's canals to inform boaters that they are entering a Smoke Control Area. These signs remind boaters and raise awareness of the SCA, to help encourage compliance with air quality regulations and help protect local air quality.

- Delivery of Sandwell's 2024/2025 Bikeability programme, funded by a Department for Transport grant. This programme provides schoolchildren with the life skills of being able to cycle confidently and competently on the roads. 'Bike Right', on behalf of Sandwell Council, delivered the following cycling course places:
  - ✓ 2435 level 1 & 2 combined
  - ✓ 148 level 3
  - ✓ 30 balance
  - ✓ 322 learn to ride (Bikeability Plus Modules).
- The annual review of Sandwell's licensed private vehicle fleet was conducted to identify trends in fuel profiles since 2019. (N.B. 2020 data was incomplete and therefore not included.)

Figure 2.1 – Trends in Private Hire Vehicles Licensed in Sandwell by Fuel Type (2019 – 2024)

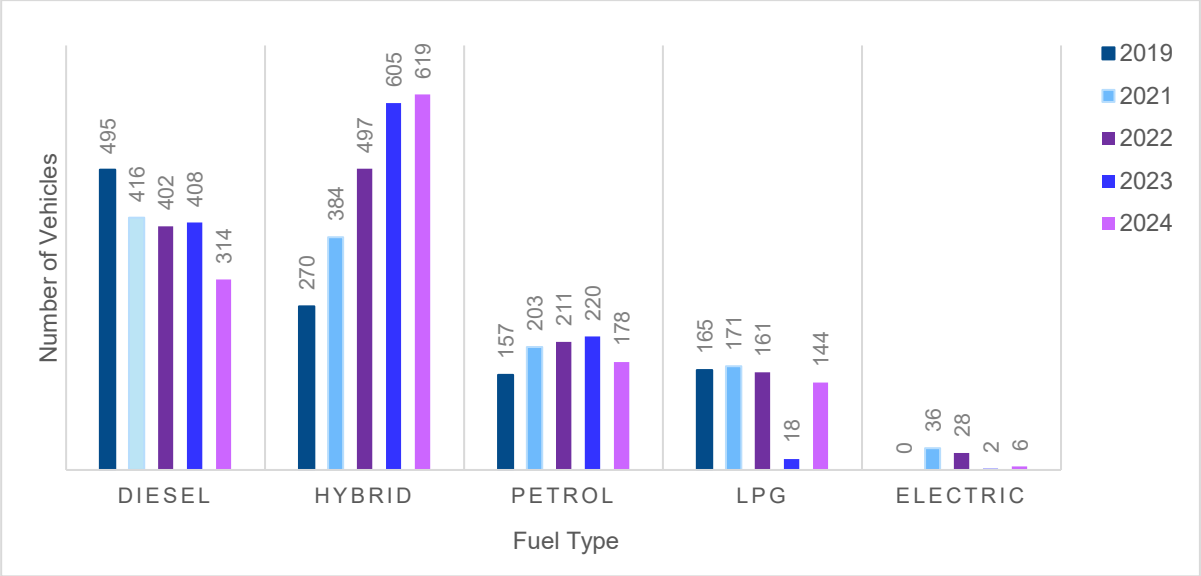

Figure 2.1 highlights a substantial shift towards hybrid taxis, increasing from 270 vehicles in 2019 to 619 in 2024 — a 129 percent rise. Meanwhile, the number of licensed diesel taxis has declined by 37, dropping from 495 to 314. LPG vehicle registrations have decreased by 13%, while petrol vehicle licences have risen by the same margin. Sandwell has issued only six licences for fully electric taxis. Installation of 10 EV charging points at Sandwell's Vehicle Depot at Roway Lane.

- Deployment of NO_2 monitoring diffusion tubes, on behalf of National Highways, at five sites close to the elevated section of the M5 between J1 and J2. This monitoring was undertaken to assess the impact on local air quality of the 60mph

speed restriction which has been in place on this elevated section of motorway since 2021.

Measures to be completed in 2025

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

- Publication of Sandwell's new Air Quality Action Plan 2025-2030 that identifies air quality priorities and associated measures based on a robust evidence base and is practical, cost-effective, measurable, and targeted.
- The Auntie Duck programme will be introduced into at least 20 more primary schools in the borough. Working with teams across the Council including our Road Safety and Public Health as well as our partners in the NHS, this programme will continue to be a collaborative initiative. The programme complements existing work that the Council and others are already doing in our schools.
- Further investment from Sandwell Council to support and increase the uptake of the Auntie Duck Air Quality programme. Plans include the creation of dedicated Auntie Duck web page on the Council's website and the commissioning of a wearable Auntie Duck mascot costume. The costume will be a powerful tool in enhancing engagement with the subject of air pollution and can be taken into a wide range of settings such as schools, hospitals, libraries, supermarkets, health centres, faith centres and youth groups.
- Partnering with the WMCA as part of the Schools Task and Finish Group, the intention is to extend the reach of the Auntie Duck Programme to all primary schools across the seven West Midlands local authorities. Supported by funding from the Defra Air Quality Grant awarded to the WMCA in 2023. Schools will be provided with a 'Brand Resource Pack' that provides consistent and recognisable messaging, and a printed copy of the book as well as teaching resources aligned with the national curriculum.
- Ten more schools to achieve the ModeShift Stars 'Green – Approved Travel Plan' status.
- Conduction of compliance checks at retail outlets, to verify that wood and manufactured solid fuels meet the 'Ready to Burn' certification standards and retailers sell solid fuels in compliance with the Air Quality (Domestic Solid Fuel

Standards) (England) Regulations 2020 and other consumer protection legislation. Ensuring that consumers only purchase authorised fuels, which are stored and labelled correctly and are suitable for the appliance or fireplace that they are using, to reducing the likelihood of SCA rule breaches.

- Provision of an information leaflet/guide for businesses operating biomass and solid fuel stoves within Sandwell, so that they understand how to comply with the rules and prevent emissions from the burning of unsuitable and potentially harmful smoky fuels.
- Supporting the publishing of four more 'Walking and Cycling Maps' for the towns of Rowley Regis/Cradley Heath, Oldbury, Tipton and West Bromwich following the positive response to the Wednesbury and Smethwick maps. This is to be funded by a TfWM sustainable travel grant.
- Delivery of Sandwell's 2025/2026 Bikeability programme, funded by a Department for Transport grant. The aim will be to provide 3804 Level 1 & 2 combined places, 316 level 3 places, 224 balance places and 724 learn to ride places. Special Educational Needs and Disabilities (SEND) training will also be provided through an additional funding grant of £13237.
- Sandwell's new Local Plan (to be in place till 2041) will be adopted. This local plan updates Sandwell's focus on air quality focused on reducing pollution sources, limiting exposure to pollution, and encouraging active and sustainable transportation.
- Phase 1 of the West Midlands Metro extension is set to be finished in autumn 2025, extending the tram line from Wednesbury to Dudley town centre. This will provide a faster, more convenient public transport alternative and establishes a direct connection to the main Metro line, enabling passengers onward travel to the cities of Wolverhampton or Birmingham.

Priorities for 2025

Sandwell Council's priorities for the coming year are as follows:

- Publication of a new Air Quality Action Plan 2025-2030 that identifies priorities to tackle air quality issues and reduce emissions over the next five years.
- Focus on reducing domestic burning in the borough through education-led enforcement of the Boroughwide Smoke Control Area. Information will continue to

be shared via social media, advertisements, and leaflets, specifically designed for residents, canal boaters, and businesses affected by the new regulations.

- Working with local communities to develop resources and focused interventions that are most likely to encourage positive behaviour change, such as ‘Auntie Duck’, and sharing the town-based walking and cycling maps.

- To build on the success of the Ferndale ‘School Street’ pilot, to create school streets across Sandwell. School streets restrict vehicle access on the road/s directly outside a school during drop-off and pick-up times. At Ferndale the initiative was found to significantly reduce complaints about parking and obstruction and it improved pedestrian access to footpaths, ultimately creating a safer and cleaner environment for children. The council have now been granted powers by the Department for Transport to enforce moving traffic contraventions which includes School Streets, using cameras. With this authority, the council can issue Penalty Charge Notices to those who violate these regulations. The plan is that cameras will be deployed outside schools that have initially been approved by the Department for Transport, but with the versatility once compliance is being achieved to relocate them to other school streets as required.
- Maintaining productive working relationships with key partners, including the NHS, WMCA, National Highways, community groups, charitable organisations and our other neighbouring local authorities within the West Midlands.
- Promoting active travel including walking and cycling and the use of sustainable transport. Prioritising our engagement with schools and proactively encouraging and supporting the uptake of school active travel programs, specifically Modeshift STARS and Living Streets.
- Maintaining Sandwell’s air quality monitoring network, which includes four Zephyr air quality monitors, 119 passive NO2 diffusion tube sites, and five continuous monitoring stations. This network allows the identification of pollution hotspots, track long-term trends, and implement targeted measures to improve local air quality more effectively.
- Regulating emissions from commercial and industrial sources through the environmental permitting process to ensure legal compliance as well as identification and oversight of new emission sources. In 2024, additional staff

resources were allocated to strengthen these efforts and support ongoing improvements in air quality.

- Regulating emissions from commercial and industrial sources through the environmental permitting process to ensure compliance, as well as the identification of new emission sources and ensuring compliance. In 2024 additional staff resources were provided, to support this work and improve local air quality.
- Providing constructive and practical consultations on planning development proposals to mitigate against harm to local air quality.
- To work as one Council in response to the climate change crisis and to identify and capitalise on the synergies between carbon reduction and improved air quality, to maximise the potential benefits for our communities.
- Play an active role within the West Midlands Environmental Protection Group and use this as a platform for sharing knowledge and best practice with neighbouring local authorities.
- Implement the air quality priorities identified within Sandwell's new Local Plan in development planning responses, to ensure that the promotion and integration of cycling, walking, public transport, and the protection of green spaces. Supporting energy efficiency developments and the use of zero or low-emission sustainable technologies.
- Support and encourage innovative research and where possible adopt best practice to maximise our opportunities to improve local air quality.

Sandwell Council worked to implement these measures in partnership with the following stakeholders during 2024:

- AECOM
- Air Quality Data Management (AQDM)
- Asthma + Lung UK
- Balaji Temple, Oldbury
- British Cycling
- British Triathlon
- Canal and River Trust

- Department for Environment Food and Rural Affairs – Joint Air Quality Unit (JAQU)
- EarthSense
- Guru Nanak Gurdwara, Smethwick
- Horiba Ltd
- Jamia Masjid, Smethwick
- Living Streets
- ModeShift Stars
- National Highways
- NHS Black Country Integrated Care Board – Children and Young People with Asthma Transformation Team
- Office of Zero Emissions
- Pindar Creative
- St Francis of Assis Church, Wednesbury
- University of Birmingham
- Wesley Centre, Wednesbury
- West Midlands Combined Authority (WMCA)
- West Midlands (Neighbouring) Local Authorities – Birmingham, Coventry, Dudley, Solihull, Walsall and Wolverhampton.
- Yemeni Community Association, West Bromwich

The principal challenges and barriers to implementation of measures that Sandwell Council anticipates facing are:

- economic and social pressures to permit residential developments in areas that are unlikely to meet the government's 2040 $PM_{2.5}$ exposure reduction targets
- difficulty in finding finance to undertake innovative air quality measures following the scrappage of the Defra Air Quality Grant scheme
- Significant dependence on third-party organisations, including schools, hospitals, and charities, to implement and carry out air quality initiatives—relying on their time, resources, and goodwill to support these efforts.

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

- Phase 2 of the West Midlands Metro extension from Dudley town centre to Brierley Hill has been delayed due to funding not having been secured. The timescale for this remains unknown.

Whilst the measures stated above and in Table 2.2 will help to contribute towards continued compliance, Sandwell Council anticipates that further additional measures not yet prescribed may be required in subsequent years to maintain compliance and enable the revocation of Sandwell's AQMA.

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	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	Promotion of active and sustainable travel in schools, workplaces and other organisations	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2020	2040	Sandwell Public Health, TfWM, Living Streets, British Triathlon, British Cycling	Sandwell Council	Not Funded	< £10k	Implementation	Reduced tail pipe emissions from cars (NO_2 & PM)	Number of schools with a travel plan and/or members of Modeshift STARS. Number of schools participating in the Living Streets WOW programme. Number of workplaces with travel plans	28 schools participating in the Living Streets WOW programme. 13 schools with Modeshift STARS 'Green' status approved Travel Plans.	Modeshift STARS funding for workplaces has been withdrawn by Transport for West Midlands so other programmes such as the Living Streets Workplace Challenge will be used to sustain this work.
2	Education and enforcement of Sandwell's new borough-wide Smoke Control Order	Public Information	Other	N/A (additional initiative in 2021)	2027	Sandwell Council Public Health and Environmental Health, West Midlands Combined Authority (WMCA)	Sandwell Council and Defra SCA Grant and Air Quality Grant (via WMCA)	Partially Funded	£10k - 50k	Implementation	Reduced emissions of $PM_{2.5}$ due to burning smokeless fuels, more efficient burning as well as discouraging the installation of new solid fuel burning stoves and use of open fireplaces.	Evaluation questionnaire as part of the behaviour research trial with WMCA	Behaviour research project completed March 2024. Publicity material produced in December 2024 for distribution both on social media, website and in correspondence. Focus in 2025 on retailer and sale of solid fuels and campaign on discouraging new purchases of wood burning stoves.	Education and enforcement officer employed September 2024 to support this work.
3.	Promotion and distribution of the 'Auntie Duck' air quality education programme in schools and other child-focused settings	Public Information	Via other mechanisms	N/A (additional initiative, in 2023)	2040	Sandwell Council	Sandwell Council	Not Funded	<£10k	Implementation	Behaviour change resulting in reduced NO_2 and PM emissions (<0.1%)	Auntie Duck storybook was formally launched on Clean Air Day (20/06/2024) follow up evaluation surveys and questionnaires being completed	25% of primary schools in Sandwell have received the book and resources. WMCA investing in the programme in 2025 to enable the regional distribution of the programme. The story has also been shared in libraries and at Sandwell General Hospital.	Adoption of the programme by WMCA will bring further benefits including increasing brand character awareness and uptake in primary schools. Supports consistency in AQ teaching in primary schools.
4	School Streets Pilot Project	Traffic Management	Re-prioritising road space away from cars through access management and selective vehicle priority	N/A (additional measure introduced June 2023)	December 2024	Sandwell Council	Sandwell Council	Not funded	<£10k	Completed	Behaviour change resulting in reduced NO_2 and PM emissions (<0.1%)	Pedestrian counts and air quality monitoring data	Pedestrian counts similar, but overall pedestrian safety greatly improved and deemed successful.	The council is in the process of purchasing enforcement cameras that can be used to enforce 'School Streets' with potential to issue Penalty Charge Notices.

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5	Project working with Faith Centres across Sandwell to reduce local air pollution by encouraging behavioural change	Public Information	Other	2020	Completed 2024	Sandwell Council	Defra and Sandwell Council	Funded via Defra Air Quality Grant	£100k - £500k	Completed	Reduced emissions of NO_2 and PM amongst those participating due to behaviour change (<0.1%)	Behavioural change assessed through questionnaires at beginning and end of project	Project completed. Stil maintaining links with faith communities including sharing quarterly newsletters	Evaluation report published July 2024 available at www.sandwell.gov.uk/consumer-advice/air-quality
6	Online platform showing real-time air pollution from air quality sensors	Public Information	Via the Internet	2020	Completed 2024	Sandwell Council	Sandwell Council	Funded via Defra Air Quality Grant	<£10k	Completed	Reduced emissions of NO_2 and PM ($_{10/2.5}$) due to increased awareness of sources of air pollution and behaviour change. (<0.1%)	Assessment of engagement through questionnaires – results provided in Faith Centre Project evaluation www.sandwell.gov.uk/consumer-advice/air-quality	Funding for the online platform has now ceased so the site is no longer operational	13 'Zephyrs' from the WMCA's air quality grant were installed in Sandwell as part of the West Midlands Air Quality website and data platform. The West Midlands regional sensor network is now live, and can be accessed at: www.cleanair.wmca.org.uk
	West Midlands Air Quality Framework	Policy Guidance and Development Control	Regional Groups Co-ordinating programmes to develop area wide strategies to reduce emissions and improve air quality	2020	2029	West Midlands Combined Authority, Sandwell, Wolverhampton, Walsall, Dudley, Solihull, Coventry and Birmingham.	Defra Air Quality Grant via WMCA	Funded	£500k - £1 million	Implementation	Reduce air pollution via wide-ranging interventions and monitoring to achieve annual reductions across the region	Production of wide range of regionally agreed policies and tools for all West Midlands local authorities	Action plan for delivery now in implementation. Information available at www.wmca.org.uk	Sandwell are participating in a range of thematic task and finish groups to support regional, co-ordinated action.
7	Quarterly Air Quality Newsletter	Public Information	Internet and Other	N/A Introduced in 2022	2040	Sandwell Council	Sandwell Council	Not Funded	<£10k	Implementation				
8	Smethwick Walking and Cycling Map	Promoting travel Alternatives	Other	2020	2024	Sandwell Council	Sandwell Council	Not Funded	<£10k	Completed	Reduced NO_2 and PM tailpipe emissions due to behaviour change (<0.1%)	Uptake of the map – copies distributed and views on-line.	Smethwick cycling and walking map can be viewed on-line at Sandwell.gov.uk.	Paper copies of the Smethwick map can be provided by contacting Pollution_Control@sandwell.gov.uk . Due to funding restrictions no further walking or cycling maps are to be commissioned.

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9	Maintain up-to-date information, advice and guidance on Sandwell Council's website pages relating to air quality	Public Information	Via the Internet	2020	2040	Sandwell Council	Sandwell Council	Not Funded	< £10k	Implementation	Reduce emissions from domestic burning and private vehicles via education on causes of air pollution, protection and how to reduce it. (<0.1%)	Number of webpage views	Council website is frequently updated to include relevant and helpful air quality information	Info on Sandwell's Air Quality can be found at https://www.sandwell.gov.uk/consumer-advice/air-quality
10	Consult on new planning applications for impact on local air quality	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2010	2040	Sandwell Council	Sandwell Council	Not Funded	< £10k	Implementation	Reduced emissions of NO_2 and PM by preventing or mitigating against developments that have significant potential to increase air pollution concentrations (<0.1%)	Number of consultations responded to	Consultations continue to be provided to development planning with reference to changes in air quality legislation, policy, and guidance	The Local Development Plan is expected to be in place by the end of 2025 and will be referred to in all pre-planning application submissions for AQ comments/advice.
11	Provide air quality guidance to land/property developers prior to planning application submission	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2016	2040	Sandwell Council	Sandwell Council	Not Funded	< £10k	Implementation	Reduced emissions of NO_2 and PM ($_{10/2.5}$) by preventing or mitigating against developments with potential to increase air pollution concentrations (<0.1%)	Number of consultations provided	Consultations continue to be provided to planning with reference to changes in air quality legislation, policy and guidance	The Local Development Plan is expected to be in place by the end of 2025 and will be referred to in all pre-planning application submissions for AQ comments/advice.
12	Black Country - ULEV Strategy - provision of electric charging infrastructure across Sandwell and other black country local authorities	Promoting Low Emission Transport	Other	2020	2035	Sandwell Council and Black Country Authorities	Sandwell Council and Black Country Local Authorities	Partially funded	£1 million - £10 million	Implementation	By 2025 - Transport emissions reduction of 10% for NOx, and 35% for PM	Increase of Sandwell's Vehicle Parc to 4%, 90% of population within 5 minutes' drive of a rapid charger	Strategy was adopted by Sandwell Council Cabinet September 2021	Central government change in policy has extended the sale of diesel and petrol vehicles till 2035 which has slowed interest and reduced pace/urgency in this work.
13	Bikeability - provision of bicycle skills /road safety teaching with primary school aged children	Promoting Travel Alternatives	Promotion of cycling	2020	2026	Sandwell Council and Bike Right	Department for Transport Bikeability Grant	Funded	£100k - £500k	Implementation	Reduces tailpipe emissions as encourages cycling as an alternative method of getting to school (<0.1%)	Number of children participating	In financial year 2024/25 Sandwell Council (through Bike Right) delivered 2435 Level 1 & 2 combined places 148 level 3 places. 30 Balance and 322 Learn to ride places 'Bike Right' have been contracted to deliver Bikeability in 2024-2026	Funding is supported by DfT so not guaranteed to continue beyond 2026

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14	'Third wave' Air Quality Strategy intervention to reduce NO_2 concentrations on A41 and A457	Traffic Management	Public transport improvements-interchanges stations and services	2018	2024	Sandwell Council, DEFRA	DEFRA	Fully Funded	£50k - £100k	Completed	Reducing emissions - site specific targets to achieve annual mean <40µgm/m^3	NO_2 Diffusion tube data demonstrating annual mean <40µgm/m3	Exited the programme in October 2024 following confirmation of compliance by the Joint Air Quality Unit (JAQU)	
15	Midland Metro Extension (Phase 1 - Wednesbury to Dudley Town Centre and Phase 2 – Dudley Town Centre to Brierley Hill)	Transport Planning and Infrastructure	Public transport improvements-interchanges stations and services	2017	2027	Sandwell Council WMCA	WMCA, Black Country LEP and HS2 Connectivity	Funded	> £10 million	Implementation	Reduction in tailpipe emissions as people use tram instead of private vehicles (<0.1%)	Numbers of people using the new metro line	Work is in progress - can be tracked at www.metroalliance.co.uk/projects/wednesbury-to-brierley-hill-extension/	Incurred further delays - should have been completed in 2023. Potential funding for tram to be extended into Brierly Hill town centre as phase 2. Date for completion not yet known.
16	Major highway improvement at Birchley Island (Junction 2, M5)	Traffic Management	Other	2020	November 2027	Sandwell Council, WMCA	Sandwell Council, Department of Transport	Funded	> £10 million	Planning	Reduction in tailpipe emissions due to reduced traffic congestion (~1%)	Reduction in tailpipe emissions from vehicles queuing	Progress on this project has been severely delayed.	Dedicated cycle lanes and pedestrian routes to be included. More information www.regeneratingsandwell.co.uk/sandwell_projects
17	Partnership working with NHS (ICB) Children and Young People with Asthma Transformation Team	Public Information	Via other mechanisms	2022	2026	Sandwell Council, NHS Black Country (ICB)	Sandwell Council	Not Funded	< £10k	Implementation	Behaviour change resulting in lower tail pipe emissions and domestic burning (<0.1%)	Number of people engaged with, including patients, NHS staff, schools etc.	Ongoing work stream - includes production and distribution of leaflets, webinars, joint engagement events, providing information and resources for the NHS Black Country 'Healthier Together' website	Funding for the BC Asthma Transformation team may be cut due to the abolition of NHS England. Will need to investigate other NHS partnerships if this is lost.
18	Continuing upgrade of Sandwell's vehicle fleet to zero or low-emission vehicles	Promoting Low Emission Transport	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	2018	2030	Sandwell Council, SERCO	Sandwell Council	Not Funded	£500k - £1 million	Implementation	Reduced tailpipe emissions of NO_2 and $PM_{2.5}$ (<0.1%)	Reduction in tail pipe emissions from Sandwell's own vehicle fleet including refuse collection lorries.	Currently 3% of Sandwell Council's fleet are electric vehicles.	Fleet review has been placed on the Council's list of ten corporate Transformation Projects. Phase 1 is to review Fleet efficiency with the aim to reduce cost/size. Phase 2 will be an options appraisal to transition the efficient Fleet to ZEV. Currently in f phase 1.

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19	OZEZ provision of on street electric vehicle charging points	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2023	2027	Sandwell Council, Black Country Transport	Office for Zero Emissions	Partially Funded	£100k - £500k	Implementation	Reduced tailpipe emissions of NO_2 and $PM_{2.5}$ (<0.1%)	Number of vehicles using the chargers	25 single on-street charging points installed (50 chargers)	140 charge points (approx. 250 sockets to be installed by March 2027)
20	Air Quality priorities to be incorporated in the Local Development Plan to create healthy urban communities.	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2020	End of 2025	Sandwell Council	Sandwell Council	Not Funded	< £10k	Implementation	Opportunities to improve air quality or mitigate impact through traffic and travel management, and green infrastructure provision. Reduced emissions of NO2 and PM ($_{10}$/$_{2.5}$) due to sources of air pollution and behaviour change. (~1%)	Annual average NO2 value reductions	Public consultation complete. In process of being finalised for publication	The Local Development Plan is expected to be in place by the end of 2025
21	Promotion of walking	Promoting Travel Alternatives	Promotion of walking	2010	2030	Sandwell Council	Sandwell Council	Funded	£50k - £100k	Implementation	Reduced tailpipe emissions of NO_2 and $PM_{2.5}$ (<0.1%)	Increase in walking for key journeys, Sandwell Travel Surveys. Downloading of the Go Jauntly App.	On-going. Sandwell's walking strategy published in 2015. Go Jauntly App approved for a further 3 years (from April 2024)	Sandwell website links directly to www.gojauntly.com/sandwell . Active Travel Officer in post from December 2022
22	Blackheath Town Centre Active Travel Interventions	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2020	2023	Sandwell Council, Transport for West Midlands	Department for Transport Active Travel Fund	Funded	£100k - £500k	Completed	Reduced tailpipe emissions of NO_2 and PM2.5 (<0.1%)	Use of cycle lanes, cycle parking, increased footfall in town centre	Upgrade of pedestrian crossings, traffic calming, new cycle route linking to existing cycle route on Archer Way, cycle parking, widened footpaths, and de-cluttering of footpaths.	
23	Wednesbury Town Centre Active Travel Interventions	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2020	2023	Sandwell Council	Department for Transport Active Travel Fund	Funded	£100k - £500k	Completed	Reduced tailpipe emissions of NO_2 and PM2.5 (<0.1%)	Use of cycle lanes, cycle parking, increased footfall in town centre	Cycling allowed on Union St, two-way cycle path, restriction of traffic on Victoria Street to make it safer to walk and cycle between the town and Great Western tram stop and sheltered bicycle parking	

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24	Bearwood High Street Active Travel Interventions	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2020	2024	Sandwell Council	Department for Transport Active Travel Fund	Funded	£100k - £500k	Planning	Reduced tailpipe emissions of NO_2 and $PM_{2.5}$ (<0.1%)	Use of cycle lanes, cycle parking, increased footfall in town centre	New pedestrian crossings and improvement of existing footways. Provision of a new two-way protected cycle route linking Bearwood Road at the junction with Linder Road to Hadley Stadium	
25	A4123 New Segregated Cycle Lane	Transport Planning and Infrastructure	Intensive active travel campaign & infrastructure	2020	2023	Sandwell Council	Department for Transport Active Travel Fund	Funded	£100k - £500k	Implementation	Reduced tailpipe emissions of NO_2 and $PM_{2.5}$ (<0.1%)	Number of cyclists using the route	Protected cycle path between Burnt Tree and Tipton Road junctions, with excellent connectivity to the future Metro stop	There is ambition for future extensions to this route to the Wolverhampton Ring Road in the North and the Hagley Road (linking to Birmingham) in the South
26	TRA1 – West Bromwich Connected Create cycle schemes to connect Europa Avenue and West Bromwich town centre	Transport Planning and Infrastructure	Intensive active travel campaign & infrastructure	2020	2026	Sandwell Council	Towns Fund	Funded	>£1 million	Implementation	Reduced tailpipe emissions of NO_2 and $PM_{2.5}$ (~1%)	Number of cyclists using the routes	Birmingham Canal to West Bromwich town centre (Route 1) and Hill Top to Walsall Canal and Eagle Lane (Route 14) Works due to be completed by March 2026	More information provided in the Sandwell Infrastructure Delivery Plan
27	TRA2 – Rowley Regis Connected Create Active travel infrastructure to link bus and rail services to employment hubs in Blackheath, Cradley Heath and Oldbury	Transport Planning and Infrastructure	Intensive active travel campaign & infrastructure	2020	2026	Sandwell Council	Towns Fund	Funded	>£1 million	Implementation	Reduced tailpipe emissions of NO_2 and $PM_{2.5}$ (~1%)	Number of users of cycle and footpaths	Comprising new footways and 2km of segregated cycleways as well as footway resurfacing and widening, traffic calming, improved lighting and signage, and traffic calming measures	More information provided in the Sandwell Infrastructure Delivery Plan
28	TRA3 - Smethwick Connected Create cycle and pedestrian links from two railway stations to the town centre and hospital	Transport Planning and Infrastructure	Intensive active travel campaign & infrastructure	2021	2026	Sandwell Council	Towns Fund	Funded	£50k - £100k	Implementation	Reduced tailpipe emissions of NO_2 and $PM_{2.5}$ (<0.1%)	Number of users of the cycling and walking routes	3.6km of new pedestrian paths, 2.7km of new cycleways, 2.7km of resurfaced / improved road up to March 2026 increase walking and cycling along the A457 reduce congestion, poor air quality and health inequalities	The Midland Met University Hospital opened in October 2024. This provides an important active travel route for staff and visitors. More information provided in the Sandwell Infrastructure Delivery Plan

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29	Provision and maintenance of accessible information regarding sustainable transport options	Promoting Travel Alternatives	Personalised Travel Planning	2010	2040	Sandwell Council, Transport for West Midlands	Sandwell Council, WMCA	Partially Funded	£10k - 50k	Implementation	Reduced tailpipe emissions of NO_2 and $PM_{2.5}$ (~1%)	Increased public transport patronage	On-going promotion of public transport options remains available and up to date https://www.sandwell.gov.uk/publictransport	
30	Bus lane enforcement (cameras introduced on three bus lanes) Hagley Road West, Walsall Road and New Street	Traffic Management	Strategic highway improvements, Re-prioritising road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	2019	2032	Sandwell Council, Nation Express West Midlands, Transport for West Midlands	Sandwell Council	Funded	£500k - £1 million	Completed	Reduction in bus idling waiting to pull out, stuck in traffic (~1%)	Increased public transport patronage	Completed - enforcement cameras in use	Improvement in bus service timetabling reliability, encourages alternative to private vehicles.
31	Promotion of cycling	Promoting Travel Alternatives	Promotion of cycling	2010	2030	Sandwell Council	Sandwell Council, Transport for West Midlands	Funded	£50k - £100k	Implementation	Reduced tailpipe emissions of NO_2 and $PM_{2.5}$ (<0.1%)	Increased uptake of cycling as alternative to car. Sandwell Travel Surveys and uptake of learn to ride and led ride sessions.	Local Cycling and Walking Infrastructure Plan (LCWIP) approved in 2019, and Active Travel Fund provided. Public Health appointment of a British Cycling - Cycling Activator (early 2022) and Active Travel Officer (late 2022)	Both the Cycling Activator and Active Travel Officer posts are temporary so future funding uncertain.
32	Options appraisal of introducing a taxi/private hire vehicle emissions policy	Promoting Low Emission Transport	Taxi Licensing conditions	2023	2026	Sandwell Council	Sandwell Council	Not funded	< £10k	Planning	Reduced tailpipe emissions of NO_2 and $PM_{2.5}$ (<0.1%)	Vehicles only licensed that meet minimum emissions standard	In very early stages, will be an extensive process involved to bring about any new policy, including consultation with the public and taxi drivers.	
33	Use of s.106 funds to model impact on air quality of a 40 to 30mph speed reduction on All Saints Way, West Bromwich	Traffic Management	Reduction of speed limits, 20mph zones	2023	2024	Sandwell Council	Sandwell Council	Funded	£10k - 50k	Completed	A reduction of annual mean roadside NO_2 concentrations between 0.1 and 1.6 $\mu g/m^3$ could be achieved by 2027 if speed reduction was implemented.	Monitored levels of NO_2 along All Saints Way	Decision made not to implement. But traffic data obtained is to be utilised in Sandwell's 2025-2030 Quality Action Plan	Copy of the report is available at https://www.sandwell.gov.uk/downloads/file/2595/all-saints-way-a4031-modelled-impact-of-speed-reduction-on-air-quality

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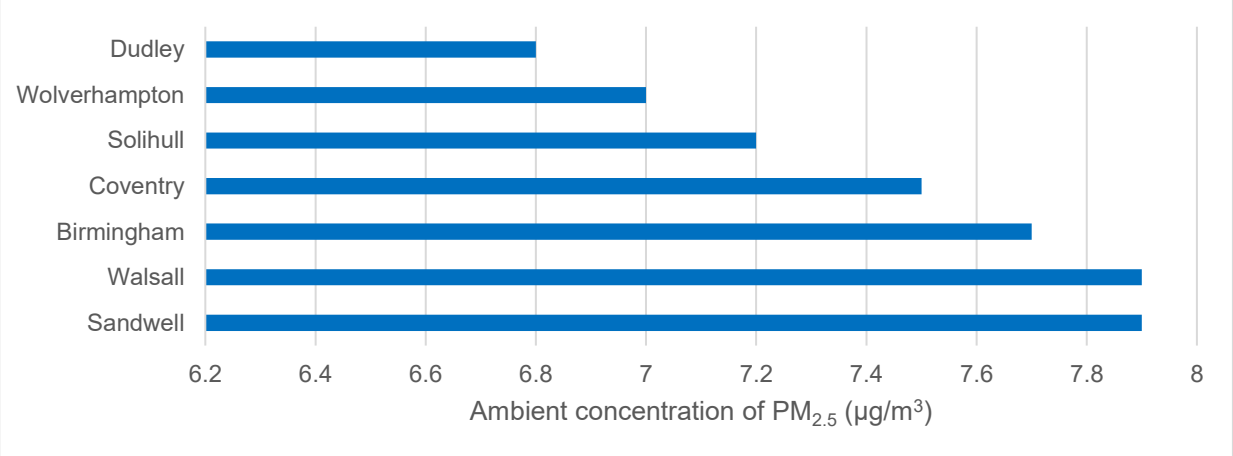
34.	A health-centred Systems Approach towards Net-Zero: Transforming regional climate mitigation policies (WM-NZ)	Policy Guidance and Development Control	Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduce emissions and improve air quality	2023	2026	Wellcome trust, University of Birmingham, Birmingham City Council, Dudley Council, CERC, WMCA, Sandwell Council, Coventry CC, DEFRA, University of Surrey, Solihull MBC, WSP, UK100, University of York, Clean Air Fund	Wellcome Trust	Funded	>£1 million	Planning	Reduction in NO_2 and $PM_{2.5}$ from behaviour change, including energy efficiency, reduced tail pipe emissions and active travel	Project outcomes and in-built KPIs	Project launched in October 2023. Work is ongoing.	More information available at https://research.birmingham.ac.uk/en/projects/a-health-centred-systems-approach-towards-net-zero-transforming-r

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[31], 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.

