



# Walsall Council

## 2023 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995  
Local Air Quality Management

Date: December 2023

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# Executive Summary: Air Quality in Walsall

## Overview

Exposure to air pollution is estimated to cause millions of deaths and lost years of healthy life annually. The burden of disease attributable to air pollution is now estimated to be on a par with other major global health risks such as unhealthy diet and tobacco smoking, and air pollution is now recognised as the single biggest environmental threat to human health.

Air pollution is associated with a number of adverse health impacts. It increases morbidity and mortality from cardiovascular and respiratory disease, and from lung cancer, with increasing evidence of effects on other organ systems. The burden of disease resulting from air pollution also imposes a significant economic burden.

Air pollution particularly affects the most vulnerable in society: children, the elderly, and those with existing heart and lung conditions. There is also often a strong correlation with equalities issues because areas with poor air quality are also often less affluent areas<sup>1,2</sup>.

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

## Walsall Air Quality

Pollutant trend data shows that over the last ten years levels of roadside nitrogen dioxide have generally decreased. No exceedances of the national air quality objective for nitrogen dioxide have been determined at relevant receptors. Modelled (and measured) exceedances have been reported along certain main arterial roads (the 'classified road network', which incorporates the West Midlands Key Road Network).

Within Walsall urban background nitrogen dioxide levels have reduced at a gradual rate over time, and are at concentrations generally half or less than half of the current national

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

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

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

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

annual mean objective. Notwithstanding, there are borough-wide exceedances of World Health Organisation 2021 Air Quality Targets and Air Quality Guidelines.

There are, however, some areas where local action is needed to further improve air quality.

The 2019 Clean Air Strategy<sup>5</sup> provides the case for action. The Road to Zero<sup>6</sup> sets out the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that the majority of Air Quality Management Areas (AQMAs) are designated due to elevated pollutant concentrations that primarily stem from road transport emissions.

### **Walsall Air Quality Management Areas**

Details of Walsall's current Air Quality Management Areas can be found at:

[https://uk-air.defra.gov.uk/aqma/local-authorities?la\\_id=293](https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=293)

## **Actions to Improve Air Quality**

### **Regional and Black Country Initiatives**

In order to address and further improve air quality, Walsall Council, along with other West Midlands Councils and partner organisations, has taken forward a number of measures at local, sub-regional and regional levels. The council was a founding (and board) member of the West Midlands Low Emissions Towns and Cities Program (WM LETCP) and participates in the Black Country Ultra Low Emission Vehicle Strategy and Implementation Plan.

In June 2016 the seven Metropolitan Authorities (Birmingham, Coventry, Dudley, Sandwell, Solihull, Walsall and Wolverhampton), along with representatives from the three Local Enterprise Partnerships and five non-constituent Authorities, joined together to form the West Midlands Combined Authority (WMCA).

The WMCA has been established to plan and deliver a transport system across the West Midlands Metropolitan area that will boost the regional economy and improve the daily lives of residents and workers, and will control many of the strategic functions across the region to ensure a common approach.

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<sup>5</sup> Defra. Clean Air Strategy, 2019

<sup>6</sup> DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018

The West Midlands Integrated Transport Authority (ITA) was replaced by Transport for West Midlands (TFWM) - the transport arm of the Combined Authority - in June 2016 and is continuing to develop the West Midlands Transport Emissions Framework. The Framework forms part of the West Midlands Strategic Transport Plan which has replaced the Local Transport Plan 3, and includes regional policies to accelerate the uptake of ULEVs across the private sector, fleet vehicles and taxis.

There are local and regional strategies which focus on specific areas of transport which outline the region's vision to become an 'engine for growth' through investment in transport infrastructure for this generation:

- Midlands Connect Strategy, 2017  
[Midlands Connect | Midlands Connect Strategy - March 2017](#)
- Movement for Growth: The West Midlands Strategic Transport Plan, 2016  
[https://www.wmca.org.uk/media/1372/2016-06-01-mfg-full-document\\_wmca.pdf](https://www.wmca.org.uk/media/1372/2016-06-01-mfg-full-document_wmca.pdf)

The four Black Country Council's, Dudley, Sandwell, Walsall, and Wolverhampton collaborated to produce a Black Country Air Quality Supplementary Planning Document (which incorporates the WM LETCP Good Practice Air Quality Planning Guidance) to inform planning policy and the decision making process to ensure a consistent approach to planning across the Black Country. This was adopted as planning policy by Walsall in November 2016.

In addition, the council participates in the Black Country Ultra Low Emission Vehicle Strategy and Implementation Plan. The plan will form part of a Black Country Transport Strategy and will help deliver a step change in the number of ULEVs in the region by meeting existing demand and stimulating further demand by providing vehicle owners and operators with the confidence to invest in ULEVs. The Implementation Plan will drive each council's own capital and revenue programmes and inform funding bids to the Local Growth Fund, Combined Authority, Office for Low Emission Vehicles (OLEV), European Structural Investment Fund (ESIF), Horizon 2020 and other appropriate funds. It will also support the wider promotion of ULEVs to the public, other public sector organisations and to businesses.

### **Walsall Initiatives**

Walsall council has introduced a number of measures within the borough that have served to help reduce pollution levels from vehicles as part of the council's work towards achieving compliance with the relevant air quality objectives.

The measures fall into the following core areas:

- road improvements,
- public transport improvements,
- bus route improvements,
- traffic management,
- promoting travel alternatives,
- promoting low emission vehicles,
- air quality planning and guidance.

Priorities and Key measures to be completed in the next 12 to 24 months or more (which may be subject to adequate resources) include:

- Review and update of the Walsall Air Quality Action Plan as required.
- Completion of M6 Motorway Junction 10 Walsall Council / Highways England Improvement Scheme involving reconstruction, provision of additional lane capacity on the gyratory and associated highway improvement.
- Network Rail Chase Line Walsall – Rugeley railway line electrification to provide additional services and capacity together with associated highway infrastructure changes.
- Re-modelling of Walsall borough (and the Black County) utilising EFT v11.0 (or above) to determine areas of exceedance/likely exceedance in regard to nitrogen dioxide associated with road traffic in context of national air quality objective (and World Health Organisation Air Quality Guidelines and Interim Targets).
- Completion of a Walsall borough-wide (and Black Country) PM<sub>2.5</sub> and PM<sub>10</sub> air quality predictive model for 2024 verified against measured concentrations and continuation of health impact studies in conjunction within context of national air quality objectives/targets (and World Health Organisation Air Quality Guidelines and Interim Targets).
- Progression of the Walsall Council Air Quality Alliance (detailed below).
- Engagement with the West Midlands Combined Authority Air Quality Framework Implementation Plan (addressed specifically below).

## **Walsall Planning Applications**

Guidance has been prepared to aid developers bringing forwards schemes in Walsall in context of required air quality considerations. An Interim Position Statement Concerning Air Quality and Proposed Planning Developments has been made available at <https://go.walsall.gov.uk/sites/default/files/2023-01/Environmental%20Protection%20-%20Interim%20Position%20Statement%20on%20Air%20Quality%20July%202022%20Version%201.5.pdf> which takes account of air quality guidelines, limits and targets which accounts for how the council's Environmental Protection team responds to planning application consultations. This guidance is to be updated in 2024 to take account of binding limits and targets introduced in 2023.

Additionally, the council applies the Black Country Air Quality Supplementary Planning Document (SPD) as relevant to formal planning applications when determining required conditions.

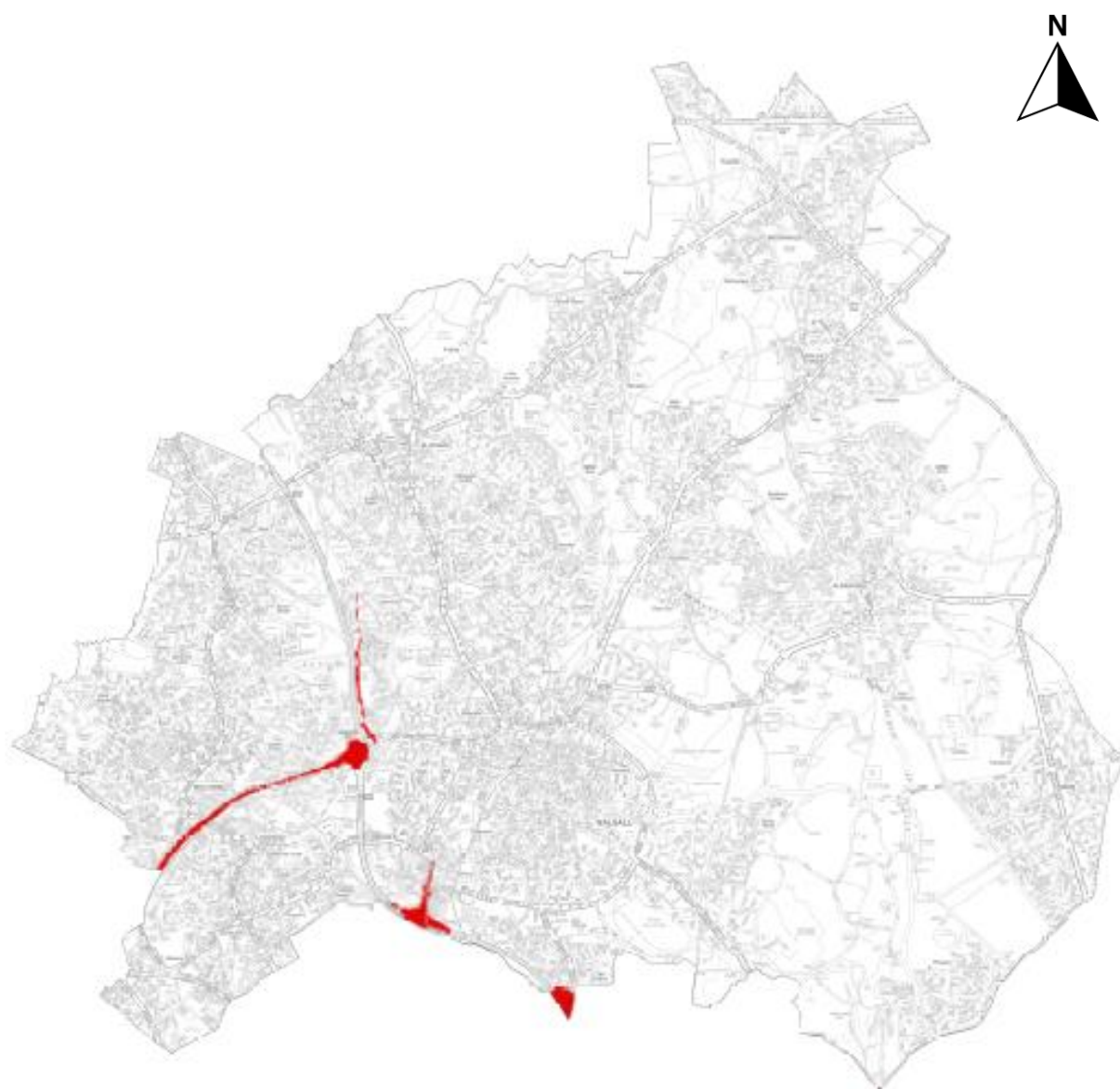
[https://go.walsall.gov.uk/sites/default/files/2023-01/black\\_country\\_air\\_quality\\_spd\\_september\\_2016\\_0.pdf](https://go.walsall.gov.uk/sites/default/files/2023-01/black_country_air_quality_spd_september_2016_0.pdf)

To assist appraisal of development control across the borough (and inform Public Health initiatives), the council uses its whole-borough air quality models in respect of nitrogen dioxide, PM<sub>2.5</sub> and PM<sub>10</sub>. These are in-part used to screen the need for air quality interventions and assessments. Modelling outputs are available at:

<https://go.walsall.gov.uk/people-and-communities/protecting-our-environment/air-quality>

# Walsall Metropolitan Borough Council ADMS Urban Nitrogen Dioxide Air Quality Model 2022

## National Air Quality Objective: Predicted Areas of Exceedance (Annual Average Concentration $>40\mu\text{g}/\text{m}^3$ )

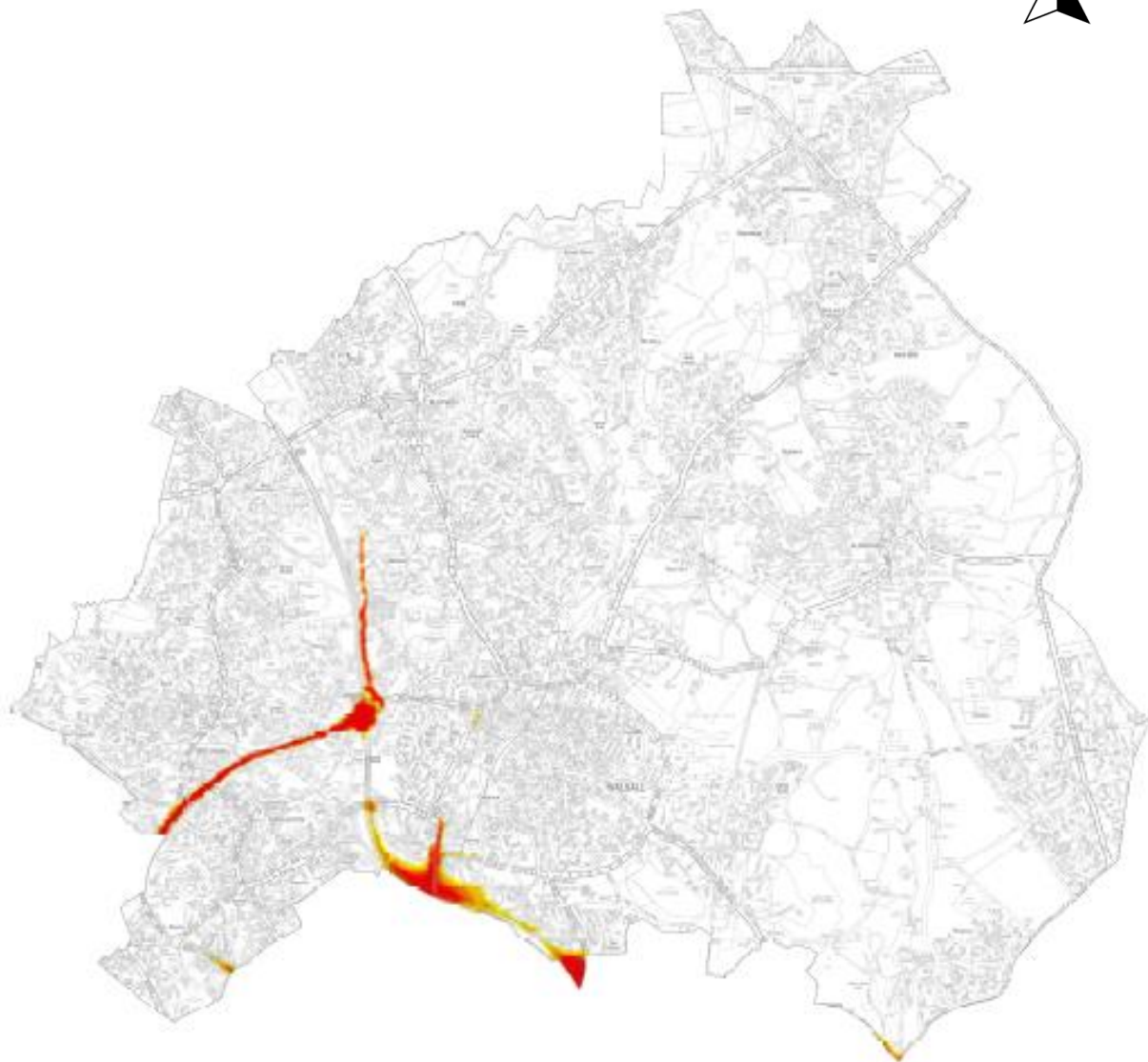


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# Walsall Metropolitan Borough Council ADMS Urban Nitrogen Dioxide Air Quality Model 2022

National Air Quality Objective: Predicted Areas of Exceedance and Possible Concern (Annual Average Concentration > 40  $\mu\text{g}/\text{m}^3$ )

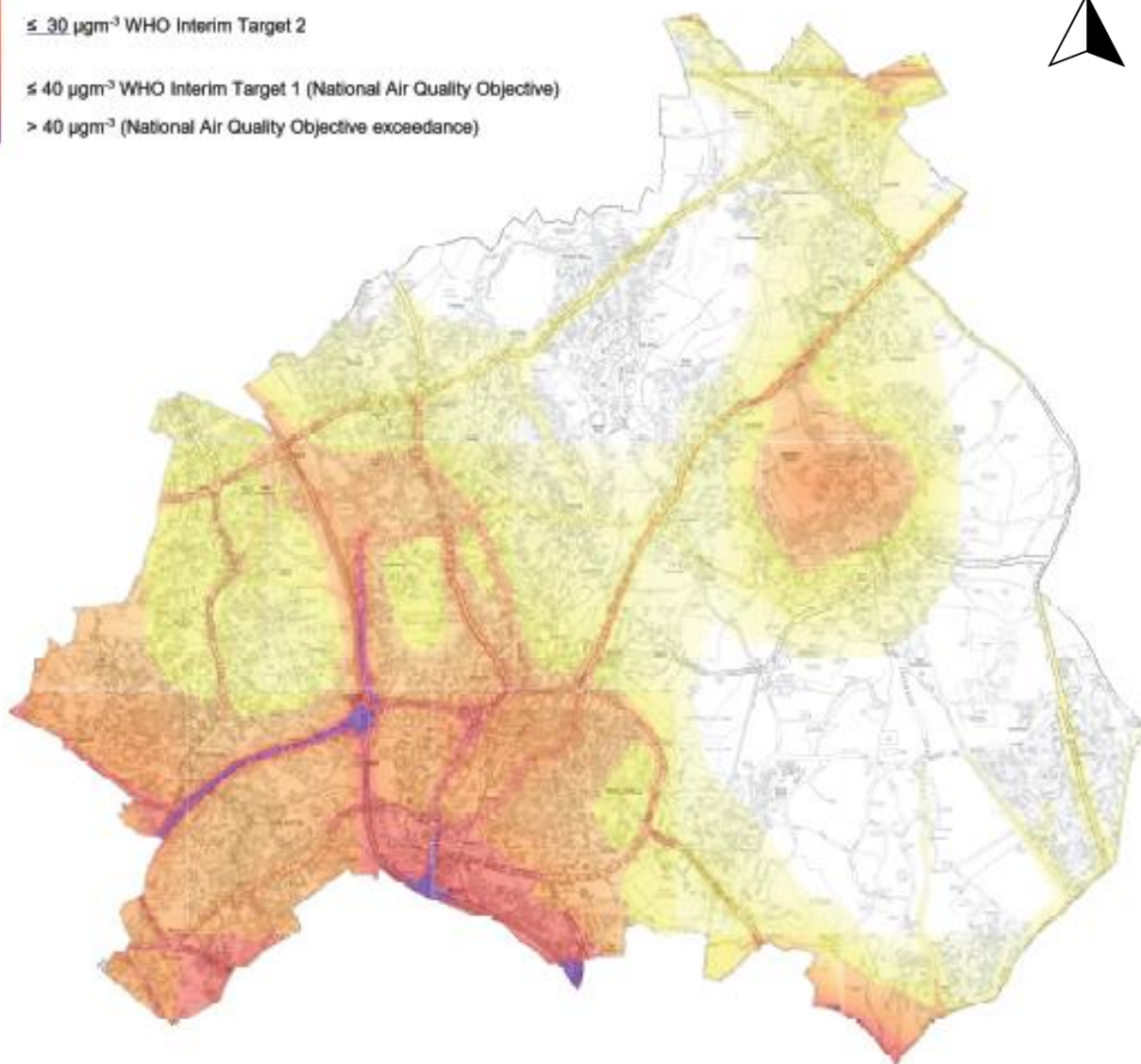
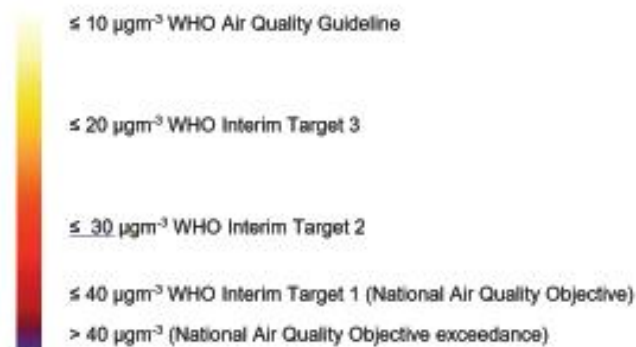


