Lichfield District Council

2025 Air Quality Annual Status Report (ASR)

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

Date: 20 June 2025

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Local Responsibilities and Commitment

This ASR was prepared by the Finance, Regulation & Enforcement Services Department of Lichfield District Council with the support and agreement of the following officers:

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This ASR has not been signed off by a Director of Public Health.

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Executive Summary: Air Quality in Our Area

Air Quality in Lichfield District Council

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

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

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

Table ES 1 - Description of Key Pollutants

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

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.

Conclusions and Priorities

- No exceedances were identified, either within or outside of the existing AQMA.
- Trends for measured Nitrogen dioxide (NO_2) continue to fall.
- AQMA Number 2 was revoked as was recommended in the last annual report.
- Monitoring results within the remaining AQMA were below the air quality objective, such that it is appropriate to revoke the AQMA.
- There were no monitoring results in excess of the air quality objectives outside of the remaining AQMA, so there is no requirement for an AQMA amendment or the designation of a new AQMA.
- No new developments are coming forward that will have an impact on air quality.
- Lichfield District Council requested Air Quality Action Plan (AQAP) extension on 5 November 2024 which was granted on 25 November 2024. This extension is until 1 July 2025 and is on the basis that it Lichfield District Council expected to revoke both of the AQMAs in its district. AQMA No.2 has been revoked and the data in this report supports and confirms the requirement to revoke A5 Muckley Corner AQMA No.1.
- A report to that effect will be presented to the relevant council committee at its meeting in September 2025, with formal revocation to follow.
- An update to the Air Quality Action Plan will therefore no longer be required.
- Any decision on the adoption of an Air Quality Strategy will be made once more details of the effect on Lichfield District Council of HM Government's Local government reorganisation: Policy and programme become clearer. In the meantime, Lichfield District Council will prioritise its "Top three" air quality actions as set out below and will report in detail on progress in future ASRs.
- Lichfield District Council has reviewed its diffusion tube monitoring network. As a result of the revocations, a number of sites covering the AQMAs are to be deleted; although air quality has seen a significant improvement in those areas, traffic speeds and general access to the tube locations continue to present health and safety at

work issues. The overall number of diffusion tube monitoring sites will therefore be reduced but whilst exceedances are not expected anywhere in the area, some tubes will be re-deployed to new areas in the district where development is taking place in order to maintain confidence that air quality is satisfactory across the area.

How to get Involved

Due to the main source of air pollution within Lichfield District Council being from transport sources, the easiest way for the public to get involved in aiding air quality improvements within the area would be to look at alternative modes of travel. The following are suggested alternatives to private travel that would contribute to improving air quality within the District:

Think Before You Drive

- Avoid vehicle idling and/or use of air conditioning running continuously. By switching your engine off you can save fuel, money and improve local air quality
- Consider leaving the car at home one day a week.
- Walk or cycle – From choosing to walk or cycle for your journey the number of vehicles is reduced and there is the added benefit of keeping fit and healthy. In addition, many of the cycle routes are off-road meaning you are not in close proximity to emissions from road traffic sources. Information on cycle routes within the Lichfield area is currently available on Staffordshire County Council's website at the following link, https://www.staffordshire.gov.uk/Transport/cycling/Documents/Cycling-in-Lichfield-including-Burntwood-Issue-5.pdf;

Lichfield District Council endorses the Staffordshire Air Aware website set up by Staffordshire County Council, which provides more detail on reducing reliance on personal vehicle use. This can be viewed at https://www.staffordshire.gov.uk/DoingOurBit/Get-Inspired/Clean-green-and-safe/Air-aware/Air-aware.aspx.

- Hold meetings by Conference Call by phone, Microsoft Teams or Skype rather than driving to meetings. This reduces fuel, vehicle maintenance and other travel costs, and increases productivity through reduction in hours lost through unnecessary travel.
- Facilitate Flexible Working Arrangements for staff to work remotely from home or hubs closer to home for one or more days a week thus removing or reducing

commuter journeys. This reduces congestion which has beneficial impacts for delivery times, reduced business costs and thus economic benefits. Additionally, it provides social benefits through improved work-life balance for employees and helps to improve local air quality and reduced emergency vehicle response times.

- Switch Fleet to Low or Zero Emission Vehicles: Eligible businesses, charities, and public sector organisations with off street parking for staff or vehicles fleets can apply for vouchers to redeem costs of electric vehicle charge-points. There is an approved charge points list and a list of authorised installers.

https://www.gov.uk/government/collections/government-grants-for-low-emission-vehicles#workplace-charging-scheme

- If you must drive consider fuel efficient driving advice, known as 'Smarter Driving Tips', which ultimately will save you on fuel costs and reduce your emissions. Several websites promote such advice including:

https://energysavingtrust.org.uk/advice/ecodriving/

- Avoid vehicle idling and/or use of air conditioning running continuously. By switching your engine off you can save fuel, money and improve local air quality
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https://energysavingtrust.org.uk/advice/ecodriving/

https://www.theaa.com/driving-advice/fuels-environment/drive-smart

https://www.vehicle-certification-agency.gov.uk/fcb/smarter-driving-tips.asp

Energy Efficiency

Improving the energy efficiency of your home / school / workplace will help reduce energy bills, as well as reducing emissions associated with power generation. The Energy Savings Trust (EST) which is a non-profit organisation, funded by the government and private sector can provide independent and impartial advice to help consumers in lowering emissions and cut their energy bills. For further information, visit the EST website at https://www.energysavingtrust.org.uk/

Around The Home

- Use water-based or low solvent paints, glues, varnishes and wood preservatives, look for brands with a low VOC content.
- Have your central heating system checked regularly to avoid risking exposure to toxic carbon monoxide.
- Smoke Control Areas have been declared covering the settlements of Lichfield, Burntwood, Armitage / Handsacre and Fazeley at the eastern district boundary with

Tamworth Borough Council. In a Smoke Control Area you need to make sure that any appliance is exempt or is included in the list of authorised fuels. Defra keeps a list of approved appliances and authorised fuels that are permitted for use in smoke control areas at https://smokecontrol.defra.gov.uk/appliances.php?country=england. Ready to use wood bought from a Woodsure Certified Supplier will offer the following benefits:

- Dry, ready to burn wood/logs & briquettes make any appliance more efficient.
- Burning dry wood instead of wet wood is part of the solution to reducing the impact on our environment.
- Burning wet wood increases emissions and the impact on air quality. Any appliance and chimney system will suffer from smoke produced from wet wood, which increases maintenance and repair requirements, making it harder for chimney sweeps to keep systems in safe, effective condition.
- Burning waste and treated wood (e.g., old furniture) can emit harmful fumes.

