2023 Air Quality Annual Status Report (ASR)

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

Date: 3 July 2023

Information	Details
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Executive Summary: Air Quality in Our Area

Air Quality in SMBC

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

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

Solihull MBC recognises that a cleaner, healthier environment benefits people and the economy. Clean air is vital for people's health and the environment, essential for making sure Solihull is a welcoming place to live and work now and in the future to our prosperity.

On-going monitoring shows there is no requirement to declare an Air Quality Management Area (AQMA), however SMBC is committed to monitoring air quality, using a diffusion tube network and reviews of the network will continue after analysis of results and liaison with highways and others to understand potential new areas to monitor.

Our Clean Air Strategy (2019-24) demonstrates our clear commitment to improve air quality and outlines the measures that will be taken over the next 5 years and more importantly shows that there is a process in place to continually aim to improve air quality across the Borough. Click on this link to view the document on our website. This document is being updated in 2023.

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[1] Public Health England. Air Quality: A Briefing for Directors of Public Health, 2017

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

[3] Defra. Air quality appraisal: damage cost guidance, January 2023

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

The main area of concern in Solihull regarding air quality is a section of the A45 from Clock Island towards Birmingham on both sides of the carriageway following two Ministerial Directions.

In 2018, SMBC received a Ministerial Direction in relation to air quality on two road links within the borough, forecast to have exceedances of the European Limit Values for NO^2 according to the national Pollution Climate Mapping (PCM). The two links in question (PCM link reference 86030 and 99175) are located on the A45 adjacent to Birmingham Airport.

In response to this Direction, as part of a Targeted Feasibility Study, SMBC identified a number of behavioural change measures expected to support bringing forward compliance on each link. The measures were targeted at major employers near the A45.

In 2019, changes in the national PCM model projections indicated that the air quality exceedance in Solihull would extend beyond the time period originally identified. As such, SMBC received a second Ministerial Direction, which is the subject of the Full Business Case (FBC). Extensive assessment has been undertaken by Atkins on behalf of SMBC to fully understand the extent of the problem.

This shows that air quality will improve over the coming years due to the shift amongst the general public and transport operators to cleaner vehicles which emit fewer harmful pollutants. However, natural compliance with the EU Limit Value will not be met until 2025 according to the latest baseline modelling.

As presented in the FBC, the only option that will comply with the EU Limit Value in the 'shortest possible time' is the closure of a footway adjacent to the A45 and this has now been completed as part of the M42 Junction 6 improvement scheme. Compliance is achieved, in a legal sense, by removing the receptor. Pedestrians and cyclist now have much improved access to the alternative route which takes them away from the area showing potential elevated emissions.

At the same time, and in support of the objectives of the Local Plan and Clean Air Strategy, SMBC is proposing additional complementary measures to make a positive impact on air quality in the area. These measures are in part a continuation of the behavioural change programme that was identified as part of the first Ministerial Direction, and unable to be implemented in full, due to the impacts of Covid-19.

An expanded number of complementary workplace travel planning measures has been identified – both to achieve the original intent of the first round and to similarly support the

second additional Ministerial Direction. The programme of measures is planned for implementation over a three-year period, to deliver air quality improvements prior to the 'natural compliance' date of 2025. The programme would target businesses near the A45, with the aim of encouraging and incentivising sustainable transport.

This wider set of behavioural change measures complement the FBC by reducing uncertainty in net outcome and by mitigating the risk of delay as the primary measure is not in SMBC's direct control. The delivery of this intensive workplace travel planning will help to support the borough's aim of improving air quality by focusing on an area of the borough that has high employment activity and therefore high potential for change.

There are some major highway works that may have an impact on air quality in the Borough: works around HS2 are ongoing and a Development Consent Order (DCO) for the delivery of the M42 Junction 6 Improvement.

Development Consent Order-DCO

Highways England received a Development Consent Order (DCO) for the delivery of the M42 Junction 6 Improvement Scheme. As part of the delivery of the scheme a new slip road is being constructed from the A45 east bound to the M42 northbound.

Work commenced on the initial stages of the improvements to M42 J6 in March 2020 and are continuing. The scheme will reduce congestion in the area and therefore should reduce emissions from vehicles. There is a new junction to be constructed on the M42 between junctions 5 and 6 with a new dual carriageway to connect to the Clock Interchange on the A45 and this is expected to be completed by September 2023.

When completed the capacity on the motorway will be increased so reducing congestion. Access will be improved to key locations such as Birmingham Airport and access will also be improved for cyclists and pedestrians.

The remaining works around junction 6 itself were expected to be completed by August 2024 but the next phase of the M42 Junction 6 project is currently on hold awaiting National Highway views on the condition of the Eastway Bridge. A decision is expected in 2023. Full details can be found on the Highways England web site. Click on this link to view.

HS2

HS2 is one of the largest infrastructure projects ever undertaken in this country, and will transform connectivity and economic performance at local, regional, and national levels.

Solihull will be served by a new HS2 station, to act as a hub for the wider region; consequently, generating significant numbers of access and egress trips to destinations both in the immediate vicinity of the station, and places further afield in the West Midlands and beyond. To make the most of the opportunity presented by HS2, SMBC has created UK Central which is an economic development programme that seeks to capitalise on the opportunities afforded to the Borough by HS2 and wider growth plans.

While these growth and development plans provide a rare opportunity for significant economic growth and benefits for Solihull, it is vital to ensure the extra trips generated by these developments do not have an adverse impact on the transport network and environment.

The HS2 enabling works commenced in 2019 and the main works commenced in 2021. Works will continue in our Borough from now until the date the new line opens which is expected to be between 2029 and 2032.

An environmental minimum requirement (EMR) has been issued for haulage routes which has been approved by the Secretary of State. Full details of these can be found here:

https://www.gov.uk/government/publications/environmental-minimum-requirements,

or click on this link.

SMBC has robustly assessed lorry route applications submitted by HS2 and one route for increased lorry movements was refused by the Council with the initial appeal by HS2 being dismissed by the Planning Inspectorate, A subsequent appeal against the refusal of a revised scheme was upheld by the Secretaries of State.

HS2 have committed to use Euro VI vehicles for their work. All diesel HGVs working the length of the HS2 project will be powered by the cleanest available Euro VI engines, going beyond current standards set here in the UK. Vehicle emission standards, denoted by the "Euro" categorisation, have been set and toughened over recent years and currently all newly made combustion engine vehicles must comply with Euro VI, the most recent and strictest standard.

By insisting that all HGVs working on the project comply with the project's standards, HS2 Ltd hopes it will encourage its suppliers to invest in new, cleaner, and more efficient vehicles. The company has already introduced the stipulation for HGVs and extended the standard for cars and vans.

As Covid restrictions lifted at the beginning of 2022, traffic returned to more normal numbers throughout the Borough and surrounding areas although some home working has continued.

The diffusion tube results were very roughly similar to 2021 with some slightly lower. One set of triplicate tubes was higher than last year, this is located on the A45 as part of the Ministerial Direction and has no nearby receptors. The current tube locations will continue into 2023 to allow for long term trend analysis.

Other Works

There are works to be carried out on A45/Damson Parkway junction, which is one of the busiest in Solihull, serving not only Birmingham Airport but also a major car manufacturer in the area and one of the largest employers in the area. Once completed, the junction will be able to cater for future traffic demands, reducing the extent of congestion at the junction and thereby improving local air quality. The new junction arrangement will also include bus priority measures, through the implementation of a bus lane, and improved facilities for cyclists and pedestrians, which will complement wider measures to encourage a shift away from car use.

2022 has been spent in developing detailed designs for the improvement scheme, and engaging contractors for the construction stage with works on site anticipated to commence in late 2023 subject to securing the capital allocation to deliver the scheme via the West Midlands City Region Sustainable Transport Settlement.

Actions to Improve Air Quality

Whilst air quality has improved significantly in recent decades, there are some areas where local action is needed to protect people and the environment from the effects of air pollution.

The Environmental Improvement Plan[5] sets out actions that will drive continued improvements to air quality and to meet the new national interim and long-term $PM_{2.5}$ targets. The National Air Quality Strategy, due in 2023, will provide more information on local authorities' responsibilities to work towards these new targets and reduce $PM_{2.5}$ in their areas. The Road to Zero[6] details the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

Solihull produced its first clean air policy in 2019 and a steering group has been formed within the Council which consists of officers from Public Health, Highways, Communications, Monitoring and Compliance, Planning, Procurement and Sustainability along with elected members. The group has set out its aims and purposes in their strategy documents and meets on a regular basis to discuss strategies and policies as well as monitoring results and potential hot spots. The aim is to proactively steer action regarding air quality issues.

Consultation with planning colleagues continues for any significant applications received which are assessed against the effect they may have on the air quality in Solihull.

Solihull is also in the process of updating its Local Plan. This sets out the vision for future development to enable the borough to grow and develop into the place we would like it to be. As part of the policy P9 ‘to mitigate and adapt to climate change’ a new requirement was proposed in the local plan that all new residential dwellings shall have at least one EV charging point, this has now been superseded by the new Part S in the Building Regulation (June 2022).

The Draft Local Plan is currently being examined by Inspectors appointed by the Secretary of State, but the examination is currently paused pending updates to the NPPF (National Planning Policy Framework),

The local plan review can be found on our website at: Solihull Local Plan Review www.solihull.gov.uk/Planning-and-building-control/Local-Plan-Review. Alternatively click on this hyperlink.

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

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

Road transport represents a major source of air pollution in Solihull and is also the main source of carbon emissions, contributing to the Borough's carbon footprint. Eliminating these harmful impacts from transport is therefore a core priority of the Council.

This will be achieved through a wider approach to sustainable travel that incorporates measures to reduce travel demand, increase levels of walking and cycling as well as developing new models of demand-responsive public transport.

Solihull Council has a new cycling and walking strategy for the borough following consultation with residents and businesses. Alongside the comprehensive new strategy, a Local Cycling and Walking Infrastructure Plan (LCWIP) has also been developed and approved.

The Cycling and Walking strategy outlines the overall strategic approach to active travel in Solihull. The document supports the National Cycling and Walking Plan, adopted in July 2020, and sets a clear standard for cycling and walking infrastructure. It aims to embed cycling and walking initiatives into local policy and ensures major developments consider integrating active travel infrastructure from the start.

The need to develop a Cycling and Walking Strategy, and associated LCWIP, was initially established as part of the Council's transport strategy, Solihull Connected, and is further emphasized by the work that the Council has adopted, such as the Clean Air Strategy and Climate Change Prospectus. Encouraging residents to cycle and walk more often also closely aligns with the Council's Net Zero Action Plan which outlines how the borough intends to achieve net zero carbon emissions by 2041.

Elements of the strategy have now been implemented. Two temporary segregated cycle lanes that connect Solihull Town Centre with Knowle and Shirley have been created through use of Active Travel Funding (ATF), with further funding allocated via the City Region Sustainable Transport Settlement (CRSTS). To date all three active traffic corridor schemes are operating well and are due to be reviewed in Summer 2023 to determine if they are to be made permanent or if they are to be removed.

The Council updated it's EV Strategy and plans to install up to 500 charging connections in car parks and other destinations by 2026 and up to 1,000 charging connections nearby to residents without the off-street parking space to charge at home by 2030.

No new EV connections were installed in 2023 as the focus was on developing a robust future delivery programme, although we did adopt and recommission 6 charging

connections in the Town Centre car parks which are used by the public during the day and by Council and contractors' vehicles overnight.

We are currently in the procurement process for 500 destination EV charging connections. As part of a combined West Midlands bid SMBC was awarded £3.5 million of funding from OZEV/DfT as part of the Local Electric Vehicle Infrastructure (LEVI) Pilot (of which £1.2 million will be spent in Solihull). We expect to see the total number of public EV charging connectors in Solihull reach at least 300 by the end of 2023 and 1000 by the end of 2025.

Conclusions and Priorities

SMBC has not declared any Air Quality Management Areas (AQMAs) and we endeavour to ensure that the air quality objectives are met in Solihull. No exceedances of the air quality objectives were recorded in 2022 with the exception of one triplicate site along the A45. This forms part of the ministerial direction but has no nearby receptors and once distance correction adjustments were made the site fell below 40 µg/m3.