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# Walsall Metropolitan Borough Council ADMS Urban Nitrogen Dioxide Air Quality Model 2022

## World Health Organisation (2021) Air Quality Guideline Level and Interim Air Quality Targets

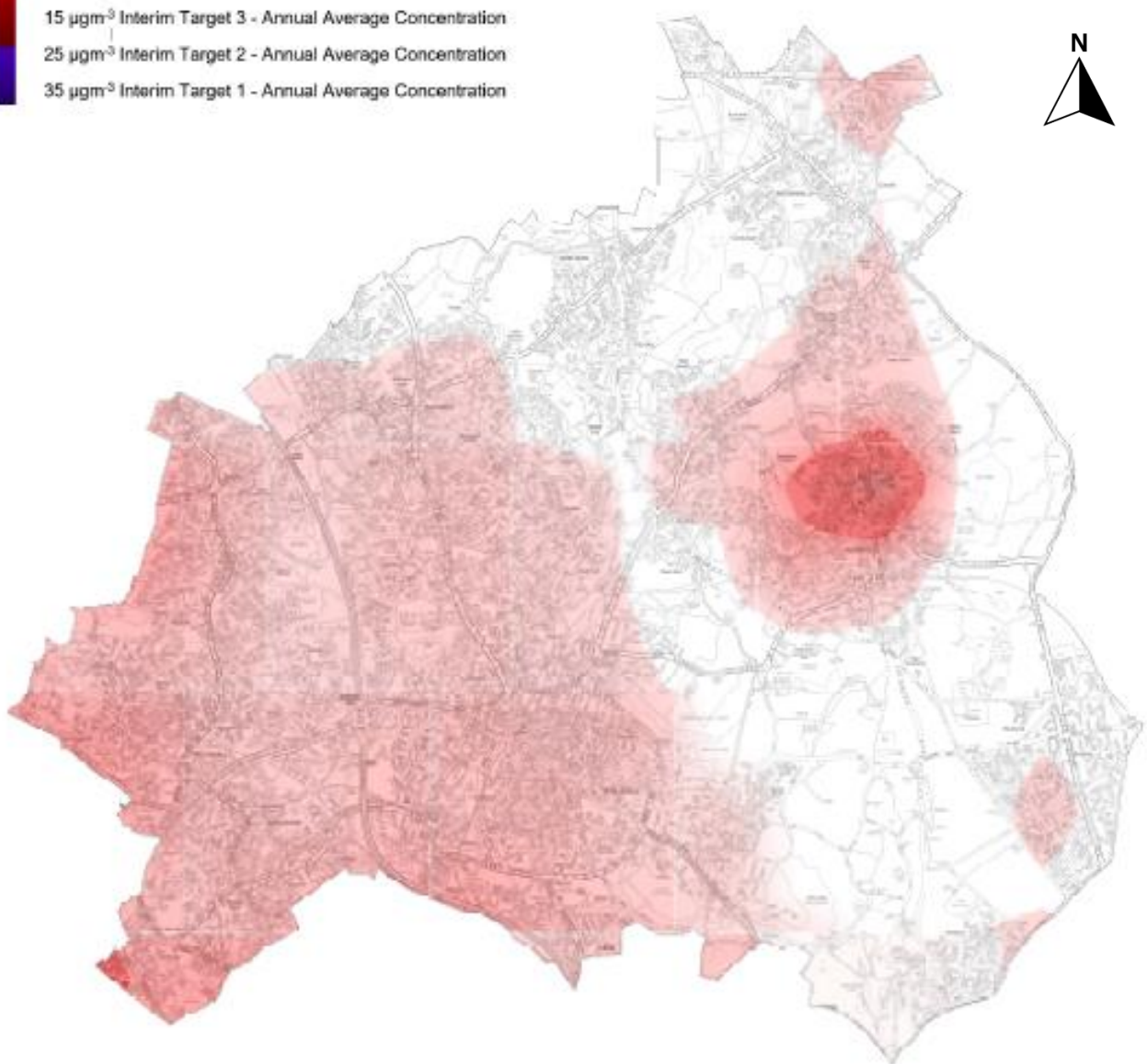
### Key



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# Walsall Metropolitan Borough Council ADMS Urban PM2.5 Model 2022 National Atmospheric Emissions Inventory (2019)

## World Health Organisation (2021) Air Quality Guidelines and Interim Targets



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Walsall Metropolitan Borough Council  
ADMS Urban PM2.5 Model 2022  
National Atmospheric Emissions Inventory (2019)

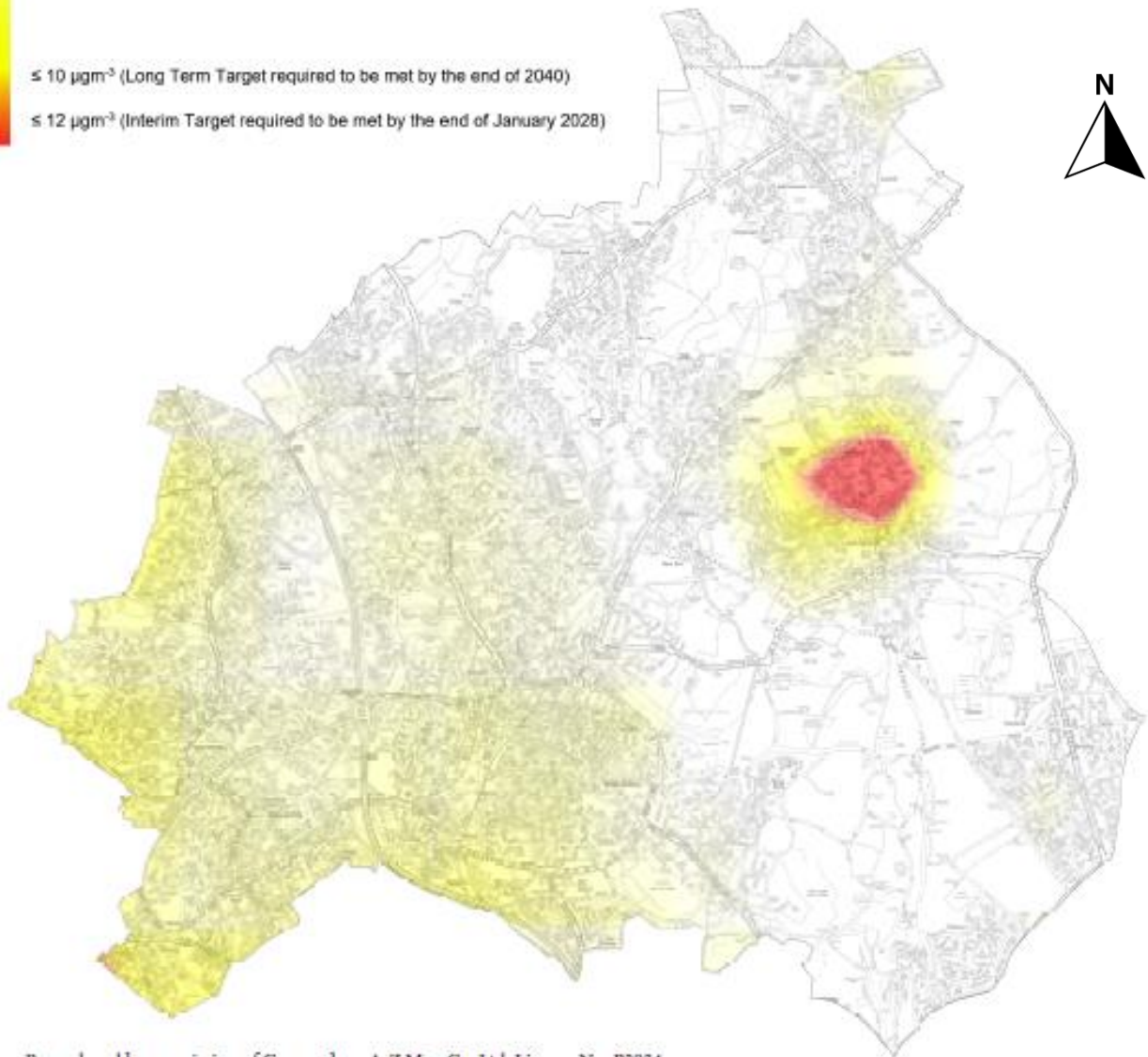
Air Quality 2040 Target and 2028 Interim Target:  
Predicted Areas of Exceedance (Annual Average Concentrations)

Key



≤ 10 µg/m<sup>3</sup> (Long Term Target required to be met by the end of 2040)

≤ 12 µg/m<sup>3</sup> (Interim Target required to be met by the end of January 2028)

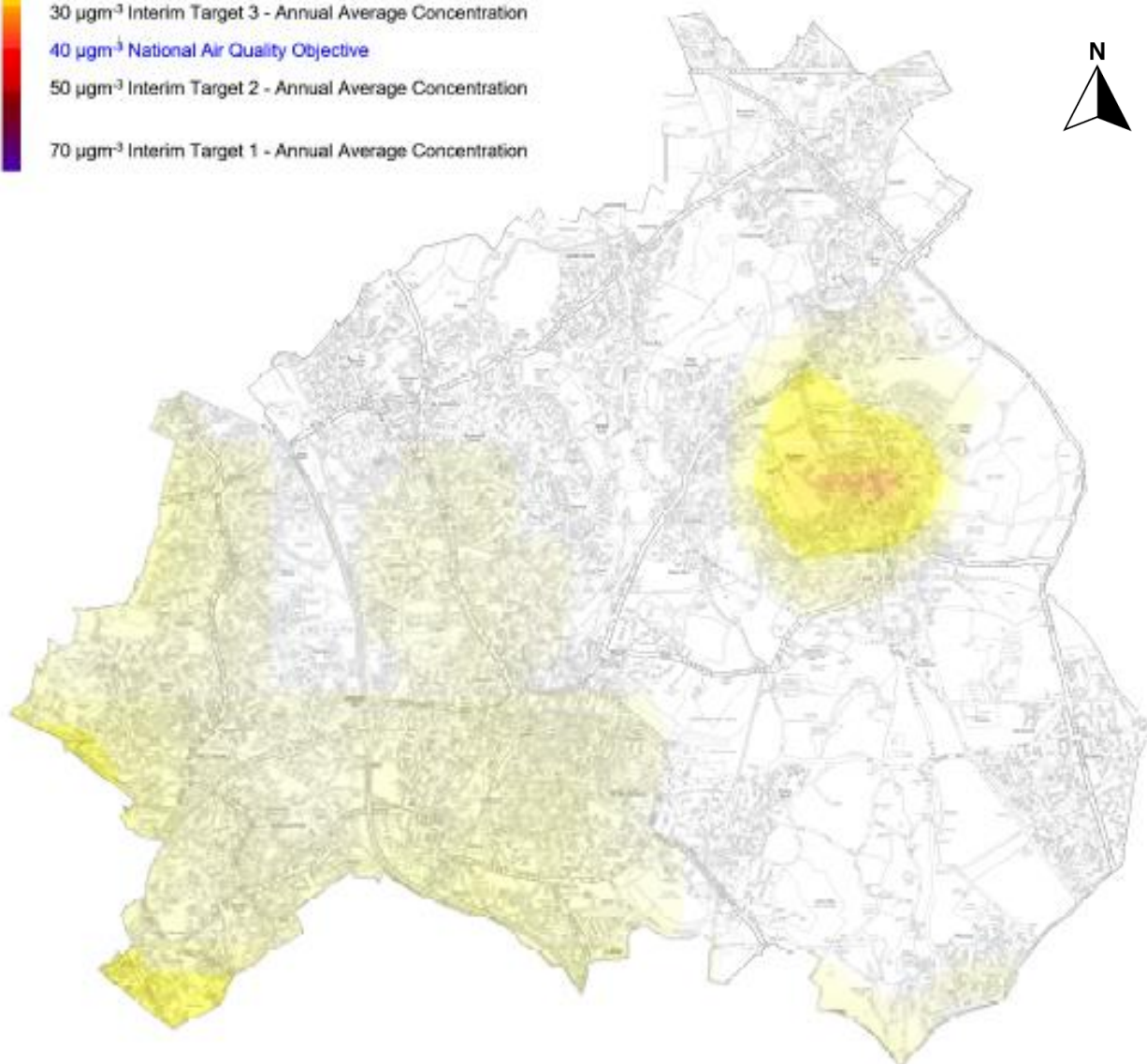


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# Walsall Metropolitan Borough Council ADMS Urban PM<sub>10</sub> Model 2022 National Atmospheric Emissions Inventory (2019)

## World Health Organisation (2021) Air Quality Guideline, Interim Targets and National Air Quality Objective

### Key



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## Walsall Transport Projects and Initiatives

The Strategic Transport Team have developed and delivered a number of schemes in the last two years that may be of interest in terms of potential improvements to air quality (these are in addition to the re-construction of M6 J10 as listed below, with links to the publicly accessible information for each project.

- WM cycle hire: [Welcome to West Midlands Cycle Hire - West Midlands Cycle Hire \(wmcyclehire.co.uk\)](https://wmcyclehire.co.uk)

The West Midlands Cycle Hire scheme offers pedal and electric bikes across the West Midlands. Users can rent bikes from docking stations strategically placed across the West Midlands. Within Walsall, the scheme is centred upon the Town Centre.

- A34 Sprint (Phase 1 delivered, Phase 2 = 24/25): [What is Sprint | Transport for West Midlands \(tfwm.org.uk\)](https://tfwm.org.uk) Sprint is a bus priority corridor linking Walsall Town Centre with Birmingham City Centre, Solihull and Birmingham International Airport along the A34 . The scheme will see the introduction bus priority infrastructure and new zero emission buses.
- Connecting Bentley Phase II (Active Travel Fund, Tranche 2): [Have Your Say Today - Connecting Bentley Phase 2 - ATF T2 - Walsall Active Travel \(commonplace.is\)](https://commonplace.is)

Walsall Council has successfully introduced a new two-way cycle route on Wolverhampton Road West, between Churchill Road and Queen Elizabeth Avenue in Bentley, using Active Travel Tranche 2 (ATF T2) funding.

- School Streets (ATF T2): [Have Your Say Today - School Streets Development - ATF T2 - Walsall Active Travel \(commonplace.is\)](https://commonplace.is)

Walsall Council has successfully introduced 'School Streets' at 10 locations across the borough. Measures on the selected Schools Streets include: Road closures at certain times of the school day, new 20mph zones and new controlled parking zones.

- NCN5 Improvements (Veolia Environmental Trust/GRCF): [Have Your Say Today - NCN5 Cycle Path Improvements - Veolia Environmental Trust and GRCF - Walsall Active Travel \(commonplace.is\)](https://commonplace.is)

Walsall Council have resurfaced the section of National Cycle Network Route 5 (NCN5) path, between Mill Lane and Cartbridge Crescent, behind the back of Ryecroft Cemetery. This project was funded by the Veolia Environmental Trust, and the Green Recovery Challenge Fund (GRCF).

- Bloxwich Cycling and Walking Improvements (Towns Fund): [Have Your Say Today - Bloxwich Cycling and Walking Improvements - Walsall Engagement Hub \(commonplace.is\)](#)

Walsall Council is currently in the process of delivering a number of cycling and walking improvements in the Elmore Green Road area of Bloxwich, with the aim of improving connectivity between Bloxwich Town Centre and Bloxwich Rail Station for pedestrians and cyclists.

Schemes intended to be delivered in the next 12 months are as follows:

- Active Travel Fund, Tranche 3 - Noose Lane to Pinson Road Cycle Scheme (joint City of Wolverhampton Council – Walsall Council scheme) – A dedicated, segregated where possible, cycle lane from Noose Lane / A454 Willenhall Road to Pinson Road, via Somerford Place. In development, due for construction in 2024.
- Active Travel Fund, Tranche 4 - Pinson Road to Rose Hill Cycle Scheme – A dedicated, segregated where possible, cycle lane from Pinson Road / New Road junction, via New Road, Dale Island and Rose Hill to Rose Hill / Bilston Lane junction. In development, due for construction in 2024.
- Levelling Up Fund Tranche 2, Movement Package: Railway Lane Improvements – Clearance and redevelopment of Railway Lane from East Acres to the north of the Wolverhampton-Walsall Railway Line to facilitate a shared walking and cycling route. Construction completion expected by Spring 2024.
- Willenhall Greenway Route - A shared walking and cycling route from Willenhall Memorial Park westbound to Anson Road, including upgraded crossing points and the enhancement of on street walking and cycling facilities on Stringes Lane to create a continuous route. Part complete, remaining section to Noose Lane to be complete by March 2024.
- Rose Hill / Bilston Lane Junction - The proposed conversion of the existing priority junction at Rose Hill / Bilston Lane to a three-arm compact roundabout, with improved pedestrian/cycle facilities. The scheme is currently in the preliminary design stage and will be followed by a public engagement exercise and detailed design in early 2024. The scheme is proposed for construction in 2024/2025.
- On-street Residential Charge-point Scheme (ORCS) – The installation of 35no 7kW charge-points (two sockets at each charge-point providing a total of 70 sockets)



across the borough funded through the Office of Zero Emission Vehicles (OZEV) ORCS scheme. The installation of charge points is expected to be complete by Spring 2024.

- Pelsall EV Charging Hub – The installation of 14 no. 7kW charge-points in an existing car park and 2 on-street rapid charge-points in dedicated parking bays on Pelsall High Street, funded through the Office of Zero Emission Vehicles (OZEV) LEVI Pilot scheme. This scheme is subject to consultation and will be live by March 2025 at the latest.