A comparison of Sandwell's annual concentrations of $PM_{2.5}$ (fine particulate matter) with the other West Midlands local authorities is provided in **Figure 2.3**. The data for this indicator[32] has been adjusted to account for population exposure and includes all ambient $PM_{2.5}$ not just the anthropogenic component. This demonstrates that Sandwell, along with Walsall had the highest concentrations of $PM_{2.5}$ in the West Midlands in 2023 (most recent data available).

Figure 2.3 Annual fine particulate matter ($PM_{2.5}$) concentrations across the West Midlands local authorities



The high concentrations of $PM_{2.5}$ in Sandwell are a serious public health concern, indeed $PM_{2.5}$ concentrations are a key indicator for mortality, hence their inclusion in the Public

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

[32] Department of Health and Social Care: https://fingertips.phe.org.uk/search/concentration

Health Outcomes Framework[33] and there is no safe level of exposure. This health burden indicator calculates the impact that long-term exposure to particulate air pollution, at current levels, has on our mortality. It is expressed as the percentage of annual deaths from all causes among individuals aged thirty and older.

In Sandwell (most recent data provided is 2023) the fraction of mortality attributable to particulate ($PM_{2.5}$) air pollution was 5.9% (the same as Walsall) and marginally higher than Birmingham which was 5.8%. The average across the West Midlands was 5.5%, with Dudley having the lowest mortality at 5.1%, as shown in **Figure 2.4**.

Figure 2.4 – Comparison of the Fraction of Mortality Attributable to $PM_{2.5}$ Air Pollution within the West Midlands Local Authorities (2023)

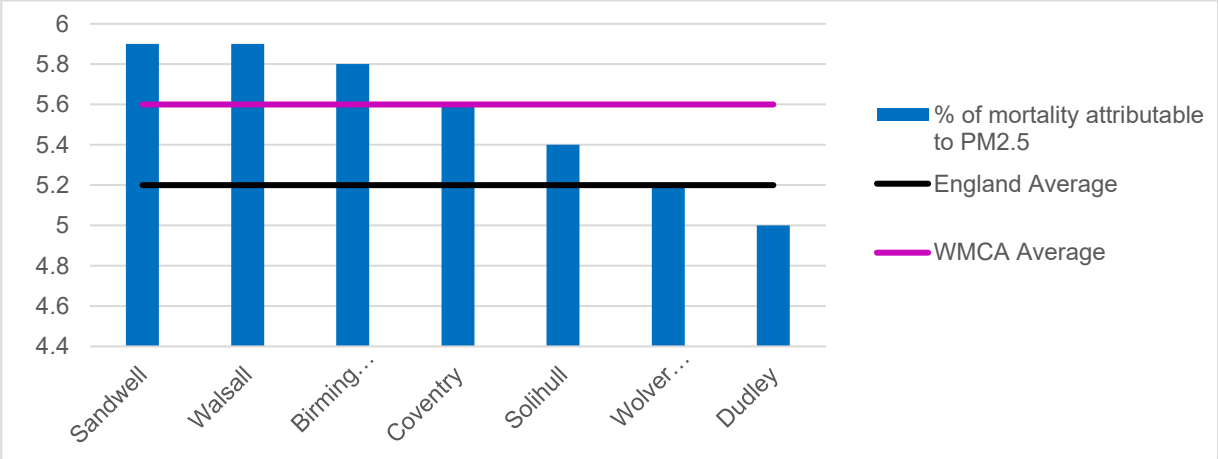
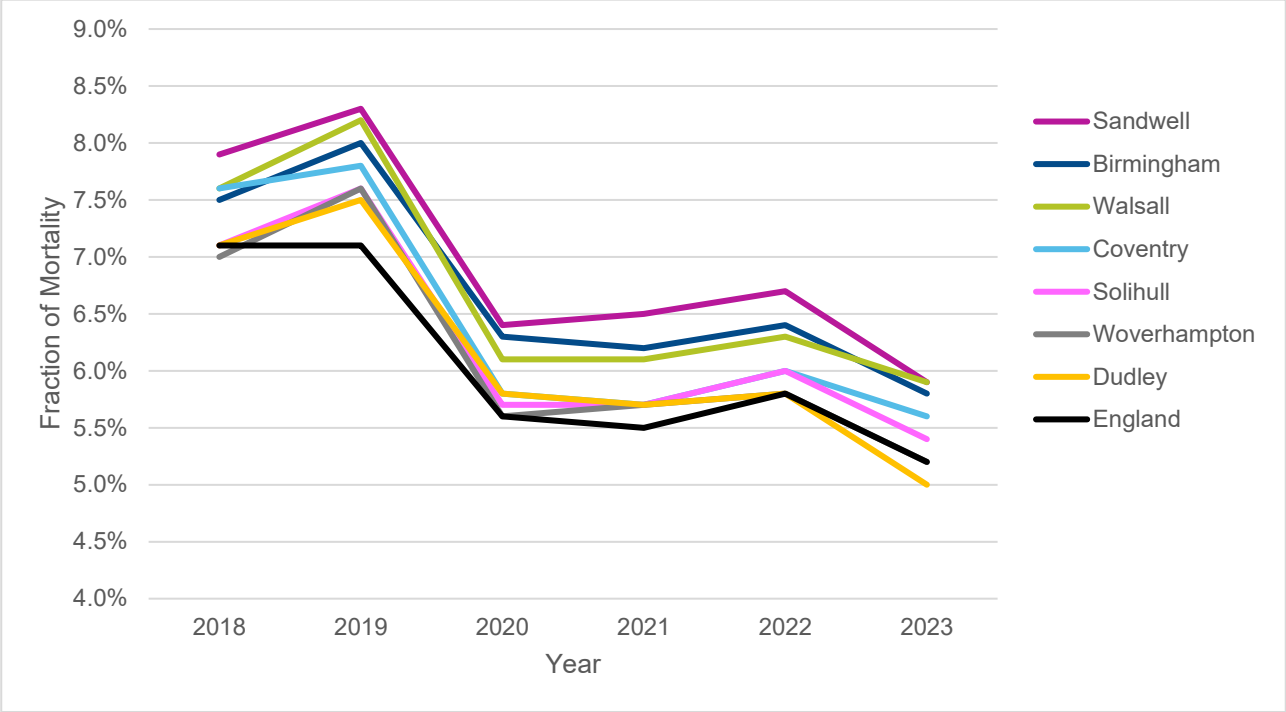


Figure 2.5 demonstrates that Sandwell has sustained the highest percentage burden of mortality attributable to $PM_{2.5}$ in the West Midlands region since 2018. Although this has decreased by 2% since 2018, the gap has narrowed between Sandwell and the average for England, from 1% in 2022 to 0.7% in 2023.

Although concentrations of $PM_{2.5}$ in Sandwell are within the legal target of 10µg/m^3 (to be achieved by 2040) there is no safe level of exposure for health and as **Figure 2.3** demonstrates, concentrations remain above the WHO guideline levels of 5µg/m^3. To protect public health, Sandwell Council remain committed to implementing measures that not only prevent annual concentrations from exceeding 10µg/m^3 but also have the ambition to aim to be closer to the WHO guidelines, than the legal target.

[33] Department of Health and Social Care: https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data

Figure 2.5 – Trends in the Fraction of Mortality Attributable to $PM_{2.5}$ Air Pollution within the West Midlands Local Authorities 2018-2023



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

Expansion of $PM_{2.5}$ monitoring network

In 2022, Sandwell Council expanded its $PM_{2.5}$ monitoring network, allowing the measurement of actual concentrations rather than relying on modelled data. With four continuous monitoring stations capable of capturing $PM_{2.5}$ concentrations, trends can be tracked, and the Council can gain a better understanding of how pollution concentrations are changing across the borough year on year.

Sandwell's Boroughwide Smoke Control Area

In July 2024, Sandwell introduced a Boroughwide Smoke Control Order, replacing the 52 small historic smoke control orders that covered around one-fifth of the borough. This decision was made to ensure equitable protection for all residents and to help reduce population exposure to some of the most polluting emissions generated by the burning of the smokiest fuels.

The boroughwide order presents the council with a valuable opportunity to raise awareness about the significant health risks associated with domestic burning. Although well understood within air quality circles, these risks remain poorly communicated and

widely unacknowledged by the public, evidenced by the continued year-on-year rise in wood and solid fuel stove sales.

To support this initiative, an Air Quality Education and Enforcement Officer was appointed in September 2024. This role has been established for a two-year period and includes:

- Leading on education and awareness campaigns that focus on both the Smoke Control Area as well as other outdoor burning activities e.g. bonfires.
- Engaging with residents and business owners to ensure compliance with air quality laws and highlighting the negative health, environmental, and financial impacts of domestic burning.
- Investigating air pollution complaints, including issuing warnings, and serving fines, and legal notices as required. Inspecting retailers to provide information on how to comply with the legislation governing the retail of solid fuels.

Provision of information on smoke control areas for residents and retailers

Two information leaflets have been created for residents explaining the Smoke Control Area rules (one of the leaflets is specifically tailored for canal boat residents). The leaflets provide background information on why the SCA was created, impacts on health and how to comply with the rules. Links to the leaflets are provided below and can be found on Sandwell Council's Air Quality Website.[34]

- 'Cleaner Air for All in Sandwell – Information for Sandwell residents about living in a Smoke Control Area and how to comply with the rules'
- 'Cleaner Air for All on Sandwell's Waterways – Guidance and information for baters moored in Sandwell, explaining how to comply with the brough's Smoke Control Area rules'

A new leaflet has also been created for retailers selling solid fuel for domestic combustion. This provides simple advice on how to comply with the Air Quality (Domestic Solid Fuel Standards) (England) Regulations 2020 and associated consumer protection and trading standards legislation. These leaflets will be shared with retailers as part of a new

[34] https://www.sandwell.gov.uk/downloads/file/3623/information-for-residents-about-living-in-a-smoke-control-area

programme of advisory visits/inspections. The leaflet entitled 'Selling Wood and Solid Fuels in Sandwell' can also be found on Sandwell Council's Air Quality Website.

Enforcement of Sandwell's Smoke Control Area

In 2024, Sandwell Council received 14 complaints regarding chimney smoke, resulting in 9 formal warning letters being issued and further investigation work being undertaken. No financial penalty notices were issued.

A total of 132 bonfire-related complaints were received and investigated, of these 83 resulted in a formal warning letters being sent out. All complaints were resolved without escalation to the service of abatement notices or prosecutions.

Behaviour change study to guide future smoke control area campaigns

In June 2024, Sandwell Council partnered with the WMCA to commission a behaviour change study examining the impact of health and financial compliance messaging on public awareness of Sandwell's new Smoke Control Area and adherence to its rules.

The study revealed that while both health and compliance messages improved residents' understanding of the SCA, financial compliance messaging was slightly more effective in creating a more positive perception of the initiative. Interestingly the intervention had no measurable impact on self-reported behaviour - meaning residents did not indicate that they would stop burning simply because they were in a Smoke Control Area. Based on these findings, the study recommended that future campaigns prioritise messages around compliance, specifically highlighting the risk of a £300 fine, to increase knowledge and adherence to the SCA regulations to minimise emissions from smoky fuels.

Partnership working with the NHS

Sandwell Council are committed to strengthening its partnership with the NHS, and particularly those health professionals who work with children and young people and to enable them to gain a better understanding of how raised $PM_{2.5}$ concentrations can impact patient health.

The aim is to continue to educate NHS professionals about the health risks of poor air quality and to encourage them to integrate air quality considerations into patient health management plans for example sharing information with school nurses who support children with asthma. Air pollution questions have now been incorporated into health plans undertaken by child asthma nurses in the Black Country. The council will continue to support this awareness through webinars and events attended by health practitioners. In

doing so the ambition is that this will not only improve patient care but also encourage both patients and practitioners to take proactive measures to reduce their own personal emissions, thereby contributing to cleaner air and better health outcomes.

Partnership working with schools to support active travel initiatives

Sandwell Council remains committed to promoting active and sustainable travel across the borough to help reduce transport-related $PM_{2.5}$ emissions. The council's Active Travel Officer continues to undertake an intensive programme of engagement with schools, encouraging participation in sustainable travel initiatives. In 2024, ten primary schools achieved their 'Green Approved Travel Plan Status' through the Modeshift STARS accreditation scheme, this was a significant milestone, marking a tenfold increase from 2023.

Challenging planning and development in areas of high $PM_{2.5}$ to protect health

Long term exposure to $PM_{2.5}$ needs to be properly considered within the planning decision process. For example, in February 2024, Sandwell Council's planning committee objected to a proposed housing development on Titford Road, Oldbury, near the M5, due to concerns over $PM_{2.5}$ pollution. This was because the projected 2028 air quality improvements fell short of the 22% reduction target set for 2040. However, the Planning Inspector later upheld an appeal, ruling that the $PM_{2.5}$ target was a national objective, not one to be applied to individual developments and therefore not for local authorities to implement.

Since submitting our planning objection, Defra have issued new interim planning guidance for local authorities on assessing $PM_{2.5}$ exposure concentrations in planning proposals[35] (issued October 2024). The council have adopted this guidance and now requires applicants for developments that are classified as 'medium' or 'major' (as per the Black Country Air Quality SPD) to consider the $PM_{2.5}$ future user exposure and those already in the vicinity of the development. Integrating air quality considerations from the outset of the design is required to ensure reasonable steps are being taken to minimise $PM_{2.5}$ emissions and their precursors. Exposure risks must be robustly assessed so that new sensitive (residential) developments are not 'green lighted' in areas that could result in long-term exposure to harmful concentrations of air pollution.

[35] Defra - $PM_{2.5}$ Targets - Interim Planning Guide: https://uk-air.defra.gov.uk/pm25targets/planning

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

This section sets out the monitoring undertaken within 2025 by Sandwell Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2020 and 2024 to allow monitoring trends to be identified and discussed.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Sandwell Council undertook automatic (continuous) monitoring at five sites during 2024. Table A.1 in Appendix A shows the details of the automatic monitoring sites. The air quality monitoring results for the Birmingham Road, Oldbury monitoring station are available through the UK-Air website[36] .

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on how the monitors are calibrated and how the data has been adjusted are included in Appendix C.

3.1.2 Non-Automatic Monitoring Sites

Sandwell Council undertook non-automatic (i.e. passive) monitoring of NO_2 at 119 sites during 2024.

Table A.2 in Appendix A presents the details of the non-automatic sites.

Maps showing the location of the monitoring sites are provided in Appendix D, Figure D.2. 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.

[36] UK Air – Air Information Resources (Defra) https://uk-air.defra.gov.uk/interactive-map

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 2024 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

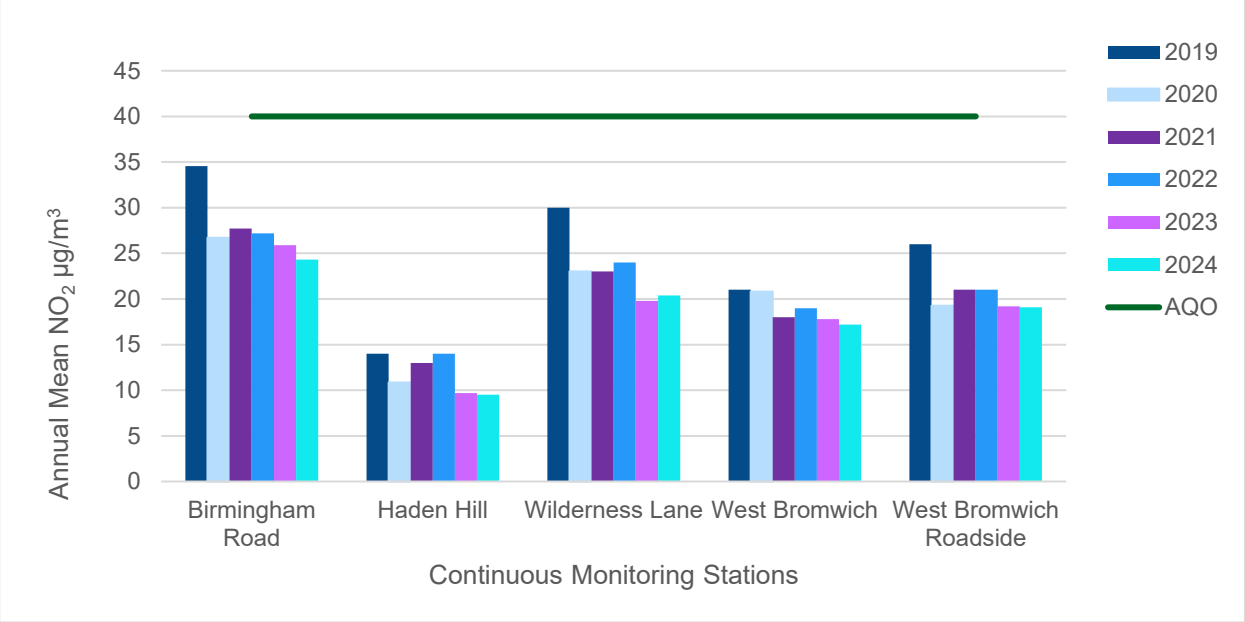
Table A.5 in Appendix A compares the ratified continuous monitored NO_2 hourly mean concentrations for the past five years with the air quality objective of 200µg/m^3, not to be exceeded more than 18 times per year.

Continuous Monitoring Sites

- Data capture was 96.2% or above for NO_2 at four of our five continuous monitoring station sites, but due to equipment failure, Haden Hill's data capture was only 68.1% and had to be annualised.
- There were no exceedances of the NO_2 1-hour mean >200µg/m3 at any of the monitoring stations in 2024, as recorded in Table A.5 in Appendix A. This is the sixth year when no exceedances have been reported.
- **Figure 3.1** shows the trend in annual mean NO_2 concentrations at our five monitoring stations over the last six years. The results from 2019 are seen as a pre-covid baseline and provide important context with regards the changes in NO_2 concentrations that were identified pre and post the pandemic.

- Annual average concentrations of NO_2 have remained very similar in 2024 to those recorded in 2023, with marginal decreases at all sites except Wilderness Lane, Great Barr that saw a small increase. Concentrations overall have fallen significantly since 2019 and have not bounced back to pre-Covid levels.

Figure 3 1- Annual Mean NO_2 Concentration Trends at Sandwell's Five Continuous Monitoring Stations in Sandwell 2019 - 2024



- Birmingham Road in Oldbury is a roadside monitoring station. In 2024 annual mean concentrations were 24.3µg/m^3. This site has seen year on year decreases since 2019, and in six years have reduced by just over 10µg/m^3, which is a 30% reduction. Since last year there has been a 1.6µg/m^3 decrease.
- Haden Hill in Cradley Heath is an urban background station, which has seen reductions in NO^2 concentrations of 32% since 2019. Although the concentrations in 2023 and 2024 have remained consistent with only a 0.2µg/m^3 reduction being recorded.
- Wilderness Lane, Great Barr, is another roadside location, but this has bucked the trend of the other stations, demonstrating a small increase of 0.6µg/m^3. Since 2019 this site has also seen an overall reduction of 32%.
- Highfields, West Bromwich is a background monitoring site, and this has recorded another small reduction in NO_2 of 0.6µg/m^3 since 2023. The percentage concentration reduction at this site over the last 6 years is 18% which is a much

lower percentage reduction than those recorded at the four other monitoring sites in the borough.

- West Bromwich Roadside also saw a very marginal decrease in concentrations in 2024, at just 0.1µg/m^3 lower than in 2023. The percentage reduction in NO_2 concentrations at this site since 2019 is 27%.
- West Bromwich Roadside recorded annual NO_2 concentrations of 19.2µg/m^3 in 2023, a reduction of 1.8µg/m^3 since last year and a 26% reduction since 2019.

Diffusion Tubes

The results from our NO_2 diffusion tube data in 2024 identified 3 sites where the diffusion tubes recorded concentrations were either above or within 10% of the national air quality objective (AQO) of 40µg/m^3. However, after applying the fall off with distance correction to the nearest location relevant for exposure - as discussed in Appendix C and recorded in Table C.4 - all sites were found to be complaint with the national objective for NO_2.

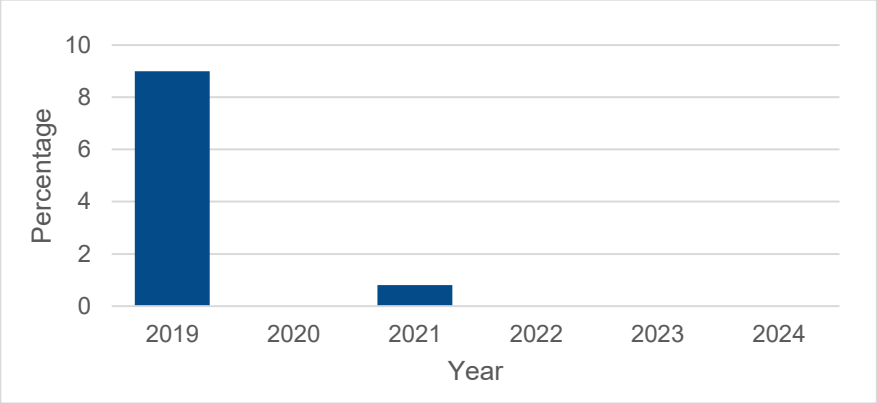
Furthermore, due to an error in the 2023 and 2024 Annual Status Reports for the calculated concentration representative of relevant exposure for the monitoring site BP, which has now been rectified (see Table 3-1) it is evident that Sandwell was compliant with the NO_2 Air Quality Objective in both 2022 and 2023.

Table 3-1 – Corrected "fall off with distance" calculations for BP

Year	Raw Annual Mean	Bias Adjusted Mean	Predicted at receptor following "fall off with distance" calculation	Incorrect "fall off with distance" value previously reported
2022	54.4	44.5	33.3	40.2
2023	53.1	44.0	32.7	39.8

As **Figure 3.2** below demonstrates, this means Sandwell has now been compliant with NO_2 at all our diffusion tube monitoring sites and continuous monitoring stations for 3 years.

Figure 3. 2- Percentage of NO_2 diffusion tube sites in Sandwell that have exceeded the National Air Quality Objective (2019-2024)



Sandwell Council are aware that an air quality management area can be revoked after three consecutive years of compliance, however as agreed with Defra will not do this until there is confidence that compliance can be sustained in the longer term and that this is not a temporary improvement.

There are many locations across Sandwell still recording elevated NO_2 concentrations (above 30 µg/m³) and the borough continues to undergo significant commercial and residential development which could result in future exceedances.

To best ensure that these ongoing changes are captured and that monitoring is taking place in the most appropriate locations, a comprehensive review of the diffusion tube network was undertaken in 2024. In January 2025, because of this review eight diffusion tubes were relocated from sites that had previously recorded lower concentrations (below 20 µg/m³) for more than five years and/or were positioned close to other tubes. The eight new locations are sites that had not previously been monitored but were judged important to monitor, due to new and/or emerging pollution sources.

Sandwell Council has agreed with Defra that it will maintain its borough-wide AQMA until compliance has been consistently demonstrated for at least five years. This would mean revocation would not be considered before January 2027.

While the sustained reduction in NO_2 concentrations is encouraging, it is important to recognise that even concentrations well below the air quality national objective still pose significant risks to health. Concentrations below the national objective contribute to respiratory and cardiovascular issues. This is reflected in the World Health Organisation guidelines for annual average nitrogen dioxide (NO_2) concentrations which are stated as being 10µg/m^3 to protect human health. In 2024 Sandwell had only one site, in Haden Hill

Park, which was within the WHO's guideline, at 9.6µg/m^3. This underscores the need for continued monitoring and mitigation efforts to reduce emissions and protect public health.

3.2.2 Particulate Matter (PM_{10})

Table A.6 in Appendix A: Monitoring Results, compares the ratified and adjusted monitored PM_{10} annual mean concentrations for the past five years in Sandwell with the air quality objective of 40µg/m^3.

- Valid data capture for 2024 was 94.5% and above at three of our continuous monitoring stations but due to the catastrophic breakdown of our FIDAS monitoring equipment in July 2024, had only achieved 56.6% data capture at our Haden Hill station. The data from Haden Hill therefore required annualisation.
- PM_{10} annual mean concentrations remained significantly below the national air quality objective of 40µg/m^3 at all sites as shown in **Figure 3.3.**
- 3 of the 4 monitoring sites demonstrated increases in mean annual PM_{10} concentrations, with only Wilderness Lane, Great Barr having a marginal decrease of 0.2µg/m^3.
- The highest recorded concentration was at Highfields at 8.7µg/m^3, which was an increase of 1.4µg/m^3 since last year.

Figure 3 3- Annual Mean PM_{10} Concentrations at Continuous Monitoring Stations in Sandwell 2019 - 2024

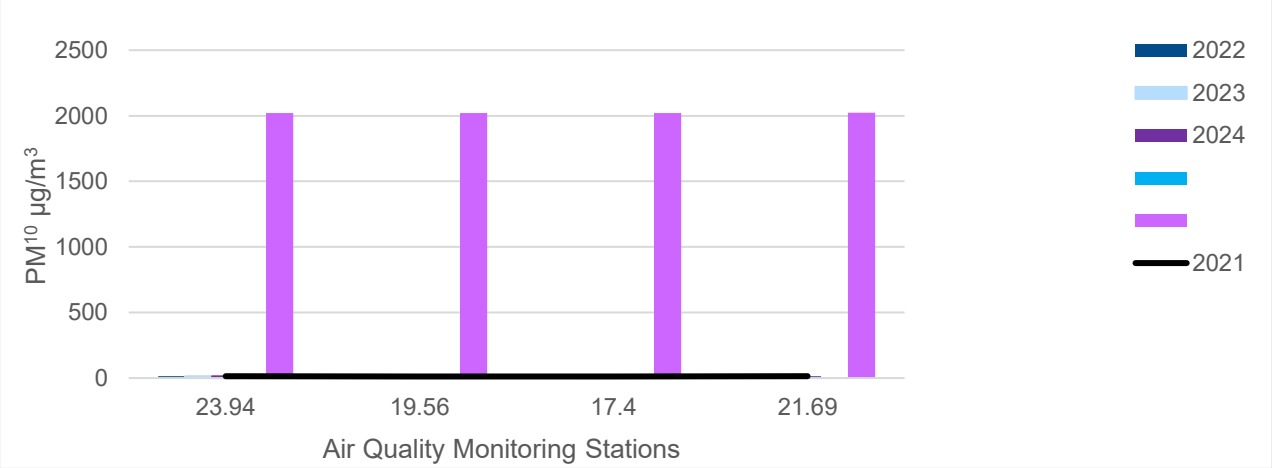
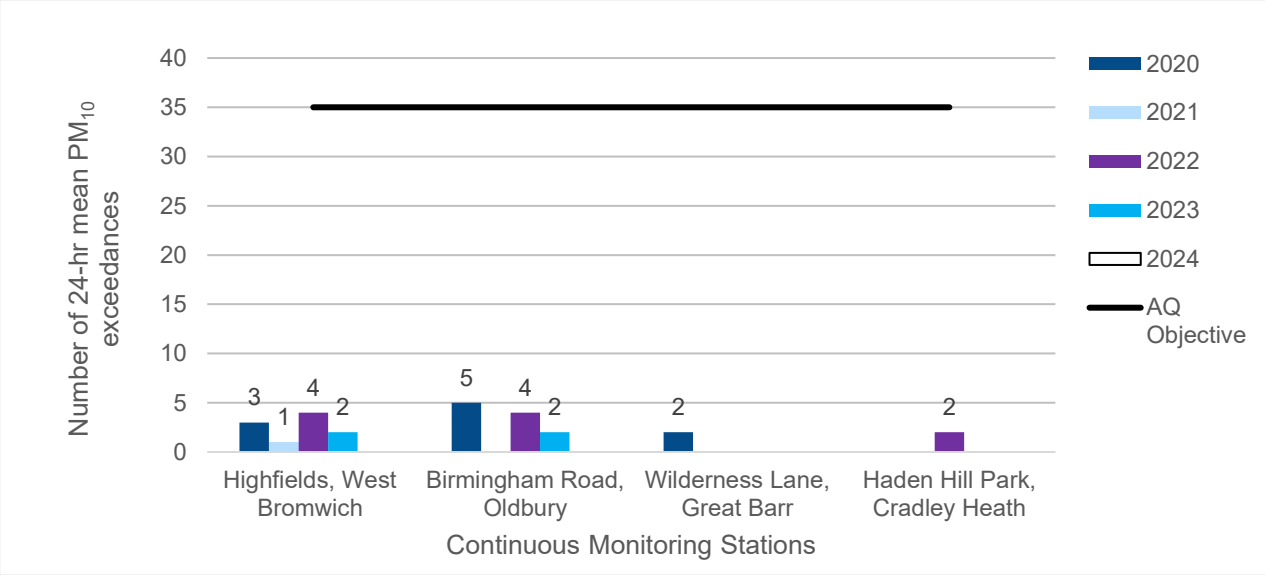


Table A.7 in Appendix A compares the ratified continuous monitored PM_{10} daily mean concentrations for the past five years with the air quality objective of 50µg/m^3, not to be exceeded more than 35 times per year.