Other Considerations

- When planning days out or journeys to work, check the air pollution forecast at https://uk-air.defra.gov.uk/forecasting/
- Be energy efficient - make sure your house is well insulated and use energy efficient appliances https://www.energysavingtrust.org.uk/home-energy-efficiency
- Refrain from having bonfires or barbecues when air pollution levels are high. Furthermore, due to the COVID-19 pandemic, Lichfield District Council would discourage bonfires as they could impact upon the ability of other residents in the local area who may be isolating at home to recover from COVID-19 or residents with existing cardiovascular/respiratory conditions who may be more susceptible to infection.
- Never burn household waste, especially plastics, rubber and treated timber.
- Lichfield District Council's annual air quality reports are accessible from https://www.lichfielddc.gov.uk/downloads/download/47/air-quality-monitoring-reports.

Global Action Plan, a charity that is working for a green and thriving planet have for the first time provided a hub called the Clean Air Hub, that brings together public accessible information on air pollution all in one place. Whether you want to learn more about what air pollution is, how it affects your health, what you can do to protect yourself from it and the action you can take to tackle it, then the collection of information, resources and expert advice on the Clean Air Hub will help and inspire you to get informed and involved. The Clean Air Hub can be accessed from the following web link; https://www.cleanairday.org.uk/pages/category/clean-air-hub.

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Figures

1 Local Air Quality Management

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

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

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

2 Actions to Improve Air Quality

2.1 Air Quality Management Areas

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

A summary of AQMAs declared by Lichfield District Council can be found in Table 2.1. The table presents a description of the AQMA) that is currently designated within Lichfield District Council. Appendix D: Map(s) of Monitoring Locations and AQMAs provides a map of the AQMA and also the air quality monitoring locations in relation to the AQMA. The air quality objectives pertinent to the current AQMA designation are as follows:

- NO_2 annual mean;

As a result of measured levels being 10% or more below the NO_2 annual mean exceedance level, we propose to revoke A5 Muckley Corner AQMA no.1 (see section 3.2.1 below); AQMA No 2 has already been revoked on 11 May 2025, as measured levels there were also 10% or more below the NO_2 annual mean exceedance level over the previous 5 years.

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Number of Years Compliant with Air Quality Objective	Name and Date of AQAP Publication	Web Link to AQAP
A5 Muckley Corner AQMA no.1	01/08/2008	NO_2 Annual Mean	An area encompassing the Muckley Corner Roundabout on the A5 along with fourteen surrounding buildings.	Yes	51 µg/m^3	33 µg/m^{3*}	5	Air Quality Action Plan for AQMA 1 & AQMA 2 – Final (09/08/2019)	https://www.lichfielddc.gov.uk/downloads/file/1469/air-quality-action-plan-august-2019

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

☒ **Lichfield District Council confirm that all current AQAPs have been submitted to Defra**

* This is the maximum measured level in the AQMA adjusted for bias; this level confirms the trend that there have been no exceedances in the declared area for five years.

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

Defra's appraisal of last year's ASR concluded

- No exceedances of the Air Quality Objectives (AQOs) were identified in 2023.
- All AQMAs were compliant with relevant air quality objectives.
- AQMA No.2 was five years compliant.
- A5 Muckley Corner AQMA No.1 was four years compliant.
- The Council's proposal to revoke AQMA No.2 in the 2025 reporting year was supported but revised or additional monitoring data would be required before revocation of A5 Muckley Corner AQMA No.1 would also be supported.

Lichfield District Council requested and was granted an extension for revision and update of its Air Quality Action Plan (AQAP) on the basis that it expected to revoke both of the AQMAs in its district. AQMA No.2 has been revoked and the data in this report supports and confirms the proposal to revoke A5 Muckley Corner AQMA No.1.

As a result, Lichfield District Council expects to be able to mark its AQAP as being completed and, in the short to medium term, will now focus on the "top three" air quality initiatives (see section 2.3 - Local Authority Approach to Reducing Emissions and/or Concentrations).

In the longer term, Lichfield District Council will await the outcome of the Local government reorganisation review before committing to a formal air quality strategy; current options mean there is a real possibility of a merger with other authorities who would still have active AQMAs etc. Any new authority would need to decide its own priorities for dealing with air quality in its area and it could also have direct access to resources and the "levers of change" if the highways and other strategic functions currently performed at county council level are devolved to it.

If, however, it is decided to retain the status quo and no such reorganisation and merger occurs, Lichfield District Council would be in a better position to plan an air quality strategy which is relevant to the needs of its area.

For the record, the direct measures adopted in the AQAP in pursuit of improving local air quality are set out in Table 2.2., with the type of measure and the progress Lichfield

District Council have made during the reporting year of 2024 presented. Where there have been barriers restricting the implementation of the measure, these are also presented within Table 2.2.

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	Increase the volume of through traffic using M6 Toll	Traffic Management	UTC, Congestion management, traffic reduction	2019	TBC	Lichfield District Council Environmental Health, National Highways, MidlandsConnect	Defra andLA	No	-	TBC	Planning	TBC after quantitative appraisal	Reduction in HGV % in AQMAs	Work is ongoing with Midlands Connects. There are no immediate plans for this, but the measure has not been ruled out	-
2	Upgrading Trunk A-Roads to Expressways	Traffic Management	UTC, Congestion management, traffic reduction	2019	TBC	Lichfield District Council Environmental Health, National Highways, MidlandsConnect	N/A	No	-	TBC	Amended	TBC after quantitative appraisal	Reduction in traffic congestion	Regular discussions with National Highways / Midlands Connects since June 2019. The A5corridor had previously been identified as priority for congestion control, but the central section which lies outside of the Lichfield District has been prioritised for transport intervention measures. Junction improvements at Muckley Corner had been considered but as yet are not being prioritised.	Subject to commitment from National Highways to deliver – this measure may never happen but it included as Lichfield DC is committed to maintain pressure for it to happen depending on the ongoing results of air quality monitoring
3	Pollution abatement equipment for HGVs	Vehicle Fleet Efficiency	Vehicle Retrofitting programmes	2019	2025	Lichfield District Council Environmental Health, OLEV	OLEV or other Defra Funds	Yes (if available)	Partialor FullTBC	£100k - £500k	Planning	Reducing emissions contribution from HGVs TBC	Retrofit vehicles	Planning phase	Consider OLEV or AQ grant application funding
4	Replacing older vehicles	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake oflow emission vehicles	2019	Ongoing	Lichfield District Council Environmental Health & Licensing, OLEV	OLEV or other Defra Funds	Yes (if available)	Partialor FullTBC	£100k - £500k	Planning	Reducing emissions from all council owned vehicles TBC	Vehicles replaced (in addition to normal fleet turnover)	Planning phase	Consider OLEV or AQ grant application funding
5	Travel planning amongst Council employees	Promoting Travel Alternatives	Workplace Travel Planning	2019	2021	Lichfield District Council	Internal Lichfield District Council Funds	No	-	< £10k	Discontinued & replaced with Measure No. 11	-	Reducing emissions from Council employees	Coming back under the climate change remit via a separate team	-
6	Education Initiatives inc. website information updates	Public Information	Other	2019	2020	Lichfield District Council Environmental Health	Internal Lichfield District Council Funds	No	-	< £10k	Completed	Incremental through public awareness	Public Awareness	Completed early in 2020 although regular updates will be carried out moving forward	None to date
7	Staffordshire Air Quality Forum	Policy Guidance and Development Control	Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduceemissions and improve air quality	2019	Ongoing	County-wide	Staffordshire Authorities	No	-	< £10k	Planning	-	Full LA engagement across the group + Regular Meetings	Ongoing	Engagement reduced during the pandemic due to restrictions & resource constraints
8	Use the planning regime to minimise impact of new developments on AQMAs	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2019	Was 2021 now 2022	Lichfield District Council / Staffordshire AQForum	Staffordshire Authorities	No	-	< £10k	Planning	Reducing emissions contribution and restricting impact on AQMAs	Supplementary Planning Guidance implemented	Discussions have already taken place and a general template to the guidance is in draft stages	-
9	Inspect under	Environmental Permits	Introduction/ increase of	2019	Ongoing	Lichfield District	Internal	No	-	< £10k	Implementation	Installations adhering	Installations adhering	Permits inspected	-