The council's Active Sustainable Travel and Road Safety (A\*STARS) programme is offered to education establishments across the borough, with over 80% of primary schools taking part. A\*STARS promotes the use of sustainable and active modes of travel coupled with road safety education. Whilst this encourages people to travel more via active modes, such as walking, cycling and scooting, the road safety education remains key to increasing people's road safety awareness when travelling on the network. A lack of confidence and experience on the road can be seen as a barrier to travelling by active modes.

Through the A\*STARS programme the council runs borough-wide campaigns such as 'Move More Month', 'Walk to School Week' and 'Bike Week' where on average 22,000 resources are sent to schools. The council also assists schools in setting up 5 Minute Walk Zones, Walking Buses, Lets Walk Together Events, Park and Stride Schemes, all of which are designed to promote active school travel.

Schools can also participate in the council's bespoke WOW (walking and wheeling) initiative, where children record their daily journey and are awarded a badge each half-term for achieving an average of 3 active journeys per week.

Other road safety education initiatives on offer include pedestrian training; Bikeability (cycle training); Scooterbility; Learn to Ride (bikes) leisure cycle rides and cycle maintenance sessions.

The council conducts an annual travel survey amongst its A\*STARS schools, which allows comparisons to be drawn with Walsall and the national picture and helps to create bespoke Action Plans for A\*STARS schools, with targeted initiatives to increase active and sustainable travel. Last year Walsall's active travel figures (primary and secondary) was 16% higher than national, and car use was 4% lower than national.

<https://www.astarswalsall.co.uk/>



## Walsall Traffic Enforcement

The council operates new traffic enforcement of school streets, which has made an impact on vehicles sitting outside schools with engines running. This was first implanted 2 years ago, and subject to enforcement since September 25th 2023 at 10 schools. This has made a notable difference to traffic movement in these locations during mornings and afternoons.

## Walsall Major and Minor Traffic Schemes and Improvements

Schemes delivered in the last two years, along with proposed schemes, comprise:

Delivered	Category
Active Travel Fund, Bentley Lane / Churchill Road / Queen Elizabeth Avenue	Cycling / walking
Active Travel Fund, Wolverhampton Road (Churchill Road to JCT 10 M6)	Cycling / walking
Bentley Lane – Traffic Calming	Traffic Calming
Elmore Green Road – Footpath and pelican crossing	Cycling / walking
George Street - Humped crossing	Walking / TC
Hawes Road – Safer streets	Walking / Environment
High Street Brownhills Public Open Space	Environment
Hollyhedge Lane, Build outs	Traffic Calming
Narrow Lane – Transit Site	Environment
National Cycle Network NCN5 Cycle route – A461 Lichfield Road	Cycling / walking
Old Birchills- Route action	Traffic Calming
Pool Hayes Lane - Humped zebra crossing	Walking
Safer Routes to School (SRTS) - Birmingham Rd near Tynings Lane zebra crossing	Walking / SRTS

Safer Routes to School (SRTS) - Bluecoat Secondary Improvements to zebra crossing	Walking / SRTS
Safer Routes to School (SRTS) - Queen Marys Grammer School	Walking / SRTS
The Greenway — Cycle/pedestrian route	Cycling / walking
Wednesbury Road Route action	Traffic Calming
<b>Proposed</b>	
A34 Somerfield Road – Cycle scheme / Pelican	Cycling / walking
A41 Moxley Gyratory – Junction improvement & Route	Cycling / walking
ATF A454 Somerford Road Cycle route into Wolverhampton	Cycling / walking
ATF - Bentley Mill Way	Cycling / walking
ATF B4484 Rose Hill to Pinson Road	Cycling / walking
ATF Birchills (Jct 10-Pleck Road)	Cycling / walking
Broad Meadow, Aldridge – Car Park	Environment Imp
Fingerpost, Pelsall Junction	Junction Improvement
Green Lane – Footbridge	Cycling / walking
Kendricks Road – Cycle link and link to Railway Station	Cycling / walking
Local Safety Scheme - A34 Green Lane - Somerfield Rd - High St	Cycling / walking
Local Safety Scheme - Aldridge Rd, Streetly	Traffic Calming
Local Safety Scheme - B4210 Bloxwich Rd / High St	Cycling / walking
Local Safety Scheme - Bentley Road North	Traffic Calming
Norton Road (York's Bridge) – New bridge	Network improvement

Railway Lane — Active travel route	Cycling / walking
Rosehill/Bilston Lane junction	Junction Improvement
Rushall Square – Junction Improvement	Junction Imp.
Sutton Road / Commonwealth Way	Cycling / walking
Sutton Road / Longwood Lane – Signals	Junction Imp.
Wolverhampton Street – Public realm	Cycling / walking

### West Midlands Combined Authority

Stemming from the West Midlands Combined Authority (WMCA) Air Quality Action Plan is a region-wide plan setting out a raft of measures to significantly improve air quality and the health of local people that will begin with a series of priority measures to be delivered aided by £1 million of government air quality funding.

<https://www.wmca.org.uk/news/1m-action-plan-to-improve-west-midlands-air-quality/#:~:text=A%20region%2Dwide%20plan%20setting,of%20government%20air%20quality%20funding>

The measures include:

- Installing a network of air quality sensors that will provide real-time, publicly accessible data on pollution levels across the region
- Education and awareness campaigns in communities, including schools, to improve knowledge and understanding of main sources of pollution and their health impact
- Development of an alert system when pollution levels are high
- Research into the potential to positively impact air quality by reducing speed limits on high-speed roads and in urban centres
- Devising regional targets that exceed current national and international guidelines on levels of PM<sub>2.5</sub> and PM<sub>10</sub> particulates, and nitrogen dioxide (NO<sub>2</sub>).

These initial measures will be delivered over the next two years and are part of the WMCA's wider Air Quality Framework – a longer-term document that sets out measures that must be considered in partnership with local authorities, central government, businesses and local

communities to accelerate improvements to air quality on a regional scale.

<https://www.wmca.org.uk/documents/environment-energy/air-quality/west-midlands-combined-authority-air-quality-framework-reference-document-2023/>

Whilst this document has been produced by the WMCA working with its constituent local authorities, it will require a collaborative approach to enable delivery of air quality benefits for all. This will include local and regional government, but also the commitment of local businesses and communities. Financial investment will be required to implement, and then sustain, some of the options identified.

Reflecting the range of approaches that will need to be taken (145 potential options have been appraised), this Framework has grouped the appraised options into the following categories.

Engagement and behaviour change:

- Domestic emissions and indoor air quality
- Transport
- Natural and built environment
- Commercial, industrial and agriculture
- Public health
- Planning, policy, governance, and mechanisms for change
- Monitoring and digital
- Climate/net zero considerations.

Each of the options has undergone appraisal against the following criteria:

- Health outcomes, including direct improvement to human health and reduced health inequalities.
- Spatial impact, including whether a regional approach brings benefit.
- Alignment with local and national policy.
- Feasibility of implementation, timescales and cost ?
- Co-benefits – do the measures have any additional environmental, social or economic benefit ?

As much air pollution is both produced and experienced locally and regionally, any emissions reduction (by industry, transport, and housing) as a result of the implementation of the Framework will have immediate local and regional benefits.

In March 2023 the WMCA was granted DEFRA air quality funding to support the work already being undertaken between the WMCA and the seven West Midlands local authorities to tackle air pollution. The purpose of the grant is to improve the knowledge of people who live and work in the West Midlands concerning air quality, and the steps individuals can take to reduce their exposure to air pollution. This will be done through the following:

- Installation and maintenance of a low cost sensor network focussing on PM<sub>2.5</sub> across the West Midlands region.
- A West Midlands website (including a data platform)
- Behaviour change, which will include seven behaviour change campaigns (one in each West Midlands local authorities); a West Midlands Communications Toolkit; 21 awareness raising events; and improving air quality literacy.

The West Midlands Combined Authority (WMCA) is increasing its role in supporting the seven West Midlands local authorities in their efforts to improve local air quality. The WMCA has produced an overriding Strategic Economic Plan which includes a regional transport plan, produced by Transport for West Midlands. This plan is now recognised as the WMCA's Movement for Growth <https://www.tfwm.org.uk/who-we-are/our-strategy/movement-for-growth-wmltp4/> strategic transport plan and provides a framework for the key transport challenges in the region, with significant investment programmes planned over the next 13 years or so. This plan includes a Sustainable Travel Team working in conjunction with the seven Metropolitan local authorities to support local businesses, education sites and individuals, enabling them to make smarter travel choices resulting in improvements to air quality.

### **Black Country Ultra Low Emissions Strategy**

The Black Country Transport – Ultra Low Emission Vehicle Strategy was agreed in May 2020. This is a strategic transport partnership between Dudley, Sandwell, Walsall and Wolverhampton Councils. The overarching aim is to accelerate the uptake of ULEVs across the area before the planned nationwide ban on the sale of petrol and diesel vehicles in 2030. It sets out ambitious targets that Walsall should meet to ensure that there is an EV charging infrastructure that will both promote the switch to ULEV's as well meet the growing demand for electric vehicles.

## **WM-Air**

WM-Air - the West Midlands Air Quality Improvement Programme - is an initiative led by Birmingham University to support the improvement of air quality, and associated health, environmental and economic benefits, across the West Midlands.

Air pollution in the West Midlands affects some 2.8 million people, reducing average life expectancy by up to 6 months, and is responsible for direct and indirect economic costs of several hundred million pounds per year. Air quality is therefore a key priority for local and regional government, and for the health and wellbeing of the region's population.

WM-Air will provide improved understanding of pollution sources and levels in the region, and new capabilities to predict air quality, health and economic impacts of potential policy measures. It supports the application of these to specific case studies across the West Midlands.

WM-Air lists its project partners as:

- West Midlands Combined Authority (WMCA)
- Transport for West Midlands (TfWM)
- Birmingham City Council (BCC)
- Coventry City Council (CCC)
- Low Emissions Towns & Cities Partnership (LETCP)
- Birmingham & Solihull NHS STP (STP)
- Midlands Trees and Design Action Group (TDAG)
- B'ham & Solihull Local Enterprise Partnership (LEP)
- Amey Plc
- Calthorpe Estates
- Network Rail
- Arup
- High Speed Two (HS2) Limited
- Temple Group
- AEA Ricardo
- Walsall Council
- Sustrans West Midlands
- National Express
- Amazon Web Services (AWS)
- Forest Research

- NHS Sustainable Development Unit
- The Flow

<https://www.birmingham.ac.uk/schools/gees/research/projects/wm-air/index.aspx>

## **Public Health Walsall**

Walsall Council has formed a fledgling Air Quality Alliance to provide a multi-professional forum for sharing of ideas and evidence-based practice to reduce negative health and environmental impacts of poor air quality, alongside identifying collaborative opportunities.

Terms of reference are to include a set of areas for action, identifying all relevant and planned work in these areas and any shortcomings. This will raise the profile of air quality in professional and political communities, and the health, environmental and financial benefits associated with addressing air quality impacts which requires collective actions.

The air quality alliance can act as a vehicle for national, regional and local campaigns and to ensure air quality actions feed into the wider sustainability agenda.

The alliance will act as a catalyst to initiate a Black Country Air Quality Alliance,

Principal membership will comprise, but not be limited to, transport, planning and environmental protection representatives of the council, working with the UK Health Security Agency, the West Midlands Combined Authority and consultants, with options to co-opt other onto the alliance, and contribute to meetings.

The alliance aims to facilitate cross-boundary and cross-departmental solutions to problems posed by poor air quality, and will feed into the (Public) Health Protection Forum, and report as required to the council's Health and Wellbeing Board.

## **Conclusions and Priorities**

Based on continuous monitoring stations, Walsall has seen overall downward trends in pollutant concentrations.

Walsall has only recorded one exceedance of the NO<sub>2</sub> national air quality objective in 2022 at J.9 M6 motorway. On fall-off with distance calculations, this does not predict an exceedance at relevant receptors.

In terms of PM<sub>10</sub>, Walsall has not monitored any exceedance of the National Air Quality Objective for either the annual or 24 hour values.

For PM<sub>2.5</sub>, Walsall has not recorded any exceedance of 10 µg/m<sup>3</sup> at its continuous monitoring stations.

Walsall will continue to operate its network of automatic continuous air quality monitoring stations and continue to establish over the next three years how trends in pollutant concentrations have established post-Covid, with reference to national air quality objectives, air quality targets and air quality limits. The overall aim, so far as is practicable and deliverable, is to seek compliance with World Health Organisation Air Quality Guideline levels and interim targets to safeguard public health, recognising in particular that it has been previously reported there are no safe levels for PM.

Based on predictive air quality models for 2024, Walsall Council will review its priorities for detailed examination of pollutant hot-spots for NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>. In particular, work will continue to examine PM<sub>2.5</sub> in the Aldridge area, and NO<sub>2</sub> in the locality of J9. M6 motorway and A454 Black Country Route.

Walsall's Air Quality Alliance aims to reduce the negative health and environmental impacts of poor air quality, and to identify opportunities for collaboration will be a main focus from 2024 onwards. There is an over-arching intention is to develop within this framework a Walsall Air Quality Strategy, and in-turn this can inform a new Air Quality Action Plan.

The recently approved West Midlands Combined Authority Air Quality Framework and Implementation Plan will provide a key focus for air quality in Walsall. It contains potential options that could be enacted to address poor air quality and inequality of exposure. Produced in collaboration with partners and stakeholders, it is designed to complement existing air quality management and activities, whilst reducing resource burden. Collaboration across the West Midlands region will increase along with funding for air quality work. The Framework Implementation Plan identifies areas that can be started straight away.

The introduction of an air quality monitoring site adjacent to the Black Country Route A454 in 2018 previously confirmed an exceedance of the annual mean objective for nitrogen dioxide. Defra's Pollution Climate Mapping indicated exceedance of the annual mean nitrogen dioxide objective on the Black Country Route (A454) west of Junction 10 of the M6. For 2022, however, no exceedances have been identified at relevant receptors.

Over many years Walsall Council has developed and maintained a borough-wide road-traffic-based) air quality model in respect of NO<sub>2</sub>, verified against continuous monitoring data. This remains a priority work theme and will continue in respect of both NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>.



## Local Engagement and How to get Involved

Walsall Metropolitan Borough Council aims to engage with a wide variety of departments and organisations, as well as its citizens when designing measures to improve local air quality. This takes many forms, including various consultations, as well as community-based projects and initiatives. Walsall's Air Quality Action Plan is to be reviewed in 2024 and as necessary will draw upon engagement from teams across the council involved in transport, regeneration, public health, road safety, planning and traffic enforcement.

The council is part of a number of region-wide initiatives developed to encourage residents in their lifestyle choices, including:

- Black Country Walking & Cycling Strategy & Implementation Plan, 2017 provides a vision for cycling and walking in the Black Country that reflects its ambition to significantly increase these modes as an integral component of the transport and regeneration activities as well as one of the approaches to get more people active every day.

<https://go.walsall.gov.uk/sites/default/files/2022-07/Black%20Country%20cycling%20and%20walking%20strategy.pdf>

- Black Country Ultra Low Emission Vehicle Strategy January, 2017. This is designed to deliver a network of electric vehicle charging points and ULEV public service vehicles. Residents can recommend a location for a residential on-street vehicle charging point.

<https://www.blackcountrylep.co.uk/upload/files/Smart%20City/Black%20Country%20ULEV%20Strategy%20final%20v10%20Jan%202017.pdf>

- Smoke Control Areas- information is available on areas within Walsall that are designated as Smoke Control Areas (SCAs) as set out in the Clean Air Act 1993. These are primarily established to prevent smoke emissions from domestic chimneys associated with the burning of unauthorised fuels other than in “exempt appliances”.

[Smoke control areas | Walsall Council](#)

- Health Improvement within Walsall offers support for health and well-being via a number of means

<https://go.walsall.gov.uk/sport-and-leisure/activities/health-improvement>

- Reduction of energy and disposal bills and reduction of carbon emissions from businesses can be improved by simple measures

<https://go.walsall.gov.uk/business/support-your-business/reduce-your-energy-and-disposal-bills>

- Reporting a bonfire and burning waste. Emissions from bonfires can be frustrating for local residents and businesses in Walsall. Smoke and ash is bad for people's health, especially if they have a respiratory medical condition.

<https://go.walsall.gov.uk/people-and-communities/protecting-our-environment/bonfires-and-burning-waste>

- The Govt.s Clean Air Strategy sets out plans for dealing with all sources of air pollution, making our air healthier to breathe, protecting nature and boosting the economy.

<https://www.gov.uk/government/publications/clean-air-strategy-2019>

- The Government's Workplace Charging Scheme is a voucher-based scheme that provides eligible applicants with support towards the upfront costs of the purchase and installation of electric vehicle (EV) chargepoints.

<https://www.gov.uk/guidance/workplace-charging-scheme-guidance-for-applicants>

- GoJauntly provides an app for free walking routes around the borough to increase interest and uptake in walking.

<https://www.gojauntly.com/>

- Finding out about air quality and accessing relevant information is provided via a council web platform.

<https://go.walsall.gov.uk/people-and-communities/protecting-our-environment/air-quality>

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# 1 Local Air Quality Management

This report provides an overview of air quality in Walsall Metropolitan Borough Council up to the end of 2022. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995) and relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to review and assess air quality in their areas, and to determine whether or not national air quality objectives are likely to be achieved. Where an exceedance is considered likely, a local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out strategies and measures designed to be put in place to improve air quality in pursuit of compliance with the objectives.

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

## 2 Actions to Improve Air Quality

### Air Quality Management Areas

#### Overview

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority must prepare an Air Quality Action Plan (AQAP) within 12-18 months setting out measures it intends to put in place in pursuit of compliance with the objectives.

A summary of AQMAs declared by Walsall Council can be found in Table 2.1. Further information related to declared (or revoked AQMAs) including maps of AQMA boundaries are available online at:

[https://uk-air.defra.gov.uk/aqma/details?aqma\\_ref=199](https://uk-air.defra.gov.uk/aqma/details?aqma_ref=199)

and

[https://uk-air.defra.gov.uk/aqma/details?aqma\\_ref=549#308](https://uk-air.defra.gov.uk/aqma/details?aqma_ref=549#308)

See full list at <https://uk-air.defra.gov.uk/aqma/list>

The Walsall AQMA 2008 relating to Particulate Matter PM<sub>10</sub> is now obsolete and has a dormant status.