Figure 3 4- Trends in Number of 24-Hour Mean PM_{10} Exceedances in Sandwell 2019 - 2024



- As **Figure 3.4** demonstrates, there were no exceedances of the 24-hour mean PM10 in 2024, Sandwell did therefore not exceed the national objective of no more than 35 exceedances per year. This is the first year that there no exceedances recorded since our monitoring began in 2007. If exceedances do occur of the PM_{10} 24-hour mean, they are most likely to occur in the spring due to close association with agriculture and farming, as these activities release large amounts of ammonia, which react with pollutants from traffic and industry, forming secondary PM_{10}.
- The number of 24-hour mean PM_{10} exceedances recorded since 2022 has reduced, but it is hard to determine if this is a long-term trend or just due to varying annual meteorological impacts.

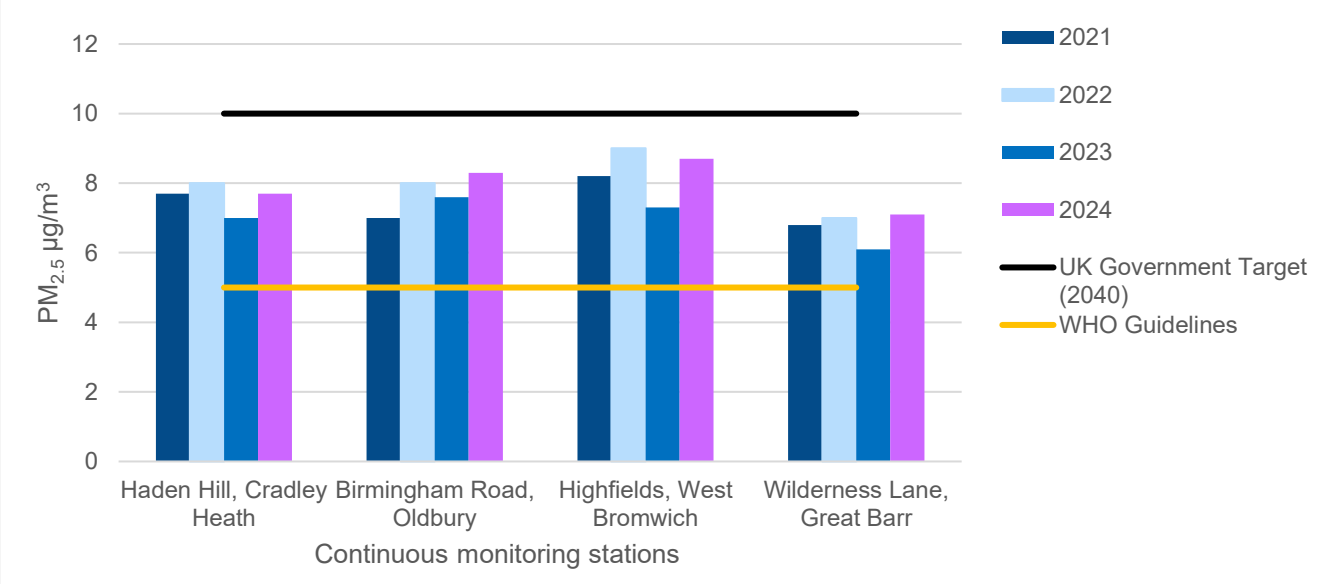
3.2.3 Particulate Matter ($PM_{2.5}$)

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

$PM_{2.5}$ is the most significant pollutant affecting public health, which is why the Public Health Outcomes Framework (PHOF) uses it as a key indicator to assess its impact on health.

In 2021 Sandwell Council made a significant investment in their air quality monitoring network to expand the number of continuous monitors measuring $PM_{2.5}$. The council now monitor $PM_{2.5}$ at four locations with FIDAS analysers, two are urban background and two are roadside. The data gathered is providing us with a better understanding of the actual concentrations of $PM_{2.5}$ across the borough. The results from the first four years of monitoring at all sites is shown in **Figure 3.5**

Figure 3.5 – Annual Mean $PM_{2.5}$ Concentrations in Sandwell 2021-2024 Compared with WHO Guidelines and the UK Government Target (2040)



- In 2024 there was an increase in annual mean concentrations of $PM_{2.5}$ at all four monitoring sites across the borough, with concentrations very similar to those experienced in 2022 at all sites.
- The highest annual mean concentration was at Highfields, West Bromwich at 8.7µg/m^3. This is a significant 19% increase from last year, similar to concentrations recorded at this site in 2022.
- The lowest annual mean concentration was at Wilderness Lane, Great Barr at 7.1µg/m^3, but this was still a 16% increase from 2023.
- The annual mean concentrations at all sites were within the UK Government's target of 10µg/m^3 by 2040, but they all still exceed the WHO guideline of 5µg/m^3.

- Over the last four years, $PM_{2.5}$ concentrations have fluctuated at all the monitoring stations and so far, none show any clear downward trend, unlike NO_2 concentrations.

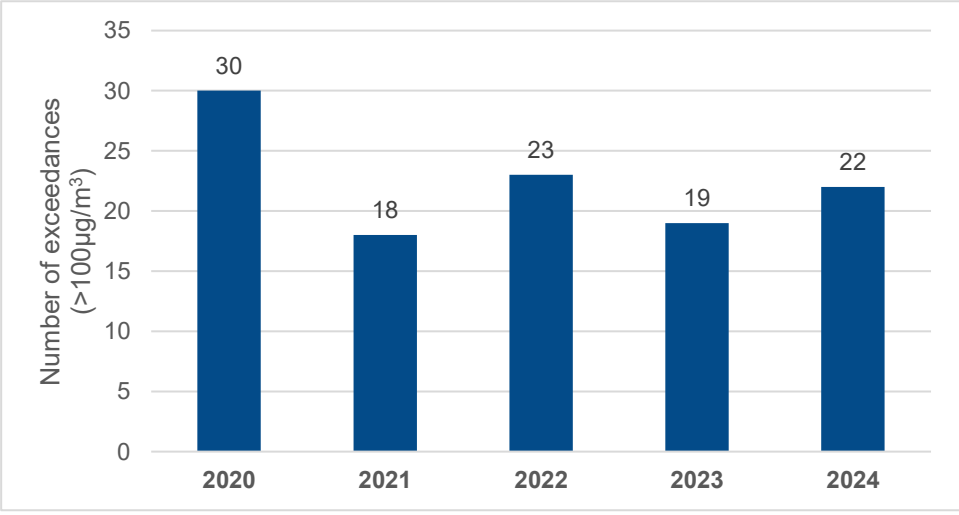
It is disappointing that $PM_{2.5}$ levels have not shown an overall downward trend over the last four years, given that this pollutant causes significant health impacts, particularly on respiratory and cardiovascular conditions. These results currently point towards the need for more interventions to improve local air quality, including transport policies, and urban planning that focuses on more effective measures to reduce the release of harmful emissions.

3.2.4 Ozone (O_3)

Ground-level ozone forms through a series of complex chemical reactions, typically occurring in the presence of sunlight, volatile organic compounds (VOCs), and where nitrogen dioxide concentrations are relatively low. As a transboundary pollutant, it can drift across national borders, which is why there is currently no national air quality objective for ground-level ozone in the UK.

Despite this, surface ozone remains a significant health concern, particularly for children, the elderly, and individuals with respiratory conditions such as asthma. To address its impact, the World Health Organisation (WHO) has set an ozone air quality objective of 100µg/m³, stipulating that the daily maximum of the 8-hour running mean should not be exceeded more than ten times per year.

Figure 3.6 – Comparison of the number of exceedances of the daily maximum running 8-hour mean for Ozone at Highfields, West Bromwich – 2020 to 2024



Ground-level ozone is only monitored at one site in Sandwell, Highfields in West Bromwich, this is an urban background station. In 2024 data capture was 95% and the average annual concentration was 56.5µg/m³. The highest daily maximum of the running 8-hour mean was 147.7µg/m^3 and there were 22 days with exceedances of the Ozone limit of 100 µg/m^3. There is an annual allowance of 10 days, so the WHO guideline air quality objective was exceeded as shown in **Figure 3.6.**

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? (1)	Monitoring Technique	Distance to Relevant Exposure (m) (2)	Distance to kerb of nearest road (m) (1)	Inlet Height (m)
Highfields	Highfields, West Bromwich	Urban Background	400187	291601	NO2, PM10, PM2.5	Yes	Sandwell AQMA	Chemiluminescence and FIDAS	35.0	21.0	2.5
Oldbury	Birmingham Road, Oldbury	Roadside	399857	289392	NO2, PM10, PM2.5	Yes	Sandwell AQMA	Chemiluminescence and FIDAS	8.0	5.0	2.5
Great Barr	Wilderness Lane	Roadside	403956	294855	NO2, PM10, PM2.5	Yes	Sandwell AQMA	Chemiluminescence and FIDAS	147.0	11.0	2.8
Haden Hill	Haden Hill Park	Urban Background	395755	285493	NO2, PM10, PM2.5	Yes	Sandwell AQMA	Chemiluminescence and FIDAS	105.0	119.0	2.5
West Bromwich	Tesco, West Bromwich	Roadside	400521	291541	NO2	Yes	Sandwell AQMA	Chemiluminescence	11.0	7.0	1.6

Notes:

(1) N/A if not applicable

(2) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

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)
AD	Street Sign opp. 1 Myvod Road Wednesbury WS10 9BU	Roadside	399639	296095	NO2	YES Sandwell AQMA	10.0	1.5	No	2.8
AE	Traffic Lights opp. 36-38 Wood Green Road Wednesbury WS10 9QS	Roadside	399680	296089	NO2	YES Sandwell AQMA	11.1	1.7	No	2.7
AF	Traffic Lights corner of Myvod Road & Wood Green Road Wednesbury WS10 9QS	Roadside	399672	296042	NO2	YES Sandwell AQMA	11.1	1.7	No	2.7
B17	Street Sign opp. 118 Birmingham Road Oldbury B69 4EQ (far side of road)	Roadside	399733	289401	NO2	YES Sandwell AQMA	15.0	1.5	No	2.8
BA	Lamppost corner of Blakeley Hall Road & Birmingham Road B69 4EQ (M5 viaduct)	Roadside	399686	289431	NO2	YES Sandwell AQMA	4.0	4.0	No	2.8

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
BD	Crossing Point opp. 164 Birmingham Road B69 4EH	Kerbside	399889	289395	NO2	YES Sandwell AQMA	5.8	1.0	No	2.8
BDQ	Street Sign opp. 174 Birmingham Road B69 4EH	Roadside	399943	289377	NO2	YES Sandwell AQMA	8.6	1.2	No	2.8
BE	Crossing Point opp. British Queen PH Birmingham Road B69 4EH	Kerbside	399915	289353	NO2	YES Sandwell AQMA	2.5	0.8	No	2.7
BF	Downpipe 144 Birmingham Road B69 4EQ	Kerbside	399807	289408	NO2	YES Sandwell AQMA	5.8	0.3	No	2.6
BG	Downpipe 108 Birmingham Road B69 4EQ	Kerbside	399721	289429	NO2	YES Sandwell AQMA	5.6	0.3	No	2.7
BO	Street Sign opp. 200 Birmingham Road B69 4EH	Kerbside	400039	289366	NO2	YES Sandwell AQMA	6.2	0.3	No	2.8
BP	Telegraph Pole opp. 236 Birmingham Road B69 4EH	Kerbside	400149	289424	NO2	YES Sandwell AQMA	5.8	0.7	No	2.8
BR	Downpipe 148 Birmingham Road B69 4EQ	Roadside	399814	289407	NO2	YES Sandwell AQMA	3.0	5.9	No	2.1
BS	Lamppost near AQ Monitoring	Roadside	399864	289427	NO2	YES	16.3	8.6	No	2.9

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)
	Station Birmingham Road B69 4HA					Sandwell AQMA				
B52	Lamppost opp. 98 Birmingham Road Oldbury B69 4EQ	Roadside	399692	289428	NO2	YES Sandwell AQMA	5.0	3.0	No	2.8
C10A	Crossing Point opp. 517 Hagley Road Smethwick B66 4AX	Kerbside	402285	286062	NO2	YES Sandwell AQMA	4.0	0.4	No	2.7
C10D	Lamppost opp. 505 Hagley Road Smethwick B66 4AX	Roadside	402298	286073	NO2	YES Sandwell AQMA	0.8	5.3	No	2.8
C11A	Street Sign opp. Shoulder of Mutton PH Blackheath B65 9BA	Roadside	397439	286416	NO2	YES Sandwell AQMA	4.9	4.9	No	2.8
C11D	Crossing Point near Blackheath Post Office B65 0HG	Kerbside	397428	286381	NO2	YES Sandwell AQMA	1.3	0.5	No	2.7
C11E	Lamppost opp. 167 Halesowen Street Blackheath B65 0HG	Kerbside	397391	286359	NO2	YES Sandwell AQMA	4.5	0.1	No	2.8
C12A	Downpipe Jinks Watch Shop High	Kerbside	396899	286438	NO2	YES Sandwell AQMA	2.5	1.0	No	2.6

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
	Street Blackheath B65 0EH									
C12D	Crossing Point opp. 188 Powke Lane Blackheath B65 0AA	Kerbside	396872	286454	NO2	YES Sandwell AQMA	3.0	0.1	No	2.7
C12E	Downpipe 172 Powke Lane Blackheath B65 0AA	Roadside	396780	286465	NO2	YES Sandwell AQMA	3.5	3.0	No	3.0
C13D	Downpipe 229 Dudley Port Tipton DY4 7RL	Roadside	396411	291471	NO2	YES Sandwell AQMA	4.1	2.4	No	2.9
C14A	Lamppost opp. Ocker Hill Infant School Tipton DY4 0DS	Kerbside	397355	293929	NO2	YES Sandwell AQMA	16.0	0.6	No	2.9
C15A	Telegraph Pole opp. 50 Gorsty Hill Road Rowley Regis B65 OHA	Roadside	396867	285536	NO2	YES Sandwell AQMA	2.0	2.0	No	2.7
C1A	Lamppost opp. 6 Grafton Road West Bromwich B71 4EH	Kerbside	400668	291726	NO2	YES Sandwell AQMA	5.0	0.3	No	2.5
C1D	Crossing Point near JB Stores Grafton Road B71 4EB	Roadside	400664	292020	NO2	YES Sandwell AQMA	18.0	2.0	No	2.8

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
C2A	Street Sign opp. Churchwell Gardens West Bromwich B71 1RR	Roadside	401050	292898	NO2	YES Sandwell AQMA	9.8	2.0	No	2.8
C2E	Crossing Point near 236 All Saints Way West Bromwich B71 1RR	Kerbside	401059	292966	NO2	YES Sandwell AQMA	4.9	1.0	No	2.8
C4A	Street Sign opp. 15/16 Spon Lane West Bromwich B70 6BD	Kerbside	400619	290153	NO2	YES Sandwell AQMA	9.0	0.3	No	2.8
C4D	Lamppost at Kelvin Way and Trinity Way (Traffic Island) West Bromwich B70 6BD	Kerbside	400657	290090	NO2	YES Sandwell AQMA	9.0	0.3	No	2.7
C4E	Crossing Point Trinity Way West Bromwich B70 6BB	Kerbside	400738	290113	NO2	YES Sandwell AQMA	6.0	0.5	No	2.7
C5A	Lamppost McKean Road Oldbury B69 4BY (Train Station Entrance/Exit)	Kerbside	399267	290084	NO2	YES Sandwell AQMA	2.1	0.2	No	2.8

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
C5D	Crossing Point Bromford Road & Broadwell Road Oldbury B69 4BD	Kerbside	399207	290032	NO2	YES Sandwell AQMA	8.3	0.7	No	2.8
C5E	Street Sign corner of Bromford Road & Century Road Oldbury B69 3DX	Roadside	399139	289947	NO2	YES Sandwell AQMA	2.9	1.9	No	2.7
C6A	Downpipe 34 Halesowen Street Oldbury B69 2RW	Roadside	398937	289322	NO2	YES Sandwell AQMA	17.9	3.0	No	2.1
C6E	Street Sign opp. Bethel Church Oldbury B69 4JG	Kerbside	399229	289315	NO2	YES Sandwell AQMA	13.8	0.5	No	2.8
C7A	Downpipe 194 Dudley Road East Oldbury B69 3DR	Kerbside	398283	290113	NO2	YES Sandwell AQMA	1.5	0.6	No	2.8
C7D	Lamppost Brades Road & Dudley Road East (Traffic Island) Oldbury B69 3DU	Roadside	398136	290226	NO2	YES Sandwell AQMA	11.3	1.6	No	2.8
C7E	Downpipe 114 Dudley Road East Oldbury B69 3EB	Kerbside	398042	290285	NO2	YES Sandwell AQMA	9.5	0.4	No	2.8
C7F	Crossing Point opp. 21 Asquith Drive Oldbury B69 3LL	Kerbside	397493	290628	NO2	YES Sandwell AQMA	4.7	0.3	No	2.8

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
C7H	Lamppost rear of 129 Dudley Road East Oldbury B69 3DR	Kerbside	398311	290135	NO2	YES Sandwell AQMA	4.4	0.5	No	2.7
C9A	Street Sign opp. 443 Bearwood Road Smethwick B66 4DH	Roadside	402138	286650	NO2	YES Sandwell AQMA	2.6	0.3	No	2.9
C9D	Crossing Point opp. 479 Bearwood Road Smethwick B66 4BL	Roadside	402160	286554	NO2	YES Sandwell AQMA	2.3	2.0	No	2.8
DA1, DA2, DA3	Lamppost Bilhay Lane & Black Country New Road West Bromwich B70 9RP	Roadside	399402	292095	NO2	YES Sandwell AQMA	15.0	2.0	No	2.8
DB1, DB2, DB3	Lamppost Black Country New Road West Bromwich B70 9LS	Roadside	399508	292068	NO2	YES Sandwell AQMA	30.0	5.0	No	2.9
DC1, DC2, DC3	Lamppost corner of Temple Street & Mill Street West Bromwich B70 9TE	Roadside	400233	291783	NO2	YES Sandwell AQMA	20.0	1.5	No	2.8

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DD1, DD2, DD3	Lamppost entrance to Holiday Inn & Providence Place West Bromwich B70 8AF	Roadside	400366	291781	NO2	YES Sandwell AQMA	60.0	2.0	No	2.8
DE1, DE2, DE3	Lamppost Congregation Way West Bromwich B71 4JA (near traffic island Tesco petrol station)	Roadside	400728	291599	NO2	YES Sandwell AQMA	80.0	2.0	No	2.9
DF1, DF2, DF3	Lamppost Congregation Way West Bromwich B71 4AQ (near traffic island Reform St)	Roadside	400890	291558	NO2	YES Sandwell AQMA	50.0	2.0	No	2.8
DG1, DG2, DG3	Lamppost near King George V Primary School Beeches Rd West Bromwich B70 6JA	Roadside	401040	291269	NO2	YES Sandwell AQMA	10.0	2.0	No	2.9
DH1, DH2, DH3	Lamppost corner of Beeches Road & Nicholls Street West Bromwich B70 6HQ	Kerbside	401195	290934	NO2	YES Sandwell AQMA	10.0	0.5	No	2.9

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)
DEF1	Lamppost near Penny Farm PH Oldbury B69 2AQ	Roadside	398469	288673	NO2	YES Sandwell AQMA	40.0	2.0	No	2.8
DEF2	Lamppost Corner of Birchy Park Avenue & Wolverhampton Road Oldbury B69 2JW	Roadside	398405	288722	NO2	YES Sandwell AQMA	7.0	7.0	No	2.8
DP1	Lamppost opp. Port 'n' Ale PH Tipton DY4 7DS	Roadside	397324	292256	NO2	YES Sandwell AQMA	3.2	1.3	No	2.8
DP4	Lamppost opp. 1 Tame Road Tipton DY4 7HU	Roadside	397344	292214	NO2	YES Sandwell AQMA	7.1	1.5	No	2.8
EA	Street Sign corner of Herbert Road & Overend Street West Bromwich B70 6ER	Kerbside	400869	291102	NO2	YES Sandwell AQMA	4.8	0.8	No	2.8
EB	Lamppost opp. 3 Legge Street West Bromwich B70 6HD	Roadside	400921	291001	NO2	YES Sandwell AQMA	6.9	2.3	No	2.8
ED	Lamppost opp. Probation Services West Bromwich B70 7PQ	Roadside	400555	291257	NO2	YES Sandwell AQMA	4.5	4.0	No	2.8

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
EE	Lamppost opp. Jarnak Polish Shop Price Street West Bromwich B70 8EP	Kerbside	400275	291132	NO2	YES Sandwell AQMA	3.5	0.5	No	2.9
EF	Lamppost opp. 162 Bromford Lane West Bromwich B70 7HS	Roadside	399789	290547	NO2	YES Sandwell AQMA	5.5	5.2	No	2.8
FA1, FA2, FA3	A457 Lamppost traffic island Freeth St & Oldbury Ringway Oldbury B69 3DL	Roadside	398756	289622	NO2	YES Sandwell AQMA	272.0	2.0	No	2.8
FB1, FB2, FB3	A457 Lamppost near entrance to Oldbury Retail Park Oldbury B69 3DD	Roadside	398717	289574	NO2	YES Sandwell AQMA	275.0	2.0	No	2.9
FC1, FC2, FC3	A457 Lamppost Oldbury Ringway opp. Sainsburys Petrol Station Oldbury B69 4JW	Roadside	398788	289451	NO2	YES Sandwell AQMA	160.0	3.0	No	2.8
FD1, FD2, FD3	A457 Lamppost (rear to car park) Judge Close off Oldbury Ringway Oldbury B69 4DY	Roadside	399162	289413	NO2	YES Sandwell AQMA	39.0	3.0	No	2.7

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
FE1, FE2, FE3	A457 Lamppost opp. The George PH corner of Broadwell Rd & Birmingham Rd Oldbury B69 4EE	Roadside	399375	289398	NO2	YES Sandwell AQMA	52.0	2.5	No	2.9
FF1, FF2, FF3	A457 Lamppost near Crystal Drive & Birmingham Rd Oldbury B66 1NY	Roadside	400370	289532	NO2	YES Sandwell AQMA	150.0	3.0	No	2.8
FG1, FG2, FG3	A457 Lamppost near Redwood Trade Park (Murco Petrol Station) Birmingham Rd Oldbury B66 1NU	Roadside	400535	289436	NO2	YES Sandwell AQMA	120.0	3.0	No	2.8
GA, GB, GC	Co-Location AQ Monitoring Station Birmingham Road Oldbury B69 4HA	Roadside	399858	289391	NO2	YES Sandwell AQMA	8.2	5.4	Yes	2.8
HA	Crossing Point near Astle Retail Park West Bromwich B70 8NS	Kerbside	400383	291307	NO2	YES Sandwell AQMA	1.0	0.3	No	2.9
HH1	Co-Location AQ Monitoring Station Haden Hill Park	Kerbside	395754	285492	NO2	YES Sandwell AQMA	87.0	0.5	Yes	2.9

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)
	Cradley Heath B64 7HS									
KD	Lamppost opp. 1 Ragley Drive Great Barr 6QB	Kerbside	403793	294661	NO2	YES Sandwell AQMA	13.0	0.3	No	2.8
KE	Lamppost entrance to Q3 Academy Wilderness La Great Barr B43 7SD	Roadside	403925	294970	NO2	YES Sandwell AQMA	1.2	1.2	No	2.9
LA, LB, LC	Co-Location AQ Monitoring Station Highfields West Bromwich B70 8RJ	Urban Background	400216	291633	NO2	YES Sandwell AQMA	N/A	26.1	Yes	2.8
MA	Downpipe 56 Mallin Street Smethwick B66 1QZ	Roadside	400712	289296	NO2	YES Sandwell AQMA	2.0	1.8	No	2.8
MC	Crossing Point adjacent Ivy Bush PH St Mallin Street Smethwick B66 1QS	Kerbside	400748	289150	NO2	YES Sandwell AQMA	1.6	0.7	No	2.1
N1A	Lamppost Bromford Lane & Brandon Way (Traffic Island)	Kerbside	399647	290355	NO2	YES Sandwell AQMA		0.1	No	2.8

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
	West Bromwich B70 7JW									
N1B	Lamppost Bromford Lane & Brandon Way (Traffic Island) West Bromwich B70 7JZ	Kerbside	399615	290358	NO2	YES Sandwell AQMA		0.9	No	2.8
N2A	Street Sign corner of Oakfield Road & Soho Way Smethwick B66 3JZ	Kerbside	403126	288557	NO2	YES Sandwell AQMA	20.0	0.8	No	2.7
OA	Crossing Point opp. 617 Bearwood Road Smethwick B66 4BL (WBBS)	Kerbside	402221	286190	NO2	YES Sandwell AQMA	2.9	0.2	No	2.8
OB	Downpipe 572 Bearwood Road Smethwick B66 4BS	Kerbside	402195	286233	NO2	YES Sandwell AQMA	4.0	1.0	No	2.8
OC	Street Sign opp. 641 Bearwood Road Smethwick B66 4BL	Kerbside	402245	286150	NO2	YES Sandwell AQMA	4.0	1.0	No	2.8
OD	Downpipe 588 Bearwood Road Smethwick B66 4BS	Kerbside	402222	286162	NO2	YES Sandwell AQMA	5.2	1.0	No	2.9

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)
OE	Street Sign opp. 603 Bearwood Road Smethwick B66 4BJ	Kerbside	402212	286234	NO2	YES Sandwell AQMA	4.0	1.0	No	2.9
OG	Crossing Point opp. (Aldi) 565 Bearwood Road Smethwick B66 4BQ	Kerbside	402187	286333	NO2	YES Sandwell AQMA	4.0	0.5	No	2.9
OH	Crossing Point opp. 566 Bearwood Road Smethwick B66 4BS	Kerbside	402192	286244	NO2	YES Sandwell AQMA	4.0	0.5	No	2.9
OI	Crossing Point opp. 593 Bearwood Road Smethwick B66 4BJ	Kerbside	402214	286253	NO2	YES Sandwell AQMA	4.0	0.5	No	2.9
OJ	Crossing Point opp. 586 Bearwood Road Smethwick B66 4BS	Kerbside	402194	286246	NO2	YES Sandwell AQMA	4.0	0.5	No	2.9
OP4	Lamppost opp. 612 Bearwood Road Smethwick B66 4BW	Roadside	402229	286096	NO2	YES Sandwell AQMA	0.0	5.5	No	2.9

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)
PA1, PA2, PA3	A41 Lamppost corner of Halfords Lane & Birmingham Rd West Bromwich (WBA Stadium) B71 4LD	Kerbside	402461	290241	NO2	YES Sandwell AQMA	41.0	0.8	No	2.9
PB1, PB2, PB3	A41 Lamppost near Walkway Bridge Birmingham Rd West Bromwich B71 4JZ	Roadside	402221	290290	NO2	YES Sandwell AQMA	55.0	1.5	No	2.8
PC1, PC2, PC3	A41 Lamppost near J1 M5 Birmingham Rd West Bromwich B71 4JQ	Roadside	401950	290355	NO2	YES Sandwell AQMA	25.0	1.5	No	2.9
PD1, PD2, PD3	A41 Lamppost near Sandwell Cricket Club Birmingham Rd West Bromwich B71 4JZ	Kerbside	402111	290331	NO2	YES Sandwell AQMA	75.0	1.0	No	2.8
PE1, PE2, PE3	A41 Lamppost near Starbucks Birmingham Rd West Bromwich B71 4JZ	Kerbside	402334	290279	NO2	YES Sandwell AQMA	55.0	1.0	No	2.8

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
PS1A	Downpipe Goose & Granite PH West Bromwich B70 7PN	Kerbside	400504	291239	NO2	YES Sandwell AQMA	6.2	0.1	No	2.9
RA	Lamppost opp. 97 Roebuck Lane West Bromwich B70 6QX	Urban Background	401558	290077	NO2	YES Sandwell AQMA	43.0	43.0	No	2.9
SA	Co-Location AQ Monitoring Station Wilderness Lane Great Barr B43 7SD	Urban Background	403951	294852	NO2	YES Sandwell AQMA	N/A	53.0	No	3.1
SU	Street Sign opp. 71 Bratt Street West Bromwich B71 8SH	Roadside	400476	291481	NO2	YES Sandwell AQMA	N/A	7.8	No	2.8
TA	Downpipe 22 Tividale Road Tividale B69 2LG	Roadside	395958	290645	NO2	YES Sandwell AQMA	N/A	5.4	No	2.1
TC	Lamppost New Birmingham Road Tividale DY4 7TD	Roadside	395854	290643	NO2	YES Sandwell AQMA	44.0	3.9	No	2.9
UA	Lamppost opp. 293 Oldbury Road Rowley Regis B65 0PR	Roadside	398135	287603	NO2	YES Sandwell AQMA	32.0	2.0	No	2.7
UB	Street Sign opp. 295 Throne Road	Roadside	398167	287750	NO2	YES Sandwell AQMA	7.4	1.2	No	2.9

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)
	Rowley Regis B65 9JS									
UC	Street Sign near 1a Titford Lane Rowley Regis B65 0PT	Kerbside	398170	287746	NO2	YES Sandwell AQMA	7.7	0.2	No	2.9
VD	Lamppost near ABS Carpets Market Place Great Bridge DY4 7EJ	Roadside	397628	292459	NO2	YES Sandwell AQMA	5.3	2.0	No	2.8
VT	Lamppost opp. 3 Tipton Road Oldbury B69 3HY	Roadside	397155	290867	NO2	YES Sandwell AQMA	10.3	2.7	No	2.8
WA	Lamppost opp. 38 Snapdragon Drive Walsall WS5 4SX	Kerbside	401917	295329	NO2	YES Sandwell AQMA	8.0	0.2	No	2.7
WB	Lamppost near 5 Wolfsbane Drive Walsall WS5 4RT	Kerbside	402139	295119	NO2	YES Sandwell AQMA	68.0	1.0	No	2.6
WF	Lamppost opp. 61 Woodruff Way Walsall WS5 4RS	Kerbside	402133	295234	NO2	YES Sandwell AQMA	8.0	0.2	No	2.7
WW2	Lamppost corner of Westmore Way & Pemberton Crescent Wednesbury WS10 0TZ	Kerbside	400564	296037	NO2	YES Sandwell AQMA	202.0	1.0	No	2.9

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)
WW3	Lamppost opp. 20 Westmore Way Wednesbury WS10 0TR	Roadside	400598	296035	NO2	YES Sandwell AQMA	195.0	1.1	No	2.9
XE	Lamppost opp. 6 Lochranza Croft Great Barr B43 7AA	Urban Background	404435	294866	NO2	YES Sandwell AQMA	4.3	16.3	No	2.8
ZA	Garage Post 177 Whitecrest Great Barr B43 6EP	Urban Background	404504	294813	NO2	YES Sandwell AQMA	37.0	33.0	No	1.9
ZC	Downpipe 55 Birmingham Road Great Barr B43 6NX	Roadside	404493	294532	NO2	YES Sandwell AQMA	3.0	1.9	No	1.9
ZK	Downpipe Tabitha Home Care Birmingham Road Great Barr B43 6NW	Kerbside	404621	294291	NO2	YES Sandwell AQMA	17.2	0.3	No	1.8
ZO	Downpipe GP Surgery corner of Pages Lane & Newton Road Great Barr B43 6AA	Kerbside	404290	294179	NO2	YES Sandwell AQMA	4.0	0.8	No	2.7
ZP	Street Sign exit from Aldi Newton Road Great Barr B43 6BW	Kerbside	404555	294219	NO2	YES Sandwell AQMA	3.2	0.4	No	2.8

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
ZQ	Street Sign opp. Meat Centre 20 Newton Road Great Barr B43 6BN	Kerbside	404539	294187	NO2	YES Sandwell AQMA	3.5	0.5	No	2.7
ZR	Street Sign opp. 34 Newton Road Great Barr B43 6BW	Kerbside	404410	294170	NO2	YES Sandwell AQMA	5.9	0.4	No	2.8

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/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 2024 (%) (2)	2020	2021	2022	2023	2024
Highfields	400187	291601	Urban Background	99.4	97.7	15	18	19	17.8	17.2
Oldbury	399857	289392	Roadside	99.6	99.6	25.8	27.7	27.2	25.9	24.3
Great Barr	403956	294855	Roadside	99.2	99.2	23	23	24	19.8	20.4
Haden Hill	395755	285493	Urban Background	68.1	68.1	11	13	14	9.7	9.5
West Bromwich	400521	291541	Roadside	96.2	96.2	19	21	21	19.2	19.1

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

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

☒ **Where exceedances of the 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 2024.**

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**.