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
	the Environmental Permit regime and enforce legislation to reduce combustion processes		environment charges through permit systems and economic instruments			Council Environmental Health	funds generated through permitting regime					to permits and enforcement/penalties for breaches	to permits and enforcement/penalties for breaches		
10	Air quality monitoring	Public Information	Other	2019	Ongoing	Lichfield District Council Environmental Health	-	No	-	< £10k	Implementation	Will enable any changes in pollution levels to be identified	Monitoring locations and On-time submittal of ASRs	Monitoring to continue both inside and outside of AQMAs	Possibly liaise with Defra regarding need for additional monitoring and/or AURN funding. Consider continuous monitoring and AQ grant application if available or needed.
11 (Replaces Measure 5)	Homeworking	Promoting Travel Alternatives	Encourage / Facilitate home-working	2021	2022	Lichfield District Council employees	Internal Funds	No	-	< £10k	Implementation	Minimal but shows the Council can lead by example	Reducing emissions from Council employees	Internal building works to reduce number of workstations hence number of staff already commenced late 2021	-
12	Increased provision of EV charging infrastructure	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2021	TBC	Lichfield District Council Planning Policy & Environmental Health	TBC Through scoping	Unknown at present	-	TBC through scoping	Early Planning	Incremental	Reduction in pollutant levels in vicinity of council car parks	Lichfield District Council has started to review its car park strategy for the District in pursuit of increasing the provision of EV charging infrastructure	Funding

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

As detailed in Policy Guidance LAQM.PG22 (Chapter 8) and the Air Quality Strategy[1], local authorities are expected to work towards reducing emissions and/or concentrations of fine particulate matter ($PM_{2.5}$)). There is clear evidence that $PM_{2.5}$ (particulate matter smaller 2.5 micrometres) has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

Lichfield District Council is taking the following new and existing measures to address $PM_{2.5}$ (and other pollutants) as part of its "top three" air quality actions – see Top Three Air Quality Actions

- **Public Electric Vehicle On-Street Charging Infrastructure**
    - This is an initiative across Staffordshire to deliver On-street, primarily low power, charging solutions. The consortium delivering the project is facilitated by Midlands Connect and their projection is that there will be approximately 110 locations across Lichfield with potentially multiple chargers installed.
- **Review of Smoke Control Areas.**
    - There are extensive areas of new housing development in the district, many of which may not fall within the boundaries of existing smoke control areas. These will have been constructed to use suitable smokeless fuels for space heating (usually gas or electric) but additions of wood burning stoves etc. do occur.
    - The review will identify areas where existing smoke control orders should be modified and updated to incorporate new development at the periphery or, for larger areas, whether new orders should be made.
    - It is also intended to seek evidence on the viability and need for a single, district wide smoke control area, to include consultation with stakeholders.

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

- **Vehicle Idling Outside Schools – Information and Enforcement Project**
    - Vehicles left idling at school pick up times has led to complaints and are likely to be causing peaks in $PM_{2.5}$ and other pollutants.
    - A project is to be carried out over FY 2025/26 and 2026/27 to contact a number of local schools to offer advice and support to target information to for parents and carers picking up children in motor vehicles on the impact of idling on air quality.
    - Follow up visits by authorised officers would be carried out, initially to reinforce the message verbally but also, if necessary, use enforcement powers on vehicle idling.

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

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

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Lichfield District Council currently does not undertake automatic (continuous) monitoring within its area of jurisdiction.

3.1.2 Non-Automatic Monitoring Sites

Lichfield District Council undertook non- automatic (i.e., passive) monitoring of NO_2 at 30 sites during 2024. Table A1 in Appendix A presents the details of the non-automatic sites.

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)

- There were no measured exceedances of the air quality objectives for NO_2.
- Measured NO_2 levels have again fallen, continuing the trend of the previous 5 years.
- As a result, A5 Muckley Corner AQMA No.1 will be revoked.

Table A. 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 2024 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 does not include distance corrected values, as all measured levels were compliant without any such correction.

3.2.2 Particulate Matter (PM_{10})

Lichfield District Council does not carry out any monitoring of PM_{10} particulate matter.

3.2.3 Particulate Matter ($PM_{2.5}$)

Lichfield District Council does not carry out any monitoring of $PM_{2.5}$ particulate matter.

3.2.4 Sulphur Dioxide (SO_2)

Lichfield District Council does not carry out any monitoring of Sulphur dioxide.