A summary of AQMAs declared by Walsall Metropolitan Borough Council can be found in Table 2.1. The table presents a description of the two AQMAs that are currently designated within Walsall. Appendix D: Map(s) of Monitoring Locations and AQMAs provides details of continuous air quality monitoring locations and AQMA boundaries. The air quality objectives pertinent to the current AQMA designations were as follows:

- NO<sub>2</sub> annual mean and hourly limit
- PM<sub>10</sub> 24-hour mean

Walsall Air Quality Action Plans are available at:

<https://go.walsall.gov.uk/people-and-communities/protecting-our-environment/air-quality>

**Table 2.1 – Declared Air Quality Management Areas**

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

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	Name and Date of AQAP Publication
Walsall AQMA 2006	August 2006	<ul style="list-style-type: none"> <li>• NO<sub>2</sub> annual mean</li> <li>• 1 hour mean</li> </ul>	Whole borough declaration	YES	46 µg/m <sup>3</sup> (measured annual mean at Bescot Road, J9 M6 motorway))	42.1 µg/m <sup>3</sup> (measured annual mean at Bescot Road, J9 M6 motorway)	Walsall Council Air Quality Action Plan 2009
Walsall AQMA 2008	February 2008 (Now redundant)	PM <sub>10</sub> 24 hour mean	An area encompassing numbers 1 to 11 and 4 to 14 Nutmeg Grove, Chuckery	NO	70 exceedances	No longer monitored	Chuckery PM <sub>10</sub> Air Quality Action Plan 2010

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



## Progress and Impact of Measures to address Air Quality in Walsall

Defra's appraisal of the council's 2016 ASR, which preceded the 2018 Technical Feasibility Study required by DEFRA under ministerial direction, concluded:

*'The report is well structured, very detailed and comprehensive, and provides the information specified in the Guidance.*

- 1. Good progress is being made in implementing actions to improve air quality in the borough. For example, the West Midlands Low Emission towns and cities programme (LETCP) is proactive and has delivered 6 work streams. The Council are commended for their action.*
- 2. Prior to publication of the report, it is recommended that Table 2.2 (Progress on measures to improve air quality) is re-formatted, as at the moment it is difficult to read. In addition, it is unclear whether all the content is up to date; for example, for measure 8, the estimated completion date is 2015 and yet the implementation phase is still to be confirmed. The Council are therefore encouraged to review and update this table where appropriate.*
- 3. In accordance with paragraph 7.78 of TG16, the Council are encouraged to undertake distance correction calculations for all their monitoring results that do not represent relevant exposure. Table A.3 (annual mean NO<sub>2</sub> monitoring results) provides the results "distance corrected" for some locations. It is unclear why this hasn't been undertaken for all sites – for example Bloxwich Lane, which according to Table A.1 is 10 metres from relevant exposure, has not had distance correction applied. It is recommended that the reason for this is made clear in the report or distance correction applied.*
- 4. The Council undertake monitoring at 6 automatic monitoring sites and has no diffusion tube sites. Only 1 of the sites represents relevant exposure and therefore a high reliance is placed on using the "Nitrogen dioxide fall off with distance" calculator to ascertain whether the annual mean air quality objective is met. Paragraph 7.78 of TG16, states that "wherever possible, local authorities should ensure that monitoring locations are representative of exposure". The Council are therefore encouraged to monitor at sites of relevant exposure, where possible.*

5. *Walsall is encouraged to update their Action Plan as soon as possible and for it to target specific hotspots, where reductions in pollutant concentrations are still required.*
6. *The Council are also encouraged to revoke the Chuckery AQMA for PM10 as soon as possible.*

In November 2017 DEFRA identified Walsall Council in Annex K Table 1 of the UK Plan for tackling roadside nitrogen dioxide (NO<sub>2</sub>) concentrations.

DEFRA had initially considered in its national modelling that the fastest means of bringing forward compliance was to implement a charging Clean Air Zone and expected that the earliest a charging Clean Air Zone could be implemented to be by the end of 2020, bringing compliance in 2021. Government took the decision not to require the Council to undertake a feasibility study as its analysis indicated NO<sub>2</sub> exceedances to become compliant before 2021.

The Joint Air Quality Unit provided information as follows: “Walsall MBC highest exceedance is 2.17km of the A454 (Census ID = 27202). 439m of the A463 (Census ID = 74017) was however also in exceedance. The M5, which is the responsibility of Highways England, was also non-compliant (Census ID = 73920) where it merges with the M6.”

Although the council had not been required at the time to undertake a feasibility study, in January 2018 DEFRA’s Joint Air Quality Unit subsequently informed the council by letter that it was still projected to have an exceedance as identified by DEFRA’s Pollution Climate Mapping (PCM) model up to and including 2020. DEFRA’s Joint Air Quality Unit duly requested information on the steps proposed to be taken by the council to reduce concentrations of NO<sub>2</sub>.

In February 2018 the Parliamentary Under Secretary of State for the Environment confirmed by letter that the council had been identified in the *UK Plan for tackling roadside nitrogen dioxide (NO<sub>2</sub>) concentrations* as having an ongoing exceedance of NO<sub>2</sub>.

Whilst previously a pragmatic (and less formalised approach) was considered appropriate, in light of a High Court judgment against government, a more formal approach was to be adopted and it was anticipated directions would be issued to “*mandate the council to develop a local plan setting out what measures can be taken (where they exist) to bring forwards compliance with NO<sub>2</sub> limits as soon as possible.*”

In response to a Joint Air Quality Unit letter of January 2018, the council confirmed that following a high-level discussion between council representatives and DEFRA officials, it

was determined that a projected area of NO<sub>2</sub> exceedance identified as the A454 Black Country Route (running west of Junction 10 M6 Motorway) was not suitable for a Clean Air Zone. The segment of dual carriageway in question is a main commuter route and major arterial roadway ('inter-urban corridor') between Walsall and Wolverhampton, forming part of the West Midlands Combined Authority Key Route Network. This road has significant strategic importance on account of its linkage with the M6, and consequently is burdened by traffic exiting and accessing the motorway, over which Walsall Council has no direct control. Congestion at the motorway junction arises due to the volume of vehicles and the Urban Traffic Control signalling requirements, which invariably default to the requirements of Highways England and their need to manage motorway traffic. This leads to queuing of in-bound traffic travelling east to the junction.

As an initial consideration to improve air quality, Walsall Council evaluated reducing the statutory limit from 50 mph to 40 mph as there was no viable option to reduce traffic numbers. The effects of this were assessed as part of the council's borough-wide air quality model that is utilised in reporting to DEFRA, concluding that a reduction in NO<sub>2</sub> levels of less than 1µgm<sup>-3</sup> would result, offering little meaningful benefit.

During the discussion at that time with DEFRA officials it was apparent they were not aware of the joint scheme between Walsall Council and Highways England to construct two new replacement bridge spans and associated works at Junction 10 of the M6 motorway, and to create new gyratory. This two to three year project was borne out of necessity on account of degrading bridge superstructures which required replacement as part of Highways England's Area 9 Investment Programme. Work on site in earnest commenced early in 2020 and the design of the scheme will afford an opportunity to increase the capacity of the junction as a congestion easing measure. This sees new bridge spans increasing original two lanes capacity on the circulatory to a four lane design. Additional to this, is an increase in the number of lanes on the A454 running west from the motorway junction to Anson Junction on the Black Country Route.

The M6 scheme formal Environmental Impact Assessment required detailed scrutiny in terms of air quality. It is noted that the July 2017 UK Plan for tackling roadside nitrogen concentrations (Annex K Table 1: Local authorities with roads with concentrations of NO<sub>2</sub> forecast above legal limits and assuming no additional measures) had indicated compliance with the current National Air Quality Objective (annual mean concentration) by 2021, with a forecast concentration of 38µgm<sup>-3</sup>.

In March 2018 DEFRA confirmed that under the terms of the Environment Act 1995 (Feasibility Study for Nitrogen Dioxide Compliance) Air Quality Direction 2018, Walsall Council was one of 33 local authorities with a Ministerial Direction to consider measures that could bring forward compliance within the shortest possible time. The directions required the council to submit a Targeted Feasibility Study by a legally binding deadline of 31 July 2018 (or sooner where possible).

As part of a Black Country local authority's consortium, Walsall Council, along with Wolverhampton City Council, Sandwell Metropolitan Borough Council and Dudley Metropolitan Borough Council therefore undertook a Joint Technical Feasibility Study submission, assisted by third-party air quality consultants. This essentially comprised the council's position on air quality for the following years as distinct from an ASR. The Joint Air Quality Unit originally identified four road links in Walsall (as part of a third wave of local authority road link exceedances) where concentrations of NO<sub>2</sub> had been projected as failing, but compliant in 2021. These were distilled to two links for consideration, details of which are available at:

[https://go.walsall.gov.uk/sites/default/files/2023-01/Black%20Country%20Targetted%20Feasibility%20Study%20%28Nitrogen%20Dioxide%29%202018\\_0.pdf](https://go.walsall.gov.uk/sites/default/files/2023-01/Black%20Country%20Targetted%20Feasibility%20Study%20%28Nitrogen%20Dioxide%29%202018_0.pdf)

Walsall Council has taken forward a number of direct measures during the current reporting year of 2023 in pursuit of improving local air quality. Details of 29 measures completed, in progress or planned are set out in Table 2.2. detailing the type of measure and the progress made up to the reporting year. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also noted.

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

- Uptake of the WMCA Air Quality Framework Implementation Plan (2023-2025)
- Further extension and/or upgrading of Walsall's air quality monitoring network
- Completion of re-construction of J10. M6 motorway
- Completion of the Willenhall Greenway Route
- Completion of the Levelling Up Fund Tranche 2, Movement Package
- Completion of the On-street Residential Charge-point Scheme

Priorities for the coming year include:

- The Walsall Air Quality Alliance

- Completion of predictive borough-wide air quality modelling in respect of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>
- Commencing the review and updating of Walsall's Air Quality Action Plan
- Increasing provision of electric vehicle charging points
- Review of homeworking for Walsall Council employees
- Continued promotion of walking and cycling initiatives
- Continued bus-lane enforcement
- Revision of air quality guidance related to planning applications

The principal challenges and barriers to implementation that are anticipated as fiscal and staffing resources.

Progress on the following measures has been slower than expected:

M6 J.10 reconstruction – due to contractual and build/design inconsistencies

As reported previously, air quality monitoring for 2022 has not demonstrated breaches of national air quality objectives and air quality limits at relevant receptors.

**Table 2.2 – Progress on Measures to Improve Air Quality**

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
1	Black Country - ULEV Strategy - provision of electric charging infrastructure across Sandwell and other black country local authorities	Promoting Low Emission Transport	Other	2022	2032	Walsall MBC and Black Country Authorities	Walsall MBC and Black Country Authorities External grants	NO	Partially Funded	£1 million - £10 million	Implementation	By 2025 transport emissions reduction of 10% NO <sub>x</sub> and 35% PM	Reduction in NO <sub>x</sub> and PM	Strategy was adopted by cabinet in April 2022  (First tranche of EV charge-points to be delivered in Q4 2023/24 and Q1 2024/25)	N/A
2	Review of homeworking for Walsall Council – move to long-term home-working and hybrid working	Promoting Travel Alternatives	Encourage / Facilitate home-working	2020	2023	Walsall MBC	Walsall MBC and Black Country Authorities	NO	Funded	£50k - £100k	Completed	Reduction in pollution from staff commuting and official work journeys around the district.	Reduction in car mileage payments. Reduction in car parking uptake.	New policy implemented 2023.	Limited requirements for attendance at council workplaces
3	Promotion of Cycling	Promoting Travel Alternatives	Promotion of cycling	2022	2030	Walsall MBC	Walsall MBC and Transport for West Midlands	NO	Funded	£50k - £100k	Implementation	Reduced vehicle usage and vehicle emissions	Local target to be aligned to WM LTP5 cycling target	Implementation on-going.	First phase successful.
4	A34 Sprint Bus Priority Corridor	Promoting Travel Alternatives	Other	2022	2025	West Midlands Combined Authority, Dept. for Transport & other 3rd parties	West Midlands Combined Authority, Dept. for Transport & other 3rd parties	YES	Funded	> £10 million	Implementation	SPRINT vehicles to be zero emission at point of use	Bus patronage increase (Phase 2)  Bus journey time reduction (Phase2)	Phase 1 implemented 2022  Hydrogen fuelled buses in service on #51 service  Phase 2 at detail design stage	First phase completed. Second phase to commence in 2024/25.subject to Cabinet approval
5	Connecting Bentley Phase II	Promoting Travel Alternatives	Promotion of cycling	2022	2022	Walsall MBC	Active Travel Fund, Tranche 2	NO	Funded	£100k - £500k	Completed	Moving towards Active travel	Number of cycle trips	Completed	N/A
6	School Streets	Traffic Management	Other	2020	2021	Walsall MBC	Active Travel Fund, Tranche 1 and Tranche 2	NO	Funded	£50k - £100k	Completed	Yes. Reduced vehicle usage.	Reduced congestion and emissions outside schools	Completed	Funding & Staffing Resources
7	National Cycling Network Path Improvements NCN5	Promoting Travel Alternatives	Promotion of cycling	2022	2022	Walsall MBC	Veolia Environmental Trust, and the Green Recovery Challenge Fund	NO	Funded	£100k - £500k	Completed	Yes. Reduced vehicle usage.	Number of cycle trips	Completed	N/A
8	Active Travel Fund, Tranche 3	Promoting Travel Alternatives	Promotion of cycling		2024	Walsall MBC & Wolverhampton City Council	Active Travel Fund, Tranche 3	NO	Funded	£1 million - £10 million	Planning	Yes. Reduced vehicle usage.	Cycle counts Shared use and dedicated cycle lane infrastructure improved/new	Due for implementation in 2024	N/A
9	Active Travel Fund, Tranche 4	Promoting Travel Alternatives	Promotion of cycling		2024	Walsall MBC	Active Travel Fund, Tranche 4	NO	Funded	£1 million -	Planning	Yes. Reduced	Cycle counts Shared use and dedicated	Due for implementation in 2024	N/A

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
										£10 million		vehicle usage.	cycle lane infrastructure improved/new		
10	Levelling Up Fund Tranche 2, Movement Package	Transport Planning and Infrastructure	Promotion of cycling	2023	2026	Walsall MBC	Levelling Up Fund Tranche 2	NO	Funded	£1 million - £10 million	Implementation	Yes. Reduced vehicle usage.	Cycle counts Shared use and dedicated cycle lane infrastructure improved/new	Scheme 1 - Greenway Route under construction, Scheme 2 - Construction to start January 2024, Scheme 3 in development	N/A
11	On-street Residential Charge-point Scheme	Promoting Low Emission Transport	Other		2024	Black Country Transport, Walsall MBC	Office of Zero Emission Vehicles	NO	Funded	£100k - £500k	Implementation	Yes. Promotion of low emission technology.	35 chargepoints (providing 70 sockets) by Q1 2024/25	Due for completion Spring 2024	N/A
12	Pelsall EV Charging Hub	Promoting Low Emission Transport	Other		2025	Black Country Transport, Walsall MBC	Office of Zero Emission Vehicles	NO	Funded	£100k - £500k	Planning	Yes. Promotion of low emission technology.	Delivery of charge points	Due for completion Spring 2025	N/A
13	Active Sustainable Travel and Road Safety (A*STARS) programme	Promoting Travel Alternatives	Promotion of walking	2015	2030	Walsall MBC	Walsall MBC	NO	Funded	£50k - £100k	Implementation	Yes. Promotion of active travel.	Proportion of pupils accessing school via active modes	On-going	Funding & Staffing Resources
14	Walking and Wheeling (A*STARS)	Promoting Travel Alternatives	Promotion of walking	2016	2030	Walsall MBC	Walsall MBC	NO	Funded	£10k - 50k	Implementation	Yes. Promotion of active travel.	Annual Travel Survey (A Stars)	On-going	Funding & Staffing Resources
15	Scooterbility (A*STARS)	Promoting Travel Alternatives	Other	2016	2030	Walsall MBC	Walsall MBC	NO	Funded	< £10k	Implementation	Yes. Promotion of active travel.	Annual Travel Survey (A Stars)	On-going	Funding & Staffing Resources
16	Traffic Enforcement	Traffic Management	UTC, Congestion management, traffic reduction	2022	2030	Walsall MBC	Walsall MBC	NO	Funded	£100k - £500k	Implementation	Yes. Reduced traffic congestion	None	On-going	Funding & Staffing Resources
17	Bus lane Enforcement	Traffic Management	UTC, Congestion management, traffic reduction	2018	2030	Walsall MBC	Walsall MBC	NO	Funded	£100k - £500k	Implementation	Yes. Reduced traffic congestion	None	On-going	Funding & Staffing Resources
18	New Willenhall Railway Station	Alternatives to private vehicle use	Rail based Park & Ride	2023	2026	Transport for West Midlands; West Midlands Trains; Network Rail; Walsall MBC; Kier Group Ltd.; SLC-AECOM Joint Venture+G30	DfT WMCA	NO	Funded	> £10 million	Implementation	Alternative travel mode.	Modal shift car to rail	On-going	
19	New Darlaston Railway Station	Alternatives to private vehicle use	Rail based Park & Ride	2023	2026	Transport for West Midlands; West Midlands Trains; Network	DfT WMCA	NO	Funded	> £10 million	Implementation	Alternative travel mode.	Modal shift car to rail	On-going	



Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
						Rail; Walsall MBC; Kier Group Ltd.; SLC-AECOM Joint Venture+G30									
20	Planning Consultations	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2014	2016	Birmingham City Council; Coventry City Council; Dudley MBC; Sandwell MBC; Solihull MBC; Walsall MBC; Wolverhampton City Council	Birmingham City Council; Coventry City Council; Dudley MBC; Sandwell MBC; Solihull MBC; Walsall MBC; Wolverhampton City Council	YES	Funded	£100k - £500k	Completed	Policy Guidance Documents to improve vehicle emissions	Production of Planning Policy, Procurement Policy and Strategy	Completed	
21	5 Minute Walk Zone (part of measure 16)	Promoting Travel Alternatives	Promotion of walking	2016	2030	Walsall MBC	Walsall MBC	NO	Funded	£10k - 50k	Implementation	Yes. Promotion of active travel.	Annual Travel Survey (A Stars)	On-going	Funding & Staffing Resources
22	Walking Bus (part of measure 16)	Promoting Travel Alternatives	Promotion of walking	2016	2030	Walsall MBC	Walsall MBC	NO	Funded	£10k - 50k	Implementation	Yes. Promotion of active travel.	Annual Travel Survey (A Stars)	On-going	Funding & Staffing Resources
23	Pedestrian Training (part of measure 16)	Promoting Travel Alternatives	Promotion of walking	2016	2030	Walsall MBC	Walsall MBC	NO	Funded	£10k - 50k	Implementation	Yes. Promotion of active travel.	Annual Travel Survey (A Stars)	On-going	Funding & Staffing Resources
24	Transition Training (part of measure 16)	Public Information	Other	2016	2030	Walsall MBC	Walsall MBC	NO	Funded	£10k - 50k	Implementation	Yes. Promotion of active travel.	Annual Travel Survey (A Stars)	On-going	Funding & Staffing Resources
25	Web	Public Information	Via the Internet	2012	2040	Walsall MBC	Walsall MBC	NO	Funded	£100k - £500k	Implementation	Yes. Policy advise and information.	Web access	On-going	Funding & Staffing Resources
26	M6 J.10	Transport Planning and Infrastructure	Other	2020	2024	Walsall MBC / Highways England	Walsall MBC / Highways England	NO	Funded	> £10 million	Implementation	Possible	Cost neutral or improvement of NAQO	On-going	N/A
27	Upgrade real-time air pollution monitoring network	Other	Other	2020	2022	Walsall MBC	Walsall MBC	NO	Funded	£100k - £500k	Completed	NO	90% data capture	Completed	On-going staff resources and funding for service and maintenance
28	West Midlands Combined Authority Air Quality Framework and Implementation Plan	Other	Other	2023	2030	West Midlands Combined Authority and West Midlands Local Authorities	West Midlands Combined Authority	YES	Funded	£500k - £1 million	Planning	NO	Wide-ranging interventions and monitoring to achieve annual reductions in air pollutants	Action Plan for delivery approved. Moving to implementation	Staff resources
28	Bloxwich Cycling and Walking Improvements	Promoting Travel Alternatives	Promotion of walking	2023	2024	Walsall MBC	Bloxwich Town Deal Funding	NO	Funded	£100k - £500k	Implementation	Yes. Reduced vehicle usage.	None	Implementation on-going.	N/A



## PM<sub>2.5</sub> – Local Authority Approach to Reducing Emissions and/or Concentrations

As detailed in Policy Guidance LAQM.PG22 (Chapter 8), local authorities are expected to work towards reducing emissions and/or concentrations of PM<sub>2.5</sub> (broadly, particulate matter with an aerodynamic diameter of 2.5 µm or less). There is clear evidence that PM<sub>2.5</sub> has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases. This has been further endorsed following publication of the World Health Organisation global air quality guidelines 2021.