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 2024 (%) (2)	2020	2021	2022	2023	2024
AD	399639	296095	Roadside	100.0	92.5	26.7	22.2	22.6	22.3	21.0
AE	399680	296089	Roadside	100.0	83.0	28.6	29.6	30.2	29.0	27.8
AF	399672	296042	Roadside	100.0	92.5	24.4	28.7	30.0	27.8	28.1
B17	399733	289401	Roadside	100.0	100.0	23.9	26.1	23.5	23.3	21.9
BA	399686	289431	Roadside	100.0	100.0	28.1	31.1	25.8	26.9	25.4
BD	399889	289395	Kerbside	100.0	100.0	31.6	34.6	31.3	30.4	30.4
BDQ	399943	289377	Roadside	100.0	90.6	31.3	32.5	29.9	28.7	27.5
BE	399915	289353	Kerbside	100.0	100.0	38.0	39.2	34.4	34.0	32.3
BF	399807	289408	Kerbside	100.0	100.0	28.2	29.4	26.9	25.9	26.2
BG	399721	289429	Kerbside	100.0	92.5	27.6	32.2	32.3	31.3	29.5
BO	400039	289366	Kerbside	100.0	100.0	29.7	32.8	30.4	29.8	27.8

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 2024 (%) (2)	2020	2021	2022	2023	2024
BP	400149	289424	Roadside	100.0	100.0	30.3	36.2	**44.5**	**44.0**	**41.4**
BR	399814	289407	Roadside	100.0	100.0	31.4	30.4	27.8	27.2	26.0
BS	399864	289427	Roadside	100.0	90.6	26.3	28.1	25.7	23.9	23.7
B52	399692	289428	Roadside	100.0	100.0	31.4	31.5	29.3	27.6	27.1
C10A	402285	286062	Kerbside	100.0	100.0	23.9	34.7	32.9	33.0	31.8
C10D	402298	286073	Roadside	100.0	90.6	33.4	36.2	33.4	32.6	31.6
C11A	397439	286416	Roadside	100.0	92.5	26.5	27.5	27.6	29.7	28.9
C11D	397428	286381	Kerbside	100.0	92.5	23.7	25.4	24.9	26.1	25.2
C11E	397391	286359	Kerbside	100.0	90.6	23.3	30.2	30.2	30.6	27.5
C12A	396899	286438	Kerbside	100.0	92.5	34.3	36.9	34.9	34.1	32.4
C12D	396872	286454	Kerbside	100.0	100.0	26.6	33.3	29.6	28.5	30.1
C12E	396780	286465	Roadside	100.0	100.0	22.9	29.5	27.5	28.0	26.8

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 2024 (%) (2)	2020	2021	2022	2023	2024
C13D	396411	291471	Roadside	100.0	100.0	25.7	30.1	26.1	24.8	24.3
C14A	397355	293929	Kerbside	100.0	100.0	24.9	29.2	30.2	27.5	26.7
C15A	396867	285536	Roadside	100.0	84.9	30.2	33.7	31.1	29.1	26.9
C1A	400668	291726	Kerbside	100.0	90.6	24.7	24.5	25.0	22.2	21.6
C1D	400664	292020	Roadside	100.0	100.0	30.3	31.9	37.8	**41.4**	**42.3**
C2A	401050	292898	Roadside	100.0	100.0	25.5	30.1	28.8	28.8	27.4
C2E	401059	292966	Kerbside	100.0	100.0	25.9	28.3	27.2	28.5	26.0
C4A	400619	290153	Kerbside	100.0	100.0	27.7	29.7	29.3	26.3	28.8
C4D	400657	290090	Kerbside	100.0	92.5	32.5	35.2	34.6	32.6	34.0
C4E	400738	290113	Kerbside	100.0	75.0	29.4	31.6	30.4	30.2	29.9
C5A	399267	290084	Kerbside	100.0	100.0	22.8	25.6	24.8	25.2	24.1
C5D	399207	290032	Kerbside	100.0	100.0	29.0	32.2	31.9	31.9	30.1

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
C5E	399139	289947	Roadside	100.0	100.0	24.6	24.0	24.0	24.2	23.0
C6A	398937	289322	Roadside	100.0	100.0	26.7	29.1	28.7	27.2	27.2
C6E	399229	289315	Kerbside	100.0	83.0	24.9	26.9	23.7	24.6	24.7
C7A	398283	290113	Kerbside	100.0	100.0	29.4	26.5	24.0	23.2	25.8
C7D	398136	290226	Roadside	100.0	90.6	28.9	35.7	36.9	36.3	35.9
C7E	398042	290285	Kerbside	100.0	75.0	23.4	28.0	26.4	25.4	26.1
C7F	397493	290628	Kerbside	100.0	100.0	27.5	28.7	26.2	26.9	26.5
C7H	398311	290135	Kerbside	100.0	100.0	15.7	16.5	17.3	16.3	16.9
C9A	402138	286650	Roadside	100.0	90.6	22.1	25.3	24.4	22.7	23.1
C9D	402160	286554	Roadside	100.0	100.0	29.1	34.1	31.7	31.0	31.6
DA1, DA2, DA3	399402	292095	Roadside	100.0	75.0	24.5	25.7	24.0	23.6	24.9
DB1, DB2, DB3	399508	292068	Roadside	100.0	100.0	35.2	37.4	35.0	32.4	34.6

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 2024 (%) (2)	2020	2021	2022	2023	2024
DC1, DC2, DC3	400233	291783	Roadside	100.0	100.0	21.9	24.1	23.3	21.1	19.5
DD1, DD2, DD3	400366	291781	Roadside	100.0	100.0	25.2	28.7	26.7	24.5	24.1
DE1, DE2, DE3	400728	291599	Roadside	100.0	100.0	25.3	27.5	24.7	22.0	21.3
DF1, DF2, DF3	400890	291558	Roadside	100.0	100.0	27.7	29.8	29.1	26.5	26.0
DG1, DG2, DG3	401040	291269	Roadside	100.0	100.0	28.6	27.6	26.8	24.5	24.9
DH1, DH2, DH3	401195	290934	Kerbside	100.0	100.0	22.4	22.8	22.6	21.3	20.5
DEF1	398469	288673	Roadside	100.0	100.0	26.0	28.2	26.6	24.1	24.9
DEF2	398405	288722	Roadside	100.0	100.0	16.1	18.7	17.7	16.7	15.5
DP1	397324	292256	Roadside	100.0	92.5	27.4	29.1	28.1	27.1	26.6
DP4	397344	292214	Roadside	100.0	92.5	19.2	20.4	20.0	18.0	17.5
EA	400869	291102	Kerbside	100.0	81.1	19.8	21.1	18.7	18.6	17.7

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 2024 (%) (2)	2020	2021	2022	2023	2024
EB	400921	291001	Roadside	100.0	90.6	20.1	20.8	19.1	18.8	19.5
ED	400555	291257	Roadside	100.0	100.0	21.4	26.1	24.0	26.0	24.8
EE	400275	291132	Roadside	100.0	92.5	27.1	30.4	28.6	29.0	27.9
EF	399789	290547	Roadside	100.0	100.0	24.7	27.2	25.8	28.1	25.9
FA1, FA2, FA3	398756	289622	Roadside	100.0	100.0	31.4	34.0	33.1	30.6	30.2
FB1, FB2, FB3	398717	289574	Roadside	100.0	100.0	23.0	26.1	27.7	27.3	27.5
FC1, FC2, FC3	398788	289451	Roadside	100.0	100.0	28.3	30.8	31.4	28.3	29.1
FD1, FD2, FD3	399162	289413	Roadside	100.0	100.0	24.2	23.9	23.6	23.1	23.1
FE1, FE2, FE3	399375	289398	Roadside	100.0	90.6	32.1	34.7	32.9	31.8	31.1
FF1, FF2, FF3	400370	289532	Roadside	100.0	100.0	30.6	31.4	31.3	31.5	32.6
FG1, FG2, FG3	400535	289436	Roadside	100.0	100.0	30.2	33.0	30.5	29.5	29.3

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
GA, GB, GC	399858	289391	Roadside	100.0	100.0	27.8	30.5	27.8	27.5	26.8
HA	400383	291307	Kerbside	100.0	100.0	24.3	27.4	26.1	27.7	28.7
HH1	395754	285492	Kerbside	100.0	92.5	11.6	11.1	13.8	11.8	9.6
KD	403793	294661	Kerbside	100.0	100.0	19.5	18.0	19.2	18.0	16.5
KE	403925	294970	Roadside	100.0	92.5	17.7	18.7	18.0	16.2	14.9
LA, LB, LC	400216	291633	Urban Background	100.0	100.0	17.3	18.5	18.0	16.9	16.4
MA	400712	289296	Roadside	100.0	100.0	34.6	34.7	29.7	28.2	30.1
MC	400748	289150	Kerbside	100.0	100.0	28.5	31.9	30.5	30.3	31.5
N1A	399647	290355	Kerbside	100.0	90.6	30.9	32.2	32.3	30.7	27.9
N1B	399615	290358	Kerbside	100.0	75.0	29.4	34.6	32.2	33.8	32.8
N2A	403126	288557	Kerbside	100.0	92.5	19.5	26.2	23.5	21.9	22.3
OA	402221	286190	Kerbside	100.0	100.0	25.3	29.0	27.9	26.3	24.8

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 2024 (%) (2)	2020	2021	2022	2023	2024
OB	402195	286233	Kerbside	100.0	90.6	26.6	30.5	29.6	29.0	28.1
OC	402245	286150	Kerbside	100.0	83.0	26.6	29.8	27.8	26.7	25.9
OD	402222	286162	Kerbside	100.0	100.0	27.4	30.6	28.3	27.1	27.7
OE	402212	286234	Kerbside	100.0	90.6	26.8	30.8	30.2	28.7	27.2
OG	402187	286333	Kerbside	100.0	90.6	24.2	29.0	27.4	24.7	25.8
OH	402192	286244	Kerbside	100.0	100.0	28.8	31.1	30.6	29.1	28.5
OI	402214	286253	Kerbside	100.0	100.0	24.3	28.4	27.6	26.1	25.3
OJ	402194	286246	Kerbside	100.0	100.0	28.7	31.1	29.9	28.7	28.6
OP4	402229	286096	Roadside	100.0	100.0	28.5	32.4	31.1	30.0	29.5
PA1, PA2, PA3	402461	290241	Kerbside	100.0	100.0	30.4	34.2	30.8	31.4	32.4
PB1, PB2, PB3	402221	290290	Urban Background	100.0	100.0	29.4	32.7	29.1	29.1	28.4
PC1, PC2, PC3	401950	290355	Urban Background	100.0	100.0	38.1	**44.2**	39.6	34.0	33.5

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 2024 (%) (2)	2020	2021	2022	2023	2024
PD1, PD2, PD3	402111	290331	Urban Background	100.0	100.0	31.5	34.8	32.9	31.3	32.8
PE1, PE2, PE3	402334	290279	Urban Background	100.0	100.0	31.9	35.6	33.0	32.2	32.7
PS1A	400504	291239	Roadside	100.0	100.0	25.1	28.3	27.6	27.4	27.6
RA	401558	290077	Urban Background	100.0	100.0	23.4	28.0	25.1	25.3	25.1
SA	403951	294852	Urban Background	100.0	100.0	20.6	21.9	20.4	18.8	17.5
SU	400476	291481	Roadside	100.0	100.0	19.4	22.0	21.1	19.9	19.5
TA	395958	290645	Roadside	100.0	100.0	23.7	24.5	23.2	21.8	22.2
TC	395854	290643	Roadside	100.0	90.6	34.1	33.3	30.5	32.4	31.5
UA	398135	287603	Roadside	100.0	100.0	24.1	29.5	27.3	27.7	27.0
UB	398167	287750	Roadside	100.0	100.0	25.2	27.2	24.4	22.9	25.0
UC	398170	287746	Kerbside	100.0	84.9	26.9	28.6	26.1	25.4	25.3
VD	397628	292459	Roadside	100.0	75.0	21.3	23.3	21.1	20.1	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 2024 (%) (2)	2020	2021	2022	2023	2024
VT	397155	290867	Roadside	100.0	100.0	21.5	22.1	21.1	19.7	19.2
WA	401917	295329	Kerbside	100.0	100.0	22.6	22.9	25.7	22.4	22.1
WB	402139	295119	Urban Background	100.0	90.6	20.7	21.7	21.8	19.7	19.5
WF	402133	295234	Kerbside	100.0	100.0	20.0	22.5	22.9	21.9	20.9
WW2	400564	296037	Roadside	100.0	90.6	17.9	22.1	18.9	17.3	16.0
WW3	400598	296035	Urban Background	100.0	100.0	17.6	22.0	19.7	18.0	17.4
XE	404435	294866	Roadside	100.0	100.0	20.8	28.3	25.9	25.4	24.3
ZA	404504	294813	Urban Background	100.0	100.0	22.4	25.8	24.9	23.8	23.8
ZC	404493	294532	Roadside	100.0	100.0	23.6	22.5	21.5	19.1	18.8
ZK	404621	294291	Kerbside	100.0	90.6	23.1	22.5	23.5	21.2	20.1
ZO	404290	294179	Kerbside	100.0	92.5	24.3	26.7	24.2	23.5	23.2
ZP	404555	294219	Kerbside	100.0	100.0	23.3	26.3	23.8	22.3	21.0

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 2024 (%) (2)	2020	2021	2022	2023	2024
ZQ	404539	294187	Kerbside	100.0	100.0	34.3	34.3	33.4	34.7	33.0
ZR	404410	294170	Kerbside	100.0	100.0	36.5	35.2	33.4	33.9	35.1

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

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

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

Notes:

The annual mean concentrations are presented as 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

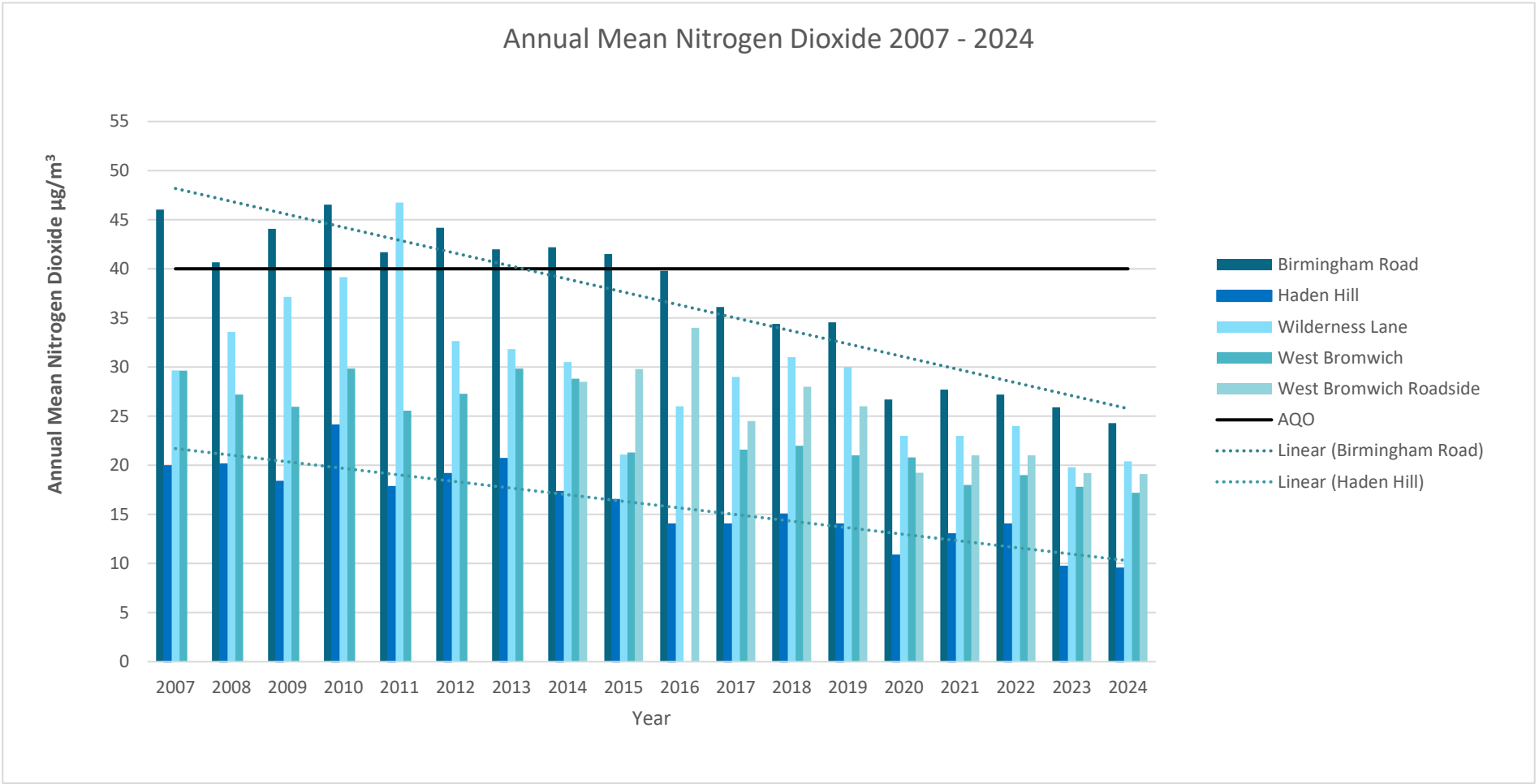


Table A.5 – 1-Hour Mean NO_2 Monitoring Results, Number of 1-Hour Means > 200µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
Highfields	400187	291601	Urban Background	99.4	97.7	0	0	0	0	0
Oldbury	399857	289392	Roadside	99.6	99.6	0	0	0	0	0
Great Barr	403956	294855	Roadside	99.2	99.2	0	0	0	0	0
Haden Hill	395755	285493	Urban Background	68.1	68.1	0	0	0	0	0 (72)
West Bromwich	400521	291541	Roadside	96.2	96.2	0	0	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%).

Table A.6 – Annual Mean PM_{10} Monitoring Results ($\mu g/m^3$)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
Highfields	400187	291601	Urban Background	96.2	94.5	15	13	14	12.3	13.2
Oldbury	399857	289392	Roadside	97.8	97.8	17	14	15	13.2	13.2
Great Barr	403956	294855	Roadside	99.9	99.9	13	13	12	10.2	11.7
Haden Hill	395755	285493	Urban Background	99.9	56.6	12.3	12	12	11.2	11.5

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

Notes:

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

Exceedances of the PM_{10} annual mean objective of 40$\mu g/m^3$ are shown in **bold**.

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

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

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

Figure A.2 – Trends in Annual Mean PM_{10} Concentrations

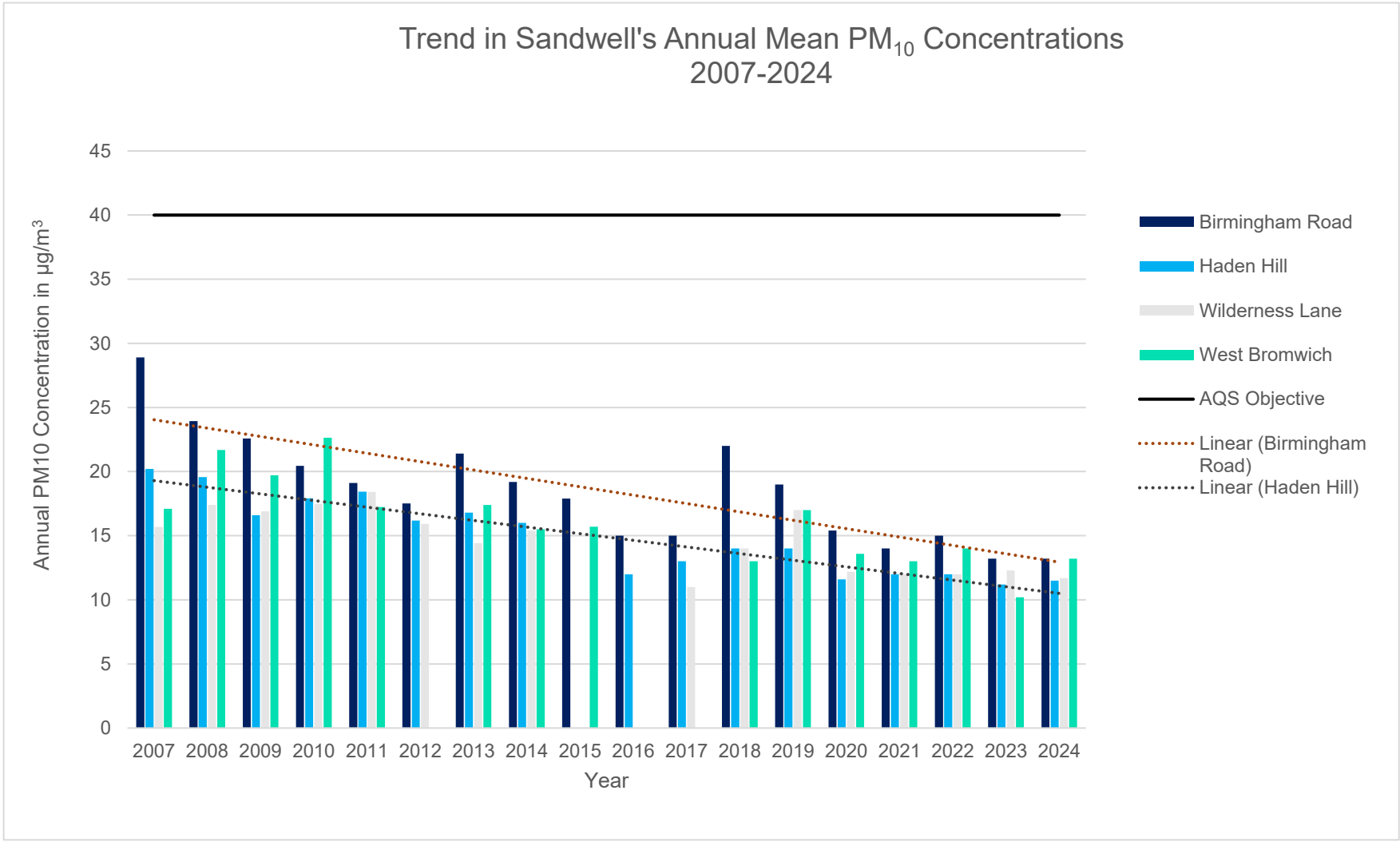


Table A.7 – 24-Hour Mean PM_{10} Monitoring Results, Number of PM_{10} 24-Hour Means > 50µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
Highfields	400187	291601	Urban Background	96.2	94.5	2	0	4	1	0
Oldbury	399857	289392	Roadside	97.8	97.8	0(22)	0(19)	2	0	0
Great Barr	403956	294855	Roadside	99.9	99.9	2	1	4	1	0
Haden Hill	395755	285493	Urban Background	99.9	56.6	1	0	0	0	0(22)

Notes:

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

Exceedances of the PM_{10} 24-hour mean objective (50µg/m^3 not to be exceeded more than 35 times/year) are shown in **bold**.

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

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

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

Figure A.3 – Trends in Number of 24-Hour Mean PM_{10} Results > 50µg/m³

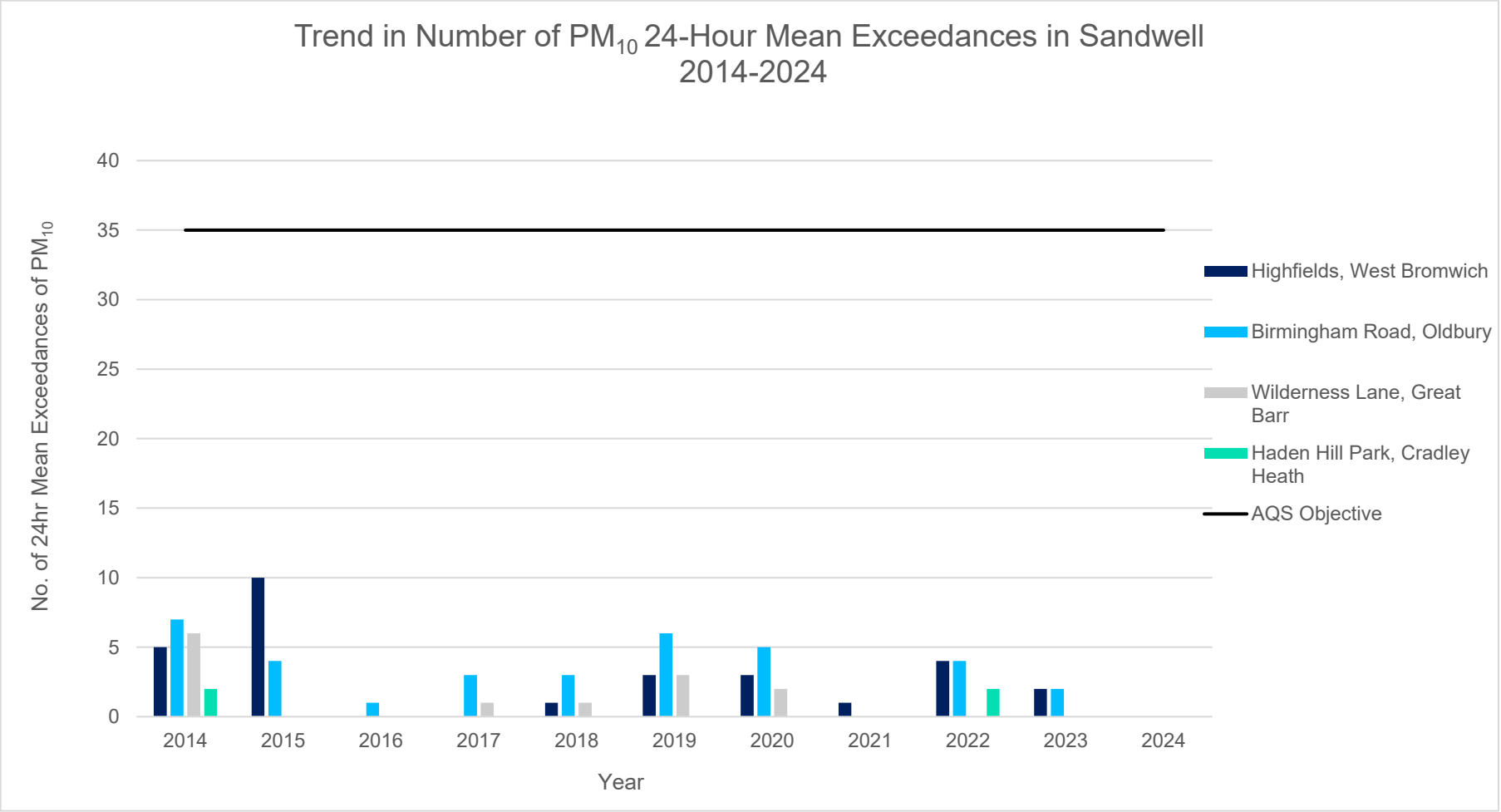


Table A.8 – Annual Mean $PM_{2.5}$ Monitoring Results (µg/m^3)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
Highfields	400187	291601	Urban Background	96.2	94.5	-	8.2	9	7.3	8.7
Oldbury	399857	289392	Roadside	97.8	97.8	-	7	8	7.6	8.3
Great Barr	403956	294855	Roadside	99.9	99.9	-	6.8	7	6.1	7.1
Haden Hill	395755	285493	Urban Background	99.9	56.6	6.4	7.7	6.8	7.0	7.7

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

Notes:

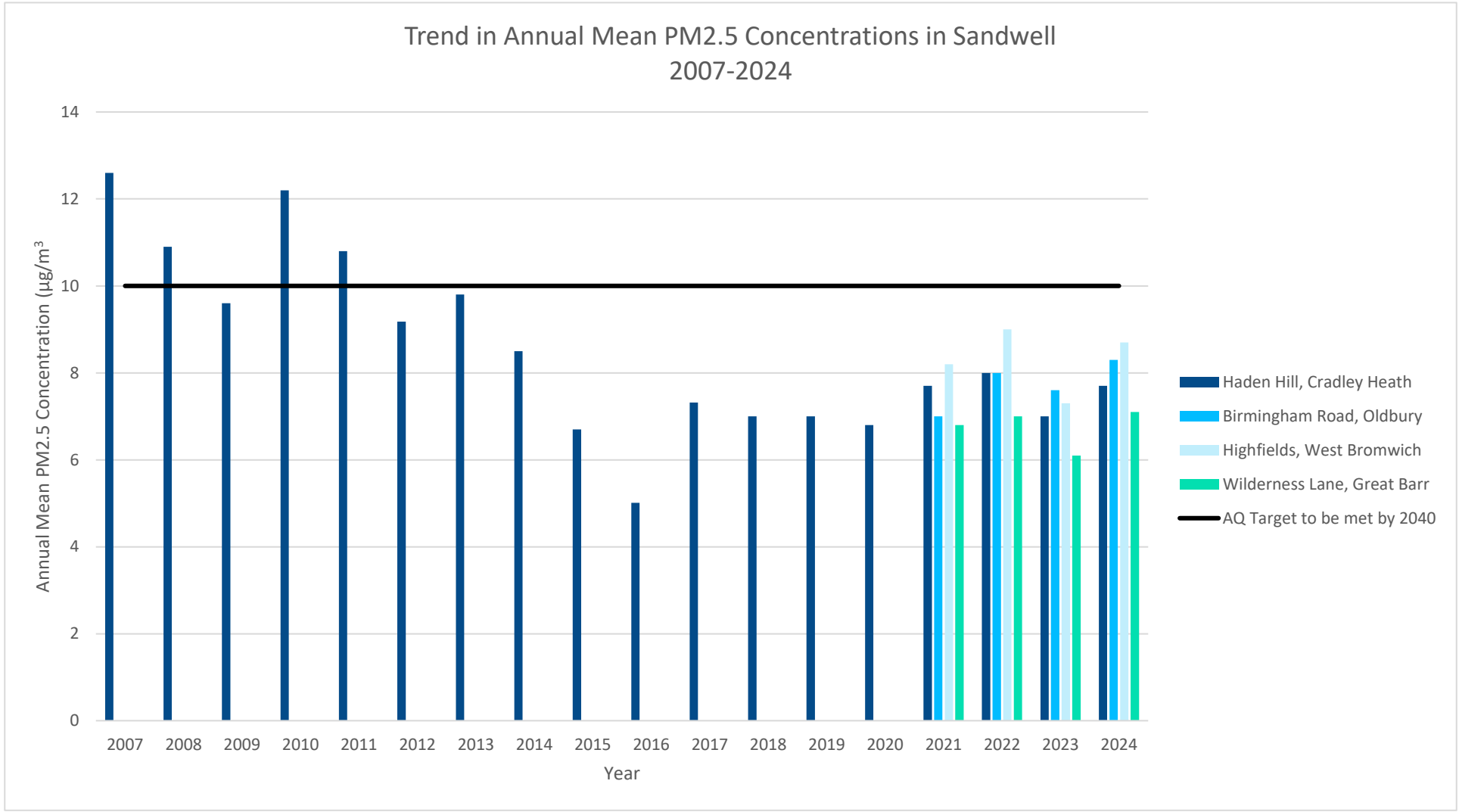
The annual mean concentrations are presented as µg/m^3.