Results of the remaining NO_2 diffusion tubes are below the NO_2 Air Quality Objective level (40 µg/m3) and since 2019 most have been below half that value (20 µg/m3). Levels are, overall, showing a downward trend with the exception of the triplicate sites along the A45.

The current monitoring locations will be continued throughout 2023 to provide trend data analysis and we will continue reporting directly to Defra (through JAQU) regarding monitoring results on the A45, which was subject to the Ministerial Direction. In addition, we will continue to monitor the impact of HS2 works.

The end of Covid travel restrictions were lifted in March 2022 and traffic has now returned to more normal conditions.

We are continuing to monitor air quality throughout the Borough via our diffusion tube network.

Solihull Council requested the West Midlands Air team to undertake a piece of research to use the newly developed, high resolution Atmospheric Dispersion Model (ADMS) to explore air quality context for Solihull area. The results indicate that other than the A45 area, PM2.5 levels do not exceed the EU Limit Value for PM2.5 (an annual average concentration of 25 µg/m³). Although Solihull do not currently monitor this pollutant, PM will be reviewed in a refresh of the Air Quality strategy review to take place in 2023.

The Combined Authority are seeking a partnership working with regional air quality partners to form a comprehensive pm 2.5 network. Funding opportunities for this are being explored.

Priorities for 2023

Reviewing and updating the Clean Air Strategy (2019-24) and action plan ensuring that the refreshed strategy and plan provides an effective response to the new duties imposed on the Council by the introduction of new PM2.5 targets.

The review and refresh of the strategy will provide an opportunity to review progress and ensure alignment with key strategies including, The Solihull Council Plan, Net Zero Action Plan and the Electric Vehicle Strategy.

The focus of the refreshed strategy will include:

Improving our approach to Air quality monitoring

Ensuring an effective dynamic approach for monitoring air quality across the borough that provides real time information to the public utilising the latest technology for active monitoring of a range of pollutants, including particulate matter with attention focused on PM 2.5.

Leading by example

The council will continue to provide leadership for air quality policy and action across Solihull, whilst working with other organisations and the public to encourage dialogue, and commitment, for action on air quality.

Raising awareness

Raising public awareness on the health impact of air pollution, encouraging the community to take actions to reduce their contributions to local air quality emissions and protecting the most vulnerable.

Supporting Schools and businesses

Supporting schools, and businesses to develop and promote initiatives to reduce air pollution.

Managing emissions from developments and buildings

Ensure proposals for new developments include air quality screening to identify potential impacts on air quality where required.

Cleaner transport

We will work towards a transport network that supports sustainable transport modes (walking, cycling, car share and public transport) to enable a greener future, growing a sustainable economy, and tackling health inequality.

Local Engagement and How to get Involved

Your Future Solihull is the Council's climate change and sustainability campaign. The site provides access to key Council policies which relate to climate change and sustainability in addition to tips and information for the public to help make Solihull more sustainable, look after the natural environment and collectively reduce emissions.

People who live and work in Solihull can help to improve air quality by using sustainable transport options, such as walking cycling and using public transport or to share transport through car sharing at www.liftshare.com. As fuel prices are on the rise it is hoped that lift share schemes will become more popular.

Members of the public can view public consultations on the SMBC web site which allows notifications of any future engagement. A hyperlink to this can be found here https://yourvoicesolihull.uk.engagementhq.com/

Residents can obtain more air quality information on the following websites:

DEFRAs UK-AIR: Air information Resource https://uk-air.defra.gov.uk

Environmental Protection UK Air Pollution website

https://www.environmental-protection.org.uk/policy-areas/air-quality/about-air-pollution/

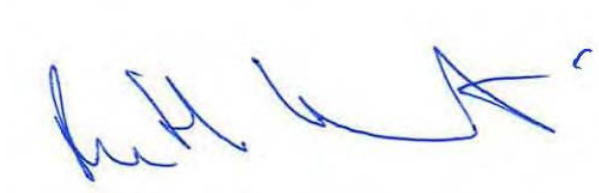
Solihull MBC hold an annual Solihull Greener Schools award ceremony where local schools are recognised for their commitment to sustainable and greener practices and this year the focus was on ‘net zero’ The award challenged pupils to learn about the local and global environment and strive to make the school eco-friendly.

6 Solihull secondary schools are taking part in the pilot for ModeShift’s Active Travel Ambassadors, where students develop campaigns to reduce car journeys to their school.

Local Responsibilities and Commitment

This ASR was prepared by the Economy and infrastructure team of Solihull Council with the support and agreement of the following officers and departments:

This ASR has been approved by:

Councillor Andy Mackiewicz **Lead for Air Qality**	
Ruth Tennant **Director of Public Health**	

This ASR has been signed off by the Director of Public Health

If you have any comments on this ASR, please send them to Nick Laws at:

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1 Local Air Quality Management

This report provides an overview of air quality in Solihull during 2022. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995), as amended by the Environment Act (2021), and the relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in order to achieve and maintain the objectives and the dates by which each measure will be carried out. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by Solihull MBC to improve air quality and any progress that has been made.

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

2 Actions to Improve Air Quality

Air Quality Management Areas

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

Solihull currently does not have any declared AQMAs but will continue to monitor via our diffusion tube network throughout the borough. Our Clean Air Strategy (2019-24) sets out our aims and this available on our website by clicking this link.

Progress and Impact of Measures to address Air Quality in SMBC

Defra's appraisal of last year's ASR concluded that overall, the report was detailed, concise and satisfies the criteria of relevant reporting standards. Comments were received regarding layout and the ease of reading the maps which have now been addressed. The inclusion of the public health outcomes framework was commended, and this has been updated for this report.

A comment was made regarding the longevity of diffusion tube sites and the current sites will be kept throughout 2023 and beyond to enable trend analysis.

Solihull MBC has taken forward a number of direct measures during the current reporting year of 2022 in pursuit of improving local air quality.

Details of all measures completed, in progress or planned are set out in Table 2.1.

15 measures are included within Table 2.1, with the type of measure and the progress Solihull MBC have made during the reporting year of 2022 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.1.

More detail on these measures can be found in their respective Action Plans

Key completed measures are:

Improvements around the school and village centre in Berkswell are completed and working well. Funding was awarded from Transport for West Midland's Better Streets Fund to deliver improvements to increase safety and encourage walking and safer cycling. The scheme included traffic calming measures and new footpaths at key points to promote safer pedestrian and cycle travel.

An event took place in 2022 to encourage taxi drivers to convert their diesel cabs into zero emissions electric vehicles with a converted black cab available for a test drive. However, the event was not well attended and the reasons behind this are to be investigated.

The Solihull Low Carbon Energy Centre has been given the go ahead with approval for planning permission granted in May 2021. Funding for this carbon saving scheme has

been provided by the government's Heat Networks Investment Programme (HNIP) and the West Midlands Combined Authority. The scheme demonstrates the Council's commitment to using innovative renewable energy solutions by investing in low carbon heat and power and forms part of a wider strategic approach Solihull Council is developing to help decarbonise the borough over the next twenty years. The Council is working with its partners to finalise a Full Business Case and appoint a final contractor to build, maintain and operate the network. Since securing planning permission for the **Energy Centre,** the project team have continued working with partners to finalise a robust Full Business Case (FBC), which has now been concluded, and are in the process of completing the next steps to establish an Energy Services Company to appoint the contractor to build, maintain and operate the network.

School Streets is currently running at 9 sites, and it's hoped to be expanded.

'Engines off – Young lungs at work' is an anti-idling campaign that has had 23 schools taking part so far. We are now looking at extending this campaign to include other non-school areas that are affected by drivers leaving their engines running such as outside the hospital, doctors, shops, level crossings etc. and currently there is one non educational site at a level crossing in Bentley Heath which joined in 2022.

SMBC are now working with over 15 schools and colleges to develop Green School Travel Plans.

We have delivered a number of clean air assemblies in primary schools and also Year 5 clean air lessons encouraging children to make changes that can improve air quality.

Walk to School weeks are now run in May and October and we currently have 18 schools taking part in Living Streets all year WOW campaign (Walk at least Once a Week)

SMBC have been collaborating with local partners and communities to develop four new community cycling hub facilities. These cycling hubs, equipped with adult and children's bikes and helmets, were launched in February 2022 as part of the Bike It Solihull project. The cycling hubs are the foundations for providing new community opportunities to learn and participate, build skills and confidence, and familiarity with local cycling routes. The Bike It Solihull project delivers a brand-new recreational cycling offer, supports a cycling pathway from learning to ride and developing cycle skills to cycling for leisure and travel, and promotes existing cycling infrastructure, ride routes, cycling groups and clubs. Being fully equipped with bikes and helmets, bike ownership is not a barrier to participation.

Wildlife Ways was a £17 million programme, part-funded by the European Regional Development Fund (ERDF), which has seen massive environmental improvements across the borough through the planting of trees and bulbs. The scheme finished in October 2022 with over 174 businesses receiving information about sustainable travel across the borough.

A capability fund was set up following a successful bid from Transport for West Midlands. This will help Solihull achieve our commitment to promote active and sustainable modes of travel across Solihull, making it easier for people to leave the car at home, and support those who want to change their travelling habits have a positive impact on resident's health and help reduce carbon emissions. The following items were promoted during 2022 under the capability fund.

A 'business challenge' engaged 10 commuters in changing the way they travelled for a month, exchanging a car journey for walking cycling and public transport

28 volunteers from 5 businesses expressed an interest and e-bikes have been loaned to a further 7 of these volunteers

6 public engagement events were held over the summer at local fetes and celebration days, including the Queen's Baton Relay. These provided e-bike try outs, cycle security marking and journey planning advice as well as promoting the adult cycle training available.

387 individuals actively participated or took travel incentives

102 people tried using an e-bike

109 bicycles were security marked and registered with Bike Register

We have looked at the tender process for our fleet vehicles to incorporate electric vehicles where appropriate and a viable option exists. SMBC currently have 66 vehicles on fleet most of which are long term contract hire. The latest tender closed in 2022 and this will bring the number of electric vehicles to 15.

A trial was conducted at Birmingham Airport using an autonomous vehicle. which was able to carry up to 10 passengers, funded by the Greater Birmingham & Solihull Local Enterprise Partnership. Solihull Council became the first local authority in the country to purchase a fully electric autonomous shuttle.

The vehicle uses an array of sensors to understand its surroundings and move around safely whilst interacting with other road users. It has a top speed of 20 mph and in line with

legislation a safety operator was always on board. The trials helped Solihull Council get a better understanding of how they could be integrated into the Borough network in the future.

Successful passenger trials have now been carried out at both Birmingham Airport and the NEC, where our shuttle was also used in the Commonwealth Games Queen's Baton Relay. More trials are planned for 2023.

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

Solihull Connected transport strategy was published in 2016. It sets out the future direction for investment in our transport system. It also looks into research regarding behavioural change and marketing techniques to encourage a greater shift to sustainable modes as we invest in new infrastructure. It supports and enables the integrated delivery of sustainable and efficient forms of transport like mass-transit, cycling and walking. Available here: www.solihull.gov.uk/About-the-Council/Solihull- connected (Strategies - Solihull Connected | solihull.gov.uk)

A new Solihull Connected is currently under production for adoption by the Council in 2023. Public consultation into the new transport strategy was planned to take place in the Autumn of 2022 but was re-scheduled for January 2023.

Solihull MBC is working with TfWM, and a company based in Solihull, ZF, on a significant project, to undertake a feasibility study into whether the CAV shuttles could operate along a segregated route to connect East Birmingham and North Solihull.