This importance of PM<sub>2.5</sub> is reflected by its inclusion as a key indicator of mortality in the Public Health Outcomes Framework and is defined in Indicator D01 as the ‘fraction of mortality attributable to particulate air pollution’. This is the mortality burden associated with long term exposure to particulate air pollution at current levels and is expressed as the percentage of annual deaths from all causes in those aged 30 and older.

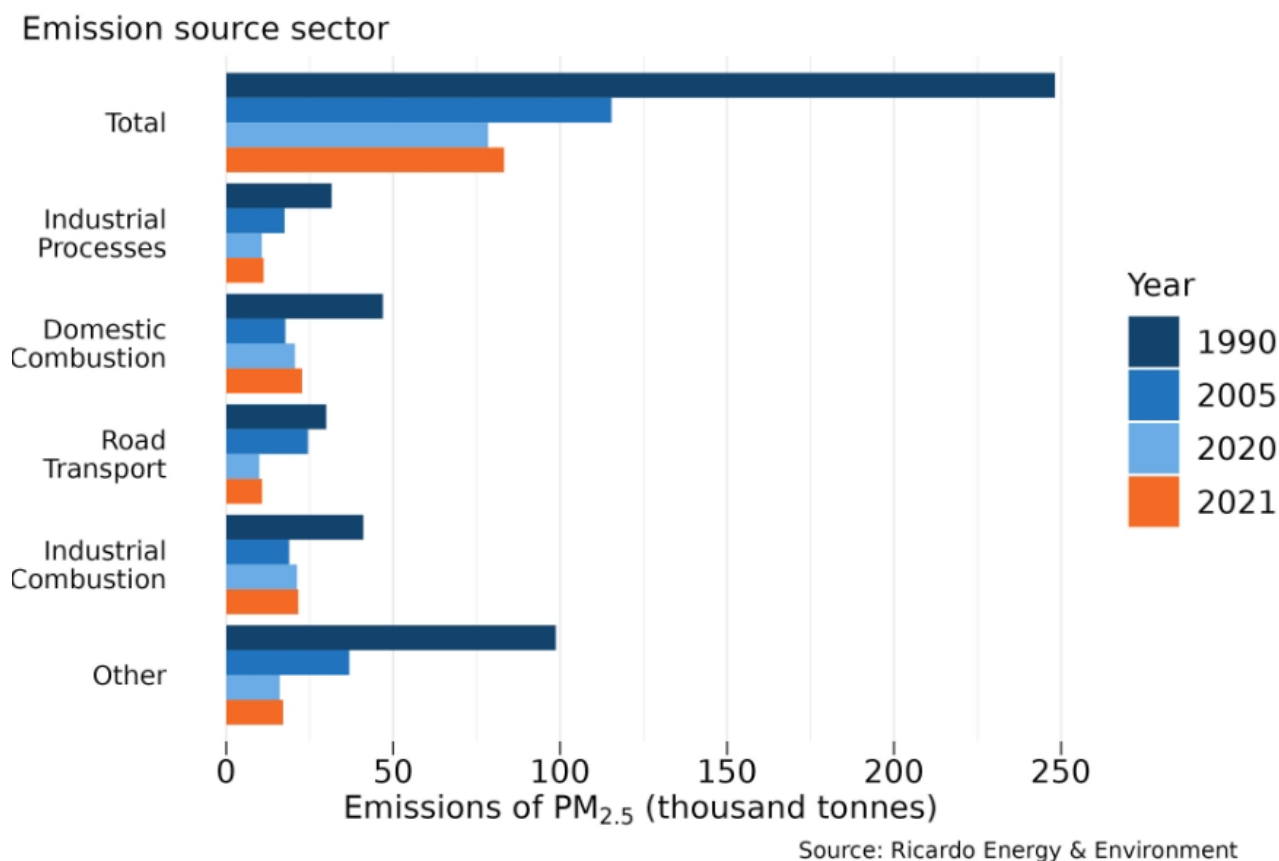
In Walsall, the latest data demonstrated that the fraction of mortality attributable to particulate air pollution was 6.1% in 2021, compared with a mean of 5.5% for England. When these figures are compared, as shown in Figure 2.4 and Figure 2.5 we can clearly see that Sandwell has much lower levels of life expectancy than most other local authorities in England and above average mortality rates attributable to fine particulate matter.

### 2.1.1 Table 2.1 – Public Health England Indicator D01 Reporting on PM<sub>2.5</sub> Across the West Midlands

England	-	-	5.5	
West Midlands region	-	-	5.5	
Sandwell	-	-	6.5	
Birmingham	-	-	6.2	
Walsall	-	-	6.1	
Dudley	-	-	5.7	
Solihull	-	-	5.7	
Coventry	-	-	5.7	
Wolverhampton	-	-	5.7	

Understanding the main sources of anthropogenic PM<sub>2.5</sub> is important when it comes to determining strategies to reduce it. The latest Defra statistics on source apportionment of PM<sub>2.5</sub> is demonstrated in Figure 2.7 with domestic combustion accounting for 27% of the total anthropogenic PM<sub>2.5</sub> being created in the UK in 2021.

## 2.1.2 Figure 2.1 - UK 2021 Annual Emissions of PM<sub>2.5</sub> by Major Emission Sources

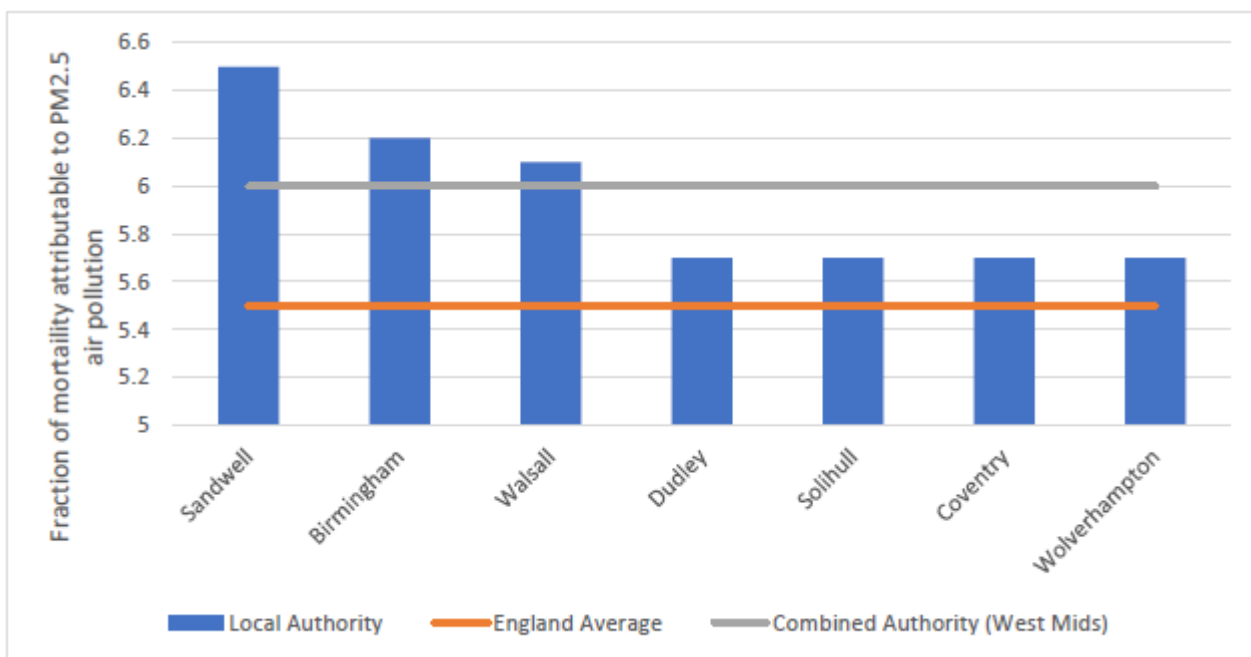


Domestic combustion was a major source of particulate matter emissions in 2021, accounting for 16 per cent of PM<sub>10</sub> emissions and 27 per cent of PM<sub>2.5</sub> emissions. DEFRA report that most emissions from this source come from households burning wood in closed stoves and open fires, and emissions of PM<sub>2.5</sub> from domestic wood burning increased by 124 per cent between 2011 and 2021, to represent 21 per cent of total PM<sub>2.5</sub> emissions in 2021. (DEFRA 13 December 2023).

Given that there is no safe level of exposure to PM<sub>2.5</sub> Walsall MBC has a public health duty to ensure that measures are taken that not only ensure that annual levels do not rise above 10 µg m<sup>-3</sup> but that we also aim to reduce these so that they are closer to the WHO guideline of 5 µg m<sup>-3</sup>.

Comparing Walsall with the West Midlands constituent local authorities, Walsall is the third highest borough in terms of concentrations of PM<sub>2.5</sub> associated with excess mortality in the Public Health Outcomes Framework (Indicator D01).

### 2.1.3 Figure 2.2 - Comparison of the Fraction of Mortality Attributable to Fine Particulate Matter (PM<sub>2.5</sub>) Air Pollution across the West Midlands' Local Authorities



Walsall Council has previously taken the following approach to understand the extent of impacts due to PM<sub>2.5</sub>:

During Autumn/Winter 2015 a joint PM<sub>2.5</sub> project commenced with support from Public Health Walsall. Using Public Health Transformation funding, the council initially deployed four PM<sub>2.5</sub> monitors (Partisol type 2025 gravimetric units, EU reference method) at the then existing air quality monitoring stations (*viz.* M6 Motorway Junction 9; Wolverhampton Road (A454), Walsall; Bloxwich Lane, Bentley; and Primley Avenue, Alumwell). A fifth urban background monitoring station was deployed in January 2016 at Rough Hay Primary School, Rough Hay Road, Darlaston to provide PM<sub>2.5</sub> (and O<sub>3</sub> and NO<sub>x</sub>) data.

In 2018 all council air quality monitoring ceased at Primley Avenue, and PM<sub>2.5</sub> monitoring commenced at the Black Country Route (A454) site.

The PM<sub>2.5</sub> project has provided data that is used to verify and refine Walsall's ADMS (Urban) PM<sub>2.5</sub> air quality model, and in-turn assist public health impact analysis that can include statistics related to respiratory illness, hospital admissions, cardio-vascular disease/illness, prevalence of asthma etc. It is envisaged that this will continue to provide a focus on needs for intervention in context of the Public Health Outcomes Framework.

In summary the key outcomes set out for this initiative are therefore:

- To inform reviews and updates of the council’s position on PM<sub>2.5</sub> air quality limits.
- Assisting in air quality reporting to Defra
- Informing health impact studies, which can also form part of regional (West Midlands-wide) work on PM<sub>2.5</sub>
- Provision of air quality data for correlation with Walsall Health statistics
- Extend in-house abilities and scope to robustly appraise local and strategic developments, including infrastructure schemes
- Future-proofing of air quality assessments and monitoring for Walsall
- Aid provision of baseline positions and validation for strategic air quality modelling and health impact studies.
- To inform the suitability (or otherwise) of proposed planning developments subject to the Town and Country Planning regime, and the need for mitigation measures, where acceptable

Monitoring data acquired is presented in Section 3 below.

Since the PM<sub>2.5</sub> project commenced, the council has systematically upgraded all of its gravimetric monitors (2020 onwards) with FIDAS optical fine dust measurement systems to provide for ‘real-time’ simultaneous monitoring, with multi-size particle fraction capability. Replacement monitoring systems took place as follows:

Rough Hay, WS10 8NQ	April 2020 on
Bescot Drive, WS2 9DF	January 2021 on
Bloxwich Lane, WS2 7JT	April 2020 on
Wolverhampton Road, WS2 8RL	March 2021 on
A454 Black Country Route (now Arnwood Close) WS2 0DZ	December 2021 on

As reported previously, air quality monitoring for 2022 has not demonstrated breached of national air quality objectives and air quality limits for PM<sub>2.5</sub> at continuous monitoring stations.

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

This section sets out the monitoring undertaken within 2022 by Walsall Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2016 and 2022.

### **Summary of Monitoring Undertaken**

#### **3.1.1 Automatic Monitoring Sites**

Walsall Council undertook automatic (continuous) monitoring at five sites during 2022. Table A.1 in Appendix A shows the details of the automatic monitoring sites.

National monitoring results are available at <https://uk-air.defra.gov.uk/>

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

#### **3.1.2 Non-Automatic Monitoring Sites**

Walsall Council undertook no non-automatic (passive) monitoring during 2022.

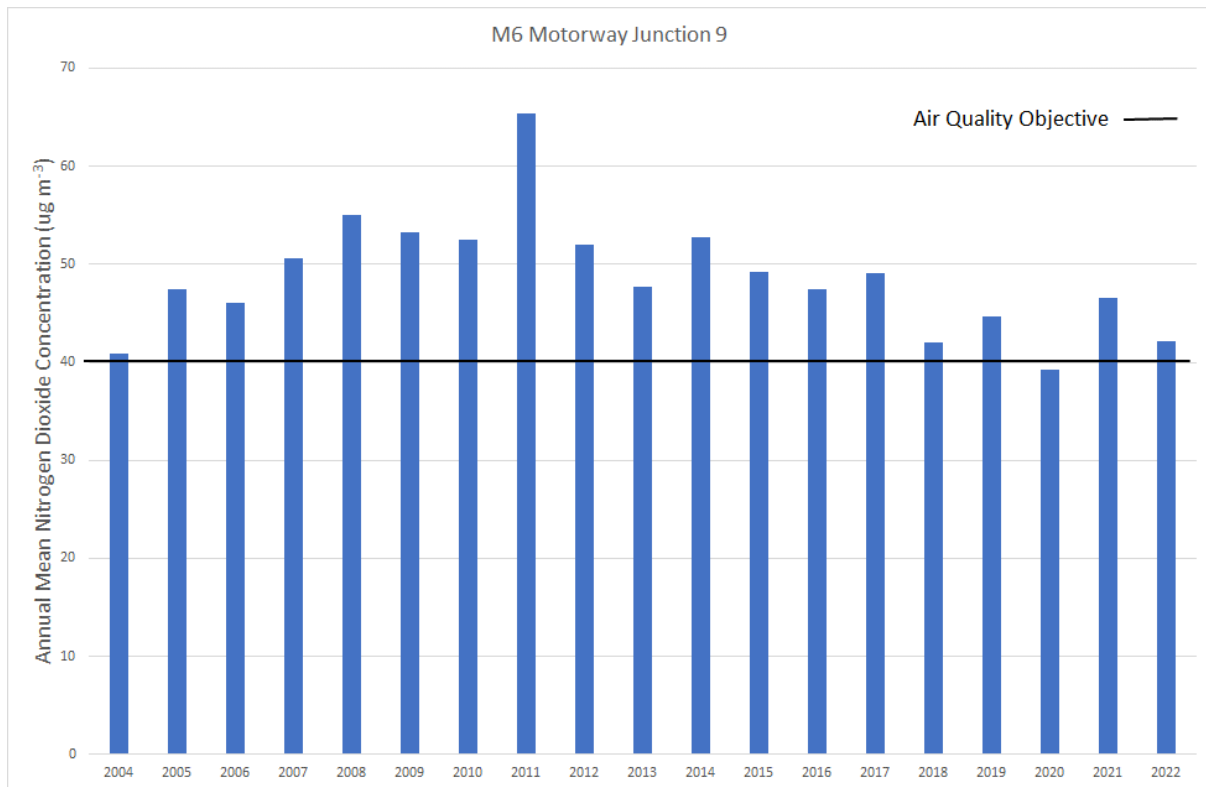
### **Individual Pollutants**

The air quality monitoring results presented in this section are, where relevant, adjusted for 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.

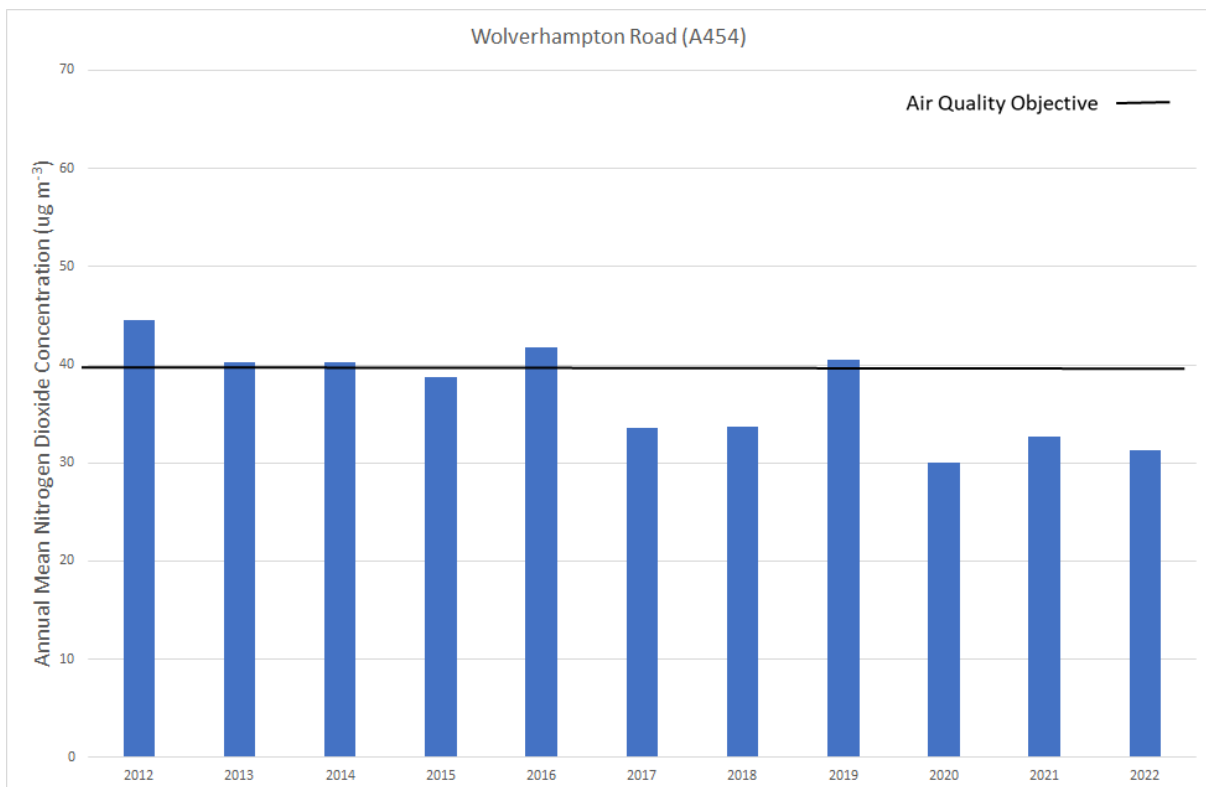
#### **3.1.3 Nitrogen Dioxide (NO<sub>2</sub>)**

No exceedances of the NO<sub>2</sub> National Air Quality Objective have been determined at relevant receptors.