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

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

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

Figure A.4 – Trends in Annual Mean $PM_{2.5}$ Concentrations



Appendix B: Full Monthly Diffusion Tube Results for 2024

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

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.88)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
AD	399639	296095	25.3	24.4	32.8	19.8	25.2	17.6	19.5	18.0	25.8	33.9	28.1	20.0	24.2	21.3	-	
AE	399680	296089	36.4	37.9	41.5	28.7			20.3	23.4	31.3	42.3	33.7	21.1	31.6	27.8	-	
AF	399672	296042	28.9	31.4	37.0	21.0	31.1	21.4		34.4	41.4	38.8	40.2	26.2	32.0	28.1	-	
B17	399733	289401	30.3	26.9	26.7	23.9	24.9	21.0	23.0	17.9	26.2	28.2	23.1	27.3	24.9	21.9	-	
BA	399686	289431	31.0	37.1	25.8	26.5	26.2	25.7	27.1	23.6	27.3	31.0	35.8	29.8	28.9	25.4	-	
BD	399889	289395	37.6	36.1	35.7	35.9	34.6	31.4	33.5	27.3	37.1	31.7	41.5	32.3	34.5	30.4	-	
BDQ	399943	289377	36.9	32.5	26.6	31.7	26.6	29.8	28.1	25.3	34.4	31.1	38.4	28.4	30.8	27.1	-	
BE	399915	289353	34.7	41.6	32.2	38.0	36.5	35.4	34.0	30.0	38.4	39.7	42.0	37.8	36.7	32.3	-	
BF	399807	289408	32.6	28.3	28.3	27.1	31.2	29.9	29.0	24.6	33.1	30.8	33.9	28.6	29.8	26.2	-	
BG	399721	289429	40.0	38.5	30.1	34.4	33.3	28.5	31.1	28.1	37.4	34.5		32.6	33.5	29.5	-	
BO	400039	289366	33.5	29.4	33.0	31.2	31.6	29.7	29.8	27.4	32.9	32.8	36.5	31.7	31.6	27.8	-	
BP	400149	289424	52.2	45.2	47.8	50.5	46.5	53.3	45.8	26.5	49.6	46.1	55.4	46.4	47.1	**41.4**	31.9	
BR	399814	289407	31.2	31.4	26.6	30.0	30.5	30.3	26.2	23.9	31.4	31.9	32.9	28.6	29.6	26.0	-	
BS	399864	289427	27.9	28.0	24.0	26.2		23.1	26.0	18.9	24.8	30.7	35.7	31.5	27.0	23.7	-	
B52	399692	289428	28.5	38.7	33.0	23.7	28.3	26.0	29.2	20.9	32.3	34.9	39.6	34.7	30.8	27.1	-	
C10A	402285	286062	38.4	31.2	35.5	36.8	39.2	36.4	37.3	30.0	42.1	35.9	36.1	34.3	36.1	31.8	-	
C10D	402298	286073	39.8	33.5	28.9	37.1		34.7	38.0	30.0	39.2	35.9	45.9	32.6	36.0	31.6	-	
C11A	397439	286416	33.2	33.3	35.1	32.6	33.8		34.3	28.0	32.4	32.4	34.9	31.4	32.8	28.9	-	

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C11D	397428	286381	23.0	31.2	26.3	28.8	28.5	24.6	27.5	23.0	27.5	29.8	35.1	32.7	28.2	24.8	-	
C11E	397391	286359	31.9	33.1	27.0	29.7	28.9	27.0	26.7	26.4	34.6	25.4	38.2	40.6	30.8	27.1	-	
C12A	396899	286438	36.4	40.3	37.7	39.5	34.3	41.0	38.2	30.8	32.6	40.4	31.3	33.4	36.3	32.0	-	
C12D	396872	286454	39.5	30.5	34.0	33.0	34.7	37.0	33.3	27.5	37.2	32.9	40.7	30.7	34.3	30.1	-	
C12E	396780	286465	36.4	25.1	30.4	31.6	29.2	30.2	28.9	26.1	32.1	30.2	34.6	30.5	30.4	26.8	-	
C13D	396411	291471	28.3	30.2	38.8	22.0	24.5	23.4	21.5	23.8	32.2	24.9	32.2	29.5	27.6	24.3	-	
C14A	397355	293929	28.5	31.9	44.5	21.4	26.7	24.3	25.5	29.6	33.1	32.9	31.5	34.5	30.4	26.7	-	
C15A	396867	285536	29.5	31.9	26.0	29.3	30.2	32.6	30.3	24.7	36.9	32.8		32.3	30.6	26.9	-	
C1A	400668	291726	25.7	29.5	29.2	19.1	24.9	21.2	24.2	23.1	23.2	29.1	31.2	18.5	24.9	21.9	-	
C1D	400664	292020	49.8	55.5	54.6	42.6	42.7	40.2	46.2	50.1	48.4	53.5	55.3	38.6	48.1	**42.3**	27.8	
C2A	401050	292898	34.7	31.9	38.1	26.4	33.3	23.5	28.1	31.2	32.6	36.1	37.4	20.8	31.2	27.4	-	
C2E	401059	292966	18.6	32.6	31.7	27.6	33.9	22.0	25.5	23.4	38.2	36.8	38.0	25.8	29.5	26.0	-	
C4A	400619	290153	32.7	38.2	44.4	23.6	28.7	29.0	25.0	32.2	33.0	32.8	36.8	36.5	32.7	28.8	-	
C4D	400657	290090	34.0	41.8	47.1		34.5	33.6	35.6	37.5	39.4	38.2	45.1	38.7	38.7	34.0	-	
C4E	400738	290113	28.8	39.4	47.1		28.4	26.6	25.5	32.2	34.6	30.3	35.5	36.0	33.1	29.2	-	
C5A	399267	290084	30.1	31.2	34.0	21.8	28.6	19.9	21.6	25.2	32.9	31.2	33.5	19.1	27.4	24.1	-	
C5D	399207	290032	39.3	31.9	34.6	31.1	38.3	28.6	29.8	32.9	41.1	37.9	43.0	22.3	34.2	30.1	-	
C5E	399139	289947	27.3	28.9	30.9	22.6	26.2	19.4	21.9	25.1	29.4	25.7	32.4	23.2	26.1	23.0	-	
C6A	398937	289322	32.5	30.2	35.8	26.8	31.7	28.4	31.9	32.0	31.9	36.2	32.4	21.1	30.9	27.2	-	
C6E	399229	289315	25.7	27.1	31.0	22.0	26.9	19.3	24.7	27.0	28.6	31.6	35.9		27.3	24.0	-	

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C7A	398283	290113	26.8	30.4	32.2	22.6	24.5	26.4	25.3	28.4	47.6	22.4	32.4	32.9	29.3	25.8	-	
C7D	398136	290226	39.7	41.9	45.8	34.0	36.9	44.3	42.9	47.0	36.7	36.6	45.0	39.5	40.8	35.9	-	
C7E	398042	290285	25.5			26.5		27.0	26.1	30.7	36.7	30.6	35.8	28.3	29.7	26.1	-	
C7F	397493	290628	25.0	31.9	37.5	24.3	26.9	29.9	27.7	27.1	34.7	27.0	35.9	33.5	30.1	26.5	-	
C7H	398311	290135	17.7	21.8	24.7	14.9	15.8	12.0	14.5	16.5	24.1	18.3	28.8	21.0	19.2	16.9	-	
C9A	402138	286650	23.6	26.0	29.3	21.4	27.0	21.8	23.3		24.6	30.6	36.7	24.8	26.3	23.1	-	
C9D	402160	286554	34.5	29.2	36.8	33.7	38.7	35.9	33.5	28.6	42.8	37.7	44.1	35.2	35.9	31.6	-	
DA1	399402	292095	20.7	30.6	41.6	23.5	28.4	26.5	25.0		31.7	28.1		29.0	-	-	-	Triplicate Site with DA1, DA2 and DA3 - Annual data provided for DA3 only
DA2	399402	292095	21.7	34.5	41.5	21.1	27.8	27.0			28.3	28.3			-	-	-	Triplicate Site with DA1, DA2 and DA3 - Annual data provided for DA3 only
DA3	399402	292095	22.6	29.2	39.8	22.3	26.8				25.7	24.8	31.7	26.2	28.2	24.9	-	Triplicate Site with DA1, DA2 and DA3 - Annual data provided for DA3 only
DB1	399508	292068	31.6	43.3	50.9	29.2	38.9	40.9	34.1	37.4	40.7	39.4	44.5	38.4	-	-	-	Triplicate Site with DB1, DB2 and DB3 - Annual data provided for DB3 only
DB2	399508	292068	30.8	42.3	53.3	32.2	37.7	45.0	37.0	37.0	40.5	34.4	45.3	39.9	-	-	-	Triplicate Site with DB1, DB2 and DB3 - Annual data provided for DB3 only
DB3	399508	292068	32.5	44.1	47.3	30.4	35.6	43.1	39.3	34.8	40.9	37.8	44.8	41.0	39.3	34.6	-	Triplicate Site with DB1, DB2 and DB3 - Annual data provided for DB3 only
DC1	400233	291783	25.5	26.2	28.9	18.8	20.3	16.1	19.7	16.2	27.9	25.4	25.3	21.1	-	-	-	Triplicate Site with DC1, DC2 and DC3 - Annual data provided for DC3 only
DC2	400233	291783	24.4	24.8	28.8	18.0	20.5	16.4	18.2	13.2	30.1	27.6	26.3	22.5	-	-	-	Triplicate Site with DC1, DC2 and DC3 - Annual data provided for DC3 only
DC3	400233	291783	21.8	26.1	25.0	18.6	19.8	15.8	16.0	16.3	25.7	28.0	24.0	20.8	22.2	19.5	-	Triplicate Site with DC1, DC2 and DC3 - Annual data provided for DC3 only
DD1	400366	291781	30.8	25.3	28.3	22.3	28.6	24.2	25.3	20.2	45.9	27.3	32.2	25.6	-	-	-	Triplicate Site with DD1, DD2 and DD3 - Annual data provided for DD3 only
DD2	400366	291781	28.0	28.0	33.8	25.2	28.8	22.4	23.8	20.1	33.1	22.8	29.8	27.9	-	-	-	Triplicate Site with DD1, DD2 and DD3 - Annual data provided for DD3 only
DD3	400366	291781	21.9	25.8	30.4	24.6	24.6	21.5	24.7	20.7	37.3	32.0	31.9	24.2	27.2	23.9	-	Triplicate Site with DD1, DD2 and DD3 - Annual data provided for DD3 only

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DE1	400728	291599	24.5	27.9	31.0	16.4	22.0	17.8	20.1	17.7	27.7	29.3	25.0	24.9	-	-	-	Triplicate Site with DE1, DE2 and DE3 - Annual data provided for DE3 only
DE2	400728	291599	24.7	32.8	34.7	16.8	22.3	17.8	20.3	17.1	24.9	31.2	26.2	26.9	-	-	-	Triplicate Site with DE1, DE2 and DE3 - Annual data provided for DE3 only
DE3	400728	291599	23.4	34.5	28.5	20.1	21.6	18.1	20.2	16.9	27.8	28.8	27.1	24.2	24.2	21.3	-	Triplicate Site with DE1, DE2 and DE3 - Annual data provided for DE3 only
DF1	400890	291558	23.8	30.1	38.4	24.9	28.7	24.9	27.4	22.5	37.2	38.8	34.5	25.6	-	-	-	Triplicate Site with DF1, DF2 and DF3 - Annual data provided for DF3 only
DF2	400890	291558	30.2	31.1	39.0	19.1	28.8	23.3	28.2	23.1	34.8	33.7	29.5	25.0	-	-	-	Triplicate Site with DF1, DF2 and DF3 - Annual data provided for DF3 only
DF3	400890	291558	26.4	28.6	40.9	26.6	29.6	25.4	26.2	25.0	35.5	34.7		25.6	29.4	25.9	-	Triplicate Site with DF1, DF2 and DF3 - Annual data provided for DF3 only
DG1	401040	291269	26.8	26.2	32.6	24.3	8.6	17.8	23.1	22.5	35.5	36.6	38.4	22.9	-	-	-	Triplicate Site with DG1, DG2 and DG3 - Annual data provided for DG3 only
DG2	401040	291269	27.0	26.5	31.1	25.6	29.9	20.1	23.8	23.4	35.8	37.8	36.1	27.6	-	-	-	Triplicate Site with DG1, DG2 and DG3 - Annual data provided for DG3 only
DG3	401040	291269	26.6	33.4		21.9	31.5	18.5	23.6	22.6	34.1	36.2	38.0	19.4	27.7	24.4	-	Triplicate Site with DG1, DG2 and DG3 - Annual data provided for DG3 only
DH1	401195	290934	26.7	32.2	25.2	18.5	22.2	13.9	19.7	17.8	24.6	29.2	29.5	18.5	-	-	-	Triplicate Site with DH1, DH2 and DH3 - Annual data provided for DH3 only
DH2	401195	290934	25.7	26.9	29.3	19.0	22.3	15.5	19.8	18.0	22.4	29.6	31.8	16.6	-	-	-	Triplicate Site with DH1, DH2 and DH3 - Annual data provided for DH3 only
DH3	401195	290934	28.3	30.4	29.0	19.5	22.0	15.4	16.9	17.4	23.0	30.3	31.7	19.4	23.3	20.5	-	Triplicate Site with DH1, DH2 and DH3 - Annual data provided for DH3 only
DEF1	398469	288673	29.7	32.9	33.1	28.0	25.7	27.4	21.6	22.9	28.3	29.1	33.5	26.7	28.3	24.9	-	
DEF2	398405	288722	19.5	16.2	20.3	15.3	17.3	12.6	15.3	11.9	17.2	18.9	28.7	18.2	17.6	15.5	-	
DP1	397324	292256		29.9	41.6	22.4	26.3	28.4	25.9	27.2	36.7	24.0	34.7	35.9	30.3	26.6	-	
DP4	397344	292214		23.6	25.2	12.8	17.5	14.1	13.4	16.2	26.4	16.1	29.1	25.0	19.9	17.5	-	
EA	400869	291102	21.6		16.4	17.3	17.3	13.3	18.2	16.8	22.6	24.2	30.6	19.6	19.8	17.4	-	
EB	400921	291001	25.5	24.8	24.8	17.1	20.4	13.8	18.0	16.5	21.7	27.8	32.7		22.1	19.5	-	
ED	400555	291257	27.0	32.7	33.4	22.8	25.5	22.9	26.8	26.6	27.3	32.8	33.6	27.3	28.2	24.8	-	

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EE	400275	291132		32.6	44.3	25.7	33.2	27.1	27.1	26.5	30.0	37.7	33.7	31.2	31.7	27.9	-	
EF	399789	290547	34.9	36.0	33.6	25.4	30.0	21.8	22.5	22.0	34.0	37.2	34.5	21.6	29.5	25.9	-	
FA1	398756	289622	33.6	33.9	46.0	26.6	31.7	34.1	29.1	27.5	40.4	29.4	39.8	34.8	-	-	-	Triplicate Site with FA1, FA2 and FA3 - Annual data provided for FA3 only
FA2	398756	289622	29.3	37.0	49.6	28.3	31.7	32.0	27.7	32.2	41.3	31.4	34.1		-	-	-	Triplicate Site with FA1, FA2 and FA3 - Annual data provided for FA3 only
FA3	398756	289622		35.2	43.4	29.5	31.5	34.4	30.5	34.4	37.3	29.2	41.1	40.2	34.4	30.2	-	Triplicate Site with FA1, FA2 and FA3 - Annual data provided for FA3 only
FB1	398717	289574	27.6	37.4	44.3	18.3	27.0	29.7	25.2	28.5	36.5	25.1	39.2	34.2	-	-	-	Triplicate Site with FB1, FB2 and FB3 - Annual data provided for FB3 only
FB2	398717	289574	25.8	35.6	44.5	23.8	27.6	29.2	28.2	26.3	33.5	30.7	40.7	32.2	-	-	-	Triplicate Site with FB1, FB2 and FB3 - Annual data provided for FB3 only
FB3	398717	289574	28.8	31.0	40.7	23.7	28.1	27.7	28.0	27.8	33.0	30.8	39.2	32.4	31.2	27.4	-	Triplicate Site with FB1, FB2 and FB3 - Annual data provided for FB3 only
FC1	398788	289451	32.9	34.1	44.6	24.6	31.7	33.0	29.0	29.7	40.7	31.3	39.3	42.0	-	-	-	Triplicate Site with FC1, FC2 and FC3 - Annual data provided for FC3 only
FC2	398788	289451	28.4	35.2	41.2	25.0	31.3	29.8	31.4	32.7	39.3	28.9		32.8	-	-	-	Triplicate Site with FC1, FC2 and FC3 - Annual data provided for FC3 only
FC3	398788	289451	30.1	31.5	41.4	25.4	30.1	27.2	30.7	30.6	34.4	31.5		30.8	33.1	29.1	-	Triplicate Site with FC1, FC2 and FC3 - Annual data provided for FC3 only
FD1	399162	289413	27.2	28.7	38.7	19.0	21.4	18.1	19.0	24.3	26.8	26.8	35.3	31.1	-	-	-	Triplicate Site with FD1, FD2 and FD3 - Annual data provided for FD3 only
FD2	399162	289413	23.1	34.1	40.1	18.8	22.1	17.6	20.5	22.3	27.4	24.6	38.1	29.9	-	-	-	Triplicate Site with FD1, FD2 and FD3 - Annual data provided for FD3 only
FD3	399162	289413	23.5	31.6	39.5	15.3	21.6	18.7	19.6	23.2	27.5	25.8	36.6	27.6	26.2	23.1	-	Triplicate Site with FD1, FD2 and FD3 - Annual data provided for FD3 only
FE1	399375	289398	30.5	31.5	46.8	25.1	33.2	29.3	30.3	33.2	51.2	31.1	46.7		-	-	-	Triplicate Site with FE1, FE2 and FE3 - Annual data provided for FE3 only
FE2	399375	289398	34.7	33.0	45.3	24.3	32.4	31.9	29.2	32.0	52.2	29.5	41.1		-	-	-	Triplicate Site with FE1, FE2 and FE3 - Annual data provided for FE3 only
FE3	399375	289398	29.4	37.8	40.3	24.7	33.4	32.3	32.4	32.3	52.3	34.2	44.1		35.4	31.1	-	Triplicate Site with FE1, FE2 and FE3 - Annual data provided for FE3 only
FF1	400370	289532	42.1	40.2	37.8	27.4	33.1	37.3	36.9	30.3	39.2	37.1	48.0	40.0	-	-	-	Triplicate Site with FF1, FF2 and FF3 - Annual data provided for FF3 only

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FF2	400370	289532	32.9	40.9	46,42	27.7	33.4	33.9	31.5	35.7	43.6	31.9	51.8	44.1	-	-	-	Triplicate Site with FF1, FF2 and FF3 - Annual data provided for FF3 only
FF3	400370	289532	38.0	39.2	37.5	24.9	33.0	31.5	35.7		38.6	31.8	50.3	43.5	37.0	32.6	-	Triplicate Site with FF1, FF2 and FF3 - Annual data provided for FF3 only
FG1	400535	289436	30.1	28.9	40.6	28.6	35.2	30.1	27.3	28.7	51.9	27.0	44.1	32.5	-	-	-	Triplicate Site with FG1, FG2 and FG3 - Annual data provided for FG3 only
FG2	400535	289436	30.4	26.2	33.6	28.4	34.5	29.5	29.2	25.0	50.5	30.9	43.6	31.4	-	-	-	Triplicate Site with FG1, FG2 and FG3 - Annual data provided for FG3 only
FG3	400535	289436	28.7	27.7	41.0	25.6	31.4	28.3	26.6	27.6	51.1	29.3	49.7		33.2	29.3	-	Triplicate Site with FG1, FG2 and FG3 - Annual data provided for FG3 only
GA	399858	289391	30.9	30.3	34.1	28.2	28.1	29.7	28.9	26.8	30.5	33.4	30.0	30.4	-	-	-	Triplicate Site with GA, GB and GC - Annual data provided for GC only
GB	399858	289391	33.8	34.7	26.5	29.7	28.5	28.5	31.2	23.4	28.8	33.4	37.3	31.6	-	-	-	Triplicate Site with GA, GB and GC - Annual data provided for GC only
GC	399858	289391	27.8	29.6	29.0	29.9	28.8	28.3	30.1	25.9	29.6	36.2	40.4	31.7	30.4	26.8	-	Triplicate Site with GA, GB and GC - Annual data provided for GC only
HA	400383	291307	34.5	29.3	38.0	29.3	31.3	25.2	31.0	27.8	42.9	36.4	36.4	29.3	32.6	28.7	-	
HH1	395754	285492	15.6	10.4	12.2	6.7	8.2	11.0	8.6	8.1	13.8	12.4	14.3	13.0	11.2	9.8	-	
KD	403793	294661	26.6	19.1	17.9	13.9	19.7	11.9	16.3	13.4	21.2	22.7	25.7	17.2	18.8	16.5	-	
KE	403925	294970	17.8	23.8	21.4	11.5	14.7	11.9	16.6	13.2	14.0	26.8	17.1	14.5	16.9	14.9	-	
LA	400216	291633	18.1	22.7	25.9	14.5	15.6	13.4	16.0	10.8	19.0	23.8	22.8	17.6	-	-	-	Triplicate Site with LA, LB and LC - Annual data provided for LC only
LB	400216	291633	20.7	24.3	27.6	14.0	16.1	13.1	16.6	14.6	18.9	24.0	22.5	17.4	-	-	-	Triplicate Site with LA, LB and LC - Annual data provided for LC only
LC	400216	291633	19.1	24.6	26.0	13.4	15.0	12.1	16.1	15.0	17.4	22.2	21.4	19.7	18.7	16.4	-	Triplicate Site with LA, LB and LC - Annual data provided for LC only
MA	400712	289296	38.3	37.1	37.5	28.5	35.2	25.9	29.3	31.4	38.1	37.5	41.7	29.8	34.2	30.1	-	
MC	400748	289150	30.6	36.8	35.9	32.7	39.5	34.3	36.6	36.1	37.4	39.7	40.5	29.7	35.8	31.5	-	
N1A	399647	290355	34.9	36.7	38.1	30.2		20.1	32.8	31.6	31.7	41.8	36.8	14.2	31.7	27.9	-	
N1B	399615	290358		45.1	36.5	31.3	36.6	32.1	37.9	40.5	39.0	36.7			37.3	32.8	-	

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 (0.88)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
N2A	403126	288557	23.6	18.5	22.1	23.4	24.5	19.5	20.4	23.7	37.7	20.8	35.9	28.9	24.9	21.9	-	
OA	402240	286203	29.7	28.0	31.4	27.2	30.4	25.4	26.7	22.6	26.6	31.5	33.0	25.1	28.1	24.8	-	
OB	402195	286233	29.6	35.1	30.1	30.9	31.2	33.8	32.2		31.5	31.1	32.6	33.1	31.9	28.1	-	
OC	402245	286150	33.0	25.8	28.8	27.2	32.0	26.5	28.2	25.5		32.9	34.4		29.4	25.9	-	
OD	402222	286162	29.5	27.3	31.0	29.3	33.1	33.9	34.8	27.4	32.5	33.6	37.4	28.2	31.5	27.7	-	
OE	402212	286234	31.9	28.7	34.9	31.3		24.0	28.4	24.6	35.0	33.2	34.9	33.3	30.9	27.2	-	
OG	402187	286333	30.2	27.2	33.3	29.5	32.3	27.2	25.4	21.8	30.6	32.3	33.0		29.3	25.8	-	
OH	402192	286244	30.9	34.0	33.1	30.9	29.5	36.0	34.2	27.6	32.2	32.2	36.8	31.9	32.4	28.5	-	
OI	402214	286253	28.0	25.9	32.5	29.1	28.4	25.8	26.8	23.2	30.2	29.9	36.4	28.4	28.7	25.3	-	
OJ	402194	286246	30.1	33.9	35.3	30.0	31.5	34.7	31.7	26.5	34.8	34.7	37.8	29.2	32.5	28.6	-	
OP4	402229	286096	31.3	35.0	35.0	34.3	31.8	34.4	33.1	28.8	35.7	33.4	40.1	29.2	33.5	29.5	-	
PA1	402461	290241	39.0	30.7	35.2	31.6	41.2	34.9	29.5	30.9	47.8	27.8	49.3	40.2	-	-	-	Triplicate Site with PA1, PA2 and PA3 - Annual data provided for PA3 only
PA2	402461	290241	35.7	29.5	46.3	31.8	39.1	34.7	30.3	32.4	50.7	28.4	48.1	35.9	-	-	-	Triplicate Site with PA1, PA2 and PA3 - Annual data provided for PA3 only
PA3	402461	290241		29.4	40.8	28.9		36.3	32.5	30.4	54.2	26.3	48.6	39.0	36.8	32.4	-	Triplicate Site with PA1, PA2 and PA3 - Annual data provided for PA3 only
PB1	402221	290290	31.2	29.1	34.1	28.1	29.0	30.7	26.0	31.7	44.5	25.7	39.3	37.1	-	-	-	Triplicate Site with PB1, PB2 and PB3 - Annual data provided for PB3 only
PB2	402221	290290	34.0	34.6	39.3	26.7	29.0	30.0	28.0	30.8	41.3	23.3	42.3	32.3	-	-	-	Triplicate Site with PB1, PB2 and PB3 - Annual data provided for PB3 only
PB3	402221	290290	31.6	29.2	36.1	26.1	31.8	26.6	28.2	28.8	44.3	24.5	40.3	35.5	32.2	28.4	-	Triplicate Site with PB1, PB2 and PB3 - Annual data provided for PB3 only
PC1	401950	290355	40.4	38.4	46.2	31.8	32.6	39.0	35.4	37.0	48.9	31.2	47.1	40.2	-	-	-	Triplicate Site with PC1, PC2 and PC3 - Annual data provided for PC3 only
PC2	401950	290355	34.7	37.4	36.6	31.1	37.6	36.6	33.9	38.3	42.4	28.5	45.0	41.8	-	-	-	Triplicate Site with PC1, PC2 and PC3 - Annual data provided for PC3 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 (0.88)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
PC3	401950	290355	34.4	36.6	37.3	27.1	37.5	39.4	36.1	36.5	46.3	32.8	50.1	43.4	38.0	33.5	-	Triplicate Site with PC1, PC2 and PC3 - Annual data provided for PC3 only
PD1	402111	290331	31.4	37.6	50.9	25.6	33.7	30.1	34.5	32.0	34.4	35.2	45.7		-	-	-	Triplicate Site with PD1, PD2 and PD3 - Annual data provided for PD3 only
PD2	402111	290331	35.0	44.6	51.0	26.1	32.6	33.6	34.7	32.2	36.0	32.2	47.8	44.9	-	-	-	Triplicate Site with PD1, PD2 and PD3 - Annual data provided for PD3 only
PD3	402111	290331	35.8	43.0	47.6	29.9	36.6	30.7	30.8	37.6	39.1	38.5		41.2	37.3	32.8	-	Triplicate Site with PD1, PD2 and PD3 - Annual data provided for PD3 only
PE1	402334	290279	37.1	36.4	49.2	28.6	36.6	32.2	36.8	35.5	37.5	28.8	43.6	36.1	-	-	-	Triplicate Site with PE1, PE2 and PE3 - Annual data provided for PE3 only
PE2	402334	290279	36.1	44.4	42.8	26.5	32.3	33.3	32.4	36.6	40.3	35.7	50.3	49.5	-	-	-	Triplicate Site with PE1, PE2 and PE3 - Annual data provided for PE3 only
PE3	402334	290279	33.6	37.4	46.4	28.0	34.9	32.9	30.0	34.4	40.6	31.6	44.3	44.5	37.1	32.7	-	Triplicate Site with PE1, PE2 and PE3 - Annual data provided for PE3 only
PS1A	400504	291239	28.1	39.6	36.0	25.8	26.4	28.4	31.7	28.9	31.8	35.4	30.4	34.3	31.4	27.6	-	
RA	401558	290077	30.4	31.2	40.8	17.3	26.3	18.7	21.3	24.9	36.1	25.7	37.5	31.6	28.5	25.1	-	
SA	403951	294852	18.5	23.4	27.9	16.1	18.6	14.6	17.2	17.9	16.0	25.9	24.4	17.8	19.9	17.5	-	
SU	400476	291481	23.3	23.0	28.1	17.0	21.3	15.5	17.3	17.8	39.4	28.5	12.2	22.2	22.1	19.5	-	
TA	395958	290645	21.9	28.6	32.6	16.8	23.6	22.2	23.1	24.7	27.7	24.9	31.8	24.9	25.2	22.2	-	
TC	395854	290643	31.8	47.4	42.8	26.0	32.5	32.4	32.4	38.0	40.0	30.4	40.3		35.8	31.5	-	
UA	398135	287603	34.2	35.0	34.0	27.7	25.6	28.1	28.6	24.8	28.7	32.3	36.7	33.0	30.7	27.0	-	
UB	398167	287750	29.9	30.4	28.4	29.2	27.8	27.4	26.5	24.0	29.5	30.9	32.4	24.6	28.4	25.0	-	
UC	398170	287746	28.3	32.3	29.5	28.3	25.4			23.3	28.5	27.6	33.2	31.4	28.8	25.3	-	
VD	397628	292459		24.1	27.7	14.2	21.6	16.4	17.3	17.2	30.2		32.6		22.4	19.7	-	
VT	397155	290867	18.8	23.7	24.6	16.0	19.1	18.1	15.9	20.1	25.1	19.9	30.9	29.7	21.8	19.2	-	
WA	401917	295329	27.5	29.4	24.2	21.2	24.9	20.6	24.9	23.8	23.7	30.3	30.0	20.7	25.1	22.1	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.88)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
WB	402139	295119	25.4	28.1	22.6	15.9	21.8	16.4	20.6	17.3	21.6	25.2	28.5	7.0	20.9	18.4	-	
WF	402133	295234	30.1	29.7	22.5	19.6	22.7	16.2	20.8	17.8	21.0	28.9	33.3	21.9	23.7	20.9	-	
WW2	400564	296037	24.0	20.4	22.5	12.2	16.7	12.3	14.2	13.6	24.0	20.9	22.7	18.1	18.4	16.2	-	
WW3	400598	296035	26.0	24.3	21.9	15.5	17.9	12.4	15.3	13.8	24.4	23.5	27.3	14.5	19.7	17.4	-	
XE	404435	294866	29.1	25.8	33.8	20.1	29.8	18.2	23.0	23.4	32.5	36.9	37.5	21.7	27.6	24.3	-	
ZA	404504	294813	26.6	28.6	27.2	20.6	26.3	24.4	25.9	25.2	29.0	31.5	39.3	19.6	27.0	23.8	-	
ZC	404493	294532	26.5	22.0	23.4	13.7	21.4	14.9	20.0	18.5	20.7	24.5	31.7	19.4	21.4	18.8	-	
ZK	404621	294291	20.1	27.3	28.0	16.9	24.0	18.9	22.6	21.2	21.5		30.0	20.6	22.8	20.1	-	
ZO	404290	294179	24.1	31.0	29.4	18.8	25.2	18.4	23.0	23.0	24.0	34.7	34.7	21.8	25.7	22.6	-	
ZP	404555	294219	27.4	27.3	24.8	18.4	23.5	18.6	22.8	22.0	21.8	34.0	25.5	20.0	23.8	21.0	-	
ZQ	404539	294187	39.6	38.0	33.9	27.9	41.9	34.4	37.0	39.7	43.9	41.9	44.5	27.7	37.5	33.0	-	
ZR	404410	294170	41.8	42.2	40.2	33.1	39.9	35.4	39.1	37.3	45.9	43.7	48.1	32.2	39.9	35.1	-	

☒ **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.**

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

Notes:

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

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

See Appendix C for details on bias adjustment and annualisation.