Appendix A: Monitoring Results

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

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
LT - 1	Lichfield Town - St John St	Roadside	411792	309161	NO_2	No	N/A	N/A	No	2.0
LT - 2	Lichfield Town Trent Valley Road (2 Lime Grove)	Roadside	412782	309774	NO_2	No	1.3	0.9	No	2.0
LT - 3	Lichfield Town Trent Valley Road (No. 101)	Roadside	412991	309869	NO_2	No	6.2	2.9	No	2.0
LT - 4	Lichfield Town Trent Valley Road (No. 155)	Roadside	413183	309945	NO_2	No	9.0	2.5	No	2.0
LT - 5	Lichfield Town Beacon Street (No. 48)	Roadside	411273	309902	NO_2	No	2.3	1.1	No	2.0
LT - 6	Lichfield Town - Beacon Street (No. 14)	Roadside	411358	309785	NO_2	No	0.2	1.6	No	2.0
LT - 7	Lichfield Town - Upper St John Street (No. 96)	Roadside	411892	308937	NO_2	No	1.4	0.5	No	2.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
LT - 8	Lichfield Town - Upper St John Street (No. 127)	Roadside	411951	308839	NO_2	No	0.2	1.2	No	2.0
LT - 9	71 Walsall Road, Lichfield	Roadside	410898	309085	NO_2	No	5.3	1.5	No	2.5
MUC - 1A	Muckley Corner Hotel First Floor	Roadside	408164	306513	NO_2	Yes - AQMA No.1	0.0	5.0	No	7.0
MUC - 1B	Muckley Corner Hotel First Floor	Roadside	408164	306513	NO_2	Yes - AQMA No.1	0.0	5.0	No	7.0
MUC - 1C	Muckley Corner Hotel First Floor	Roadside	408164	306513	NO_2	Yes - AQMA No.1	9.0	5.0	No	7.0
MUC - 1	Muckley Corner Hotel Ground Floor	Roadside	408164	306513	NO_2	Yes - AQMA No.1	10.0	5.0	No	2.0
MUC - 2	Muckley Corner A5 Westbound	Roadside	408165	306487	NO_2	Yes - AQMA No.1	2.0	4.0	No	2.0
MUC - 3	Muckley Corner A461 Southbound	Roadside	408097	306468	NO_2	Yes - AQMA No.1	5.0	2.0	No	2.0
MUC - 4	Muckley Corner A5 Westbound	Roadside	408029	306501	NO_2	Yes - AQMA No.1	5.0	2.0	No	2.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
MUC - 5	Muckley Corner A5 Eastbound	Roadside	408030	306516	NO_2	Yes - AQMA No.1	9.0	1.0	No	2.0
MUC - 6	Muckley Corner A461 Southbound	Roadside	408161	306556	NO_2	Yes - AQMA No.1	10.0	5.0	No	2.0
A38 - 1	Alrewas	Roadside	417101	314180	NO_2	No	0.0	6.0	No	2.0
A38 - 2	Fradley	Roadside	416295	313186	NO_2	No	10.0	6.9	No	2.0
A38-2A	Fradley	Roadside	416290	313175	NO_2	No	0.0	15.0	No	2.0
A38 - 4 (X)	Canwell	Roadside	413978	300834	NO_2	No	35.0	10.0	No	2.0
A38 - 4A	Canwell	Roadside	413989	300869	NO_2	No	10.0	25.0	No	2.0
A38 - 5A	Canwell	Roadside	413950	300574	NO_2	No	<200	4.0	No	2.0
A38 - 6A	Canwell	Roadside	413961	300539	NO_2	No	6.0	1.0	No	2.0
A5 - 1	A5 West	Roadside	407208	306513	NO_2	No	6.0	2.0	No	2.0
A5 - 1A	Muckley Corner Westbound	Roadside	407895	306516	NO_2	No	29.0	1.4	No	2.0
A5 - 2B	A5 Wall Lane	Roadside	408667	306500	NO_2	No	0.1	2.3	No	2.0
ARM1	A513 Rugeley Road, Armitage	Roadside	406343	316482	NO_2	No	127.0	N/A	No	2.0
FAZE	A40691 Coleshill Road (No. 38)	Roadside	420442	301806	NO_2	No	42.0	N/A	No	2.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
B	Burntwood	Urban Background	405086	309344	NO_2	No	N/A	N/A	No	2.0

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 – Annual Mean NO2 Monitoring Results: Non-Automatic Monitoring (µg/m3)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
LT - 1	411792	309161	Roadside	75.0	75.0	25.6	26.5	27	23.5	22.9
LT - 2	412782	309774	Roadside	83.0	83.0	21.9	20.5	20.7	19	17.7
LT - 3	412991	309869	Roadside	83.0	83.0	23	26.9	25	21	24.9
LT - 4	413183	309945	Roadside	83.0	83.0	20.5	24.3	23.1	21.2	20.6
LT - 5	411273	309902	Roadside	83.0	83.0	18	19.8	21.7	20.6	18.2
LT - 6	411358	309785	Roadside	75.0	75.0	23	25.1	24.9	24	22.3
LT - 7	411892	308937	Roadside	83.0	83.0	23	22	26.1	22.2	19.4
LT - 8	411951	308839	Roadside	83.0	83.0	28.9	24.1	25.8	24.1	21.1
LT - 9	410898	309085	Roadside	75.0	75.0	-	21.9	20.9	24.6	18.2
MUC -1 A,B,C	408164	306513	Roadside	83.0	83.0	30.5	33.1	31.6	29.3	
MUC - 1	408164	306513	Roadside	83.0	83.0	26.3	33.2	31.1	29.4	25.6

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
MUC - 2	408165	306487	Roadside	83.0	83.0	23.7	27.9	27	26.9	23.7
MUC - 3	408097	306468	Roadside	83.0	83.0	33.5	39.8	**40.5**	38.2	33.0
MUC - 4	408029	306501	Roadside	83.0	83.0	25.8	34.9	31.8	30	24.0
MUC - 5	408030	306516	Roadside	83.0	83.0	28.5	33.3	30	31.4	27.4
MUC - 6	408161	306556	Roadside	83.0	83.0	23.2	27.2	27	25.3	22.8
A38 - 1	417101	314180	Roadside	83.0	83.0	24.8	27.2	25	20.6	22.0
A38 - 2	416295	313186	Roadside	83.0	83.0	21.2	24.8	22.3	20.2	19.4
A38-2A	416290	313175	Roadside	83.0	83.0	25.2	28.8	27.3	19.8	19.4
A38 - 4	413978	300834	Roadside	58.0	58.0	22.2	31.4	32.3	29.5	26.8
A38 - 4A	413989	300869	Roadside	68.0	68.0	21.7	34.2	29	28.1	25.8
A38 - 5A	413950	300574	Roadside	83.0	83.0	21.9	25.9	25.1	26.3	21.8
A38 - 6A	413961	300539	Roadside	83.0	83.0	17.8	20.4	22.1	20.4	17.4
A5 - 1	407208	306513	Roadside	83.0	83.0	23.9	24	23.9	20.4	19.1

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
A5 - 1A	407895	306516	Roadside	83.0	83.0	24.4	28.7	26.6	28.6	22.4
A5 - 2B	408667	306500	Roadside	83.0	83.0	23.7	25.8	28.9	27.1	23.5
ARM1	406343	316482	Roadside	83.0	83.0	21.8	26	23.4	21.5	18.1
FAZE	420442	301806	Roadside	83.0	83.0	26.3	32	30.8	30.7	26.6
B	405086	309344	Urban Background	83.0	83.0	13.6	14.4	13.8	12.9	11.9

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

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

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

Notes:

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

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

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

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

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

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

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

Figures A.1-4 – Trends in Annual Mean NO_2 Concentrations

Figure A1 – Trends in Annual Mean NO2 Concentrations – Muckley Corner AQMA

Figure A.1 presents NO_2 annual mean concentrations for sites MUC-1 to MUC-6 between years 2020 to 2024, adjusted for bias but not adjusted for distance to the nearest relevant receptor. There are no exceedances of the annual mean objective in 2024 and the general trend of reduction experienced across the sites continues. Site MUC 3 has results consistently higher than others in the AQMA and across Lichfield DC's other sites but in previous years have been more than 10% below the annual mean objective when adjusted for distance to the nearest receptor and they have achieved this without any such adjustment in 2024.