Solihull worked to implement these measures in partnership with the following stakeholders during 2022:

- Schools across Solihull
- Residents of Solihull
- West Midland Combined Authority
- Transport for West Midlands
- Birmingham Airport
- National Exhibition Centre
- Transport for West Midlands (TfWM)

The principal challenges and barriers to implementation that Solihull MBC anticipates facing are

- The ability of current vehicle emission standards to deliver reductions in NOx emissions.
- The number of diesel vehicles travelling in and around Solihull (which have increased primary emission of NO_2 and diesel particulate).
- Managing potential tensions between the air quality implications of new developments and drive to delivering economic growth
- Unnecessary vehicle idling at various locations across the borough, particularly amongst heavy diesel vehicles.
- Uncertainties with respect to future travel behaviour, particularly around confidence in the use of public transport
- The main works for HS2 which are continuing in the Borough until the new lines open around 2030

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

Reviewing and updating the Clean Air Strategy (2019-24) and action plan was delayed last year and will now be done in 2023, ensuring that the refreshed strategy and plan will provide an effective response to the new duties imposed on the Council by the introduction of new PM2.5 targets.

The review and refresh of the strategy will provide an opportunity to review progress and ensure alignment with key strategies including, the Council Plan, Net Zero Action Plan, and the Electric Vehicle Strategy).

Table 2.1 – Progress on Measures to Improve Air Quality

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Fundin g	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	Draft Local Plan	Policy Guidance and Development Control	Other policy	2019	2023	SMBC	In house	No	n/a	< £10k/£10k	planning	Increased EV uptake	Plan approved by inspectorate	Submitted to inspectorate. examination is paused pending updates to the NPPF	Awaiting updated NPPF
2	Town Centre Heat Network	Promoting low emission plant	Procurement of combustion sources	2018	2024/25	SMBC and Developers	Consortium of Developers	No	funded	No cost to SMBC	planning	Unable to determine	Business case concluded. Next stage to appoint contractor	Planning	Some years to completion
3	Installation of new EV charging points	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2021	2026	SMBC/Partners	Variety of sources inc in house, Government,	No	Not secured	>15 million	Partly implemented	4	Usage to be reviewed	Implementation on-going	More charging points should influence car purchasing
4	Increase in EV fleet	Promoting low emission transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	2021	On-going	SMBC tender process	n/a	No	Tender process	< £10k/£10k	planning	Reduced vehicle emissions	Updated fleet	Some vehicles have been updated	New technology needed for larger fleet vehicles
5	Home working	Promoting travel alternatives	Facilitate home working	2019	On-going	SMBC	n/a	No	n/a	< £10k/£10k	Ongoing	Reduced vehicle emissions	Home working is constantly reviewed by CEO and heads of service	High numbers of staff working from home	Corporate decisions to be made to determine forward planning
6	HS2 haulage routes approval	Freight and delivery management	Route Management Plans/ Strategic routing strategy for HGV's	2020	2024	HS2/SMBC	n/a	No	n/a	< £10k/£10k	planning	Reduce HGV through village	Reduce HGV through village	Planning stage	Approved with sec of state
7	School Streets (extension)	Traffic management	Reduction of speed limit, 20 mph zones	2017	2024	SMBC	n/a	No	n/a	< £10k/£10k	Partly implemented	Reduced vehicle emissions and improved safety around schools	Reduced vehicle emissions	Planning stage	Scheme extended to more schools
8	Engines Off: Young Lungs at Work	Traffic management	Anti-idling enforcement	2019	On-going	SMBC	n/a	No	n/a	< £10k/£10k	Partly implemented	Reduced vehicle emissions	Reduced vehicle emissions	Not quantified	Needs constant re enforcement
9	Installation of new cycling hubs	Promoting travel alternatives	Promotion of cycling	2021	2022	SMBC/British Cycling places to ride	British Cycling places to ride	No	n/a	< £10k/£10k	completed	Reduced vehicle emissions	Reduced vehicle emissions	Good uptake	none
10	Lift share scheme	Alternatives to private vehicle use	Lift share scheme	2019	On-going	SMBC, NEC, Birmingham airport, B'ham Business Park, Resorts World	n/a	No	n/a	< £10k/£10k	On going	Reduced vehicle emissions	Reduced vehicle emissions	Low uptake	Low uptake
11	WOW (walk to school at least once a week)	Promoting travel alternatives	Promotion of walking	2020	On-going	SMBC	n/a	No	n/a	< £10k/£10k	On-going	Reduced vehicle emissions	Reduced vehicle emissions	Good uptake	Encourage walking

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Fundin g	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
12	Berkswell traffic calming	Promoting travel alternative	Promotion of walking	2021	2022	SMBC/TfWM better Street's fund	TfWM	No	Funded	£500k/£500	completed	Reduced vehicle emission	Reduced vehicle emission	completed	Will encourage walking due to increased road safety
13	CAV trials	Promoting Low Emission Transport	other	2021	2023	SMBC/ GBSLEP and private company	West Midlands Combined Authority/GBSLE P	No	Funded	£500k/£500k	Partly implemented	Reduced vehicle emissions	Trials completed to date	more planned for 2023	none
14	Wildlife ways	Promoting travel alternatives	Promotion of cycling and walking	2021	2022	SMBC and ERDF	ERFD	No	n/a	£10m/ > £10m	completed	Reduced vehicle emissions	Reduced vehicle emissions	completed	Encourage uptake of cycling
15	Capability fund	Promoting travel alternatives	Promotion of cycling and walking	2022	2022	SMBC/TfWM	TfWM	No	n/a	£100k-£500	completed	Reduced vehicle emissions	Reduced vehicle emissions	completed	Encourage uptake of cycling

$PM_{2.5}$ – 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 $PM_{2.5}$ (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that $PM_{2.5}$ has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

The Defra background maps for 2022 in Solihull show very similar readings to that of 2020 and 2019 with an average annual mean of 8.4 µg/m³. No areas within Solihull are considered likely to exceed the EU Limit Value for PM $_{2.5}$ (an annual average concentration of 25 µg/m³).

The Public Health Outcomes Framework (PHOF) is a Department of Health tool which sets out key indicators on the state of public health and includes an indicator relating to air pollution from fine particulate matter,(PM $_{2.5}$) – indicator 'D01 Fraction of mortality attributable to particulate air pollution' reports the estimated fraction of all cause adult mortality attributable to anthropogenic particulate air pollution.

Latest published figures for Solihull are for 2021 and show 5.7%. This figure is slightly higher than both figures reported for the West Midlands region (5.5%) and the average figure reported for England in 2021 (5.5%).

We recognise that pollution from fine particulate matter is important. To understand the geographical distribution across the Borough we approached a local academic organisation West Midland Air (WM Air) to undertake a piece of research to explore and model the air quality context for Solihull area. The results indicate that other than the A45 area, PM $_{2.5}$ levels do not exceed the EU Limit Value for PM $_{2.5}$ (an annual average concentration of 25 µg/m³). (See 3.1.5)

Solihull is taking the following measures to address $PM_{2.5}$

Solihull Council recognises the need to monitor PM $_{2.5}$ and welcomes the introduction of targets under the Environment Bill. We will ensure that the revised Air Quality strategy planned for 2023 includes actions to develop our monitoring programme so that PM $_{2.5}$ is actively monitored providing the public with information about air quality levels in their area. The strategy will also include actions to:

- Work alongside other council departments with joint inputs into key council policies that can impact on air quality and exposure reduction. I.e. Transport strategy
- Deliver publicity campaigns throughout the year to provide information about particulate matter and the impacts of PM emissions from domestic solid fuel use, bonfires, and sales of solid fuels.
- Ensure that the Public Health perspective is integrated into the next iteration of the Local Plan including a requirement that a Health Impact Assessment is undertaken for proposed developments over a certain size.
- Continue to develop publicity campaigns about traffic idling.

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

This section sets out the monitoring undertaken within 2022 by SMBC and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2018 and 2022 to allow monitoring trends to be identified and discussed. Many tube sites do not have long term data for trend analysis, but this is to be addressed by leaving current tubes in situ for longer periods.

Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Solihull Metropolitan Borough Council does not currently have any automatic monitoring sites.

3.1.2 Non-Automatic Monitoring Sites

Solihull MBC undertook non- automatic (i.e. passive) monitoring of NO_2 at 30 sites during 2022. Table A.2 in Appendix A presents the details of the non-automatic sites. There was a total of 46 monthly tubes with eight of these sites accommodating triplicate tubes (these are along the A45 following a ministerial direction).

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including bias adjustments and any other adjustments applied (e.g. annualisation and/or distance correction), are included in Appendix C.

3.2 Individual Pollutants

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

3.2.1 Nitrogen Dioxide (NO_2)

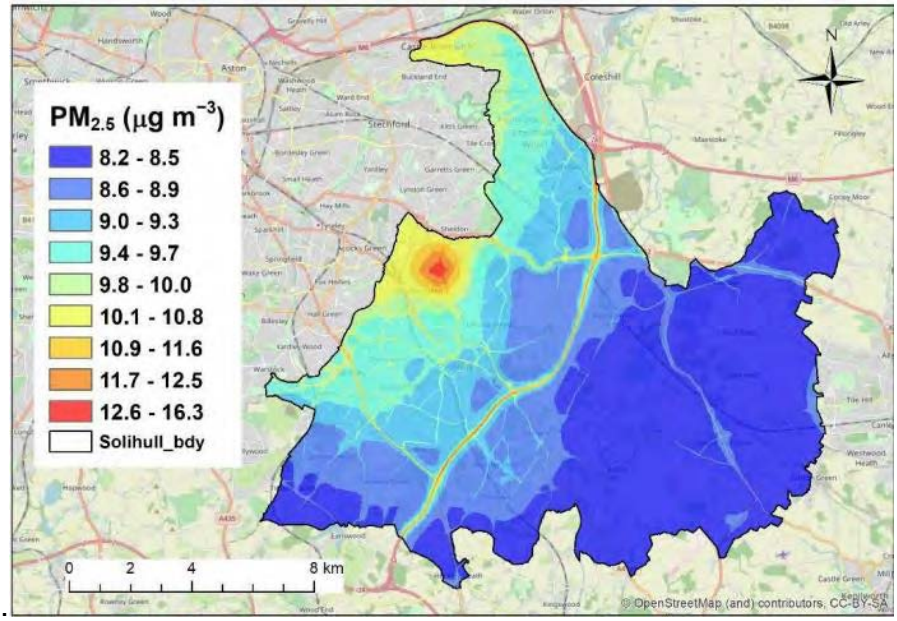
Table A. 4 in Appendix A compares the ratified and adjusted monitored NO_2 annual mean concentrations for the past five years with the air quality objective of 40µg/m^3. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

For diffusion tubes, the full 2022 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

Table A.4 shows historical data and is limited to 4 years for trend analysis (and for many sites only 2 or 3 years are available for comparison). Other sites have been utilised across the borough, since 2017/2018 however, sites were removed from the monitoring network when found to be highly compliant with objective levels. Going forwards SMBC will keep the current sites for longer periods to allow for longer term trend data to be produced.