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

New or Changed Sources Identified Within Sandwell During 2024

There are several significant new or ongoing developments within Sandwell which may cumulatively contribute to future local air pollution. These include:

Commercial/industrial development that was under construction or became operational in 2024:

- The Midland Metropolitan University Hospital, Grove Lane, Smethwick - built to replace City Hospital located in Birmingham. The new hospital opened in October 2024 and offers maternity, children's and inpatient adult services to half a million people.
- 'Kelvin', off Kelvin Way, West Bromwich – this is an energy from waste facility, which was granted planning consent in September 2019. Construction began in 2023 and continued throughout 2024. When operational, it will burn 395,000 tonnes of non-recyclable household and business waste. With capability of generating 44MW (gross) of energy per annum.

Commercial and other non-residential development coming forward 2025/26:

- DC/24/68966 - 57 -59 Dartmouth Street, West Bromwich – planning permission requested for new mosque and community buildings. Planning permission granted September 2024.
- DC/24/69461 – Land adjacent to the Midland Metropolitan University Hospital – MMUH Urgent Treatment Centre – planning permission not yet confirmed. Temporary trailers to be used in the meantime.
- DC/24/69771 – Engine Street, Oldbury – planning permission request for new Asphalt plant. Awaiting decision on planning permission.

Residential development currently under construction 2024/25:

- DC/24/69509 – 6 to 25 and 70 to 75 Union Street and Albion Street, Tipton. 2 (2 detached 3 and 4 storey apartment blocks creating 55 self-contained apartments). Planning permission granted July 24 – construction started in 2024.
- DC/21/66339 West Bromwich Street, Oldbury – 152 houses and 82 apartments, including car parking. Planning permission granted February 2021. Construction ongoing through 2024 and 2025
- DC/22/66532 - Former Gas Works, Swan Lane, West Bromwich – 147 dwelling houses (65 houses and 82 apartments) – planning permission granted December 2022. Construction ongoing through 2024 and 2025.

Proposed residential development coming forward 2025/26:

- DC/21/65798 - Duchess Parade, High Street, West Bromwich – Nine storey mixed use development, including retail unit and 60 apartments. Permission granted January 2022. No construction work started.
- DC/22/67165 - PJ House, London Street, Smethwick - includes 392 residential dwellings as well as commercial activities including drinking establishments, hot food takeaways and amenity space. Planning permission granted June 2023. No construction work started.
- DC/24/69630 - Kingston House, 438 - 450 High Street, West Bromwich - Conversion of office building (Use Class E) into 128 Co-living units. Permission granted March 2025.
- DC/23/67924 - Edwin Richards Quarry, Portway Road, Rowley Regis - 276 residential dwellings. Planning permission granted December 2023. No construction work started.
- DC/23/68540 - Brandhall Urban Village, Oldbury - 190 residential dwellings, a primary school and park. Permission granted November 2023. No construction work started.
- DC/23/68742 - Friar Park Road, Wednesbury – 105 residential dwellings with associated public space. Planning permission granted October 2024.

Major Planned/Proposed development

(Development schemes that require assessments including Environmental Impact Assessments (EIAs) due to size and impact on the local area).

Friar Park Urban Village

A proposed development of homes and open spaces in Wednesbury. The site covers approximately 27 hectares (around 40 football pitches) which will make it one of the largest brownfield development sites in the region. Work is due to start in 2025 once a development partner is in place.

Queens Square

Queens Square, West Bromwich – proposed development that would consist of new apartments, town houses and public realm improvements alongside the retention of existing retail units to form a mixed-use development. Pre-application stage, awaiting a formal planning application submission.

All new developments are assessed via the planning system. Where appropriate detailed air quality assessments must be submitted and, if required, mitigation measures are 'conditioned' to help offset potentially negative impacts on local air quality.
Data from our diffusion tube monitoring and air quality monitoring stations is utilised by Sandwell Council and other stakeholders to help understand the impact of proposed developments on local air quality, taking into account known pollution hotspots as well as long term trends.

Additional Air Quality Works Undertaken by Sandwell Council During 2024

Air Quality Monitoring Network Using 'Lower Cost' Sensors

Sandwell maintained a network of 21 'Lower cost' Zephyr air quality sensors until October 2024, when eight of these sensors (paid for by a Defra Air Quality grant) were decommissioned as funding for those could not be sustained by the council. Of the remaining 13 sensors, a further 9 were decommissioned in February 2025. A decision was made to retain four Zephyrs at:

- **Highfields** – West Bromwich Co-located with the continuous monitoring station – West Bromwich

- **Ferndale Primary School** – Wednesbury (a ‘School Streets’ pilot school)
- **Langley Primary School** – Oldbury (located by the West Midlands Fire Training Centre)
- **Cradley Heath Community Link** – Cradley Heath (request for it to be retained following participation in our ‘Faith Communities for Clean Air’ project)

The council now also have access to the air quality data from the 13 Zephyr sensors that have been deployed by the WMCA across the borough as part of their West Midlands Clean Air website, funded by a Defra Air Quality Grant. This means the council have a monitoring network of 17 Zephyrs across the borough, from which to obtain additional air quality data.

Data from the Zephyrs that were operational during 2024 has been analysed; the results are provided in Appendix F.

The Zephyr results from 17 monitoring sites across Sandwell in 2024 demonstrate full compliance with the current annual mean national objectives for nitrogen dioxide (NO_2), particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

The Zephyrs recording the highest annual mean concentration of a pollutant species have been highlighted in yellow in the summary report provided in Appendix F.

The highest levels of PM_{10} and $PM_{2.5}$ were recorded at Guru Har Rai Sahib Ji in West Bromwich. The highest NO_2 concentration was observed in Smethwick near the Holy Trinity Church.

The highest annual mean concentrations for each pollutant in 2024 were as follows:

- NO_2: 31.4 µg/m³ at Holy Trinity Church, Smethwick
- PM_{10} -13.3 µg/m³ at Guru Har Rai Sahib Ji, West Bromwich
- $PM_{2.5}$: 8.4 µg/m³ also at Guru Har Rai Sahib Ji, West Bromwich

The 2024 Zephyr monitoring data reflects that across Sandwell, all sites meet national standards. However, the data does identify that there are some localised variations that could be used to inform targeted interventions in the future, such as Smethwick and West Bromwich where pollutant concentrations were found to be higher than other parts of the borough.

QA/QC of Diffusion Tube Monitoring

Air quality data must meet Quality Control and Quality Assurance (QA/QC) criteria to ensure that the concentrations of pollutants measured represent the actual concentrations of pollutants in the atmosphere. In addition, the data must be consistent over time and sufficiently accurate and precise to enable a comparison with the National Air Quality Objectives. Sandwell follows QA/QC procedures laid down in Technical Guidance provided by Defra in LAQM.TG22.

The diffusion tubes Sandwell used in 2024 were supplied by Gradko International; details are provided below. Diffusion tubes were exposed for monthly periods as prescribed in the Diffusion Tube Monitoring Calendar published by Defra[37].

Table C. 1 - NO_2 Diffusion Tube Details	
Supplier	Gradko International
Period	2024
Type of Tube	Nitrogen Dioxide NO_2
Type of Absorbent	Triethanolamine
Method of Tube Preparation	50% TEA in Acetone
Exposure Dates	LAQM Exposure Calendar 2024
Exposure Duration	One Month
Bias Adjustment Factor Applied	0.88

Gradko International follow the procedures set out in the Air Proficiency Testing Scheme (AIR-PT) an independent analytical proficiency testing scheme operated by LGC Standards. AIR offers several test samples designed to test the proficiency of laboratories undertaking analysis of chemical pollutants in ambient air. In 2024 the tube precision for nitrogen oxide 'Annual Field Intercomparison' for Gradko using the 50% TEA in acetone method was 'good' for 11 out of the 12 studies undertaken by local authorities.

[37] https://laqm.defra.gov.uk/air-quality/air-quality-assessment/diffusion-tube-monitoring-calendar/

Diffusion Tube Annualisation

All diffusion tube monitoring locations within the borough of Sandwell recorded data capture of 75% or higher, therefore there was no requirement to annualise any monitoring data. Any sites with a data capture rate below 25% do not require annualisation.

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2025 ASR (reporting on 2024) 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.

Sandwell Council have applied the national bias adjustment factor of 0.88 to the 2024 monitoring data. A summary of bias adjustment factors used by the council over the past five years is presented in Table C.1. A national bias adjustment factor was applied to the 2024 data, rather than the local bias adjustment factor. This decision was made because the national factor (0.88) represents a worst-case scenario compared to the local factor (0.85) and also maintains the consistent use of the national bias adjustment factor over the past five years.

Table C.1 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2024	National	04/25	0.88
2023	National	03/24	0.83
2022	National	03/23	0.82
2021	National	03/22	0.83
2020	National	03/21	0.82

Table C.2 – Local Bias Adjustment Calculation

	Local Bias Adjustment Birmingham Road, Oldbury	Local Bias Adjustment Highfields, West Bromwich
Periods used to calculate bias	12	11
Bias Factor A	0.8 (0.73 - 87)	0.92 (0.79 - 1.09)
Bias Factor B	26% (14% - 37%)	9% (-8% - 26%)
Diffusion Tube Mean (µg/m^3)	30.4	18.7
Mean CV (Precision)	6.2%	5.4%
Automatic Mean (µg/m^3)	24.2	17.2
Data Capture	98%	99%
Overall Data Capture	98%	96%
Adjusted Tube Mean (µg/m^3)	24 (22 - 26)	17 (15 - 20)

Notes:

Table C.3 is provided just to demonstrate the results of the calculations undertaken to determine the combined local bias adjustment factor which was calculated as being 0.85. However, in Sandwell the national bias adjustment factor of 0.88 was used, for the 2024 diffusion tube results, as previously discussed.

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.

In the monitoring year of 2024, three monitoring locations in Sandwell required fall-off with distance calculations as the annual mean concentration was greater than 36µg/m^3 and the monitoring sites were not located at a point of relevant exposure (taking the limitations of the calculator into account), these are as follows:

- BP (Birmingham Road, Oldbury)
- C1D (Grafton Road, West Bromwich)
- C7D (Brades Road & Dudley Road East, Oldbury)

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
BP	0.7	6.5	41.4	18.6	31.9	
C1D	2.0	20.0	42.3	15.4	27.8	
C7D	1.6	12.9	35.9	13.2	25.4	

QA/QC of Automatic Monitoring

All routine calibration and maintenance is carried out by Sandwell Council's own Air Quality Technician also known as the Local Site Operator (LSO). This officer has been trained by Defra in the operation and maintenance of the AURN air quality monitoring equipment and adheres to the AEA Technology's Site Operator's Manual. To retain high quality data, fortnightly calibration visits are made by the LSO to ensure that any instrumental drifts since the last calibration can be quantified. These site visits also allow the following activities to be undertaken:

- Site inspection
- Pre-calibration checks
- Calibration of the analysers
- Filter change
- Post-calibration checks and site inspection

In addition, non-routine visits are also undertaken to respond to events such as power cuts, instrument malfunction and vandalism.

Verification and Ratification

- Air Quality Data Management (AQDM) undertakes all data verification and ratification on automatic monitoring station data for Sandwell Council in accordance with the LAQM.TG22 standards using the AURN methodology.
- Data verification and ratification takes the provisional data and combines it with all other relevant information to derive a final dataset, which is as accurate as possible

and has known measurement uncertainties to allow meaningful comparison with other data using specialised data handling software.

- Verification is carried out on an ongoing basis and is a ‘clean-up’ of the provisional data through reviewing/excluding/including any data. This includes identifying instrument malfunctions or faulty calibrations, and updates to data scaling following application of the most recent calibration factors.
- Ratification is a detailed manual check of the data set carried out on a monthly/ quarterly/yearly basis. It requires a longer-term view of the dataset incorporating the results from independent QA/QC audits of the monitoring stations, and assessment on the validity of data by experienced air quality scientists. It considers a range of variables such as relationships between pollutants, the impact of air pollution episodes, the context of the results in the overall climate, national and regional pollutant patterns, long-term trends etc.
- Once all the checks and corrections have been completed the data is given a “fully ratified” status.

The following automatic analysers are used within Sandwell’s monitoring stations:

Highfields, West Bromwich AURN

APNA370 Ambient NOx

APOA370 Ambient O_3

FIDAS PM_1, $PM_{2.5}$ and PM_{10} (Installed 15 April 2021)

West Bromwich Roadside

Teledyne API T200 Ambient NOx

Birmingham Road

APNA370 Ambient NOx

FIDAS PM_1, $PM_{2.5}$ and PM_{10} (Installed 25 March 2021)

Wilderness Lane – Great Barr

APNA370 Ambient NOx

FIDAS PM_1, $PM_{2.5}$ and PM_{10} (Installed 8 June 2021)

Haden Hill

APNA370 Ambient NOx

FIDAS PM_1, $PM_{2.5}$ and PM_{10} (Installed 15 April 2021)

Accessing Historic Data

Historic data for the Birmingham Road, Oldbury site can be viewed at https://uk-air.defra.gov.uk/data/flat_files?site_id=BOLD.

PM_{10} and $PM_{2.5}$ Monitoring Adjustment

The FIDAS PM_{10} and $PM_{2.5}$ monitors utilised within Sandwell Council do not require the application of a correction factor.

Automatic Monitoring Annualisation

Annualisation of NO_2, PM_{10} and $PM_{2.5}$ automatic monitoring station data was required for the Haden Hill site. This was required because data capture for these three pollutants was less than 75% but greater than 25%.

Background sites used to annualise the data from the Haden Hill site had data capture greater than 85%. A summary of the annualisation data for NO_2, PM_{10} and $PM_{2.5}$ is provided in Table C.5, C.6 and C.7 respectively.

Table C.4 – Automatic NO_2 Annualisation Summary (concentrations presented in $\mu g/m^3$)

Background Site	Annual Data Capture (%)	Annual Mean (A_m)	Haden Hill	
			Period Mean (P_m)	Ratio (A_m / P_m)
Kenrick Park, West Bromwich	85.3	16.1	15.4	1.047
Ladywood, Birmingham	96.1	14.4	13.9	1.040
Walsall Woodlands	99.5	11.3	10.9	1.033
Birmingham Road, Oldbury	99.6	24.3	23.6	1.028
Average (R_a)			**1.037**	
Raw Data Annual Mean (M)			**9.2**	
Annualised Annual Mean (M x R_a)			**9.5**	

Table C.5 – Automatic PM_{10} Annualisation Summary (concentrations presented in $\mu g/m^3$)

Background Site	Annual Data Capture (%)	Annual Mean (A_m)	Haden Hil	
			Period Mean (P_m)	Ratio (A_m / P_m)
Birmingham Road, Oldbury	97.8	13.2	12.8	1.037
Ladywood, Birmingham	98.2	10.8	10.2	1.056
Coventry, Allesley	97.3	10.8	10.3	1.048
Average (R_a)			**1.047**	
Raw Data Annual Mean (M)			**11.0**	
Annualised Annual Mean (M x R_a)			**11.5**	

Table C.6 – Automatic $PM_{2.5}$ Annualisation Summary (concentrations presented in $\mu g/m^3$

Background Site	Annual Data Capture (%)	Annual Mean (A_m)	Haden Hill	
			Period Mean (P_m)	Ratio (A_m / P_m)
Birmingham Road, Oldbury	97.8	8.3	7.9	1.044
Ladywood, Birmingham	98.2	6.8	6.4	1.060
Coventry, Allesley	97.3	6.6	6.3	1.052
Average (R_a)			**1.052**	
Raw Data Annual Mean (M)			**7.3**	
Annualised Annual Mean (M x R_a)			**7.7**	

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 NO_2 fall-off with distance calculator available on the LAQM Support website. Where appropriate, automatic annual mean NO_2 concentrations corrected for distance are presented in Table A.3.

No automatic NO_2 monitoring locations within Sandwell required distance correction for the 2024 data.

Appendix D: Maps of Monitoring Locations and AQMAs

Figure D.1 - Map of Continuous Automatic Monitoring Stations in Sandwell

LEGEND

- Highfields, West Bromwich
- Birmingham Rd, Oldbury
- Wilderness Lane, Great Barr
- Haden Hill Park Cradley Heath
- West Bromwich Roadside Cronehills

An interactive map of the automatic monitoring station network in Sandwell is available via this link.

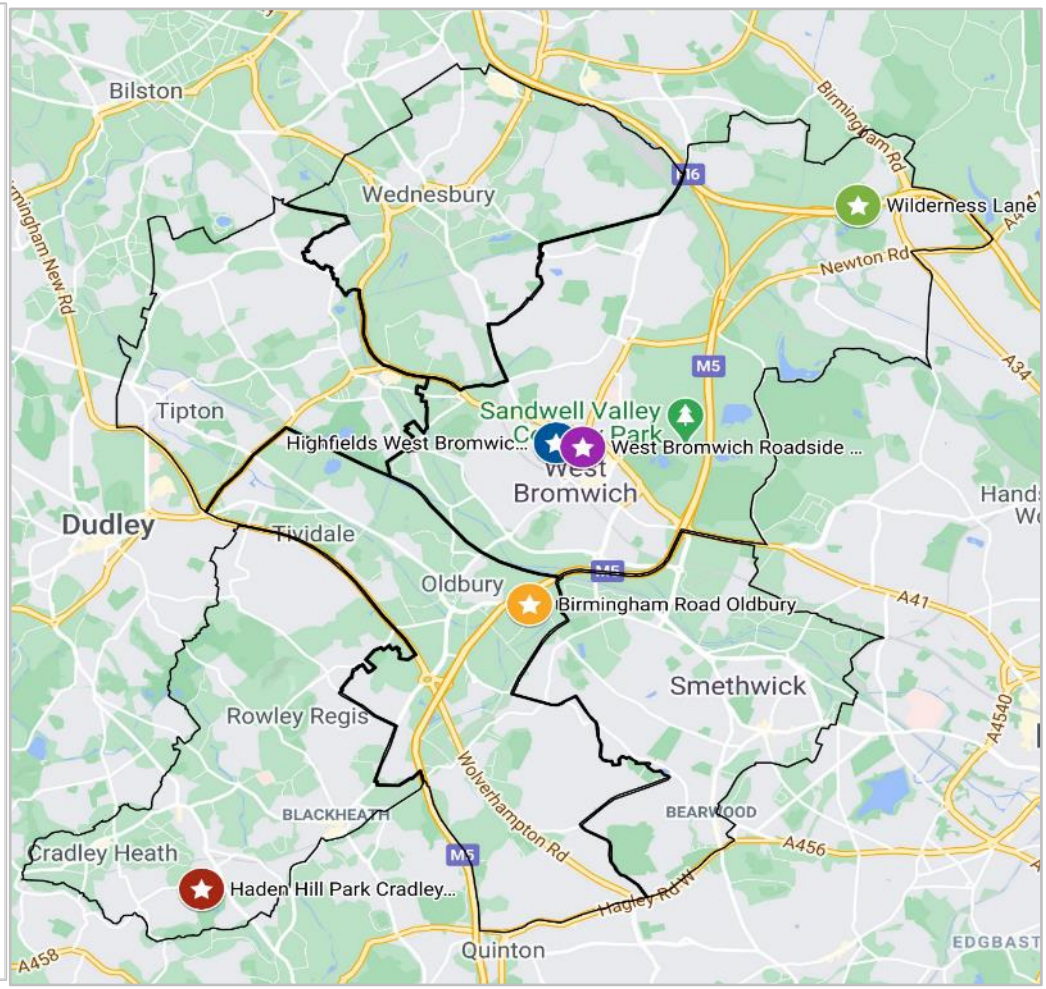


Figure D 2 - Map of NO_2 Diffusion Tube Monitoring Sites in Sandwell

LEGEND

Location of a Nitrogen Dioxide Diffusion Tube

An interactive map of all the nitrogen dioxide diffusion tube sites in Sandwell is available via this link.

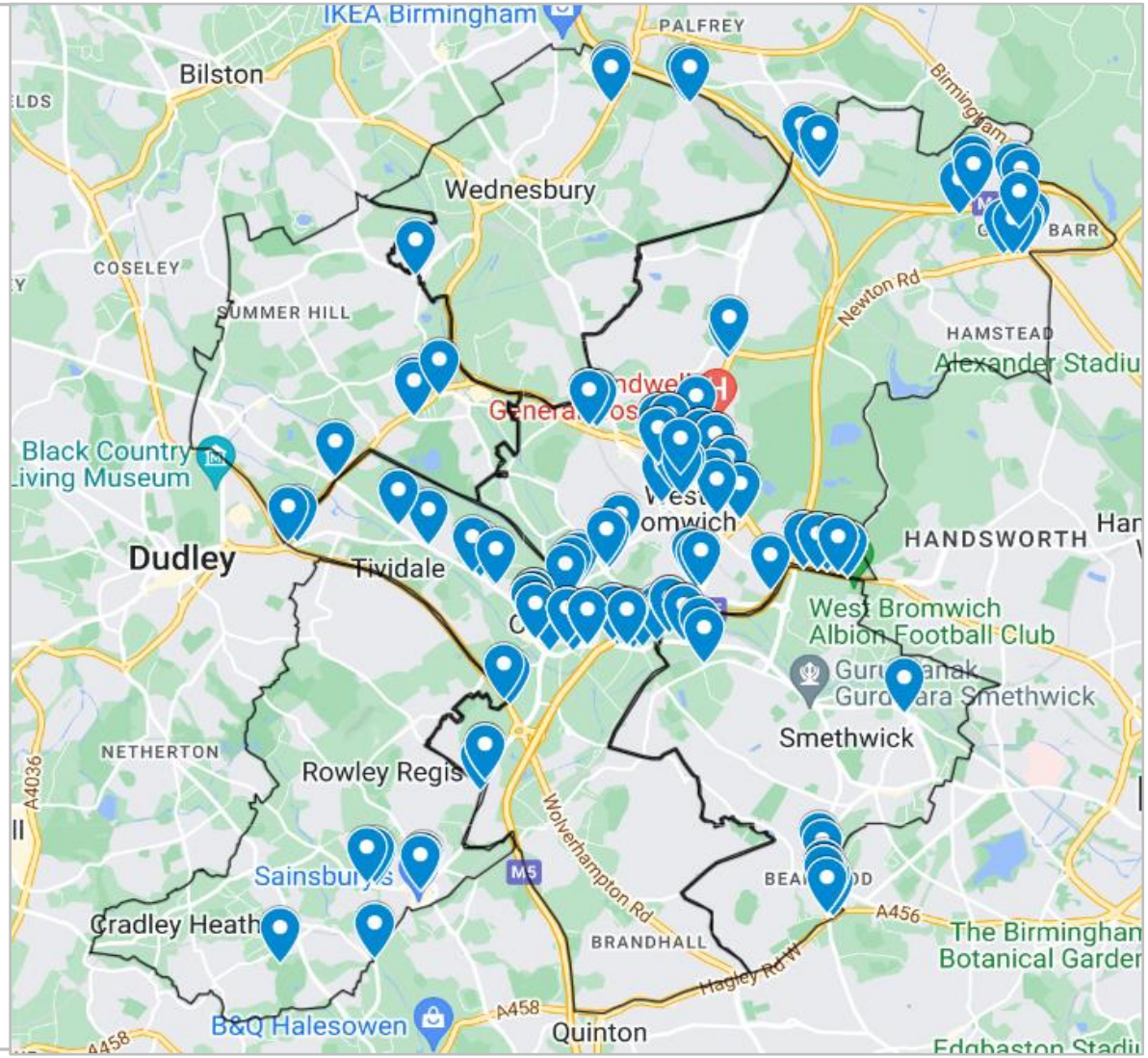


Figure D 3- Map of NO_2 Diffusion Tube Sites, Air Quality Monitoring Stations and the Oldbury Air Quality Priority Zone

LEGEND

- Nitrogen Dioxide Diffusion Tube
- Continuous monitoring station
- Blackheath- Zone 1
- Bearwood Road, Smethwick- Zone 2
- Oldbury M5 Junctions 1 to 2- Zone 3
- Great Barr and Yew Tree- Zone 4
- Oldbury, Oldbury Ringway (Incl. Bromford Lane/Kelvin Way/Brandon Way)- Zone 5
- The Expressway/All Saints Way, West Bromwich- Zone 6
- West Bromwich, Trinity Way/Kenrick Way- Zone 7

An interactive map of the automatic monitoring stations and the nitrogen dioxide diffusion tube monitoring sites can be viewed via this link

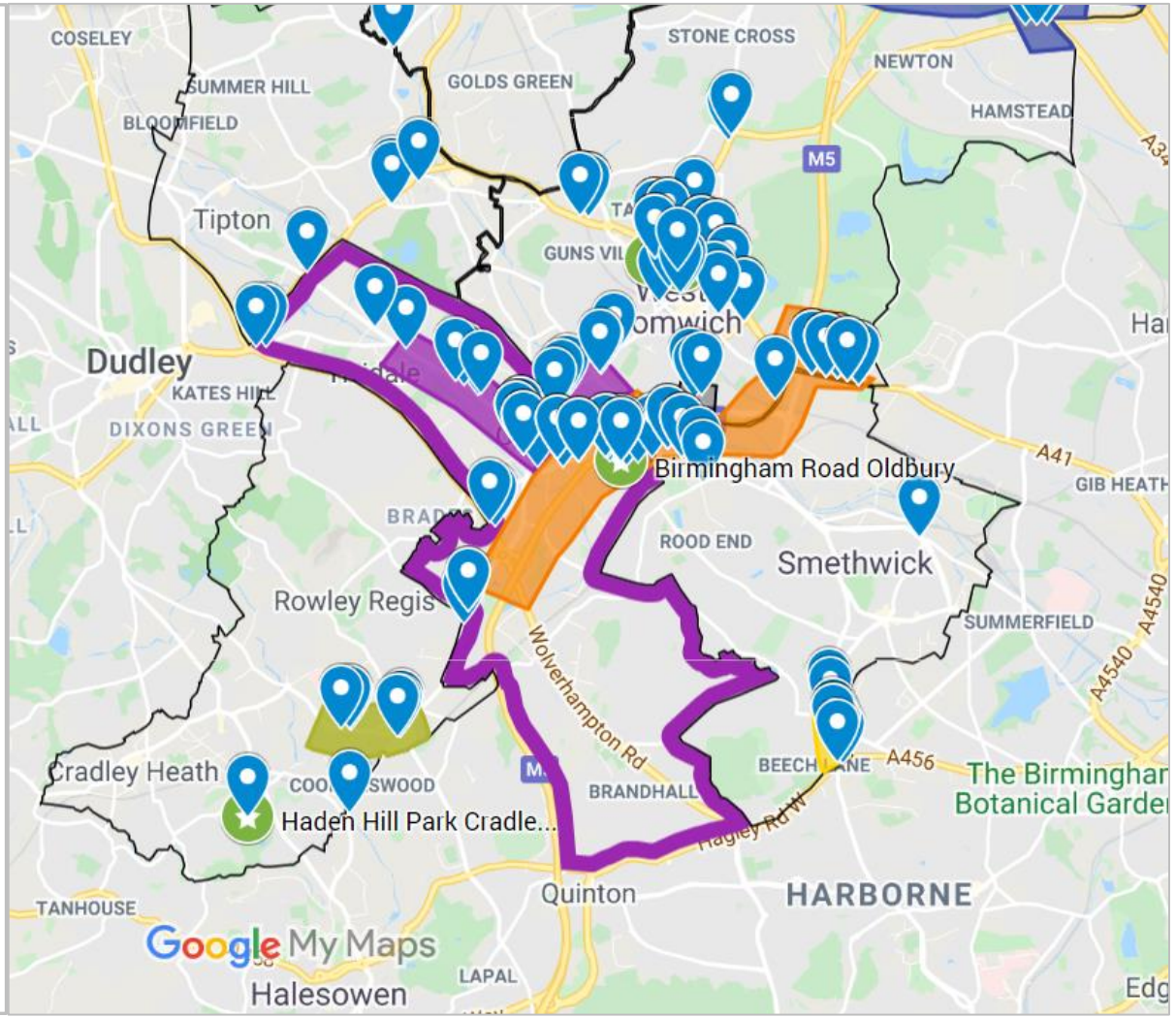


Figure D 4 Map of NO_2 Diffusion Tube Sites, Air Quality Monitoring Stations and the Rowley Regis Air Quality Priority Zone