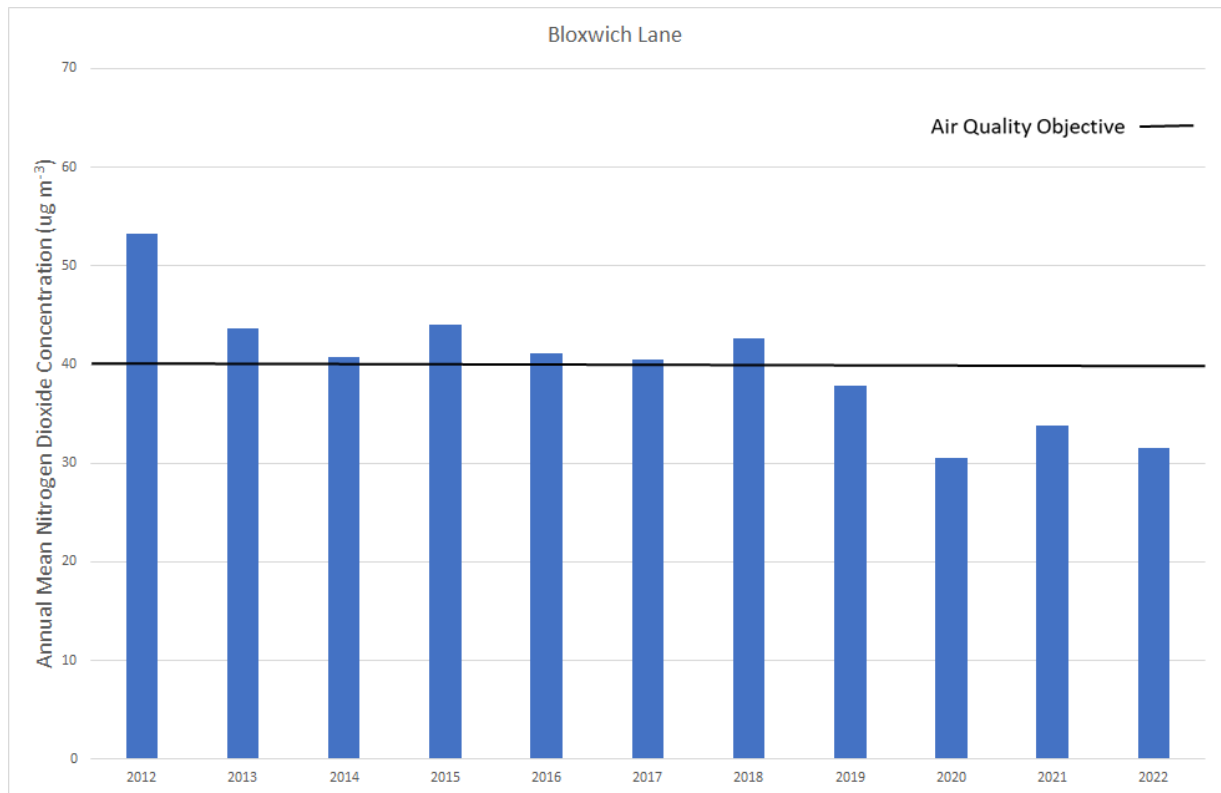
### 3.1.4 Annual Mean Nitrogen Dioxide Concentrations – J.9 M6 Motorway



### 3.1.5 Annual Mean Nitrogen Dioxide Concentrations – Wolverhampton Road



### 3.1.6 Annual Mean Nitrogen Dioxide Concentrations – Bloxwich Lane



### 3.1.7 Annual Mean Nitrogen Dioxide Concentrations – Woodlands School

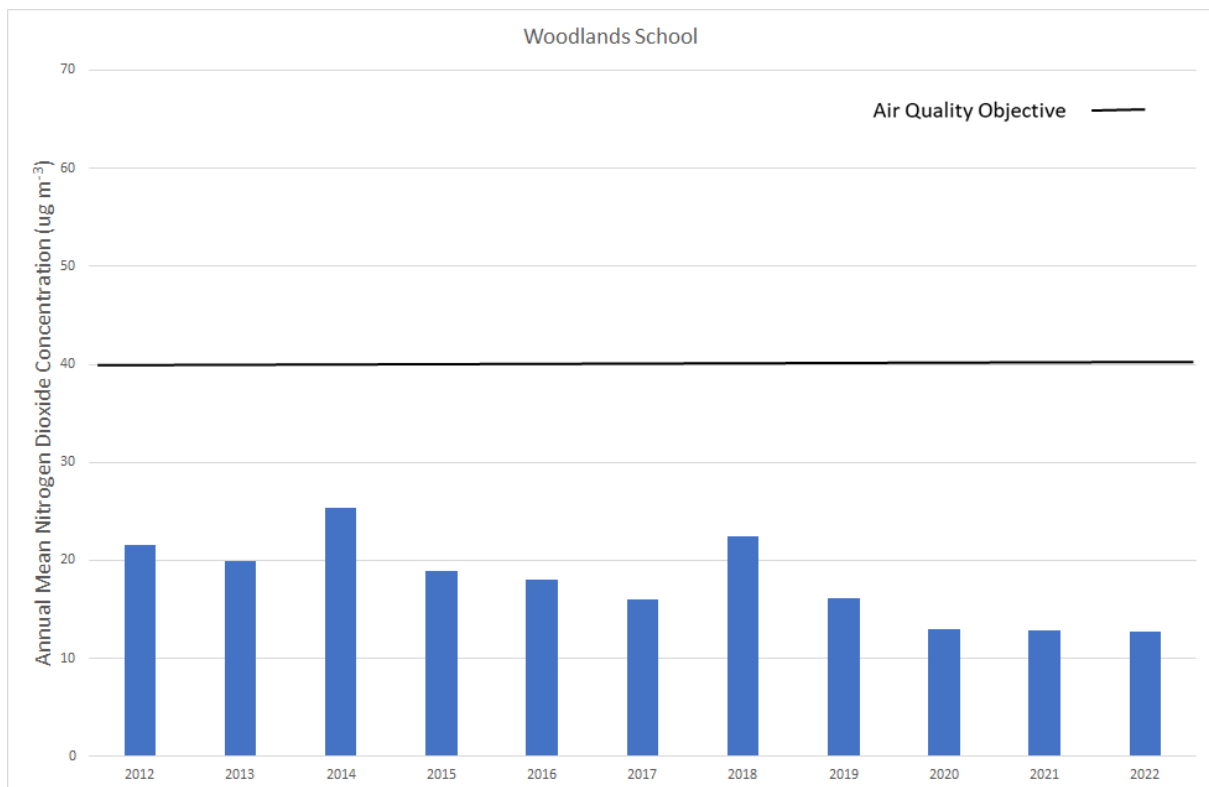


Table A.3 presents details of automatic monitoring site. Table A.3 ratified continuous annual average concentrations for NO<sub>2</sub>.



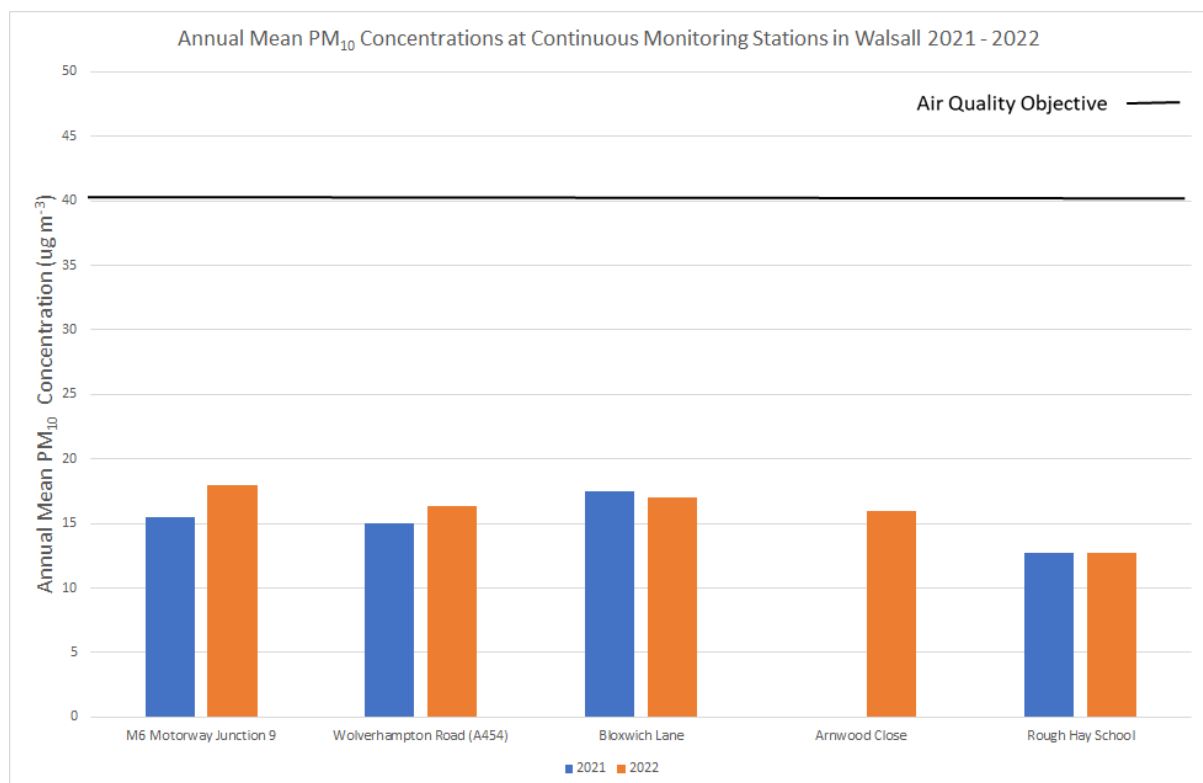
Table A.4 in Appendix A compares ratified continuous monitored NO<sub>2</sub> hourly mean concentrations seven years with the air quality objective of 200µg/m<sup>3</sup> not to be exceeded more than 18 times per year.

There is no non-automatic monitoring in Walsall.

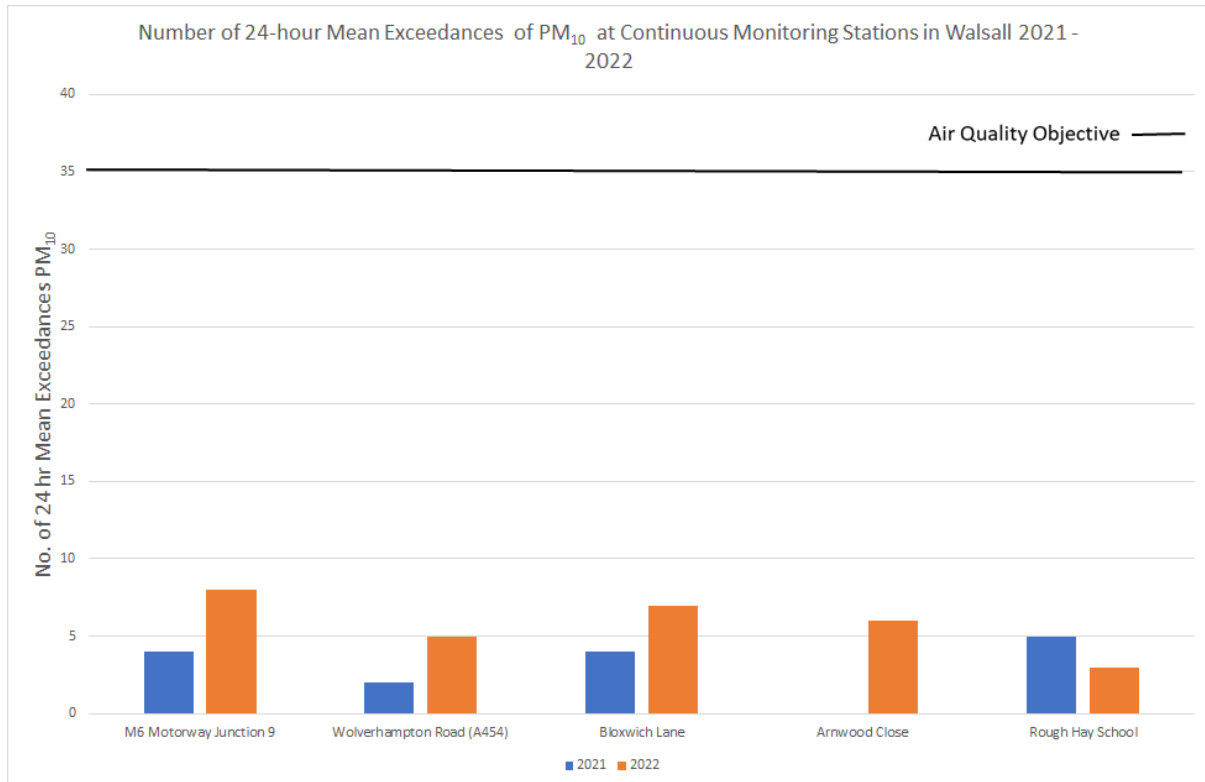
### 3.1.8 Particulate Matter (PM<sub>10</sub>)

There are no measured exceedances of the PM<sub>10</sub> national air quality objective.