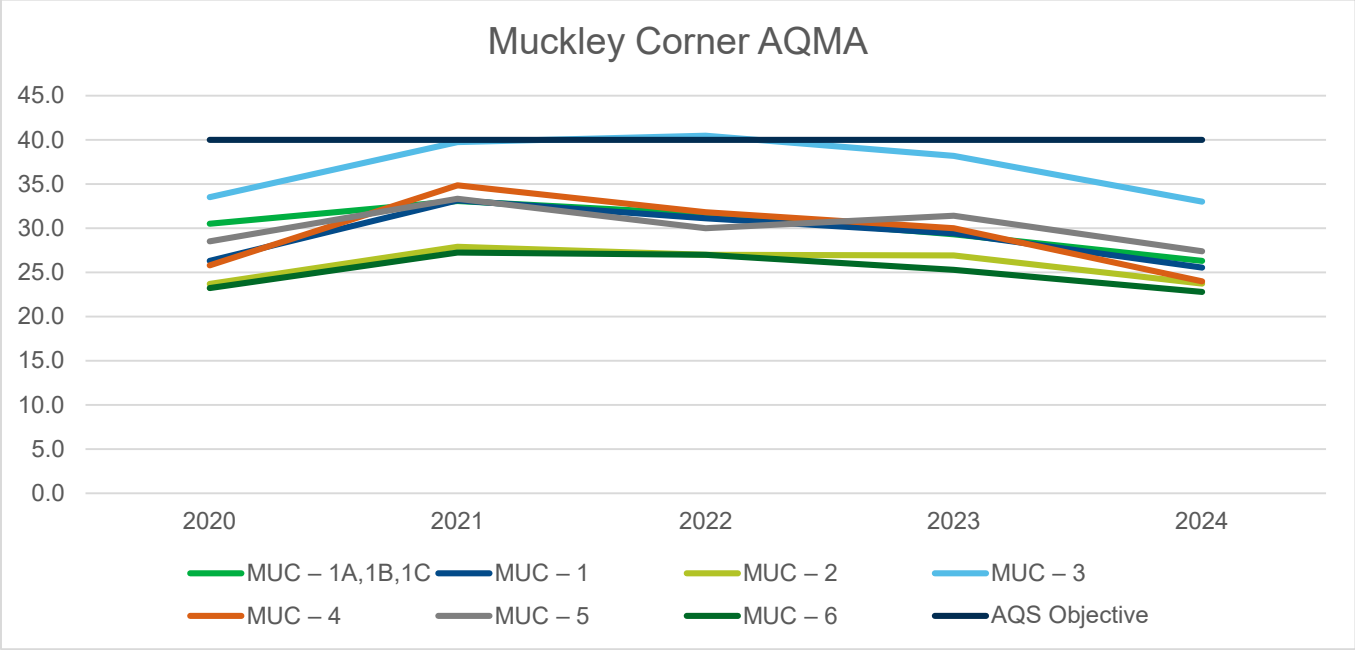


Figure A.2 – Trends in Annual Mean NO2 Concentrations – Former AQMA No 2

Figure A.2 presents NO_2 annual mean concentrations for sites in the former AQMA No2 which was revoked on 11 May 2025 for years 2020 to 2024, not adjusted for distance to the nearest relevant receptor. There are no exceedances of the annual mean objective in 2024 and the general trend of reduction continues across the sites.