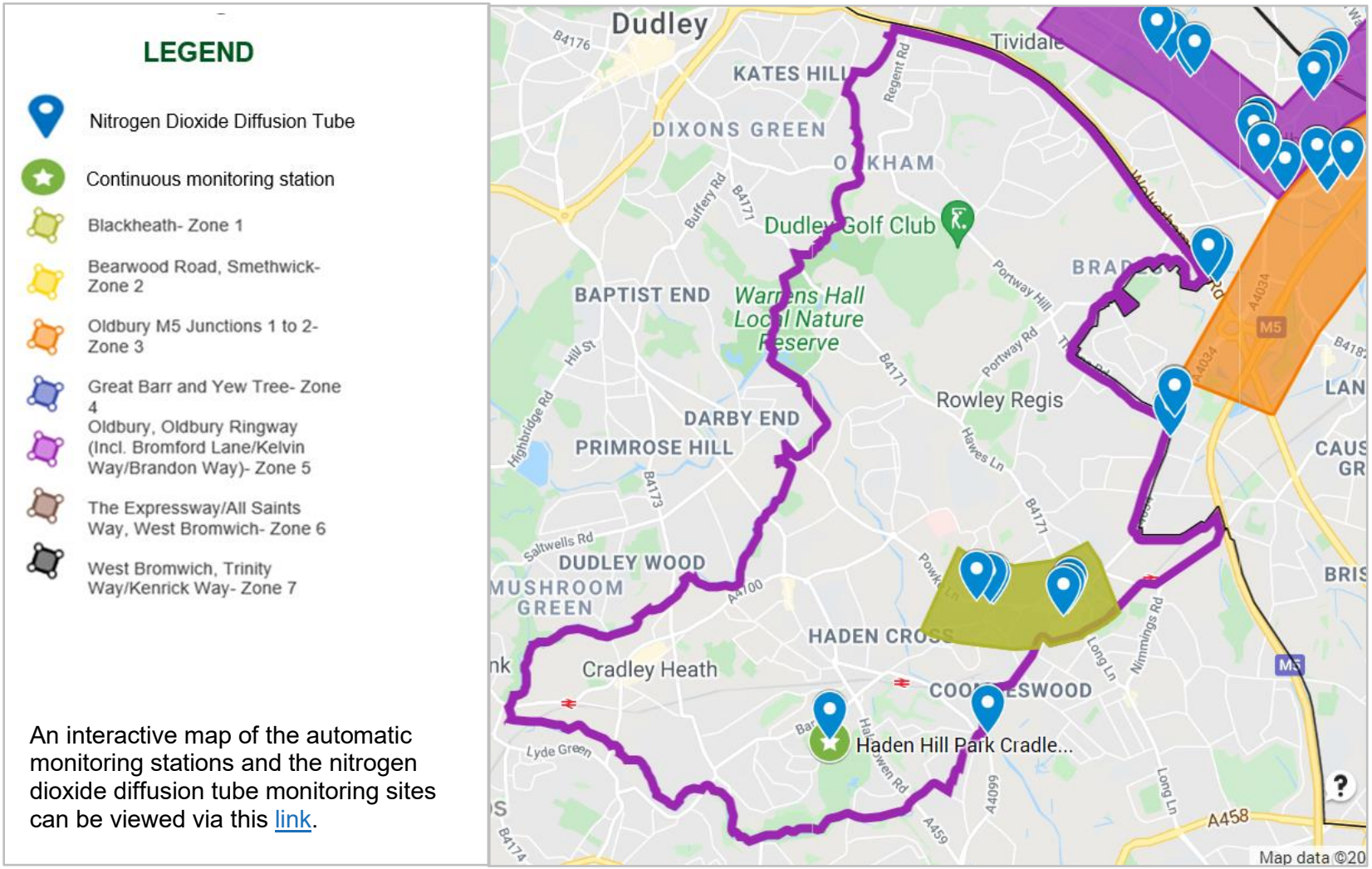


Figure D 5 - Map of NO_2 Diffusion Tube Sites and the Air Quality Priority Zones in Smethwick, Sandwell

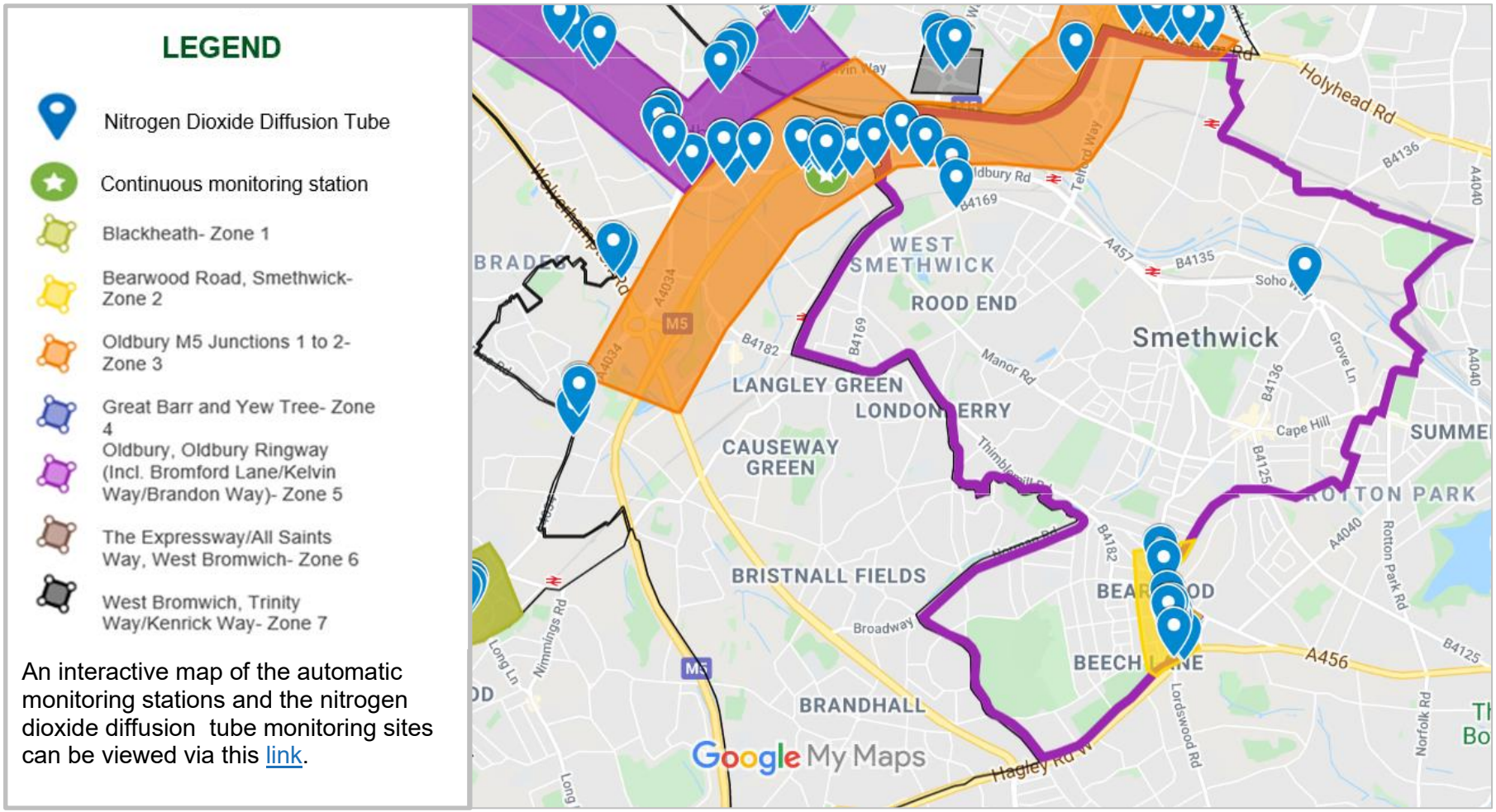


Figure D 6 - Map of NO_2 Diffusion Tube Sites, Automatic Air Quality Monitoring Stations and the West Bromwich Air Quality Priority Zones 4, 6 and 7 in Sandwell

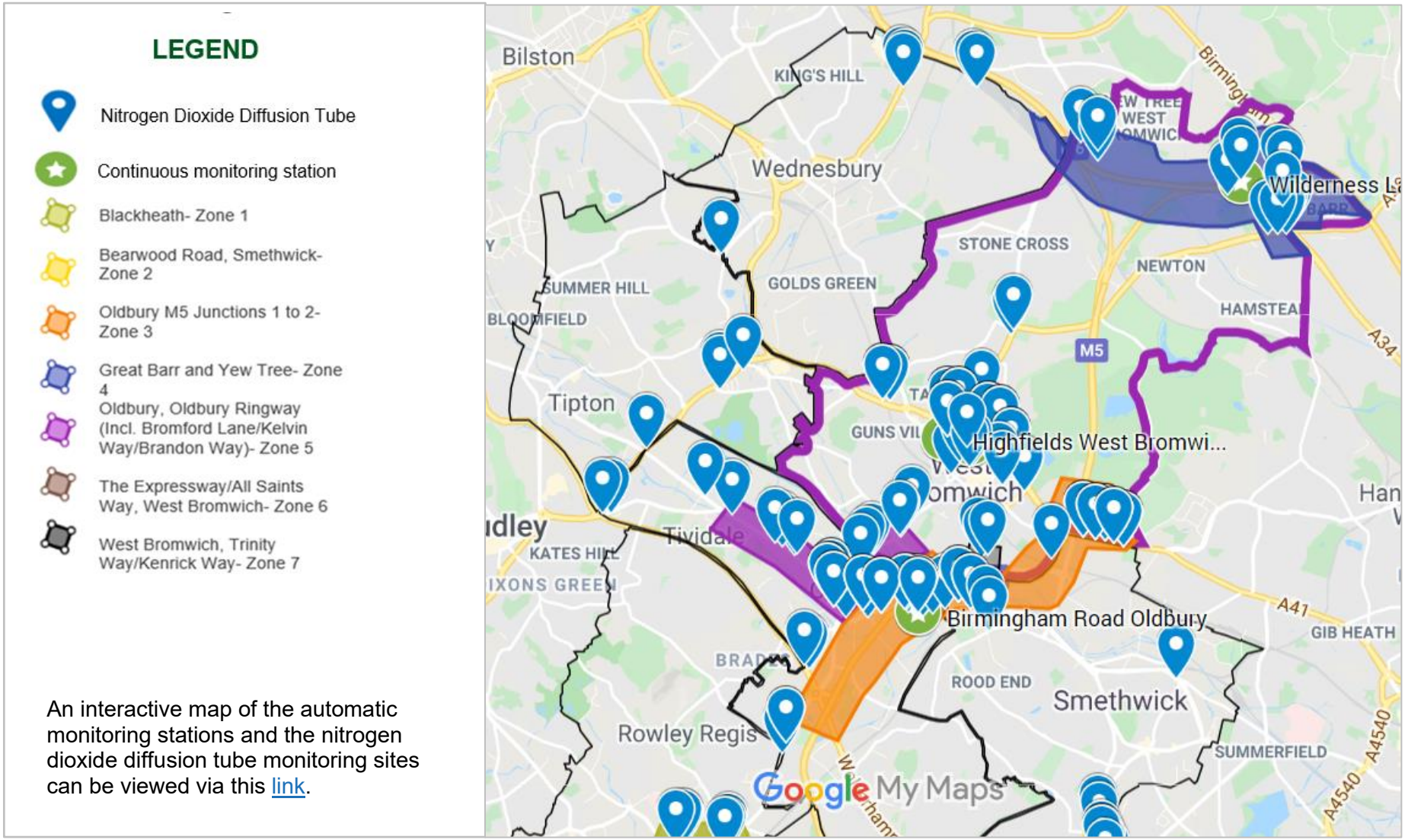


Figure D 7 - Map of NO_2 Diffusion Tube Sites and Air Quality Priority Zone Partially in Wednesbury, Sandwell

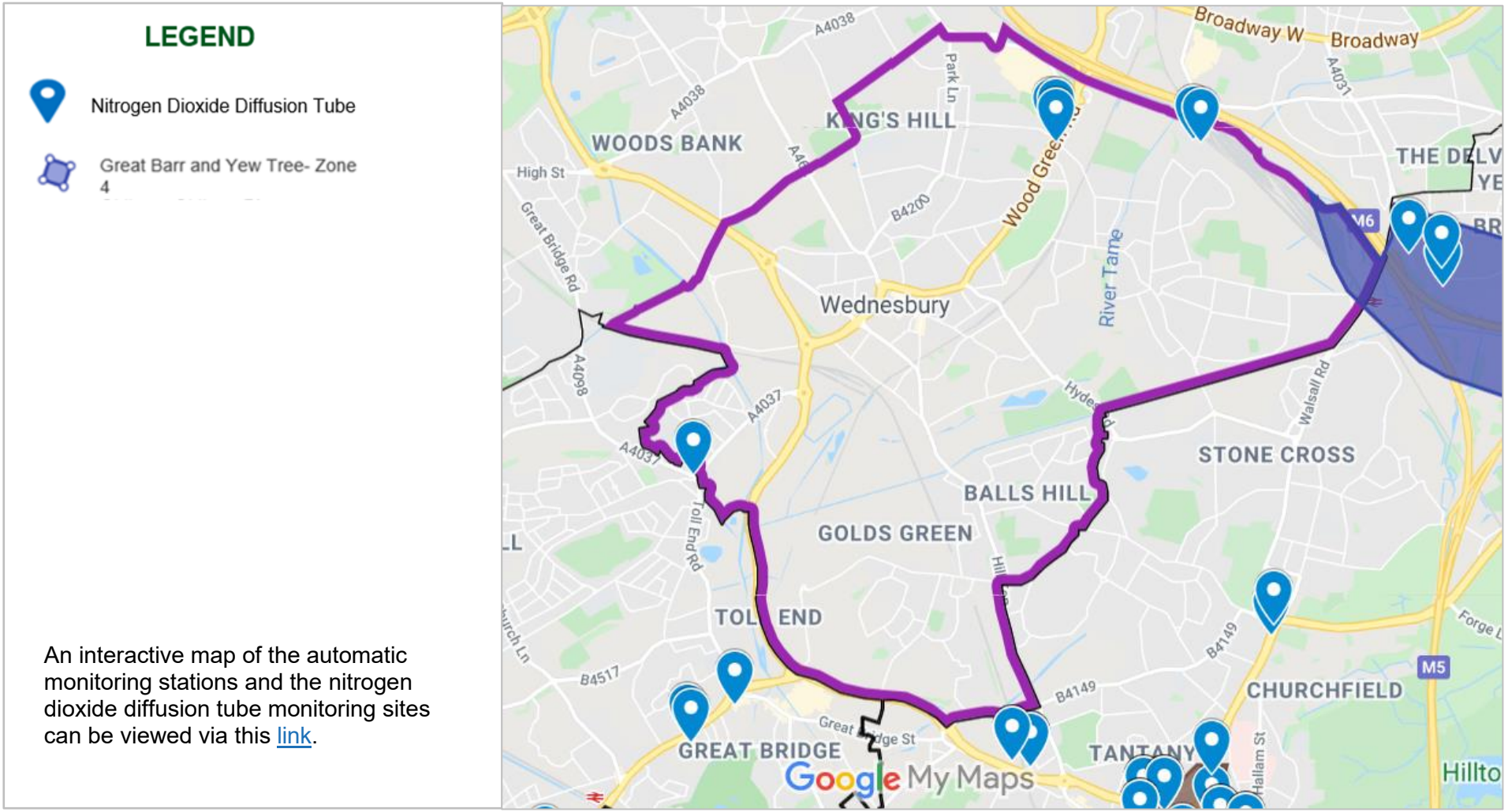


Figure D 8 - Map of NO_2 Diffusion Tube Locations, Tipton

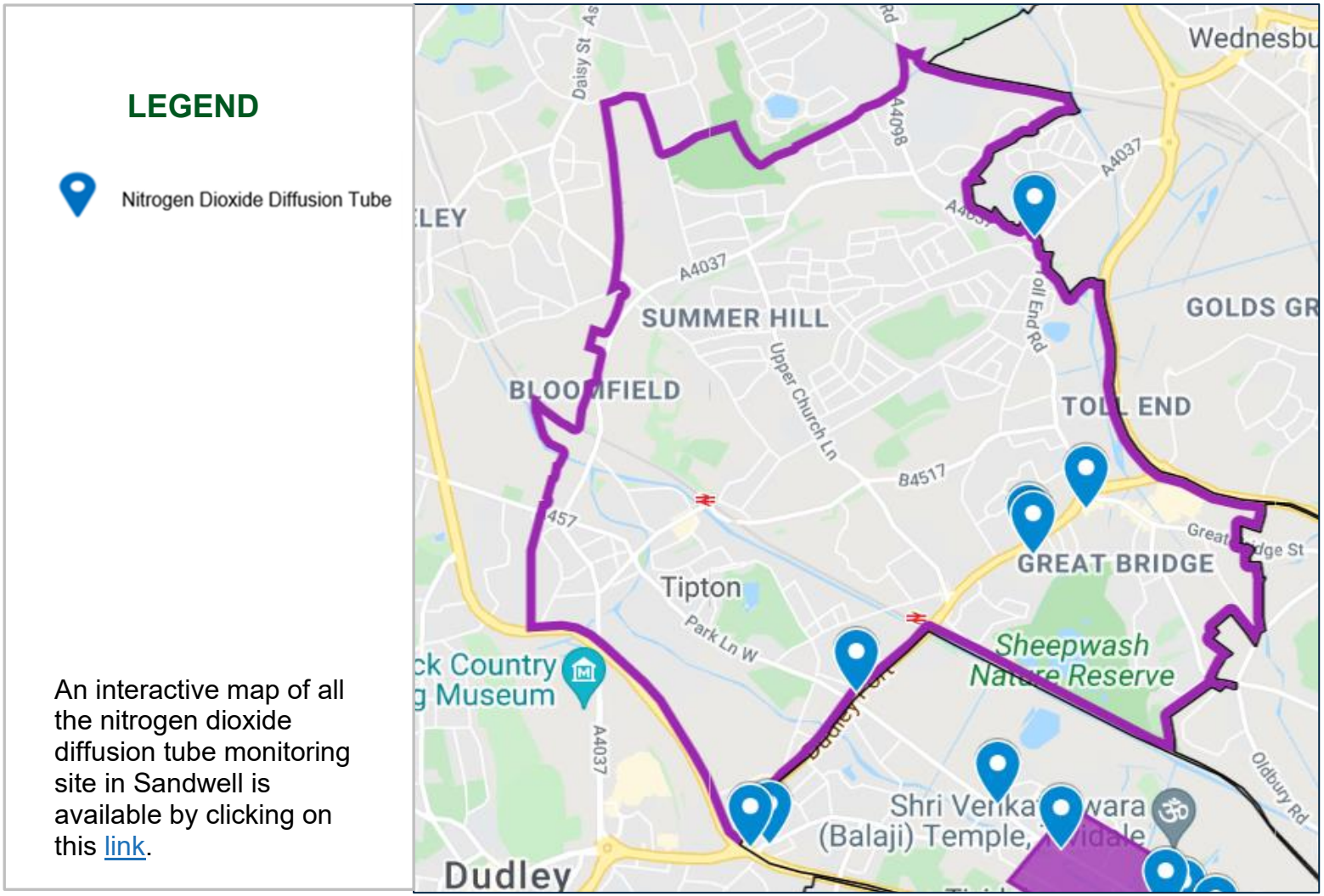


Figure D 9 - Maps of Air Quality Priority Zones 1 & 2

LEGEND

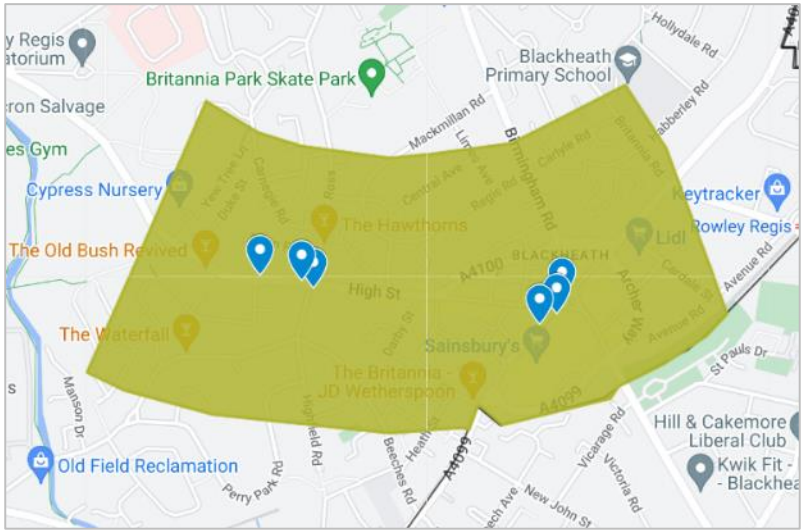
Nitrogen Dioxide Diffusion Tube

Blackheath- Zone 1

Bearwood Road, Smethwick- Zone 2

An interactive map of all the nitrogen dioxide diffusion tube monitoring sites in Sandwell is available by clicking on this link.

Blackheath – Zone 1



Bearwood Road, Smethwick – Zone 2

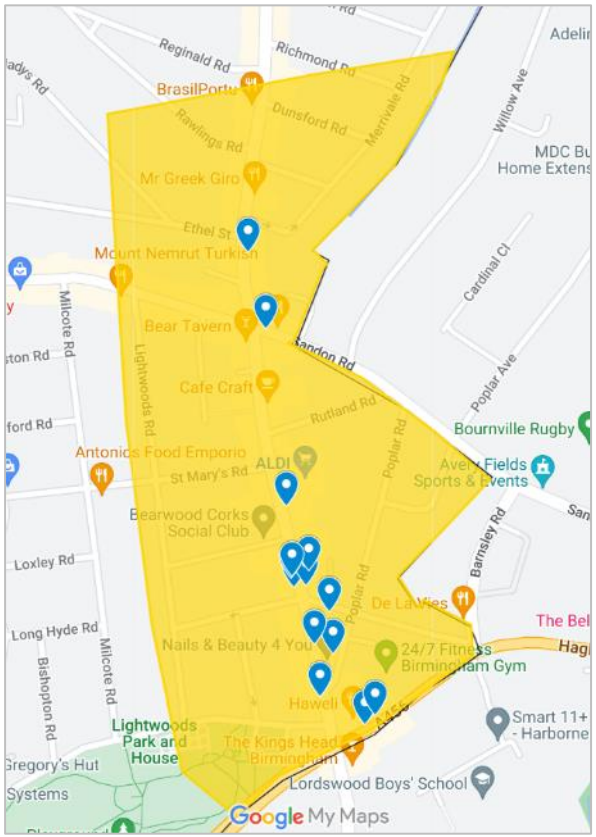


Figure D 10- Map of Air Quality Priority Zone 3

LEGEND

Nitrogen Dioxide Diffusion Tube

Continuous monitoring station

Oldbury M5 Junctions 1 to 2- Zone 3

An interactive map of all the nitrogen dioxide tubes and air quality monitoring stations in Sandwell is available by clicking on this link.

Oldbury M5, Junctions 1 to 2 – Zone 3

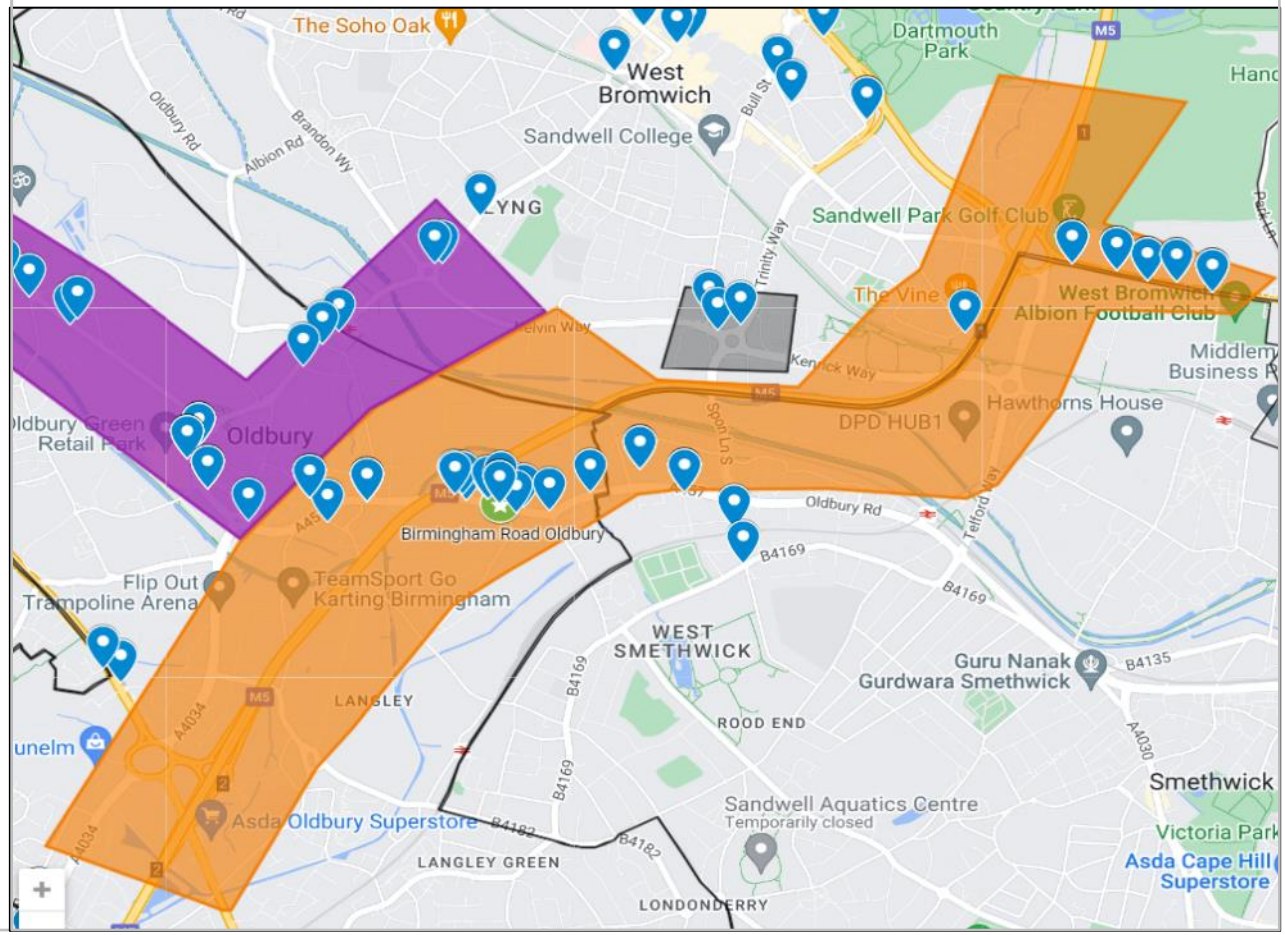


Figure D 11 - Map of Air Quality Priority Zone 4

LEGEND

Nitrogen Dioxide Diffusion Tube

Continuous monitoring station

Great Barr and Yew Tree- Zone 4

An interactive map of all the nitrogen dioxide tube monitoring sites and air quality monitoring stations in Sandwell is available via this link

Great Barr and Yew Tree– Air Quality Priority Zone 4

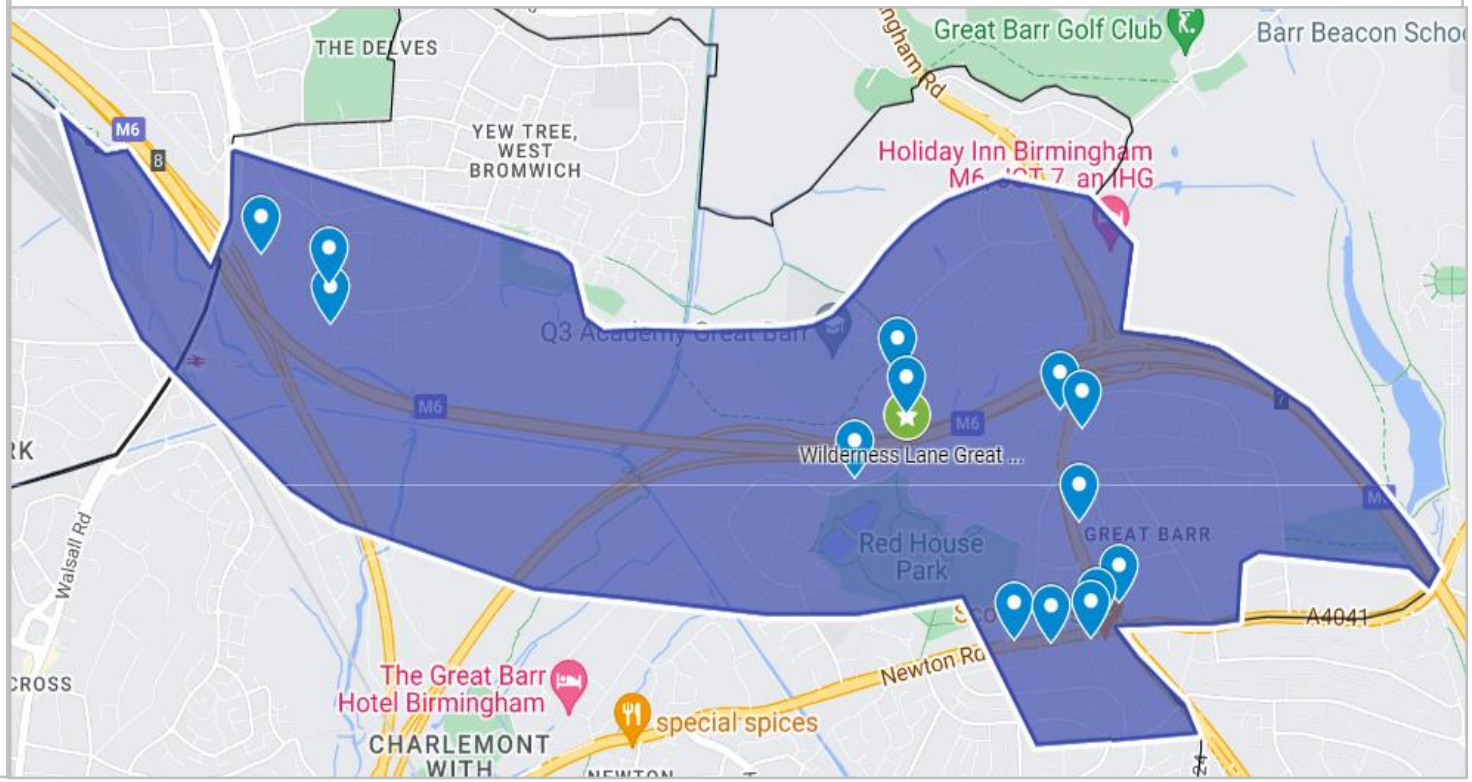


Figure D 12 - Map of Air Quality Priority Zone 5

LEGEND

- Nitrogen Dioxide Diffusion Tube
- Continuous monitoring station
- Oldbury, Oldbury Ringway (Incl. Bromford Lane/Kelvin Way/Brandon Way)- Zone 5
- Oldbury M5 Junctions 1 to 2- Zone 3

An interactive map of all the nitrogen dioxide tube monitoring sites and air quality monitoring stations in Sandwell is available via this link.