### 3.1.9 Annual Mean PM<sub>10</sub> Concentrations – All Sites Comparison

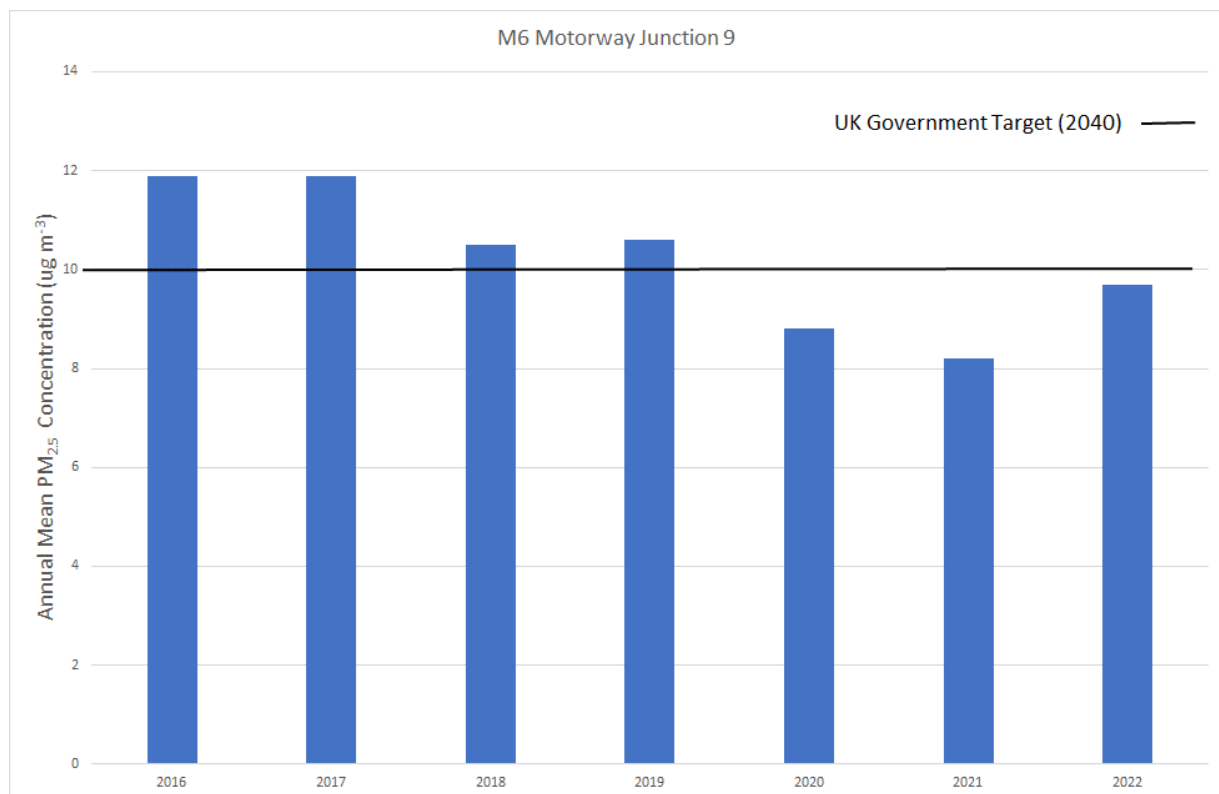


### 3.1.10 Number of 24-hour Mean PM10 Exceedances – All Sites Comparison

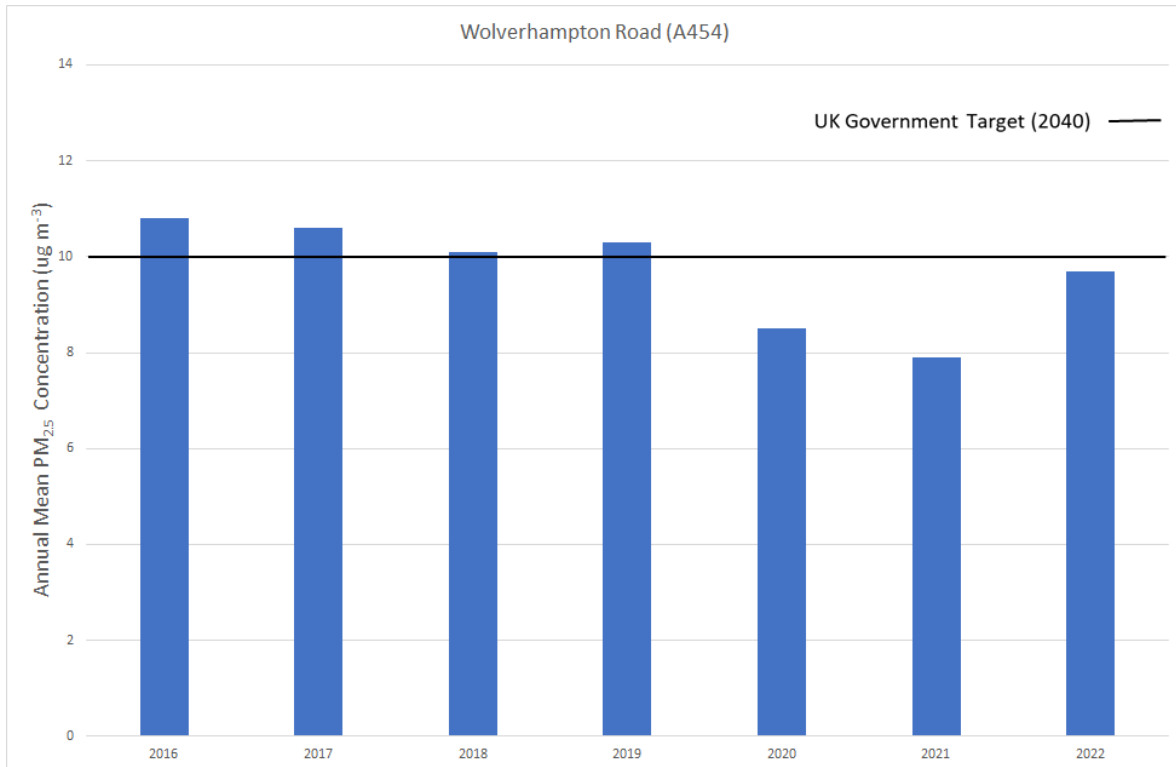


### 3.1.11 Particulate Matter (PM<sub>2.5</sub>)

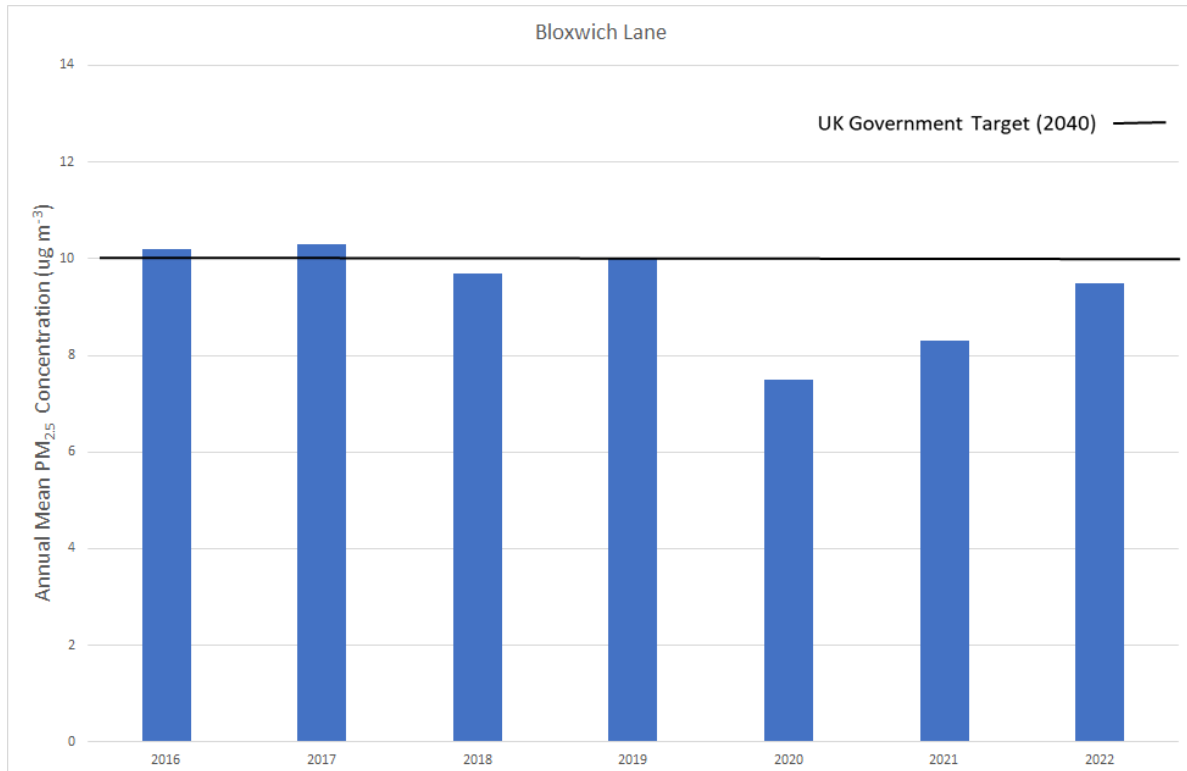
### 3.1.12 Annual Mean PM<sub>2.5</sub> Concentrations – J.9 M6 Motorway



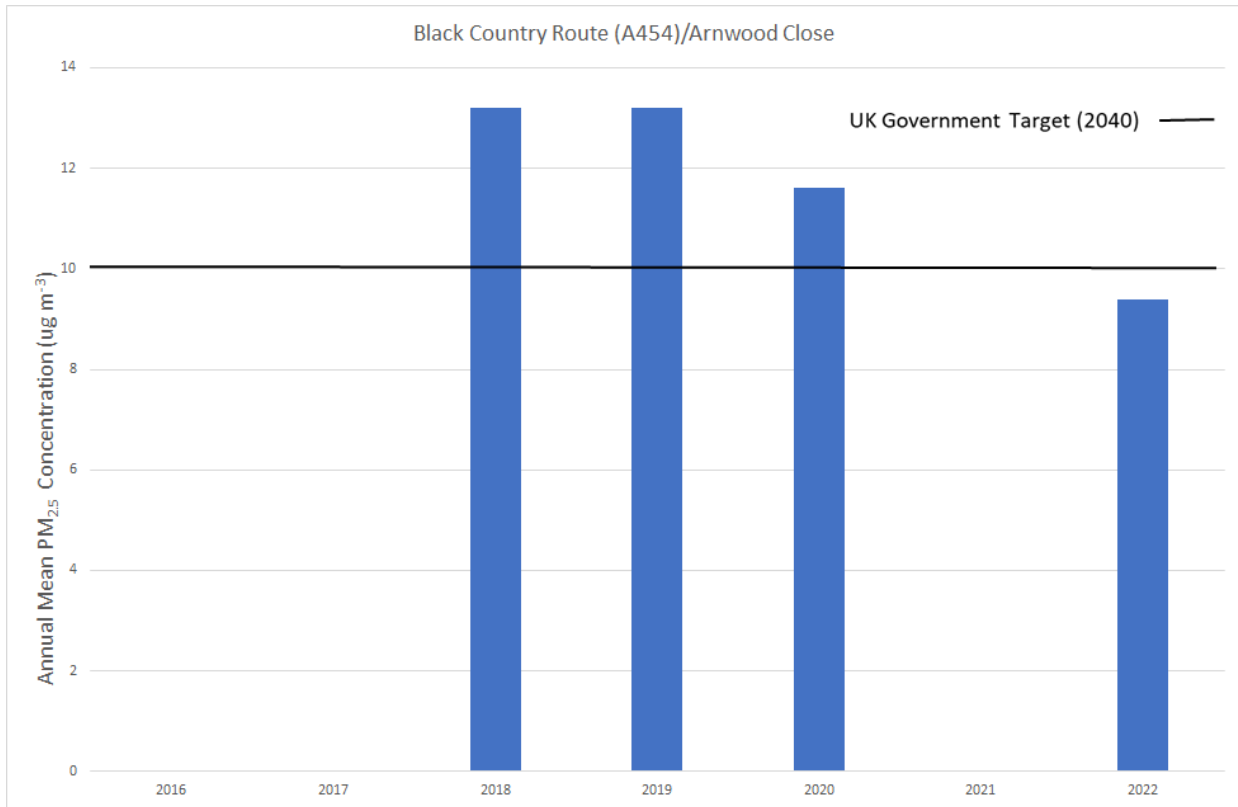
### 3.1.13 Annual Mean PM<sub>2.5</sub> Concentrations – Wolverhampton Road



### 3.1.14 Annual Mean PM<sub>2.5</sub> Concentrations – Bloxwich Lane



### 3.1.15 Annual Mean PM<sub>2.5</sub> Concentrations – Black Country Route (Arnwood Close)



### 3.1.16 Annual mean PM<sub>2.5</sub> Concentrations – Rough Hay School

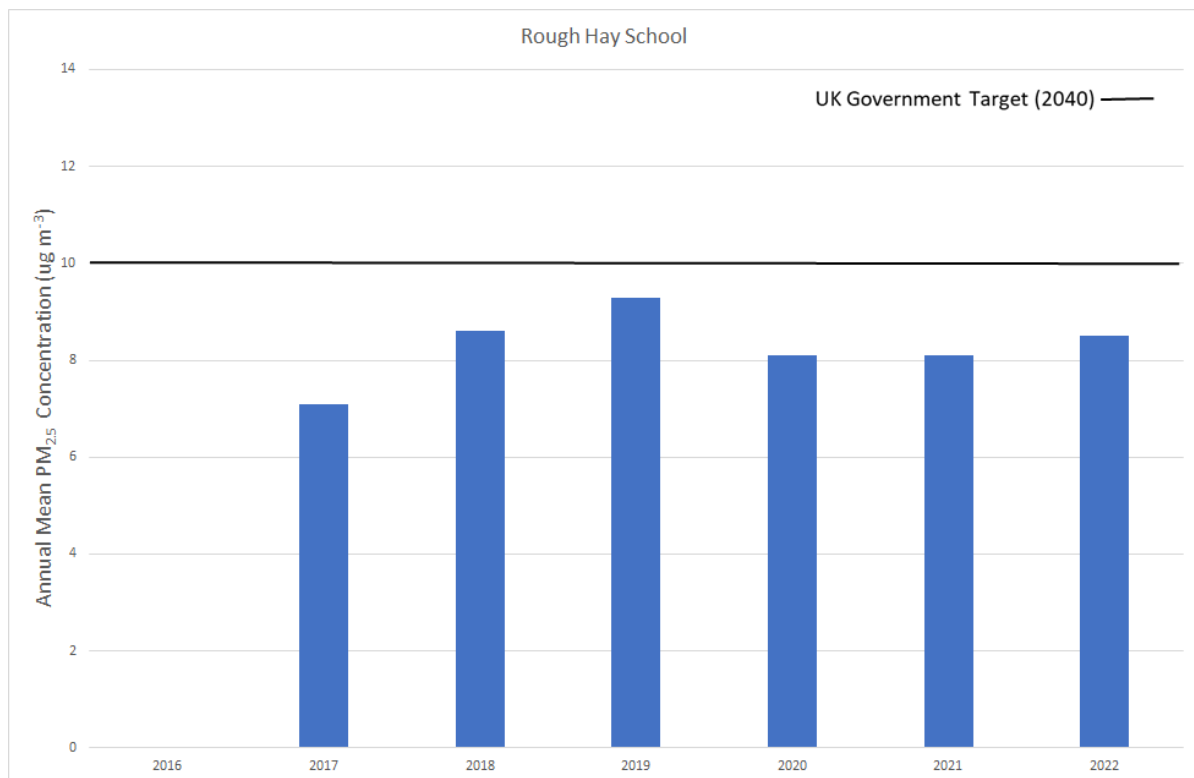


Table A.7 in Appendix A presents the ratified and adjusted monitored PM<sub>2.5</sub> annual mean concentrations for the past five years.

In 2022 there were no measured exceedances of the PM<sub>2.5</sub> Annual Mean Concentration Target for 2040.

### **3.1.17 Sulphur Dioxide (SO<sub>2</sub>)**

Walsall Council does not monitor SO<sub>2</sub>.

# Appendix A: Monitoring Results

**Table A.1 – Details of Automatic Monitoring Sites**

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Inlet Height (m)
	M6 Motorway Junction 9	Roadside	399932	296644	NO <sub>2</sub> ; PM <sub>2.5</sub>	YES	Chemiluminescent; Partisol 2025; FIDAS	21	4	3
	Wolverhampton Road (A454)	Roadside	400429	298701	NO <sub>2</sub> ; PM <sub>2.5</sub>	YES	Chemiluminescent; Partisol 2025; FIDAS	14	5	3
	Bloxwich Lane	Roadside	399329	298801	NO <sub>2</sub> ; PM <sub>2.5</sub>	YES	Chemiluminescent; Partisol 2025; FIDAS	20	3	3
	Woodlands School	Urban Background	398036	300872	NO <sub>2</sub> ; O <sub>3</sub>	YES	Chemiluminescent; UV Absorption	0	n/a	2
	Black Country Route (A454) Site ceased in 2020	Roadside	398974	298561	NO <sub>2</sub> ; PM <sub>2.5</sub>	YES	Chemiluminescent; Differential Optical Absorption Spectroscopy; Partisol 2025	23	2	3
	Black Country Route (A454) Arnwood Close	Roadside	398899	298532	NO <sub>2</sub> ; PM <sub>2.5</sub>	YES	Chemiluminescent; FIDAS	11		2
	Rough Hay School	Urban Background	397189	297093	NO <sub>2</sub> ; O <sub>3</sub> ; PM <sub>2.5</sub>	YES	Chemiluminescent; UV Absorption; Partisol 2025; FIDAS	0	n/a	2

**Notes:**

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

(2) N/A if not applicable

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

No non-automatic monitoring undertaken.



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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data								
				Capture 2022 (%) <sup>(2)</sup>	2016	2017	2018	2019	2020	2021	2022	
M6 Motorway Junction 9	399932	296644	Roadside	90	<b>47.5</b>	<b>49.1</b>	<b>42</b>	<b>44.7</b>	39.2	<b>46.6</b>	<b>42.1</b>	
Wolverhampton Road (A454)	400429	298701	Roadside	67	<b>41.8</b>	33.6	33.7	<b>40.5</b>	30	32.7	31.3	
Bloxwich Lane	399329	298801	Roadside	70	<b>41.1</b>	<b>40.5</b>	<b>42.7</b>	37.9	30.5	33.8	31.5	
Woodlands School	398036	300872	Urban Background	100	18	16	22.4	16.1	13	12.8	12.7	
Black Country Route (A454)	398974	298561	Roadside	N/A	-	-	<b>69.2</b>	<b>61.3</b>	<b>48.6</b>	N/A	N/A	
Arnwood Close	398899	298532	Roadside	62	N/A	N/A	N/A	N/A	N/A	N/A	31.3	
Rough Hay School	397189	297093	Urban Background	>90							19.2	

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

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

**Notes:**

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

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

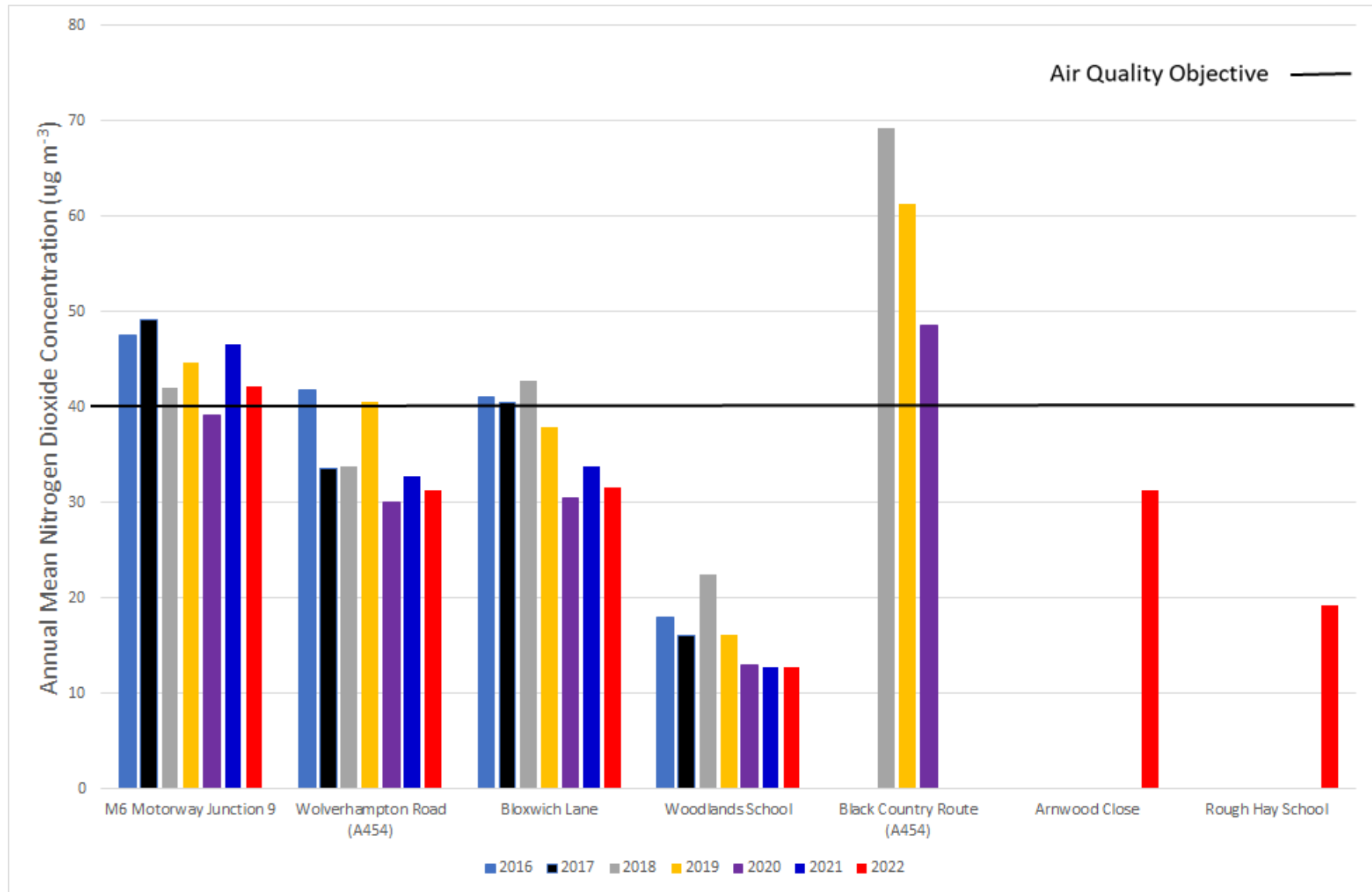
All means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

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

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

Figure A.1 – Trends in Annual Mean NO<sub>2</sub> Concentrations



**Table A.4 – 1-Hour Mean NO<sub>2</sub> Monitoring Results, Number of 1-Hour Means > 200 µg/m<sup>3</sup>**

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture 2020 (%) <sup>(2)</sup>	2016	2017	2018	2019	2020	2021	2022
M6 Motorway Junction 9	399932	296644	Roadside	>90	0	0	0	0	0	0	0
Wolverhampton Road (A454)	400429	298701	Roadside	>90	0	0	0	0	1	0	0 (132.7)
Bloxwich Lane	399329	298801	Roadside	>90	2	0	0	0	0	0	0 (121.2)
Woodlands School	398036	300872	Urban Background	>90	0	0	0	0	0	0	0
Black Country Route (A454)	398974	298561	Roadside	89	-	-	7	<b>31</b>	<b>31</b>	-	-
Arnwood Close	398899	298532		62	-	-	-	-	-	-	0 (143.4)
Rough Hay School			Urban Background	>90	-	-	-	-	-	-	0