3.2.3 Particulate Matter ($PM_{2.5}$)

As an existing West Midland Air (WM Air) partner, Solihull Council requested the WM-Air team to undertake a piece of research to use the newly developed, high resolution Atmospheric Dispersion Model (ADMS) air quality model to explore the air quality context for Solihull area. The results indicate that other than the A45 area, $PM_{2.5}$ levels do not exceed the EU Limit Value for $PM_{2.5}$ (an annual average concentration of 25 µg/m³). Although Solihull do not currently monitor this pollutant, PM will be reviewed in 2023 as an integral element of the Solihull Air Quality Strategy review



Appendix A: Monitoring Results

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

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
AB1	Kingsleigh Drive	Roadside	414297	289963	NO2	Not in AQMA	0.0	11.4	No	1.9
AB4	Olton Library	Roadside	413337	282206	NO2	Not in AQMA	0.0	5.6	No	1.9
AB5	Elm Farm Avenue	Roadside	417108	285417	NO2	Not in AQMA	0.0	15.0	No	2.1
AB6	Streetsbrook Road	Roadside	414698	279709	NO2	Not in AQMA	0.0	11.4	No	1.4
AB8	Warwick Road nursery	Roadside	415229	279699	NO2	Not in AQMA	0.0	4.8	No	2.0
AB9	Stratford Road/Haslucks Green	Roadside	411740	279645	NO2	Not in AQMA	0.0	3.2	No	2.0
AB17	New Road	Roadside	415622	279481	NO2	Not in AQMA	0.0	2.8	No	1.9
AB21	Kenilworth Road/Kelsey	Roadside	424203	276372	NO2	Not in AQMA	0.0	20.1	No	2.0
AB23	Clock Lane/Cov Road	Roadside	418494	282878	NO2	Not in AQMA	0.0	4.5	No	1.8
AB24	Stratford Road (by Costa)	Roadside	413003	277139	NO2	Not in AQMA	0.0	10.6	No	1.9

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
AB28 AB29 AB30	Clock Lane	Roadside	418505	282921	NO2	Not in AQMA	40.0	3.3	No	2.3
AB31 AB32 AB33	A45 Nr Tristar	Roadside	417400	283121	NO2	Not in AQMA	24	4.0	No	2.4
AB34 AB35 AB36	A45 Nr Arden A	Roadside	419213	283020	NO2	Not in AQMA	72	4.3	No	2.1
AB37 AB38 AB39	A45/Old Damson Lane A B C	Roadside	417223	283137	NO2	Not in AQMA	0.0	6.9	No	1.6
AB40 AB41 AB42	Church Lane A	Roadside	419242	282980	NO2	Not in AQMA	125	3.1	No	2.4
AB43 AB44 AB45	Church Lane 2 A	Roadside	419500	283004	NO2	Not in AQMA	220	3.1	No	2.4
AB46 AB47 AB48	A45 Longacre A	Roadside	419285	283022	NO2	Not in AQMA	35	1.0	No	2.4
AB49 AB50 AB51	A45/Goodway	Roadside	416277	283691	NO2	Not in AQMA	0.0	7.1	No	2.0
AC1	Orkney Close	Roadside	417716	289086	NO2	Not in AQMA	0.0	2.6	No	1.9
AC2	Kenilworth Road/Centre	Roadside	423881	277290	NO2	Not in AQMA	0.0	12.7	No	1.9
AC3	Kelsey Lane	Roadside	424383	276289	NO2	Not in AQMA	0.0	17.3	No	1.7
AC4	Bosworth Drive	Roadside	417180	286880	NO2	Not in AQMA	0.0	8.2	No	1.9

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
AC5	Longmore Road	Roadside	412965	278406	NO2	Not in AQMA	0.0	5.9	No	1.9
AC6	Lode Lane by JLR	Roadside	415001	281564	NO2	Not in AQMA	0.0	10.3	No	1.7
AC7	Old Lode Lane	Roadside	414902	282623	NO2	Not in AQMA	0.0	12.3	No	1.7
AC8	Ryeclose Croft	Roadside	418682	287390	NO2	Not in AQMA	0	7.8	No	1.9
AC9	Whitefields Road	Roadside	414649	278700	NO2	Not in AQMA	0	17.5	No	1.9
AC10	Darlaston Row	Roadside	423982	282211	NO2	Not in AQMA	0	2.3	No	1.9
AC11	Old Damson Lane/opp JLR dist centre	Roadside	416984	282619	NO2	Not in AQMA	0.0	12.2	No	1.7
AC12	Hurdis Road	Roadside	411493	278780	NO2	Not in AQMA	0.0	11.1	No	1.7

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2022 (%) [2]	2018	2019	2020	2021	2022
AB1	414297	289963	Roadside		100		21.2	16.7	17.9	17.0
AB4	413337	282206	Roadside		100	29.3	27.0	22.0	22.9	22.2
AB5	417108	285417	Roadside		100	20.2	18.8	15.3	15.0	14.6
AB6	414698	279709	Roadside		100		21.9	17.0	18.9	18.6
AB8	415229	279699	Roadside		100		24.8	20.5	23.0	20.4
AB9	411740	279645	Roadside		100	33.8	31.2	25.1	26.2	25.2
AB17	415622	279481	Roadside		100		26.1	17.2	19.8	19.4
AB21	424203	276372	Roadside		100		17.8	10.3	10.6	10.2
AB23	418494	282878	Roadside		92.3		19.5	13.2	14.5	15.7
AB24	413003	277139	Roadside		100		21.3	15.2	16.5	15.6
AB28, AB29, AB30	418505	282921	Roadside		100		21.4	15.1	22.0	22.1
AB31, AB32, AB33	417400	283121	Roadside		100		36.7	26.6	25.6	27.6
AB34, AB35, AB36	419213	283020	Roadside		100		**49.9**	32.8	32.0	34.9
AB37, AB38, AB39	417223	283137	Roadside		100		29.4	21.3	22.5	21.6
AB40, AB41, AB42	419242	282980	Roadside		100		39.2	23.8	26.3	27.7

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2022 (%) [2]	2018	2019	2020	2021	2022
AB43, AB44, AB45	419500	283004	Roadside		100		**43.8**	27.2	29.9	31.1
AB46, AB47, AB48	419285	283022	Roadside		100		**55.3**	36.3	34.4	**46.3**
AB49, AB50, AB51	416277	283691	Roadside		100		22.2	17.7	17.2	16.5
AC1	417716	289086	Roadside		90.4			18.0	19.8	18.1
AC2	423881	277290	Roadside		92.3			12.1	12.3	12.8
AC3	424383	276289	Roadside		100			10.1	10.9	10.4
AC4	417180	286880	Roadside		100			16.8	17.1	16.5
AC5	412965	278406	Roadside		100			15.9	17.1	16.4
AC6	415001	281564	Roadside		100			15.7	16.6	15.1
AC7	414902	282623	Roadside		100			19.2	20.9	19.6
AC8	418682	287390	Roadside		100			16.7	17.8	16.4
AC9	414649	278700	Roadside		100			10.8	11.2	11.2
AC10	423982	282211	Roadside		100			18.2	18.7	20.5
AC11	416984	282619	Roadside		92.3				12.6	12.6

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2022 (%) [2]	2018	2019	2020	2021	2022
AC12	411493	278780	Roadside		100				12.2	12.0

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

☒ **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^3.

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

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

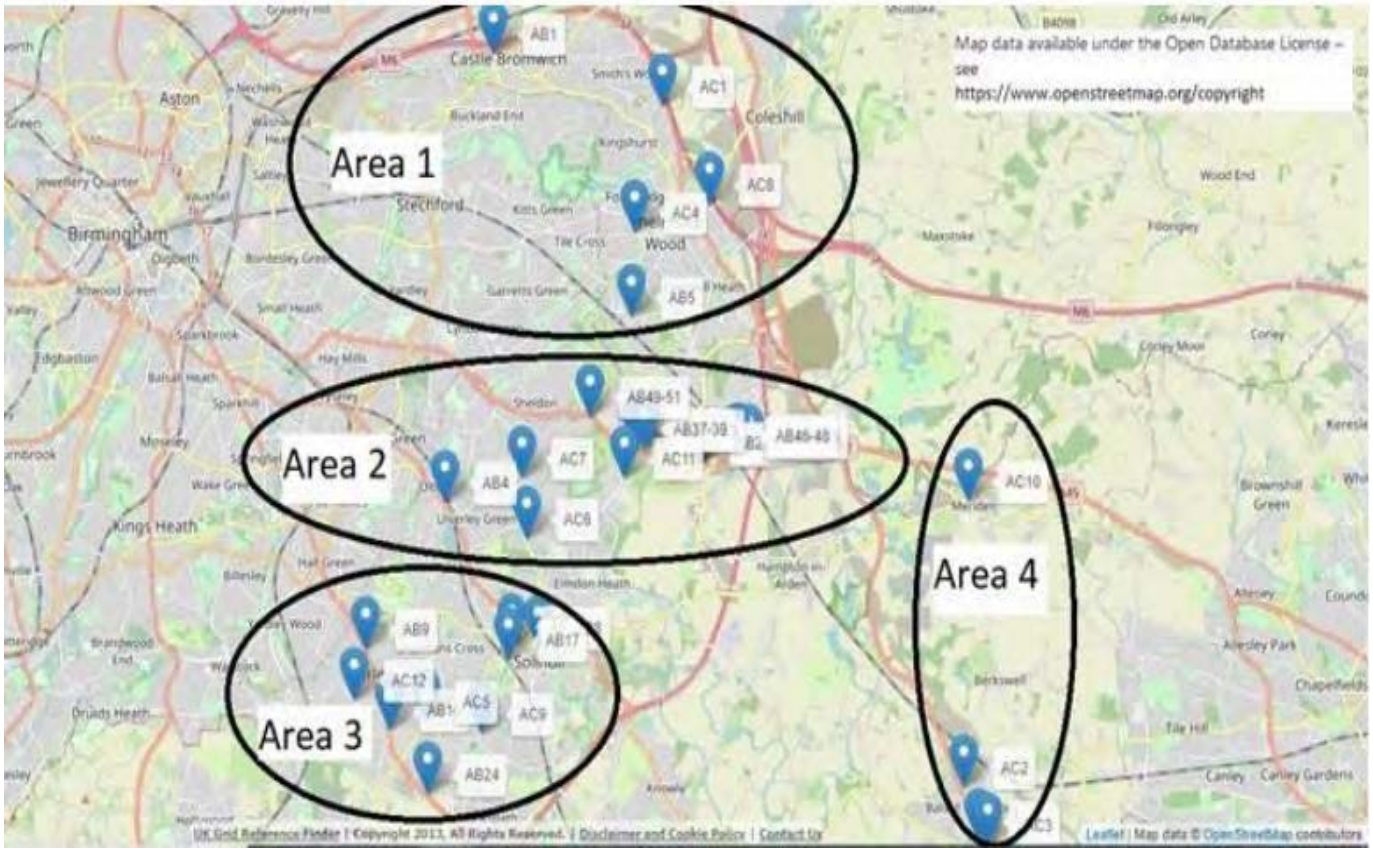
Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

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

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

Figure A.1 – Trends in Annual Mean NO_2 Concentrations

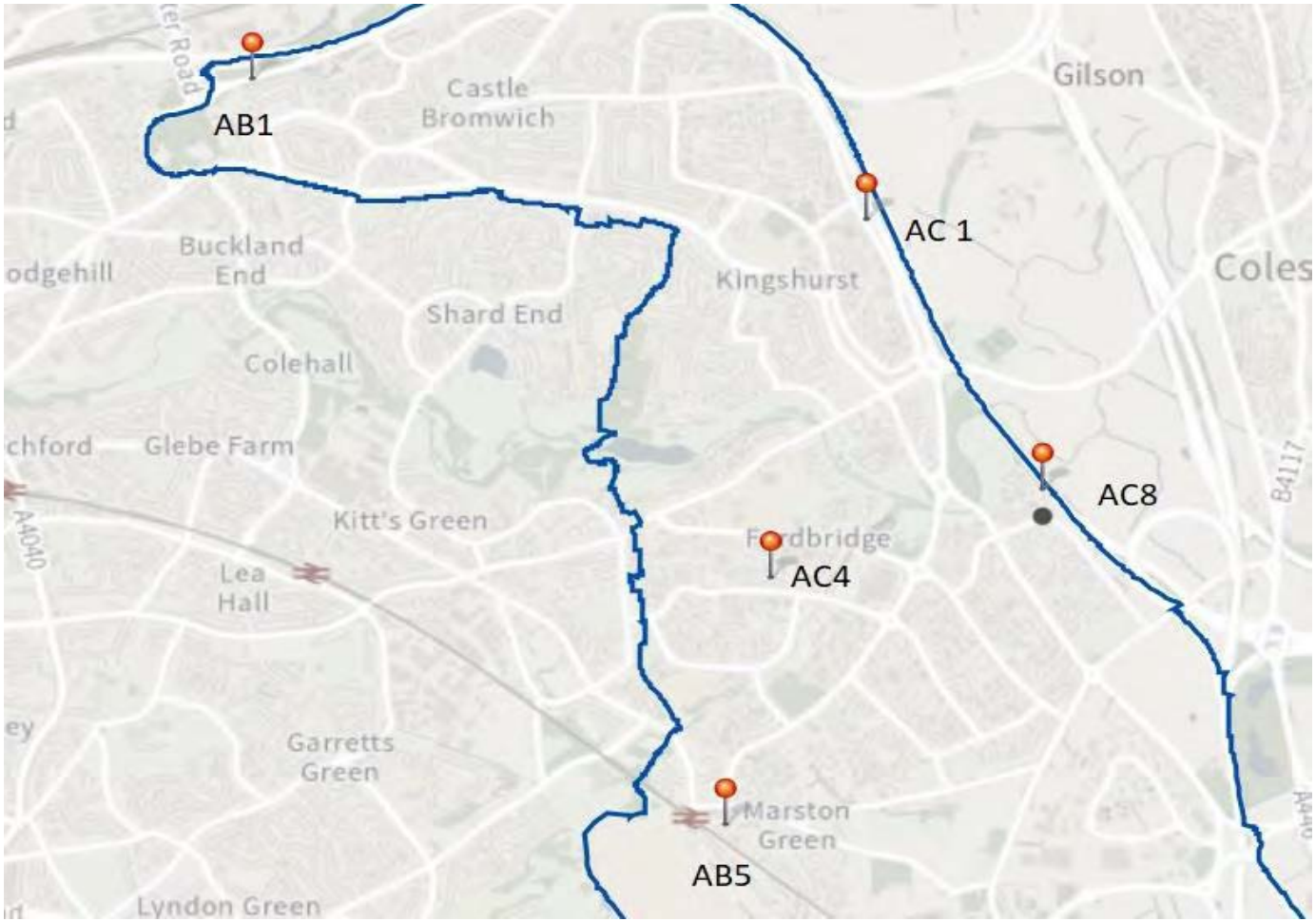
Fig 1 identifies the locations of diffusion tubes across Solihull. For ease the locations of tubes have been grouped into 4 areas.