Oldbury Ringway (including Bromford Lane, Kelvin Way and Brandon Way) – Zone 5

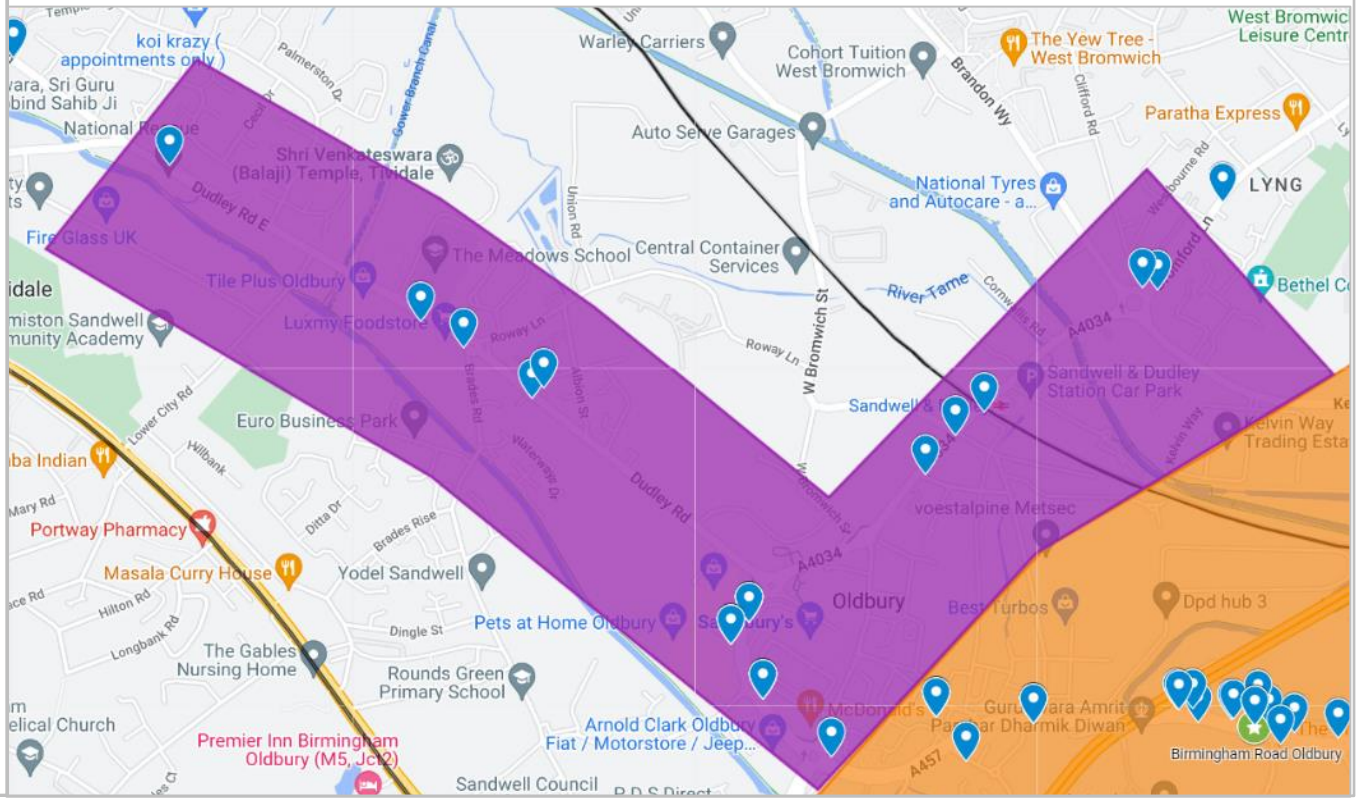


Figure D 13 - Maps of Air Quality Priority Zones 6 and 7

LEGEND

Nitrogen Dioxide Diffusion Tube

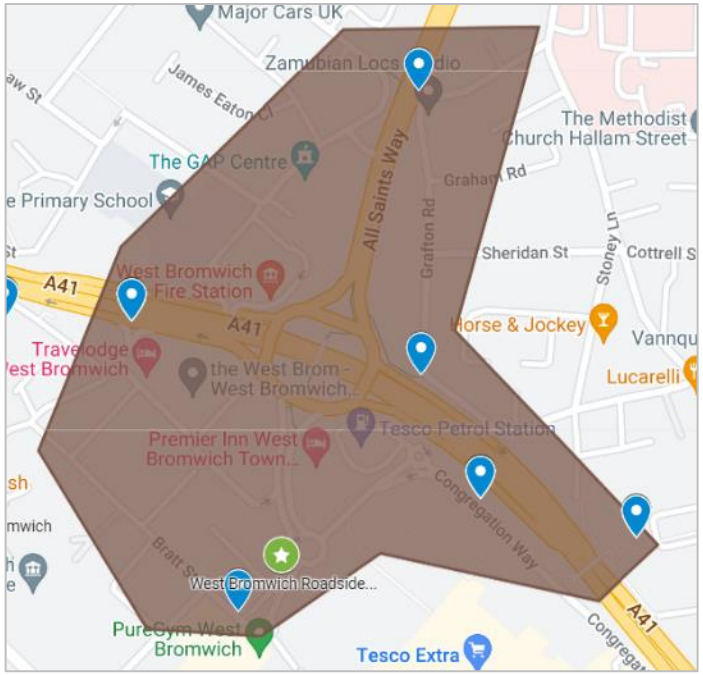
Continuous monitoring station

The Expressway/All Saints Way, West Bromwich- Zone 6

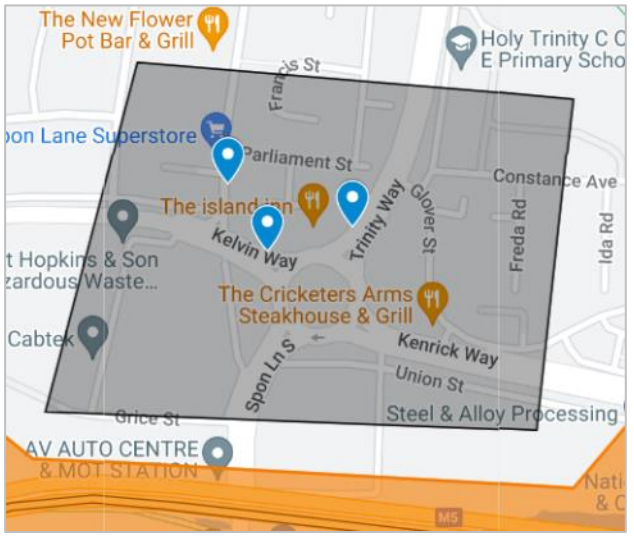
West Bromwich, Trinity Way/Kenrick Way- Zone 7

An interactive map of all the nitrogen dioxide tube monitoring sites and air quality monitoring stations in Sandwell is available via this link.

The Expressway / All Saints Way, West Bromwich – Zone 6



Trinity Way / Kenrick Way – Zone 7



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England[38]

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

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

Appendix F: Zephyr Air Quality Data Summary

Summary Report of Zephyr Air Quality Monitoring Data in Sandwell in 2024

Sandwell
Metropolitan Borough Council

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Introduction

Why air pollution matters

Air pollution is a leading health emergency, in the West Midlands alone, air pollution causes up to 2300 early deaths each year[39]. Every resident of the West Midlands, lives in an area exceeding the World Health Organisation's air quality guidelines. It is estimated that meeting the WHO targets would bring £3.2bn in economic benefits through the reduced health burden.

Zephyr® Sensors

The Zephyr sensors play a crucial role in providing data for informed decision-making to better manage urban air quality. Each Zephyr sensor is designed to retrieve specific pollutants relevant to urban environments, such as Nitrogen Dioxide (NO_2), Ozone (O_3), Nitrogen Oxide (NO), and various sizes of Particulate Matter (PM_1, $PM_{2.5}$, and PM_{10}). Its compact size allows for easy deployment on street furniture, with power options including internal battery, mains power, or solar panel. In Sandwell all sensors were powered by solar panels. The sensor's capability to create a high-density network and record data at short intervals with minimal latency enables near-real time air pollution monitoring. In Sandwell, the focus is on reducing NO_2, PM_{10}, and $PM_{2.5}$ levels; the results from each Zephyr for these pollutant species are summarised in this report.

Retrieval of gas concentrations

Electrochemical Sensors (EC) are used in the Zephyr® sensor for NO_2, O3 and NO. The analogue response that is converted to a digital signal is affected by the concentration of the gas of interest as well as other interfering gases (the specific gases and the severity is unique for each EC) and environmental conditions. The retrieved concentration has these effects accounted for, which is validated by both long-term studies and a sensor validation period prior to delivery to the client. Total Volatile Organic Compounds (TVOCs) are retrieved using a photo ionisation detector (PID) which has corrections for environmental conditions. A self-correcting algorithm to ensure a common background is maintained has been applied to this data. This algorithm is presently being written into standard operational protocols, and as such is not presently available on MyAir®.

Retrieval of particulates

An Optical Particle Counter (OPC) is used in the Zephyr® sensor to retrieve a mass concentration for PM_1, $PM_{2.5}$ and PM_{10}. This has been found to produce very good agreement with reference methods in the UK. A hygroscopic factor is included in the retrieval to correct for humidity interactions with aerosol.

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[39] University of Birmingham, Published May 2024 https://www.birmingham.ac.uk/news/2024/

Summary of Zephyr Monitoring in Sandwell - 2024

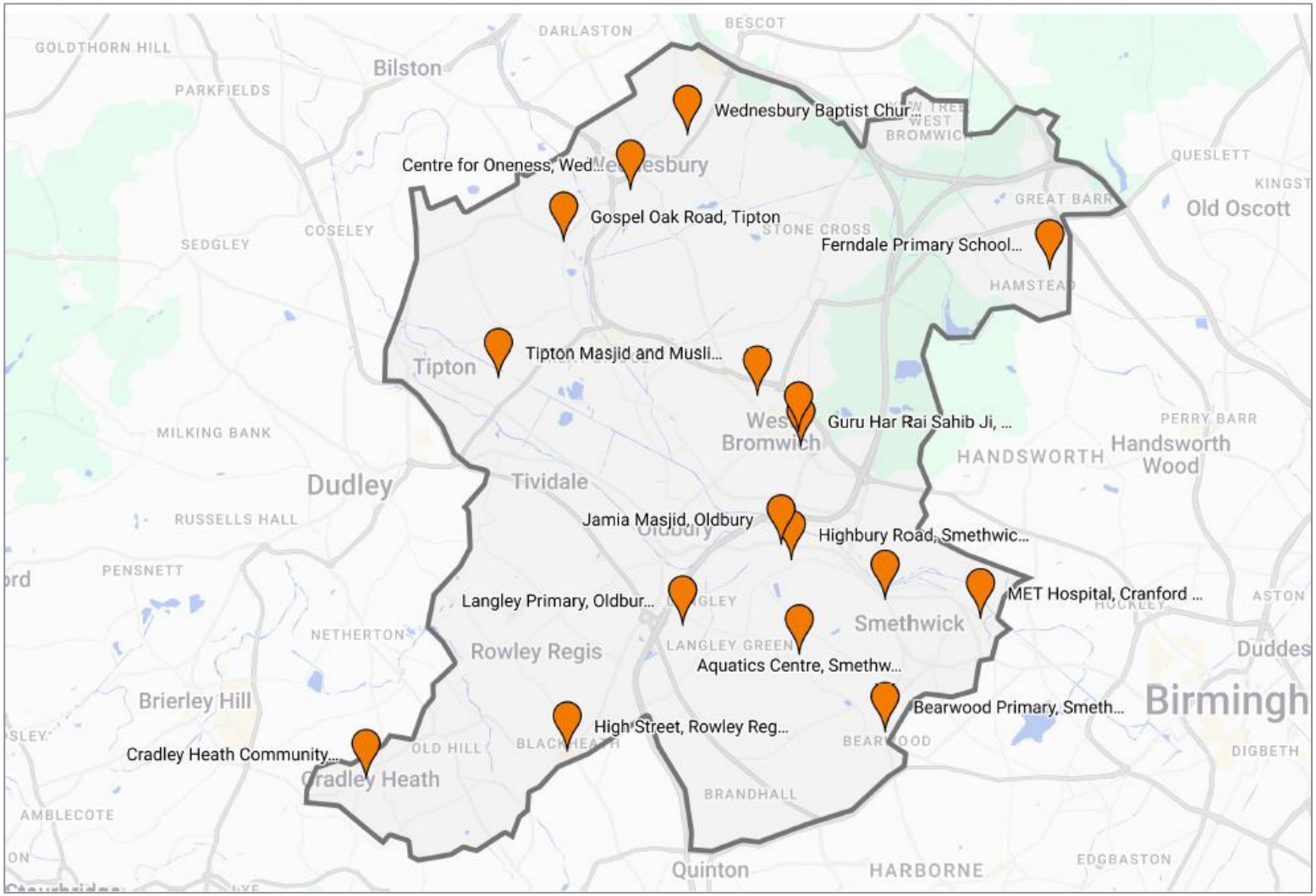
Zephyr Number	Site Name	Site Type	X OS Grid Ref (Easting)	X OS Grid Ref (Northing)	Pollutants Monitored	Distance to Relevant Exposure (m)	Distance to kerb of nearest road (m)	Inlet Height (m)
Z778	Gospel Oak Road, Tipton	Roadside	397373	293866	NO_2, NO, O3, PM_1, $PM_{2.5}$ & PM_{10}	26.22	1.48	4
Z315	Highfields Registry Office, West Bromwich	Background	400222	291612	NO_2, NO, O_3, PM_1, $PM_{2.5}$ & PM_{10}	41.18	33.28	4.5
Z781	High Street, Rowley Regis	Roadside	397418	286388	NO_2, NO, O3, PM_1, $PM_{2.5}$ & PM_{10}	9.68	2.65	4
Z870	Langley Primary, Oldbury	Roadside	399124	288234	NO_2, NO, O3, PM_1, $PM_{2.5}$ & PM_{10}	8.14	10.2	4
Z881	Wednesbury Baptist Church, Wednesbury	Roadside	399192	295428	NO_2, NO, O3, PM_1, $PM_{2.5}$ & PM_{10}	3.84	1.40	4
Z887	MET Hospital, Cranford Street, Smethwick	Roadside	403493	288344	NO_2, NO, O3, PM_1, $PM_{2.5}$ & PM_{10}	6.12	1.81	4
Z892	Tipton Masjid and Muslim Community Centre, Tipton	Roadside	396409	291867	NO_2, NO, O3, PM_1, $PM_{2.5}$ & PM_{10}	*3.60*	*2.16*	*4*
Z898	Highbury Road, Smethwick	Roadside	400723	289200	NO_2, NO, O3, PM_1, $PM_{2.5}$ & PM_{10}	8.35	2.45	4
Z916	Cradley Heath Community Link, High Street, Cradley Heath	Roadside	394452	285985	NO_2, NO, O3, PM_1, $PM_{2.5}$ & PM_{10}	*5.18*	*1.77*	*4*
Z917	Guru Har Rai Sahib Ji, West Bromwich	Roadside	400863	290864	NO_2, NO, O3, PM_1, $PM_{2.5}$ & PM_{10}	4.52	1.00	4
Z920	Jamia Masjid, Oldbury	Roadside	400572	289425	NO_2, NO, O3, PM_1, $PM_{2.5}$ & PM_{10}	18.76	3.66	4

Zephyr Number	Site Name	Site Type	X OS Grid Ref (Easting)	X OS Grid Ref (Northing)	Pollutants Monitored	Distance to Relevant Exposure (m)	Distance to kerb of nearest road (m)	Inlet Height (m)
Z931	Holy Trinity Church, Smethwick	Roadside	402103	288616	NO_2, NO, O3, PM_1, $PM_{2.5}$ & PM_{10}	15.75	3.31	4
Z1019	Ferndale Primary School, Wednesbury	Background	404509	293460	NO_2, NO, O3, PM_1, $PM_{2.5}$ & PM_{10}	23.37	1.82	4
Z1289	Bull Street, West Bromwich	Roadside	400831	291081	NO_2, NO, O3, PM_1, $PM_{2.5}$ & PM_{10}	3.29	1.33	4
Z1359	Centre for Oneness, Wednesbury	Roadside	398356	294624	NO_2, NO, O3, PM_1, $PM_{2.5}$ & PM_{10}	*15.68*	*2.21*	*4*
Z1514	Aquatics Centre, Smethwick	Roadside	400841	287811	NO_2, NO, O3, PM_1, $PM_{2.5}$ & PM_{10}	5.4	3.36	4
Z1335	Bearwood Primary, Smethwick	Roadside	402106	286669	NO_2, NO, O3, PM_1, $PM_{2.5}$ & PM_{10}	7.54	1.04	4

Location of the 17 ‘Zephyr’ air quality monitors across Sandwell in 2024

Legend

Location of Zephyr Air Quality Monitor



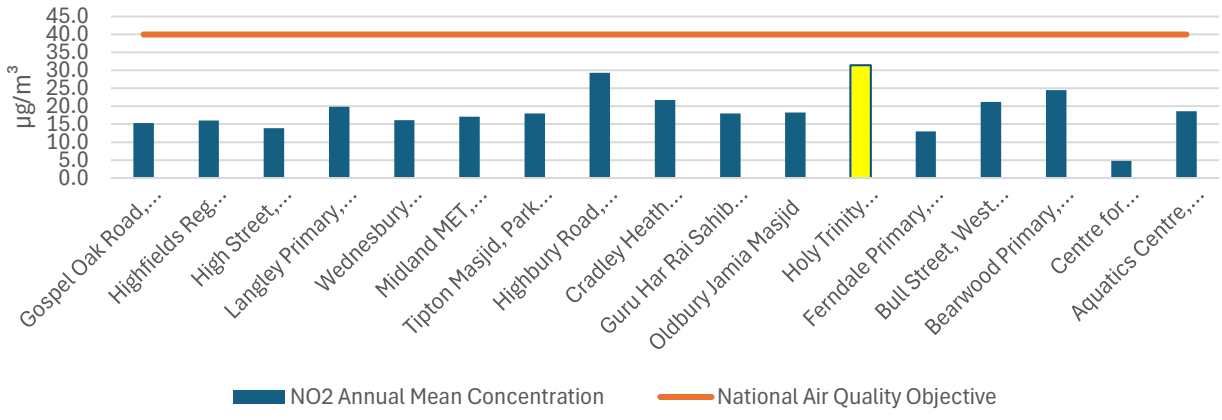
Data Capture 2024

Data capture for the 12-month monitoring period as a percentage. In some cases, the period monitored was less than a year.

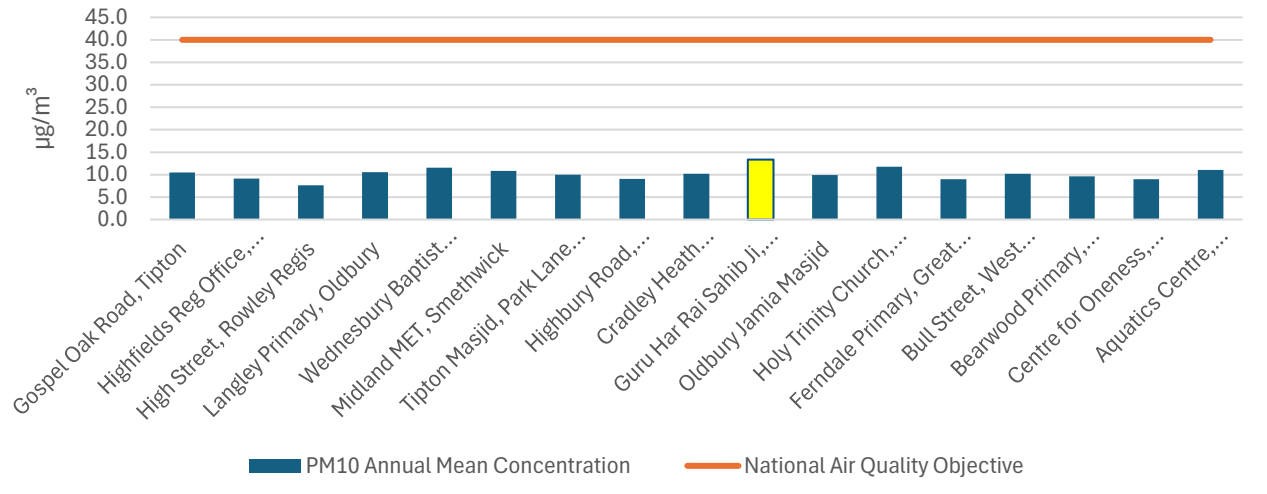
'Z' Number	Site Name	NO_2	$PM_{2.5}$	PM_{10}
Z778	Gospel Oak Road, Tipton	99.1	100.0	100.0
Z315	Highfields Registry Office, West Bromwich	88.4	96.6	96.6
Z781	High Street, Rowley Regis	54.7	55.0	55.0
Z870	Langley Primary, Oldbury	88.2	89.9	89.9
Z881	Wednesbury Baptist Church, Wednesbury	98.5	98.6	98.6
Z887	MET Hospital, Smethwick	99.5	99.5	99.5
Z892	Tipton Masjid and Muslim Community Centre, Tipton	99.0	99.2	99.2
Z898	Highbury Road, Smethwick	89.6	94.8	94.8
Z916	Cradley Heath Community Link, Cradley Heath	86.4	87.1	87.1
Z917	Guru Har Rai Sahib Ji, West Bromwich	98.6	98.6	98.6
Z920	Jamia Masjid, Oldbury	98.7	99.0	99.0
Z931	Holy Trinity Church, Smethwick	22.5	23.2	23.2
Z1019	Ferndale Primary School, Wednesbury	95.9	96.2	96.2
Z1289	Bull Street, West Bromwich	96.2	96.8	96.8
Z1335	Bearwood Primary, Smethwick	88.7	89.3	89.3
Z1359	Centre for Oneness, Wednesbury	80.9	99.3	99.3
Z1514	Aquatics Centre, Smethwick	99.6	99.6	99.6

Zephyr Data Monitoring Results 2024

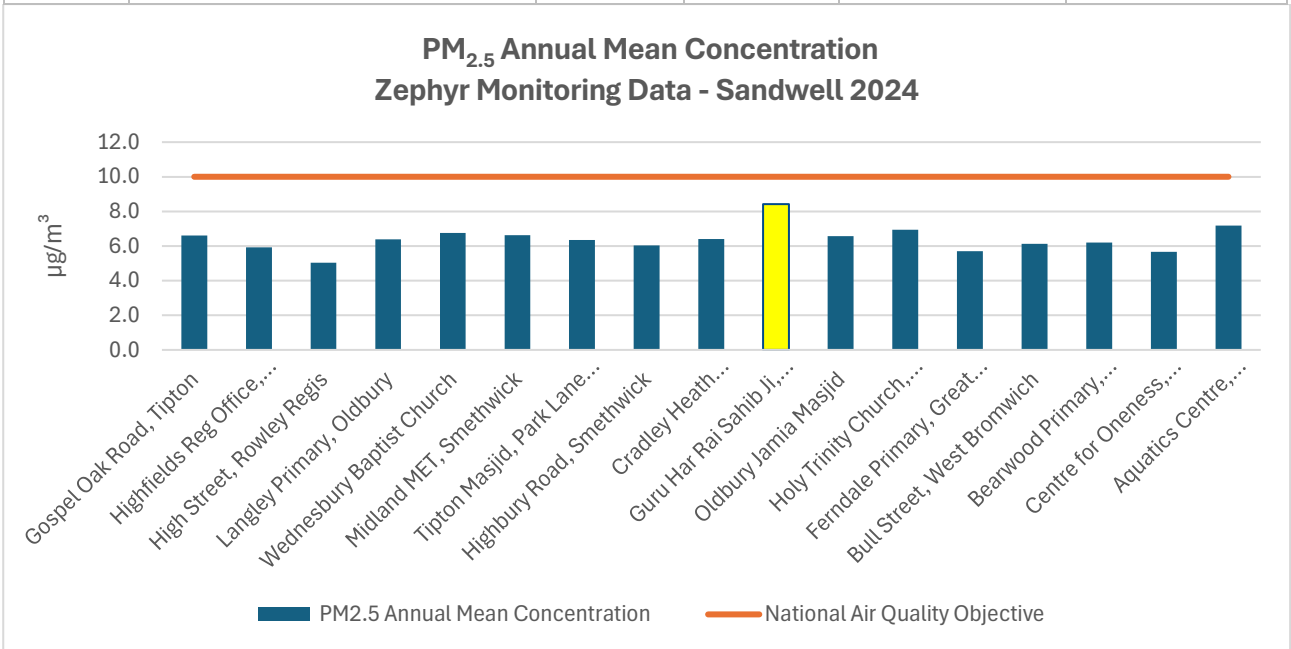
Annual Mean NO_2 Concentrations 2024					
'Z' Number	Site Name	Valid Data Capture (%)	Annual Mean µg/m³	Defra Air Quality Objective (AQO) (µg/m³)	Pollutant Concentration within Limit?
Z778	Gospel Oak Road, Tipton	99.1	15.3	40	Y
Z315	Highfields Registry Office, West Bromwich	88.4	16.0	40	Y
Z781	High Street, Rowley Regis	54.7	13.9	40	Y
Z870	Langley Primary, Oldbury	88.2	19.8	40	Y
Z881	Wednesbury Baptist Church, Wednesbury	98.5	16.1	40	Y
Z887	MET Hospital, Smethwick	99.5	17.1	40	Y
Z892	Tipton Masjid and Muslim Community Centre, Tipton	99.0	18.0	40	Y
Z898	Highbury Road, Smethwick	89.6	29.3	40	Y
Z916	Cradley Heath Community Link, Cradley Heath	86.4	21.7	40	Y
Z917	Guru Har Rai Sahib Ji, West Bromwich	98.6	18.0	40	Y
Z920	Jamia Masjid, Oldbury	98.7	18.3	40	Y
Z931	Holy Trinity Church, Smethwick	22.5	31.4	40	Y
Z1019	Ferndale Primary School, Wednesbury	95.9	13.0	40	Y
Z1289	Bull Street, West Bromwich	96.2	21.2	40	Y
Z1335	Bearwood Primary, Smethwick	88.7	24.5	40	Y
Z1359	Centre for Oneness, Wednesbury	80.9	4.7	40	Y
Z1514	Aquatics Centre, Smethwick	99.6	18.6	40	Y



Annual Mean PM_{10} Concentrations 2024					
'Z' Number	Site Name	Valid Data Capture (%)	Annual Mean µg/m³	Defra Air Quality Objective (AQO) (µg/m³)	Pollutant Concentration within Limit?
Z778	Gospel Oak Road, Tipton	100.0	10.4	40	Y
Z315	Highfields Registry Office, West Bromwich	96.6	9.1	40	Y
Z781	High Street, Rowley Regis	55.0	7.6	40	Y
Z870	Langley Primary, Oldbury	89.9	10.6	40	Y
Z881	Wednesbury Baptist Church, Wednesbury	98.6	11.5	40	Y
Z887	MET Hospital, Smethwick	99.5	10.9	40	Y
Z892	Tipton Masjid and Muslim Community Centre, Tipton	99.2	10.0	40	Y
Z898	Highbury Road, Smethwick	94.8	9.0	40	Y
Z916	Cradley Heath Community Link, Cradley Heath	87.1	10.2	40	Y
Z917	Guru Har Rai Sahib Ji, West Bromwich	98.6	13.3	40	Y
Z920	Jamia Masjid, Oldbury	99.0	9.9	40	Y
Z931	Holy Trinity Church, Smethwick	23.2	11.7	40	Y
Z1019	Ferndale Primary School, Wednesbury	96.2	9.0	40	Y
Z1289	Bull Street, West Bromwich	96.8	10.2	40	Y
Z1335	Bearwood Primary, Smethwick	89.3	9.6	40	Y
Z1359	Centre for Oneness, Wednesbury	99.3	9.0	40	Y
Z1514	Aquatics Centre, Smethwick	99.6	11.1	40	Y



Annual Mean $PM_{2.5}$ Concentrations 2024					
'Z' Number	Site Name	Valid Data Capture (%)	Annual Mean µg/m³	UK Target Level (2040) µg/m³	Pollutant Concentration within Limit?
Z778	Gospel Oak Road, Tipton	100.0%	6.6	10	Y
Z315	Highfields Registry Office, West Bromwich	96.6%	5.9	10	Y
Z781	High Street, Rowley Regis	55.0%	5.0	10	Y
Z870	Langley Primary, Oldbury	89.9%	6.4	10	Y
Z881	Wednesbury Baptist Church, Wednesbury	98.6%	6.7	10	Y
Z887	MET Hospital, Smethwick	99.5%	6.6	10	Y
Z892	Tipton Masjid and Muslim Community Centre, Tipton	99.2%	6.3	10	Y
Z898	Highbury Road, Smethwick	94.8%	6.0	10	Y
Z916	Cradley Heath Community Link, Cradley Heath	87.1%	6.4	10	Y
Z917	Guru Har Rai Sahib Ji, West Bromwich	98.6%	8.4	10	Y
Z920	Jamia Masjid, Oldbury	99.0%	6.6	10	Y
Z931	Holy Trinity Church, Smethwick	23.2%	6.9	10	Y
Z1019	Ferndale Primary School, Wednesbury	96.2%	5.7	10	Y
Z1289	Bull Street, West Bromwich	96.8%	6.1	10	Y
Z1335	Bearwood Primary, Smethwick	89.3%	6.2	10	Y
Z1359	Centre for Oneness, Wednesbury	99.3%	5.7	10	Y
Z1514	Aquatics Centre, Smethwick	99.6%	7.2	10	Y



Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
EU	European Union
FDMS	Filter Dynamics Measurement System
FIDAS	Fine Dust Analysis System
LAQM	Local Air Quality Management
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
NHS (ICB)	National Health Service – Integrated Care Board
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
ORCS	On-Street Residential Charge Schemes
OZEZ	Office for Zero Emission Vehicles
QA/QC	Quality Assurance and Quality Control
SO_2	Sulphur Dioxide
TfWM	Transport for West Midlands
WHO	World Health Organisation
WMCA	West Midlands Combined Authority

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