**Notes:**

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

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

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

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

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

**Table A.5 – Annual Mean PM<sub>10</sub> Monitoring Results (µg/m<sup>3</sup>)**

Site ID	X OS Grid Ref (Eastin g)	Y OS Grid Ref (Northin g)	Site Type	Valid Data Capture 2020 (%) <sup>(2)</sup>	2021	2022
M6 Motorway Junction 9	399932	296644	Roadside	>90	15.5	18.0
Wolverham pton Road (A454)	400429	298701	Roadside	>90	15.0	16.3
Bloxwich Lane	399329	298801	Roadside	>90	17.5	17.0
Arnwood Close	398899	298532	Roadside	>90		16.0
Rough Hay School	397189	297093	Urban Background	>90	12.7	12.7

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

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

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

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

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

**Table A.6 – 24-Hour Mean PM<sub>10</sub> Monitoring Results, Number of PM<sub>10</sub> 24-Hour Means > 50µg/m<sup>3</sup>**

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture 2020 (%) <sup>(2)</sup>	2021	2022
M6 Motorway Junction 9	399932	296644	Roadside	>90	4	8
Wolverhampton Road (A454)	400429	298701	Roadside	>90	2	5
Bloxwich Lane	399329	298801	Roadside	>90	4	7
Arnwood Close	398899	298532	Roadside	>90	N/A	6
Rough Hay School	397189	297093	Urban Background	>90	5	3

**Notes:**

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

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

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

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

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

**Table A.7 – Annual Mean PM<sub>2.5</sub> Monitoring Results (µg/m<sup>3</sup>)**

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture 2022 (%) <sup>(2)</sup>	2016	2017	2018	2019	2020	2021	2022
M6 Motorway Junction 9	399932	296644	Roadside	>90	11.9	11.9	10.5	10.6	8.8	8.2 <sup>#</sup>	9.7 <sup>#</sup>
Wolverhampton Road (A454)	400429	298701	Roadside	>90	10.8	10.6	10.1	10.3	8.5	7.9 <sup>#</sup>	9.7 <sup>#</sup>
Bloxwich Lane	399329	298801	Roadside	>90	10.2	10.3	9.7	10	7.5	8.3 <sup>#</sup>	9.5 <sup>#</sup>
Black Country Route (A454)	398974	298561	Roadside	>90			13.2	13.2	11.6	N/A	N/A
Arnwood Close	398899	298532	Roadside	>90	N/A	N/A	N/A	N/A	N/A	N/A	9.4 <sup>#</sup>
Rough Hay School	397189	297093	Urban Background	>90		7.1	8.6	9.3	8.1	8.1 <sup>#</sup>	8.5 <sup>#</sup>

**Notes:**

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

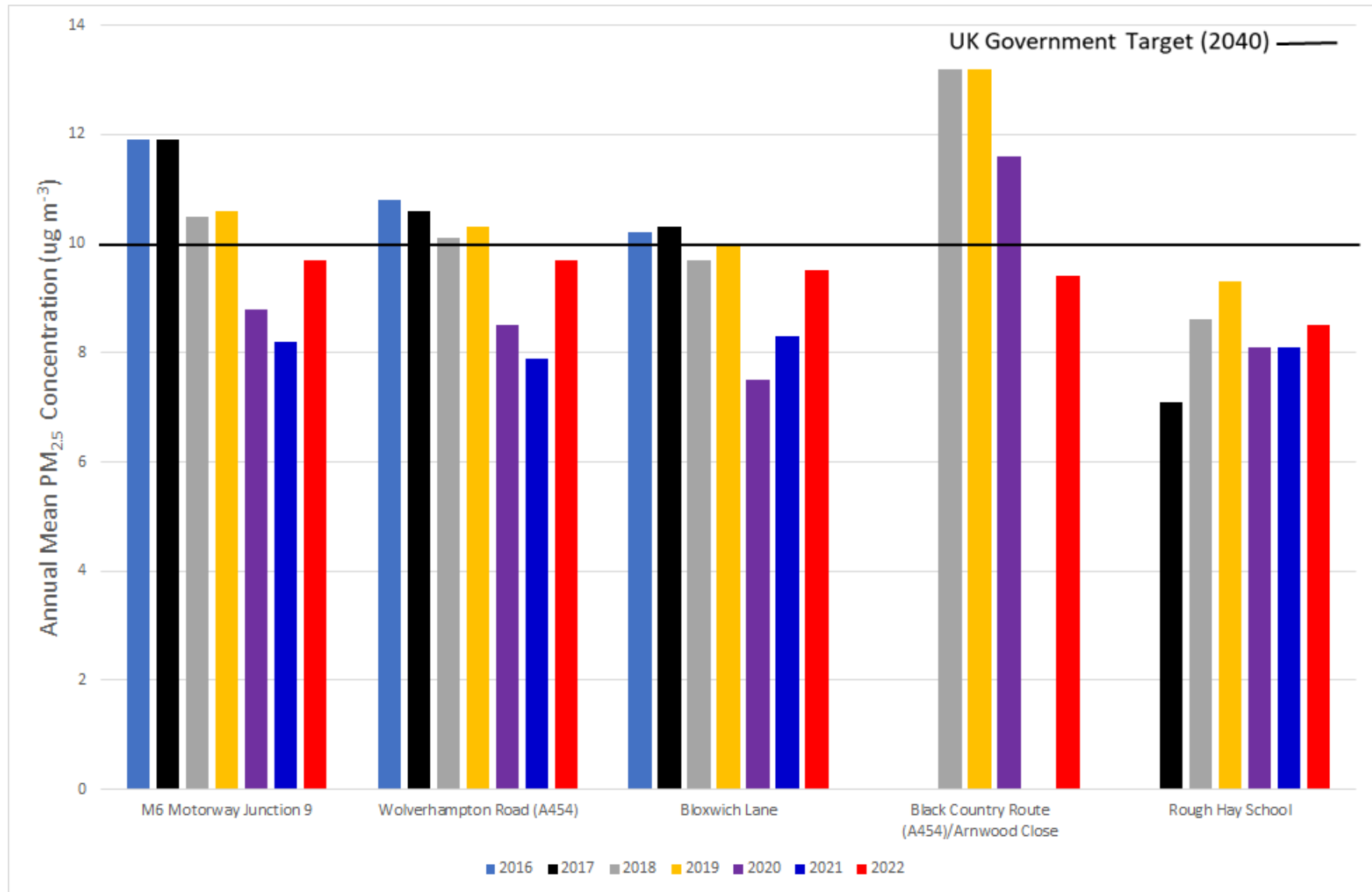
All means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

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

<sup>#</sup> Adjusted in accordance with LAQM.TG22 Section 7.174

Figure A.2 – Trends in Annual Mean PM<sub>2.5</sub> Concentrations



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

## **New or Changed Sources Identified Within Walsall During 2022**

Walsall Council has not identified any new sources relating to air quality within the reporting year of 2022.

Walsall Council has not completed any additional works within the reporting year of 2022

### **Bias Adjustment Factor**

Not applicable

## **QA/QC of Automatic Monitoring**

### **QA/QC of automatic monitoring**

#### **Introduction**

The purpose of quality assurance is to ensure that data obtained is representative of actual pollutant concentrations in the atmosphere. Data must be consistent over time and sufficiently accurate and precise to enable a comparison with air quality objectives.

In some cases meaningful QA/QC is difficult, for example in the case of certain pollutants (e.g. sulphur dioxide, PM<sub>10</sub>) and the council recognises that consistency can be compromised by enforced (albeit perhaps relatively minor) changes to monitoring station locations. Nonetheless, there exists a general aim in the council's monitoring work to achieve 90% data capture.

The council accepts that a documented quality assurance and quality control programme should be followed in order that reliable and credible measurements are obtained. In summary the council has therefore adopted a rigorous QA/QC programme that includes an established schedule of regular site calibrations, validation of data, and documentation of all procedures.

#### **QA/QC of Automatic Data**

In order to minimise measurement uncertainty it is important to apply stringent QA/QC procedures to monitoring programmes, such as those laid down for the UK automatic monitoring networks.



Chemiluminescence analysers are calibrated by council personnel on a 4-weekly basis. This relies on using a single cylinder of nitrogen oxide (NO) containing a known concentration of NO that is transported around all sites, and a zero air purifier containing charcoal and Purafil to remove any trace of oxides of nitrogen from the sample stream i.e. zero air. This process has been applied for the past 8+ years

All calibration gases and analytical techniques applied to monitoring methods are accredited to a recognised standard by BOC.

All monitoring sites are covered by a service contract provided by Matts Monitors Limited, and Acoem UK. The sites are serviced every six months by a qualified service engineer in accordance with the manufacturer's instructions and warranty conditions. Provision is made for a 48-hour call out response to cover breakdowns.

### **Data Management**

All of the data collected by the council's air quality monitoring network undergoes data processing, data validation and/or ratification. These methods of data management are outlined in more detail within the DEFRA publication Local Air Quality Management Technical Guidance LAQM (TG22).

Raw data is collected remotely on a daily basis and is examined to screen out any spurious and/or unusual measurements having regard to the recommendations in LAQM(TG22).

Data is then subject to a correction factor being applied based on the results from each monthly calibration visit.

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

PM<sub>2.5</sub> FIDAS monitoring data is corrected in accordance with LAQM(TG22) Method 11. In consequence, all valid data is divided by a factor of 1.06. PM<sub>10</sub> data does not require a correction factor.

### **Automatic Monitoring Annualisation**

Annualisation data is presented in Table C.2.

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

Wherever possible, local authorities should ensure that monitoring locations are representative of exposure. Where this is not possible, the NO<sub>2</sub> concentration at the nearest location relevant for exposure should be estimated using the NO<sub>2</sub> fall-off with distance

calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO<sub>2</sub> concentrations corrected for distance are presented in Table C.4.

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

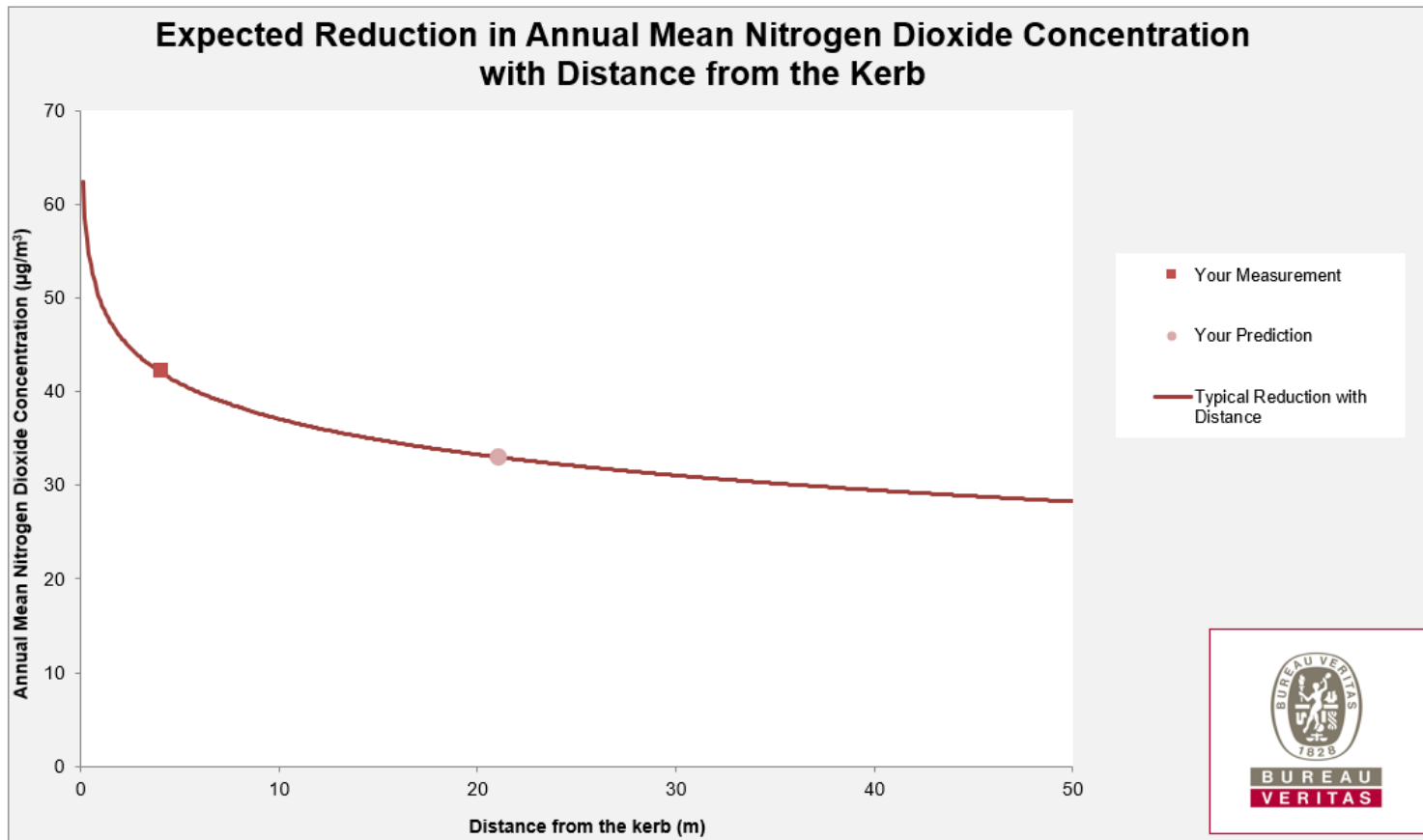
Site ID	Annualisation Factor Woodlands School	Annualisation Factor Kenrick Park	Annualisation Factor Birmingham Ladywood	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
Wolverhampton Road (A454)	0.903	0.903	0.900	0.902	34.7	31.3
Bloxwich Lane	0.923	0.912	0.938	0.924	34.1	31.5
Arnwood Close	0.877	0.878	0.875	0.877	35.7	31.3

**Table C.2 – Local Bias Adjustment Calculation**

Not Applicable

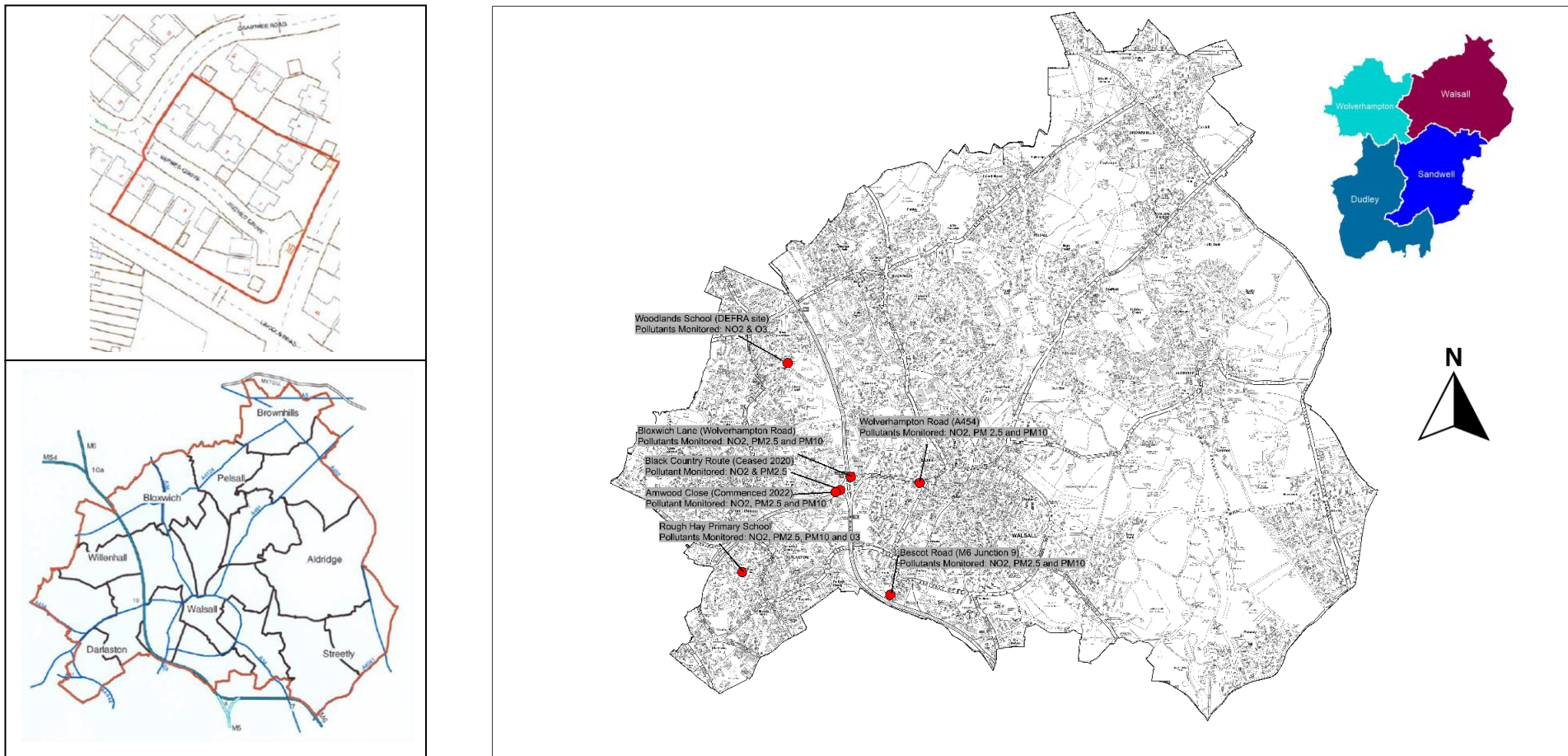
**Table C.3 – NO<sub>2</sub> Fall off With Distance Calculations (concentrations presented in µg/m<sup>3</sup>)**

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted)	Background Concentration	Concentration Predicted at Receptor	Comments
M6 Motorway Junction 9	4	21	42.1	22.5	33.0	Predicted concentration at receptor below AQS objective.



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

Figure D.1 – Map of Automatic Monitoring Sites and AQMAS



# Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England<sup>7</sup>

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

PM<sub>2.5</sub> is subject to the Environmental Targets (Fine Particulate Matter) (England) Regulations 2023. These prescribe a PM<sub>2.5</sub> annual mean concentration target of 10 µg/m<sup>3</sup> to be achieved by the end of 31 December 2040.

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<sup>7</sup> The units are in microgrammes of pollutant per cubic metre of air (µg/m<sup>3</sup>).

## 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 Highways England
EU	European Union
FIDAS	Fine Dust Analysis System
LAQM	Local Air Quality Management
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
PM <sub>10</sub>	Airborne particulate matter with an aerodynamic diameter of 10µm or less
PM <sub>2.5</sub>	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO <sub>2</sub>	Sulphur Dioxide
TfWM	Transport for West Midlands
WHO	World Health Organisation
WMCA	West Midlands Combined Authority

## References and Bibliography

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<http://www.blackcountrytransport.org.uk/projects/ultra-low-emission-vehicle-programme.html>
- GOV.UK: Details on Workplace Electric Vehicle Charging Scheme:  
<https://www.gov.uk/guidance/workplace-charging-scheme-guidance-for-applicants#site-eligibility>
- West Midlands Combined Authority – Board Decision on proposed Air Quality Framework <https://governance.wmca.org.uk/ieDecisionDetails.aspx?ID=952>