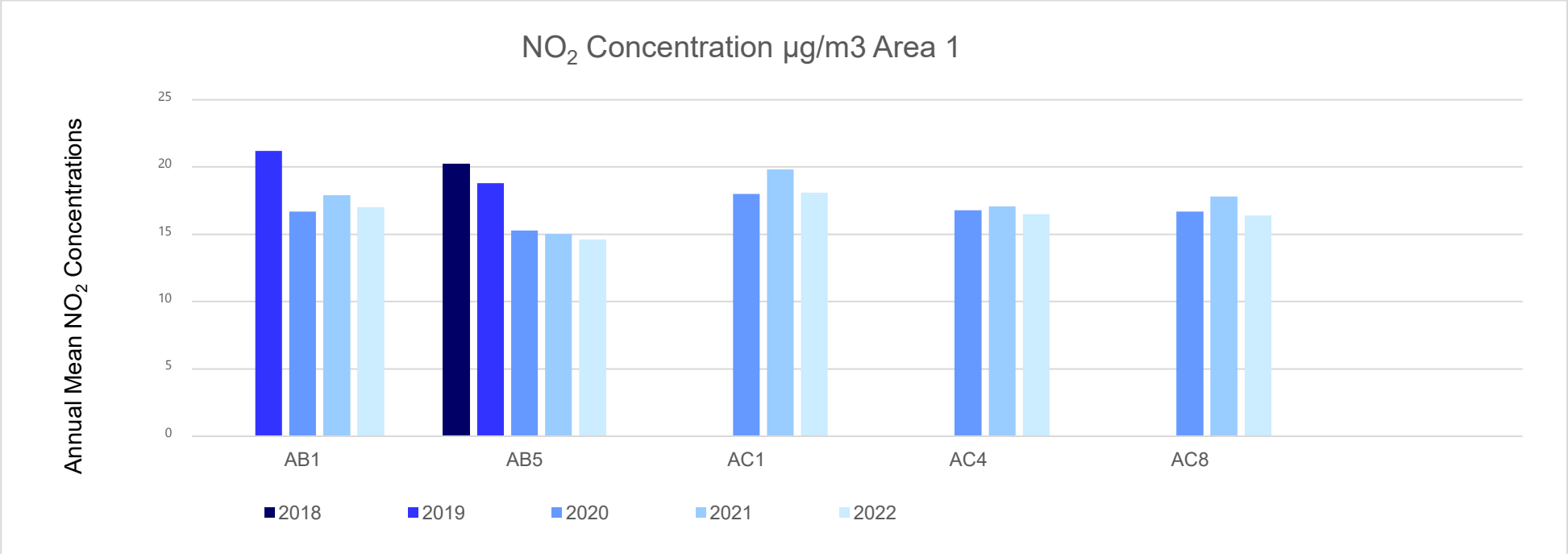
Area 1 Tubes

Levels are well below the NO_2 Air Quality Objective level (40 µg/m3) and are down from last year's figures.

Location map for area 1 tubes



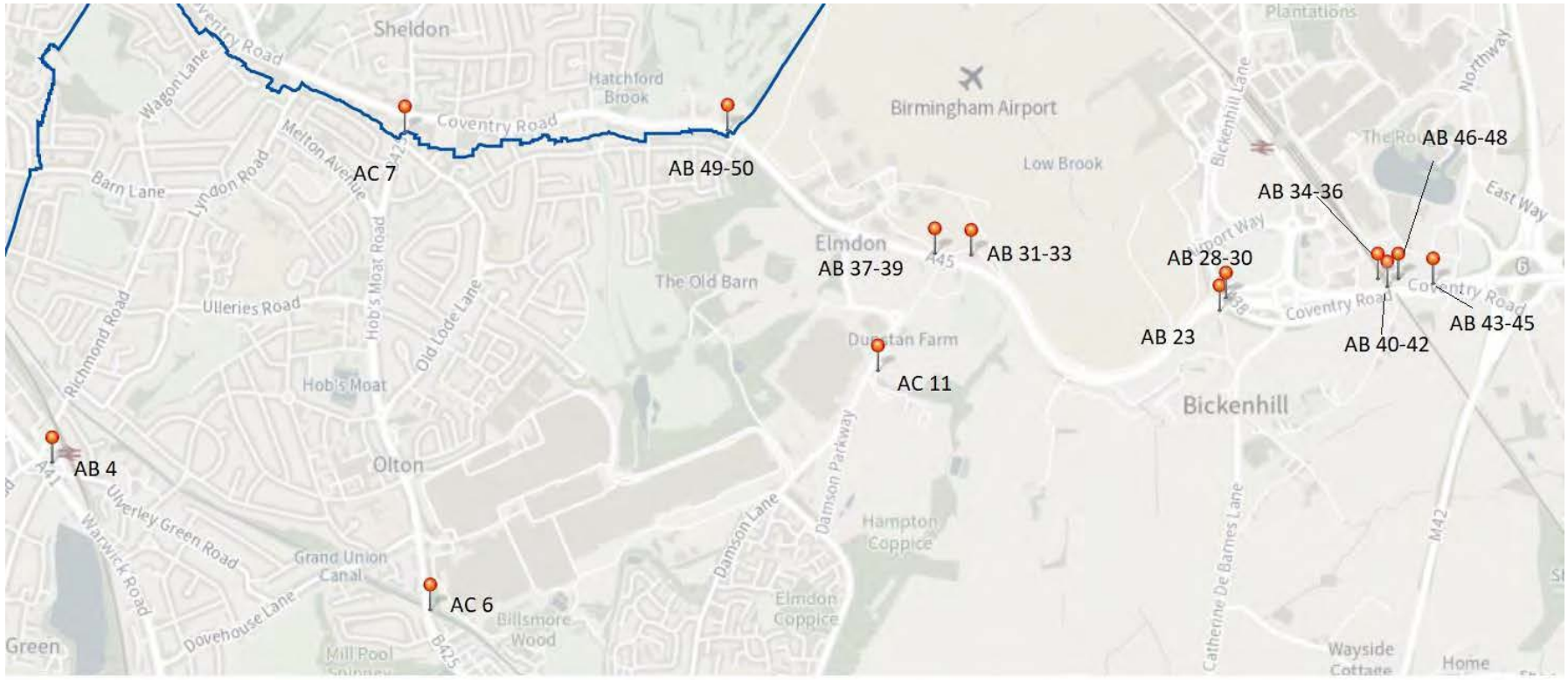
Trend results for area 1



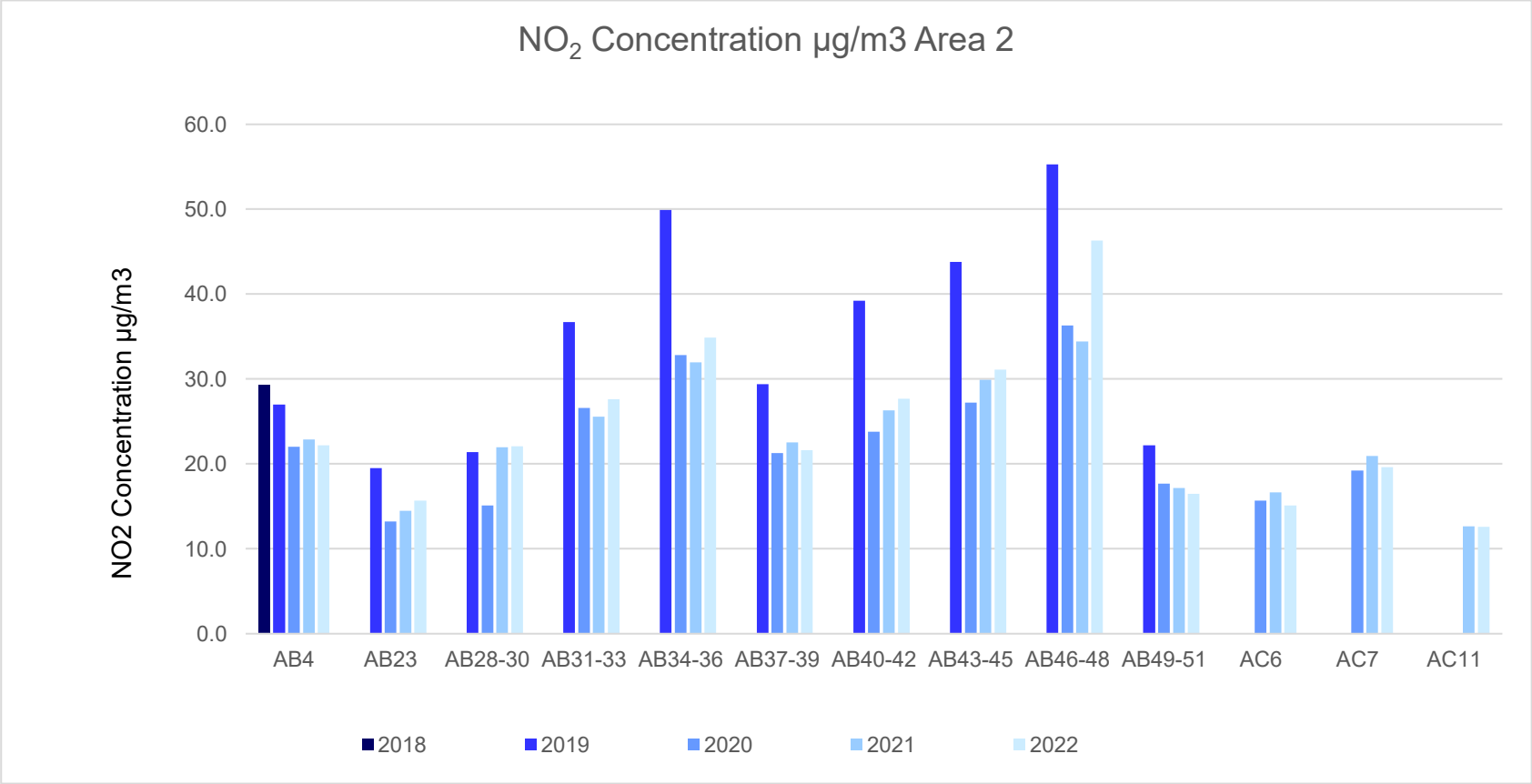
Area 2 Tubes

One triplicate site is higher than the mean objective. (AB46-48) prior to distance correction. This site however has no nearby receptors and was positioned as part of the Ministerial Direction along the A45.