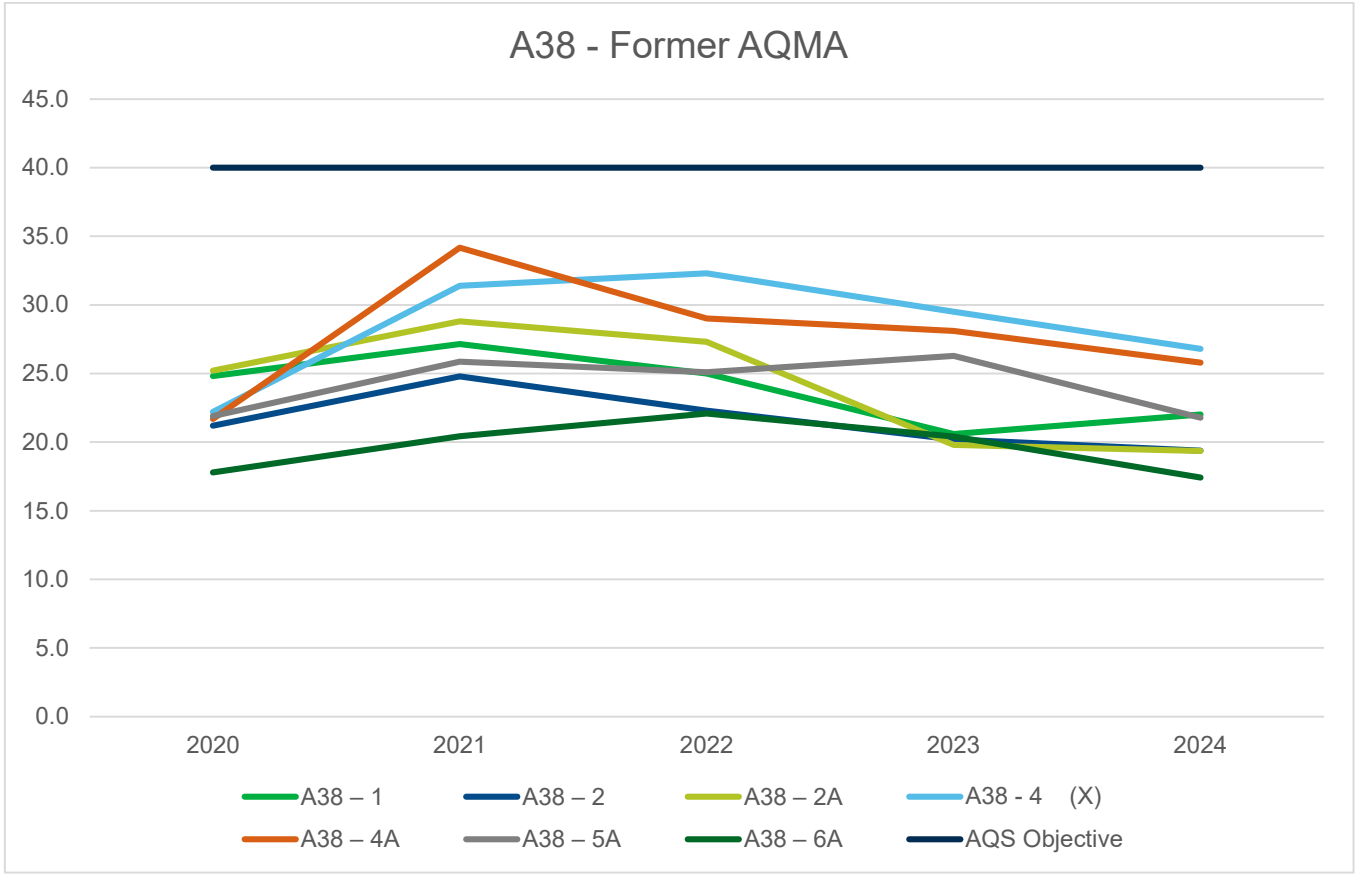


Figure A.3 – Trends in Annual Mean NO2 Concentrations – Sites LT1-LT9

Figure A.3 presents NO_2 annual mean concentrations for sites LT1 – LT9 not in AQMAs between years 2020 to 2024, not adjusted for distance to the nearest relevant receptor. There are no exceedances of the annual mean objective in 2024 and the is a general trend of reduction continues across the sites.

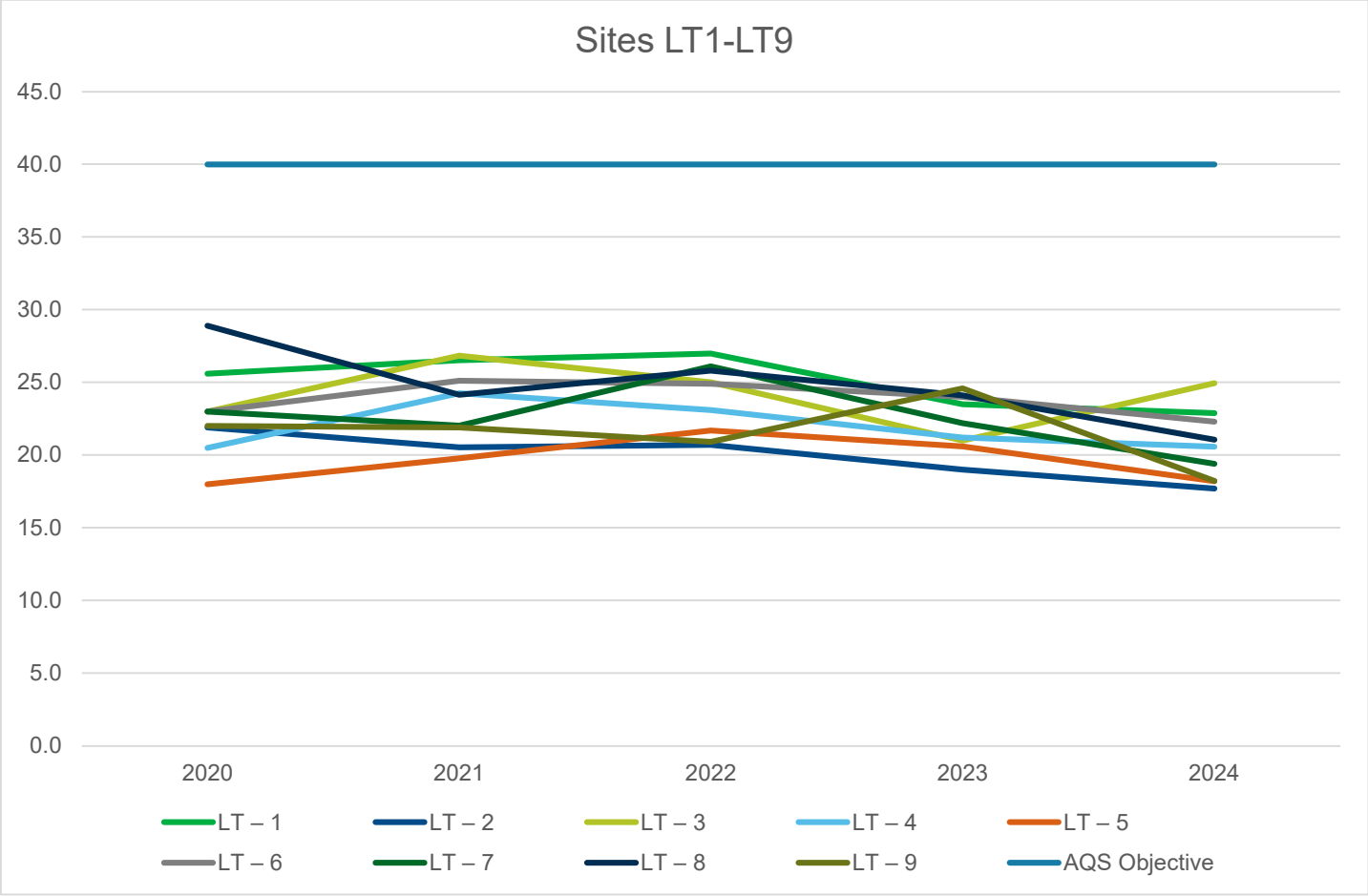
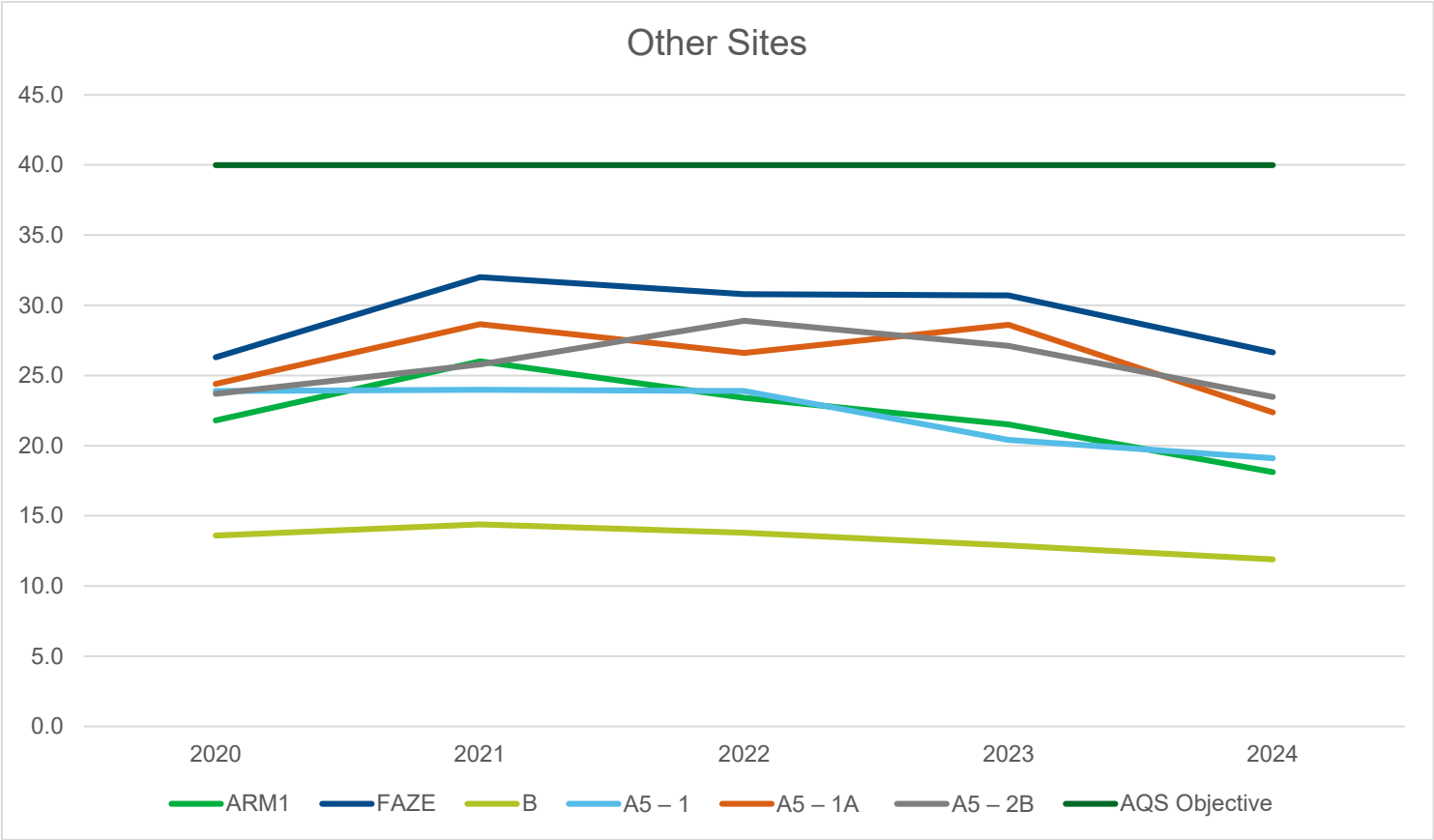