Location map for area 2 tubes

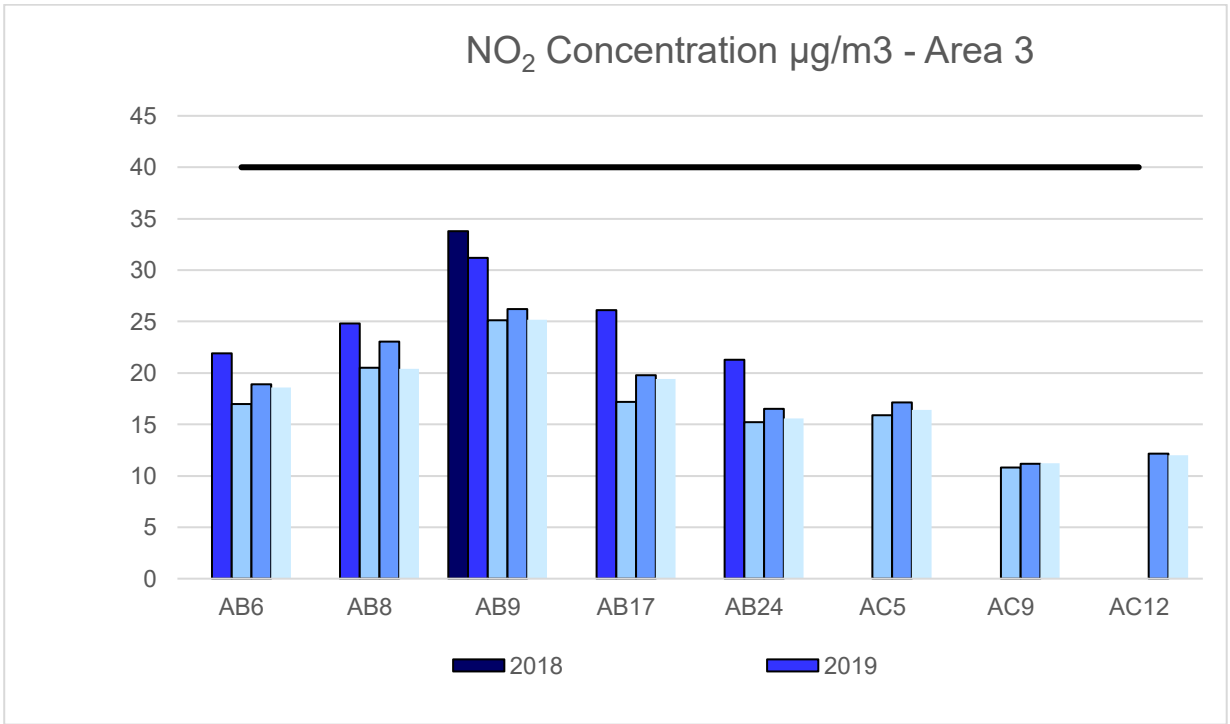


Trend graph for area 2



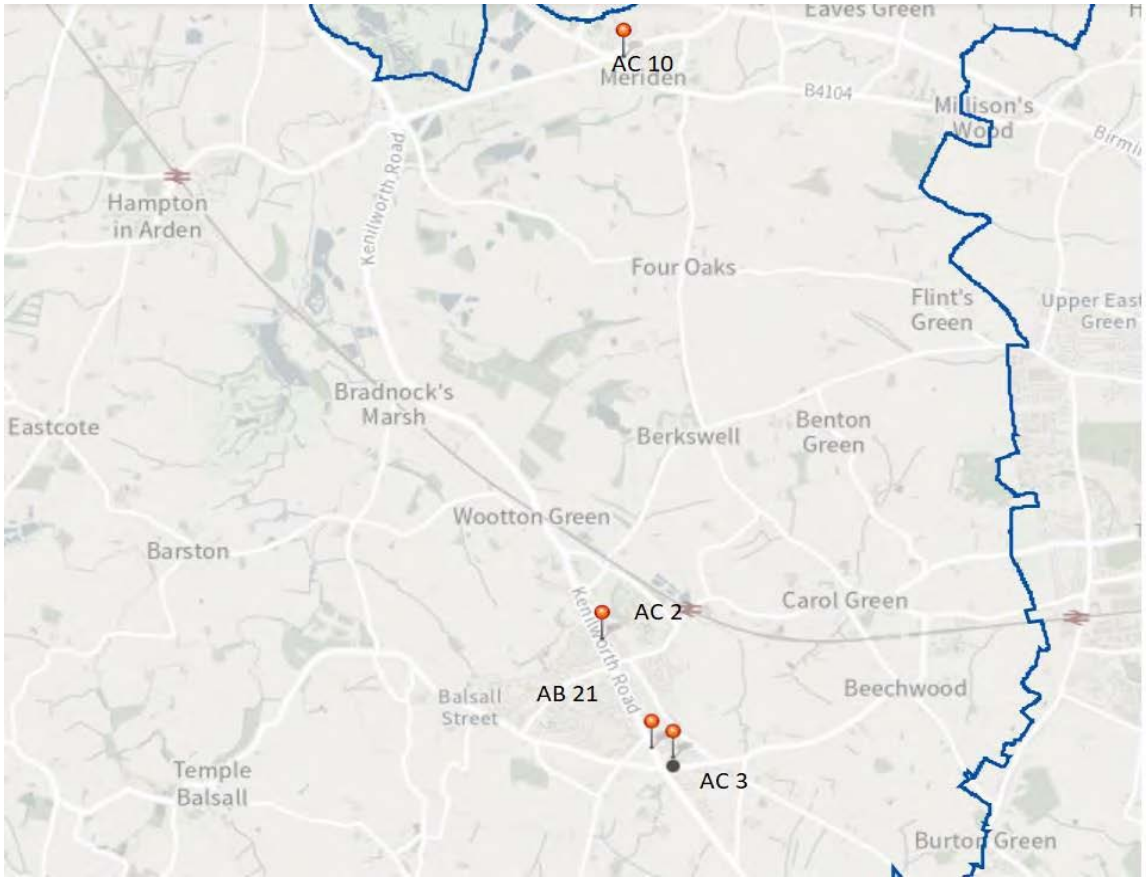
Location map for area 3 tubes

Trend Graph for area 3

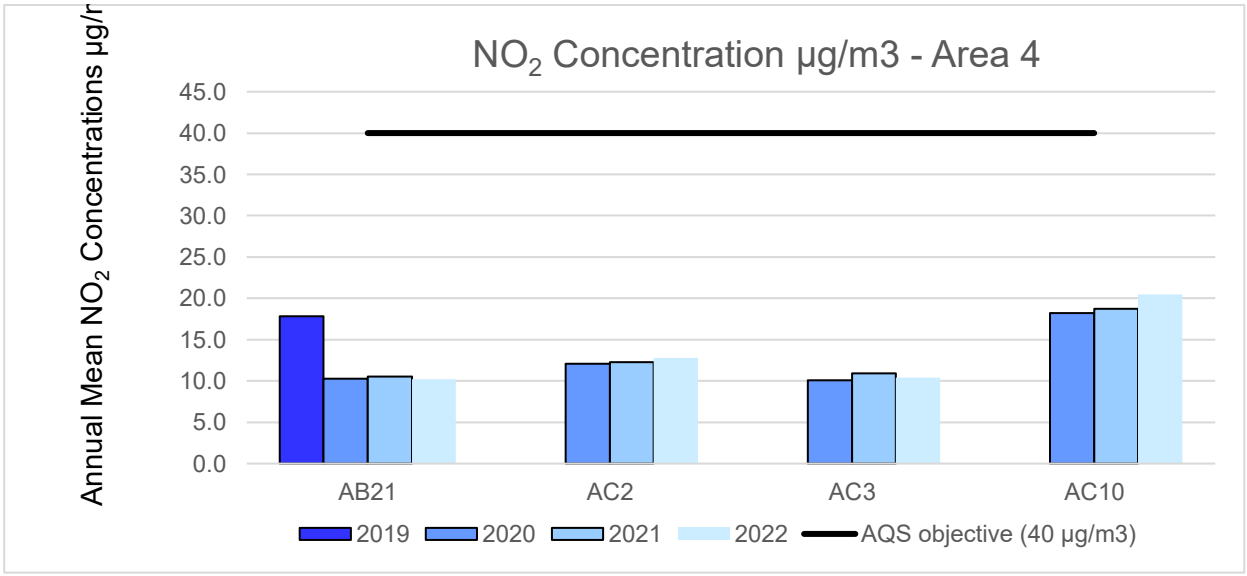


Levels are well below the NO2 Air Quality Objective level (40 µg/m3.

Location map for area 4 tubes



Trend graph for area 4



Levels are well below the NO_2 Air Quality Objective level (40 µg/m3) and since 2019 have been below half that value (20 µg/m3).

Appendix B: Full Monthly Diffusion Tube Results for 2022

Table B.1 – NO_2 2022 Diffusion Tube Results (µg/m^3)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(0.82)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
AB1	414297	289963	34.2	18.7	26.5	20.2	14.4	15.6	14.8	21.3	21.7	17.8	18.0	25.9	20.7	17.0	-	
AB4	413337	282206	37.2	22.0	31.7	23.2	21.0	21.6	24.2	28.7	29.4	25.1	28.6	32.6	27.1	22.2	-	
AB5	417108	285417	26.3	15.8	24.0	14.7	12.7	14.6	13.6	16.5	19.1	19.3	21.0	15.7	17.8	14.6	-	
AB6	414698	279709	26.4	21.0	27.0	22.1	17.8	18.3	18.6	22.3	22.7	22.5	25.4	27.8	22.6	18.6	-	
AB8	415229	279699	34.3	20.6	33.2	28.7	19.8	16.6	19.9	24.6	25.4	20.0	22.6	32.9	24.9	20.4	-	
AB9	411740	279645	42.5	31.5	32.9	27.5	24.2	25.4	26.5	31.1	30.4	27.1	31.6	37.4	30.7	25.2	-	
AB17	415622	279481	35.5	21.9	30.0	21.5	17.8	18.6	18.3	23.4	24.6	19.0	24.8	29.3	23.7	19.4	-	
AB21	424203	276372	24.6	13.6	17.3	12.2	6.9	6.6	8.3	10.3	11.7	9.3	11.5	17.1	12.4	10.2	-	
AB23	418494	282878	25.6	14.5	20.9	29.3	12.8		15.7	19.6	21.1	14.1	14.8	22.7	19.2	15.7	-	
AB24	413003	277139	26.3	14.8	24.5	18.5	13.9	16.0	16.5	19.3	19.3	16.7	17.4	25.4	19.0	15.6	-	
AB28	418505	282921	37.9	21.4	31.8	27.2	21.3	22.7	22.7	30.3	30.6	21.0	22.6	31.2	-	-	-	Triplicate Site with AB28, AB29 and AB30 - Annual data provided for AB30 only
AB29	418505	282921	38.6	22.5	31.0	33.0	22.1	23.3	23.8	30.2	31.9	21.8	26.4	29.6	-	-	-	Triplicate Site with AB28, AB29 and AB30 - Annual data provided for AB30 only
AB30	418505	282921	33.3	21.9	30.3	19.2	22.5	22.0	24.8	32.5	30.3	20.5	24.2	33.8	26.9	22.1	-	Triplicate Site with AB28, AB29 and AB30 - Annual data provided for AB30 only
AB31	417400	283121	40.2	27.2	39.5	26.0	29.3	29.4	29.0	32.2	33.8	31.0	35.0	34.7	-	-	-	Triplicate Site with AB31, AB32 and AB33 - Annual data provided for AB33 only
AB32	417400	283121	45.4	30.6	41.0	28.0	29.7	29.0	29.4	34.6	33.5	32.8	38.6	38.4	-	-	-	Triplicate Site with AB31, AB32 and AB33 - Annual data provided for AB33 only
AB33	417400	283121	41.7	30.4	40.8	28.7	30.7	31.7	29.0	33.8	35.2	32.9	37.6	39.8	33.6	27.6	-	Triplicate Site with AB31, AB32 and AB33 - Annual data provided for AB33 only
AB34	419213	283020	49.4	35.8	49.5	32.9	36.9	45.3	41.5	45.3	42.0	41.6	49.1	43.7	-	-	-	Triplicate Site with AB34, AB35 and AB36 - Annual data provided for AB36 only
AB35	419213	283020	49.5	36.8	22.2	31.1	40.2	45.3	42.8	46.1	41.3	46.0	46.2	45.0	-	-	-	Triplicate Site with AB34, AB35 and AB36 - Annual data provided for AB36 only
AB36	419213	283020	46.7	42.9	46.9	36.4	39.2	46.9	36.2	42.8	39.5	46.9	50.2	51.8	42.5	34.9	-	Triplicate Site with AB34, AB35 and AB36 - Annual data provided for AB36 only
AB37	417223	283137	34.3	19.5	31.1	26.7	20.0	22.2	22.5	29.1	29.5	22.3	26.1	30.0	-	-	-	Triplicate Site with AB37, AB38 and AB39 - Annual data provided for AB39 only

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(0.82)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
AB38	417223	283137	36.7	20.8	32.8	23.6	20.2	23.4	25.0	28.5	30.0	24.3		31.0	-	-	-	Triplicate Site with AB37, AB38 and AB39 - Annual data provided for AB39 only
AB39	417223	283137	34.0	17.4	29.7	23.3	20.4	22.3	24.1	28.8	30.3	23.8	25.7	31.6	26.3	21.6	-	Triplicate Site with AB37, AB38 and AB39 - Annual data provided for AB39 only
AB40	419242	282980	39.1	24.0	42.4	36.4	26.7	28.6	30.5	41.3	43.0	26.7	28.8	38.7	-	-	-	Triplicate Site with AB40, AB41 and AB42 - Annual data provided for AB42 only
AB41	419242	282980	41.3	21.9	42.4	37.4	25.5	29.2	30.0	44.4	41.9	22.0	29.2	32.8	-	-	-	Triplicate Site with AB40, AB41 and AB42 - Annual data provided for AB42 only
AB42	419242	282980	38.1	26.2	42.5	35.4	27.8	29.9	34.1	44.2	43.5	24.8	30.8	33.9	33.8	27.7	-	Triplicate Site with AB40, AB41 and AB42 - Annual data provided for AB42 only
AB43	419500	283004	41.7	29.8	41.8	42.9	33.5	34.3	38.2	48.0	48.4	27.6	33.6	40.5	-	-	-	Triplicate Site with AB43, AB44 and AB45 - Annual data provided for AB45 only
AB44	419500	283004	41.1	22.7	43.3	44.2	32.6	34.0	37.2	52.1	47.1	31.7	33.2	37.0	-	-	-	Triplicate Site with AB43, AB44 and AB45 - Annual data provided for AB45 only
AB45	419500	283004	43.8		39.6	38.0	31.8	35.4	38.6	48.9	46.0	27.9	32.6	41.1	37.9	31.1	-	Triplicate Site with AB43, AB44 and AB45 - Annual data provided for AB45 only
AB46	419285	283022	53.5	36.3	50.5	37.4	42.6	49.5	456.7	49.1	49.3	44.5	53.1	44.4	-	-	-	Triplicate Site with AB46, AB47 and AB48 - Annual data provided for AB48 only
AB47	419285	283022	49.1	37.4	52.3	37.3	44.2	45.9	32.5	47.0	48.4	43.6	44.6	43.8	-	-	-	Triplicate Site with AB46, AB47 and AB48 - Annual data provided for AB48 only
AB48	419285	283022	51.0	40.1	52.0	38.4	43.5	46.0	44.1	44.3	45.9	47.5	49.0	40.1	45.1	**37.0**	24.1	Triplicate Site with AB46, AB47 and AB48 - Annual data provided for AB48 only
AB49	416277	283691	31.4	21.1	27.0	19.8	12.1	12.1	13.5	18.9	18.5	16.7	22.0	28.1	-	-	-	Triplicate Site with AB49, AB50 and AB51 - Annual data provided for AB51 only
AB50	416277	283691	32.5	18.2	27.6	20.0	12.7	12.6	13.1	18.7	19.2	16.0	22.2	29.1	-	-	-	Triplicate Site with AB49, AB50 and AB51 - Annual data provided for AB51 only
AB51	416277	283691	32.4	20.9	27.3	18.9	12.6	12.4	13.8	19.0	18.9	16.5	23.0	27.5	20.2	16.5	-	Triplicate Site with AB49, AB50 and AB51 - Annual data provided for AB51 only
AC1	417716	289086	30.5	17.8	31.2	27.0	15.9	13.3	17.3	25.3	21.5	20.5	22.0		22.0	18.1	-	
AC2	423881	277290	22.6	12.1	22.3	14.3	9.3		10.5	15.2	13.0	13.0	17.7	21.6	15.6	12.8	-	
AC3	424383	276289	19.2	9.5	17.6	11.4	8.9	8.7	10.2	12.7	12.5	11.1	13.5	17.3	12.7	10.4	-	
AC4	417180	286880	31.4	16.1	28.5	18.7	14.4	13.6	14.6	18.0	18.6	19.4	24.6	23.5	20.1	16.5	-	
AC5	412965	278406	28.5	12.3	28.1	19.7	13.9	13.9	15.1	19.0	21.4	18.4	21.8	28.1	20.0	16.4	-	
AC6	415001	281564	14.3	14.6	24.3	19.0	14.5	15.2	14.3	18.3	20.4	18.4	22.8	24.6	18.4	15.1	-	
AC7	414902	282623	32.6	18.4	27.8	23.1	18.9	18.6	20.3	24.1	25.6	21.4	25.2	30.9	23.9	19.6	-	
AC8	418682	287390	26.6	13.3	29.3	21.5	15.2	14.7	14.7	22.3	20.3	16.7	20.8	25.0	20.0	16.4		

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(0.82)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
AC9	414649	278700	21.7	10.0	19.5	11.2	9.2	10.0	10.0	12.1	13.7	12.3	13.7	20.6	13.7	11.2		
AC10	423982	282211	30.0	23.5	29.4	21.7	22.3	25.1	22.7	21.2	23.7	23.4	27.1	24.4	24.5	20.1		
AC11	416984	282619	24.5	14.3	16.9	13.9	11.2	11.0	11.3		14.6	12.9	16.1	22.0	15.3	12.6		
AC12	411493	278780	23.1	11.6	18.5	13.8	8.7	8.9	10.1	13.5	15.6	12.3	18.3	21.8	14.7	12.0		

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

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

☐ **Local bias adjustment factor used.**

☒ **National bias adjustment factor used.**

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

☒ **Solihull MBC confirm that all 2022 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System**

Notes:

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

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

See Appendix C for details on bias adjustment and annualisation.

New or Changed Sources Identified Within SMBC During 2022

There are some sources in Solihull that have been identified with a potential to impact air quality. These may include sources that are already operational, have planning permission granted or have been identified at an earlier stage of the planning process. Sources may include additional road traffic, static or standby plant, biomass, or industrial processes, etc.

The M42 Junction 6 Development Consent Order (DCO) 2020

The scheme has been in development since March 2016 with a DCO application being made at the end of 2018, with a hearing held between May and November 2019. The Examining Authority's (ExA) recommendations on the scheme were submitted to the Secretary of State (SoS) for Transport in February 2020 and the SoS's decision (one of granted consent) was published on the 21st of May 2020.

HS2

HS2 is one of the largest infrastructure projects ever undertaken in this country, and will transform connectivity and economic performance at local, regional, and national levels. Solihull will be served by a new HS2 station, which will function as a hub for the wider region; consequently, generating significant numbers of access and egress trips to destinations both in the immediate vicinity of the station, and also places further afield in the West Midlands and beyond.

To make the most of the opportunity presented by HS2, SMBC has created UK Central which is an economic development programme that seeks to capitalise on the opportunities afforded to the Borough by HS2 and wider growth plans.

While these growth and development plans provide a rare opportunity for significant economic growth and benefits for Solihull, it is vital to ensure the extra trips generated by these developments do not have an adverse impact on the transport network and environment. It is therefore important that Solihull works closely with its neighbours.

Other

Applications have been given approval for a number of large developments in the borough, these can be found by following the link below and typing in the application number PL/…../… at: https://publicaccess.solihull.gov.uk/online-applications/

APPLICATION NUMBER	SITE ADDRESS	PROPOSAL	DECISION
PL/2021/01593/VAR	The Green, Stratford Road, Shirley.	Variation of Condition 1 of Planning Permission PL/2018/02731/MAJFOT dated: 28.03.2019 for A hybrid planning application for the demolition of the existing buildings; an outline planning application for up to No. 330 (C3) residential dwellings and for up to 100,000 square feet (GIA) of car dealerships including MOT facilities (Sui generis) with all matters reserved apart from access and scale; and a full planning application for No. 242 (C3) residential dwellings and a full planning application for a single car dealership including MOT facilities (Sui generis) including a new vehicular access from Dog Kennel Lane, a new vehicular access from the existing A34 Cranmore Boulevard roundabout, tree removal works, landscaping,	Approved 16.06.22

		infrastructure upgrades and drainage works. NAMELY: Addition of external balconies to apartment blocks (plots 1-86).	
PI/2021/02574/VAR	The Green, Stratford Road, Shirley.	Variation of condition 1 of planning permission PL/2019/00710/PPFL dated 05.06.2019 for the development of a 68-unit extra care accommodation building (Use Class C2), with formation of new vehicular and pedestrian access, removal of trees, landscaping and formation of a swale. Namely: Internal changes to replace apartments with additional communal facilities, resulting in reduction to 67 apartments. Addition of roof terrace on third floor and associated elevation changes, alteration to buggy store and addition of gym/yoga studio.	Approved 11.02.22
PL/2021/02748/VAR	Princes Gate, Homer Road, Solihull.	Variation of condition 1 of planning permission PL/2019/01930/PPFL dated: 22.05.2020 for construction of apartment building above existing reorganised basement and lower ground floor car park to deliver 5 storeys of 60 new residential apartments. Namely: Relocation of cycle store, amendments to stair/lift core, new structural columns, amendments to apartment layouts, balcony, and window rearrangement, increase in size of apartment adjacent to roof terrace and addition of roof plant as set out within planning statement.	Approved 22.02.22
PL/2021/02796/PPRM	Sub Phase F, The Green, Stratford Road, Shirley.	Reserved matters consent sought for the development of 73 dwellings within sub-phase F of Plot 3 on the outline site, including public open space, SUDs attenuation pond, with play facilities to be provided alongside cycle and pedestrian routes, required by condition No. 3 relating to the reserved matters of layout, appearance and landscaping pursuant to planning permission reference PL/2018/02731/MAJFOT.	Approved 15.07.22
PL/2021/03190/VAR	The Green, Stratford Road, Shirley.	Variation of Condition 1 of planning permission PL/2018/02731/MAJFOT dated: 28.03.2019 for: A hybrid planning	Approved 13.04.22

		application for the demolition of the existing buildings; an outline planning application for up to No. 330 (C3) residential dwellings and for up to 100,000 square feet (GIA) of car dealerships including MOT facilities (Sui generis) with all matters reserved apart from access and scale; and a full planning application for No. 242 (C3) residential dwellings and a full planning application for a single car dealership including MOT facilities (Sui generis) including a new vehicular access from Dog Kennel Lane, a new vehicular access from the existing A34 Cranmore Boulevard roundabout, tree removal works, landscaping, infrastructure upgrades and drainage works. Namely: Substitute the approved plans for a Nissan dealership, with plans for a proposed Land Rover dealership, and other associated changes.	
PL/2021/03201/PPOL	The Green, Stratford Road, Shirley.	Outline planning application for the development of up to 110 (C3) residential dwellings with all matters reserved apart from access and scale.	Approved 13.04.22
PL/2022/00877/PPRM	Plot 4 West, The Green, Shirley.	Reserved matters consent sought for the development of 109 dwellings within the outline site required by condition No. 3 relating to the reserved matters of layout, appearance and landscaping pursuant to planning permission reference PL/2021/03201/PPOL.	Approved 03.11.22
PL/2019/02546/PPOL	Land Rear Of 86 Meriden Road, Hampton In Arden.	Outline application for residential development of up to 109 units with associated access and public open space (landscaping, appearance, layout, and scale reserved for future determination).	Approved 18.05.22
PL/2020/01273/PPOL	Homer House, 8 Homer Road, Solihull.	Outline application for demolition of Homer House and removal of portacabin buildings at rear. Redevelopment of site with two separate buildings containing total of 72 one and two bedroomed apartments with access from Homer Road and 27 parking spaces at ground level. Roof top gardens and amenity space on each building and	