Figure A.4 – Trends in Annual Mean NO2 Concentrations – Remaining Sites

Figure A.4 presents NO_2 annual mean concentrations for all other sites in Lichfield District not in AQMAs between years 2020 to 2024, not adjusted for distance to the nearest relevant receptor. There are no exceedances of the annual mean objective in 2024 and the is a general trend of reduction continues across the sites.



Appendix B: Full Monthly Diffusion Tube Results for 2024

Table B.1 – NO2 2024 Diffusion Tube Results (µg/m3)

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
LT - 1	411792	309161	27.7	32.2	26.4	20.5	N/A	I/S	N/A	22.1	26.9	32.6	33.1	29.7	27.9	22.89	-	
LT - 2	412782	309774	24.7	28.1	18.2	14.9	N/A	15.0	N/A	16.6	19.5	24.0	30.1	24.9	21.6	17.71	-	
LT - 3	412991	309869	31.6	32.8	24.8	24.1	N/A	24.0	N/A	25.8	31.3	34.5	38.6	36.7	30.4	24.94	-	
LT - 4	413183	309945	29.2	29.6	23.1	17.3	N/A	17.7	N/A	20.9	23.0	32.1	31.0	27.0	25.1	20.57	-	
LT - 5	411273	309902	26.1	24.1	19.5	17.9	N/A	16.5	N/A	15.8	24.1	26.7	29.5	21.8	22.2	18.20	-	
LT - 6	411358	309785	27.6	27.8	I/S	19.6	N/A	22.5	N/A	21.8	26.2	32.7	35.1	31.5	27.2	22.30	-	
LT - 7	411892	308937	27.3	26.6	21.7	18.1	N/A	15.8	N/A	16.4	26.5	28.2	32.7	23.5	23.7	19.42	-	
LT - 8	411951	308839	27.5	28.2	23.8	19.8	N/A	22.2	N/A	20.1	24.6	29.3	37.1	24.3	25.7	21.07	-	
LT - 9	410898	309085	26.2	27.6	21.1	18.4	N/A	15.4	N/A	16.1	16.7	27.5	31.2	I/S	22.2	18.24	-	
MUC 1A	408164	306513	I/S	34.2	27.9	30.1	N/A	29.2	N/A	27.7	34.9	34.4	42.6	27.3	32.0	26.27	-	
MUC -1B	408164	306513	31.7	31.1	34.2	29.4	N/A	30.3	N/A	27.8	33.1	35.3	36.0	31.8	32.1	26.30	-	
MUC -1C	408164	306513	30.0	32.0	30.6	27.1	N/A	28.0	N/A	28.4	36.3	38.4	34.1	I/S	31.7	25.96	-	
MUC - 1	408164	306513	29.8	34.7	24.0	25.6	N/A	29.8	N/A	29.1	38.2	35.6	37.2	27.6	31.2	25.55	-	

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
MUC - 2	408165	306487	33.4	28.8	24.4	23.1	N/A	26.2	N/A	21.8	35.8	30.3	36.4	29.0	28.9	23.71	-	
MUC - 3	408097	306468	44.7	45.8	39.3	37.1	N/A	39.7	N/A	37.4	43.1	42.7	40.5	32.2	40.3	33.01		
MUC - 4	408029	306501	31.7	32.3	31.0	26.4	N/A	26.3	N/A	27.1	12.5	38.3	40.1	27.1	29.3	24.01	-	
MUC - 5	408030	306516	26.7	31.6	33.7	27.4	N/A	33.9	N/A	33.0	35.9	35.7	42.3	34.0	33.4	27.40	-	
MUC - 6	408161	306556	32.9	34.9	23.3	20.2	N/A	25.7	N/A	26.7	24.7	29.6	33.7	26.3	27.8	22.80	-	
A38 - 1	417101	314180	31.9	30.1	21.0	21.2	N/A	22.4	N/A	23.8	30.5	24.9	33.7	28.8	26.8	22.00	-	
A38 - 2	416295	313186	26.7	30.2	24.0	20.9	N/A	21.1	N/A	15.7	20.4	27.6	28.0	21.8	23.6	19.38	-	
A38-2A	416290	313175	25.0	26.9	22.7	16.4	N/A	14.1	N/A	21.4	27.6	27.8	31.6	22.7	23.6	19.37	-	
A38 - 4	413978	300834	36.9	35.7	I/S	I/S	N/A	35.8	N/A	32.1	33.1	36.7	41.2	I/S	35.9	29.46	-	
A38 - 4A	413989	300869	I/S	34.3	31.6	25.7	N/A	32.2	N/A	29.2	33.0	29.9	39.4	I/S	31.9	26.17	-	
A38 - 5A	413950	300574	27.7	29.2	24.1	22.3	N/A	25.5	N/A	24.9	25.0	29.0	33.6	24.4	26.6	21.79	-	