		landscaping on the north and west elevations of block 1. Layout, scale, landscaping (insofar as it relates to landscaping on blocks 1 and 2) and access not reserved. Landscaping (other than landscaping on blocks 1 and 2) and appearance reserved for later approval	
PL/2021/02572/MAJFDW	Lakeside, 32 Townshend Grove, Kingshurst.	Demolition of existing building and development of 28 No. dwellings including associated roads and parking.	Approved 15.12.22
PL/2021/01418/PPFL	Cheswick Green Primary School, Cheswick Way, Cheswick Green.	Expansion of the existing 1FE primary school to form a new 2FE school for 420 pupils ranging from Reception to Year 6. In addition to the 420-pupil intake, there will be 30 pre-school and 60 nursery children attending the school as a result of the proposal. The existing school site area will increase to 19,828m2 from 16,305m2. The proposal will consist of an additional 5 new class bases for year 1 to year 6. An additional reception class base and extended nursery provision together with internal alterations, additional on staff site parking provision an external enclosed MUGA and minor reconfiguration of the external play space for the KS1 play areas and access paths. The proposal will also seek permission for a temporary access route to be established via Creynolds Lane from the east of the site via the existing adjacent field next to the school sports field.	Approved 10.03.22
PL/2021/02319/PPFL	Bracey Business Park, St. Peters Lane, Bickenhill.	Partial demolition and alteration of existing retail/nursery buildings and conversion to offices with the erection of 6 No. new self-contained business units to be used as: Unit 1 (Light Industrial), Unit 2 (Light Industrial), Unit 3 (Light Industrial), Unit 4 (Light Industrial), Unit 5 (Office), Unit 6 (Office); and associated ancillary external works.	Approved 30.06.22
PL/2021/03072/MAJFDW	Kingshurst Village Centre And Former Mountford Public House,	Demolition of existing local centre and development of new mixed-use local centre including up to 79 residential units (including a	Approved 29.04.22

	Marston Drive, Over Green Drive, Gilson Way And Church Close.	new vicarage) (Use Class C3), retail, commercial, business and services and healthcare (Use Class E (a),(b),(c),(d),(e),(f),(g)(i)), hot food take-away (Sui generis), and local community uses (Use Class F1 and F2 (a),(b)), open space, landscaping, car parking and associated infrastructure.	
PL/2022/01111/VAR	Land To The West Of Temple Lane, Temple Balsall.	Amendments to planning permission dated 09.01.2020 (PL/2019/02591/VAR). Change of use from agriculture to a green burial cemetery including landscaping and utilising existing access and car parking within adjoining burial site. Namely amend Condition 5 to allow the option of providing larger plaques of various sizes up to a maximum of 1.2m x 0.6m to be inserted below or flush with the ground level of a burial plot.	Approved 31.08.22
PL/2022/01395/PPFL	The Punch Bowl, 1 Wheeley Moor Road, Kingshurst.	Demolition of the original public house and the erection of ten semi-detached, three bedroomed, two storey dwellings.	Approved 27.10.22
PL/2022/00144/PPFL	Land At Starley Way, Bickenhill.	Demolish existing structures and develop a 4,563 sqm B8 storage and distribution building with associated Infrastructure.	Approved 05.07.22
PL/2022/00491/PPFL	Bosworth Wood Centre, Auckland Drive, Smith's Wood.	Erection of a new SEND school, including access arrangements, car parking, landscaping, amenity space, substation, plant, and other associated works.	Approved 19.07.22
PL/2021/03246/PPFL	64 - 66 Station Road, Solihull.	Full planning application for the demolition of 64-66 Station Road and redevelopment to provide gateway building with commercial space at ground floor level and up to 50 apartments with shared facilities and roof garden.	Approved 07.11.22
PL/2021/02992/PPFL	Land East and West Of Honiley Road (A4177), Honiley.	Installation of a solar farm and battery storage facility with associated infrastructure.	Approved 09/02.22
PL/2022/02106/PPFL	Solihull Hospital, Lode Lane, Solihull.	Extension of the existing hospital to provide a new elective hub, including three theatres equipped with laminar flow capabilities, three general theatres future-proofed for robotic capabilities, and supporting services.	Approved 09.12.22

Additional Air Quality Works Undertaken by SMBC During 2022

A feasibility study conducted as part of the first Ministerial Direction determined that a behavioural change programme of intensive workplace travel planning carried out with the major employees in the area of the A45 would be the best method of reducing the NO_2 in the shortest possible time. A dedicated officer continued this work throughout 2022.

In support of the objectives of the Full Business Case, the Local Plan and the Clean Air Strategy, SMBC is proposing additional complementary measures to make a positive impact on air quality in the area. These measures are in part a continuation of the behavioural change programme that was identified as part of the first Ministerial Direction, and unable to be implemented in full, due to the impacts of Covid-19. An expanded series of complementary workplace travel planning measures has been identified – both to achieve the original intent of the first series and to similarly support the second additional Ministerial Direction.

QA/QC of Diffusion Tube Monitoring

The diffusion tubes deployed by Solihull Metropolitan Borough Council are supplied and analysed by the UKAS accredited laboratory Gradko International Ltd who fully ratify the data. They participate in the Workplace Analysis Scheme for Proficiency (WASP) operated by the Health and Safety Executive.

The tubes used are 50% TEA/Acetone. As tubes are not the reference method it is necessary to bias correct the results based on national co-location studies. This factor varies each year and for 2022 the figure used was 0.82 using the overall factor shown on the National Diffusion Tube bias adjustment factor spreadsheet as shown below using spreadsheet version 3/23.

National Diffusion Tube Bias Adjustment Factor Spreadsheet — Spreadsheet Version Number: 03/23

Follow the steps below **in the correct order** to show the results of **relevant** co-location studies
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods
Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet
This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.

This spreadsheet will be updated at the end of June 2023

The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.

Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.

Step 1:	Step 2:	Step 3:	Step 4:							
Select the Laboratory that Analyses Your Tubes from the Drop-Down List	Select a Preparation Method from the Drop-Down List	Select a Year from the Drop-Down List	Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor[3] shown in blue at the foot of the final column.							
If a laboratory is not shown, we have no data for this laboratory.	The preparation method is not shown, we have no data for this method at this laboratory.	If a year is not shown, we have no data[2]	If you have your own co-location study then see footnote[4]. If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953							
Analysed By[1]	Method	Year	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m3)	Automatic Monitor Mean Conc. (Cm) (µg/m3)	Bias (B)	Tube Precision[5]	Bias Adjustment Factor (A) (Cm/Dm)
Gradko	50% TEA in acetone	2022		Overall Factor[3] (14 studies)				Use		0.82

Sites are classified as defined in the Department of Food and Rural Affairs technical guidance LAQM TG16 as follows:

- Kerbside 0-1 m of a busy road
- Roadside 1-15m of a busy road
- Urban Background distanced from the source
- Suburban residential area on outskirts of a city

Monitoring was completed in adherence with the 2022 Tube Monitoring Calendar

Diffusion Tube Annualisation

All diffusion tube monitoring locations within Solihull MBC recorded data capture of 75% or more therefore it was not required to annualise any monitoring data.

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2022 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG22 provides

guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO_2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Solihull MBC have applied a national bias adjustment factor of 0.82 to the 2022 monitoring data. A summary of bias adjustment factors used by Solihull MBC over the past four years is presented in Table C.2.

Table C.2– Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2022	National	03/23	0.82
2021	National	09/22	0.82
2020	National	06/21	0.83
2019	National	09/20	0.89

NO_2 Fall-off with Distance from the Road

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

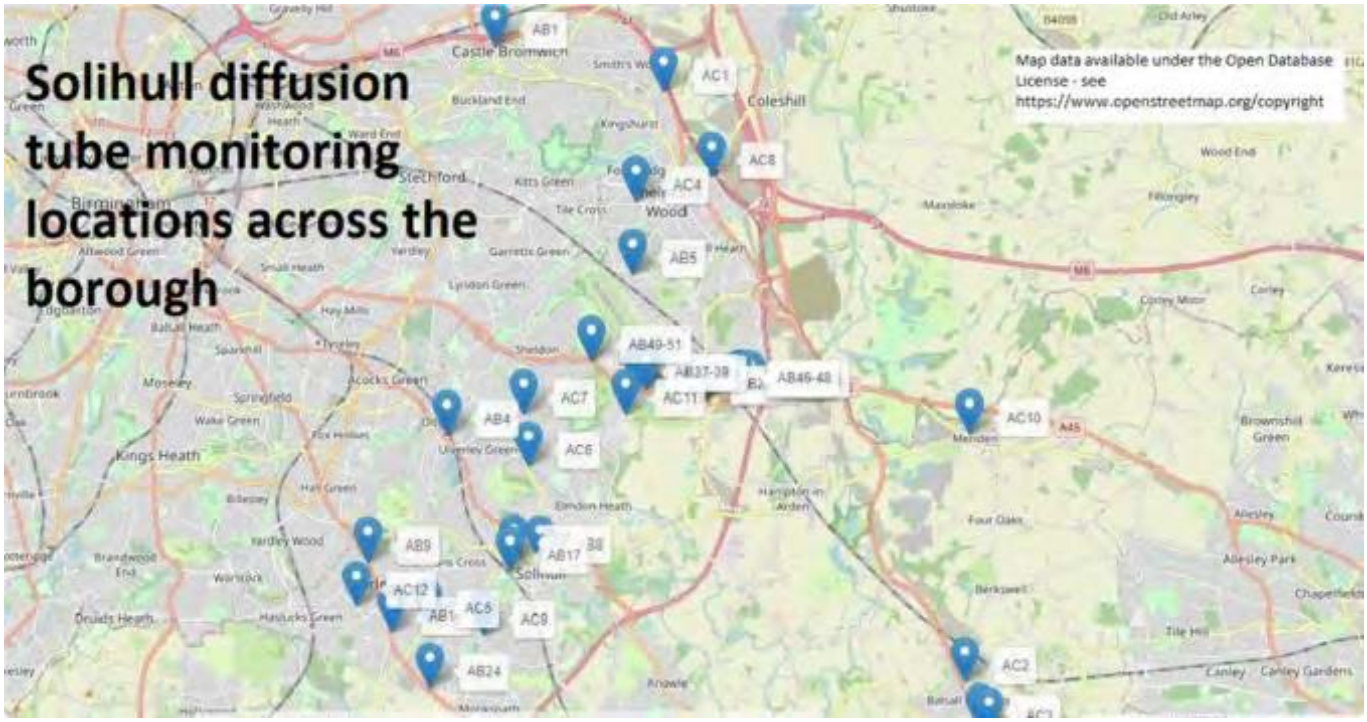
One set of triplicate tubes placed along the A45 required adjustment, but this site has no nearby receptors.

Table C.4 – NO_2 Fall off With Distance Calculations (concentrations presented in $\mu g/m^3$)

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted	Background Concentration	Concentration Predicted at Receptor	Comments
AB46-48	1	35	31.1	19.2	26.7	The nearest receptor is over 20m away so result may not be accurate

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

Figure D.1 – Map of Non-Automatic Monitoring Site



Appendix E: Summary of Air Quality Objectives in England

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

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

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

Glossary of Terms

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

References

- Local Air Quality Management Technical Guidance LAQM.TG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.