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
A38 - 6A	413961	300539	24.8	25.1	20.9	17.5	N/A	18.7	N/A	18.9	17.9	23.4	23.6	21.6	21.2	17.42	-	
A5 - 1	407208	306513	23.4	28.7	23.9	16.2	N/A	20.2	N/A	22.5	17.6	32.8	26.4	21.4	23.3	19.11	-	
A5 - 1A	407895	306516	27.9	30.7	25.6	18.5	N/A	26.5	N/A	27.2	22.0	33.9	33.9	26.8	27.3	22.39	-	
A5 - 2B	408667	306500	30.6	29.7	22.6	22.7	N/A	28.5	N/A	25.1	31.6	33.1	37.7	24.8	28.6	23.48	-	
ARM 1	406343	316482	24.1	24.8	21.4	14.4	N/A	21.6	N/A	15.3	17.6	30.2	29.5	22.2	22.1	18.13	-	
FAZE	420442	301806	37.0	38.8	32.0	30.1	N/A	29.3	N/A	27.2	28.5	32.2	37.0	32.8	32.5	26.64	-	
B	405086	309344	17.2	14.1	14.9	9.4	N/A	9.1	N/A	11.0	8.6	17.5	26.2	17.2	14.5	11.91	-	

☒ **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**

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

Notes:

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

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

See Appendix C for details on bias adjustment and annualisation.

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

New or Changed Sources Identified Within Lichfield District Council During 2024

No new or changed have been identified with a potential to impact air quality.

Additional Air Quality Works Undertaken by Lichfield District Council During 2024

Lichfield District Council has not completed any additional works within the reporting year of 2024.

QA/QC of Diffusion Tube Monitoring

Lichfield District Council's diffusion tubes were supplied and analysed by Staffordshire Scientific Services/ Staffordshire Highways Laboratory, using the 20% Triethanolamine (TEA) in water preparation method. Staffordshire Scientific Services/ Staffordshire Highways Laboratory is UKAS accredited, participating in the AIR-PT Scheme for NO_2 tube analysis and the Annual Field Inter-Comparison Exercise. These provide strict performance criteria for participating laboratories to meet, thereby ensuring NO_2 concentrations reported are of a high calibre. The lab follows the procedures set out in the Harmonisation Practical Guidance. In the AIR PT intercomparison scheme for comparing spiked Nitrogen Dioxide diffusion tubes.

Local authority co-location studies which use tubes supplied by Staffordshire Scientific Services/ Staffordshire Highways Laboratory with the 20% TEA in water preparation method in 2024, were rated as 'good', as shown by the summary provided by them below. Tubes are considered to have a "good" precision where the coefficient of variation of duplicate or triplicate diffusion tubes for eight or more monitoring periods during a year is less than 20%.

Monitoring in Lichfield District was completed in adherence with the Diffusion Tube Monitoring Calendar, whereby all changeovers throughout the monitoring year were completed in line with Defra guidance. Although there was an error where the same tubes were exposed over two monitoring periods, there was still sufficient data to give a good degree of certainty surrounding the monitoring results provided.

Staffordshire County Council
Staffordshire Highways Laboratory

NO_2 diffusion tube analysis QC results – April 2025 Summary

AIR PT Scheme (LGC)

Results for each round are classified on z-scores for each tube as SATISFACTORY (≤2), QUESTIONABLE (between 2 and <3) and UNSATISFACTORY (>3).

For each round, two sets of tubes are received from LGC, and each analysed by a different member of staff, to aid with QC and training.

PT Rounds during 2024

- Round 62 – Feb 2024. 100% satisfactory results.
- Round 63 – June 2024. 100% satisfactory results.
- Round 65 – Sept 2024. 100% satisfactory results.
- Round 66 – Dec 2024. 100% satisfactory results.

The table below shows a summary of our z-score results.

PT Round	Technician	z-scores	Performance
62 – Feb 2024	1	0.84, 0.86, 0.20, -0.10	100% SATISFACTORY
	2	-0.69, 0.22, -0.20, 0.30	
63 – June 2024	1	0.26, 0.13, -0.14, -0.34	100% SATISFACTORY
	2	0.00, 0.13, 0.27, 0.00	
65 – Sept 2024	1	0.33, 0.16, 0.00, -0.04	100% SATISFACTORY
	2	0.33, -0.32, 0.08, 0.37	
66 – Dec 2024	1	0.78, 0.26, -0.06, 0.19	100% SATISFACTORY
	2	0.13, -1.03, -1.04, -0.39	

For more information on the AIR PT Scheme and older results see the Defra website:
https://laqm.defra.gov.uk/air-quality/air-quality-assessment/qa-qc-framework/

Field Intercomparison (NPL)

Our performance for all Field Intercomparison results of 2024 was classified as 'GOOD' (CoV <20).

Bias factor

The bias adjustment factor spreadsheet on the Defra website was updated on 28th March 2025. The overall bias factor for Staffordshire Highways Laboratory (see Staffordshire County Council) for 2024 (including the Field Intercomparison result and all the co-location results from participating local authorities, total of 16 studies) was **0.82**.

The tube precision for all co-location studies was 'Good'.

For the most up to date information on bias factors see the Defra website:
https://laqm.defra.gov.uk/air-quality/air-quality-assessment/national-bias/

- 1 -

Diffusion Tube Annualisation

Table C.1 – Annualisation Summary (concentrations presented in µg/m3)

Site ID	Annualisation Factor Cannock A5190 Roadside	Annualisation Factor Burton-on-Trent	Annualisation Factor	Annualisation Factor	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
A38-4	0.9248	0.8981	-	-	0.9114	35.9	32.7
A38-4X	0.9845	0.9890	-	-	0.9868	31.9	31.5

Diffusion Tube Bias Adjustment Factors

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

Lichfield District Council have applied a national bias adjustment factor of 0.82 to the 2024 monitoring data. A summary of bias adjustment factors used by Lichfield District Council over the past five years is presented in Table C.2.

Table C.2 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2024	National	04/25	0.82 (16 studies)
2023	National	03/24	0.86 (11 studies)
2022	National	06/23	0.86 (13 studies)
2021	National	03/23	0.87 (12 studies)
2020	National	09/21	0.85 (15 studies)

NO_2 Fall-off with Distance from the Road

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

No diffusion tube NO_2 monitoring locations within Lichfield District Council required distance correction during 2025.

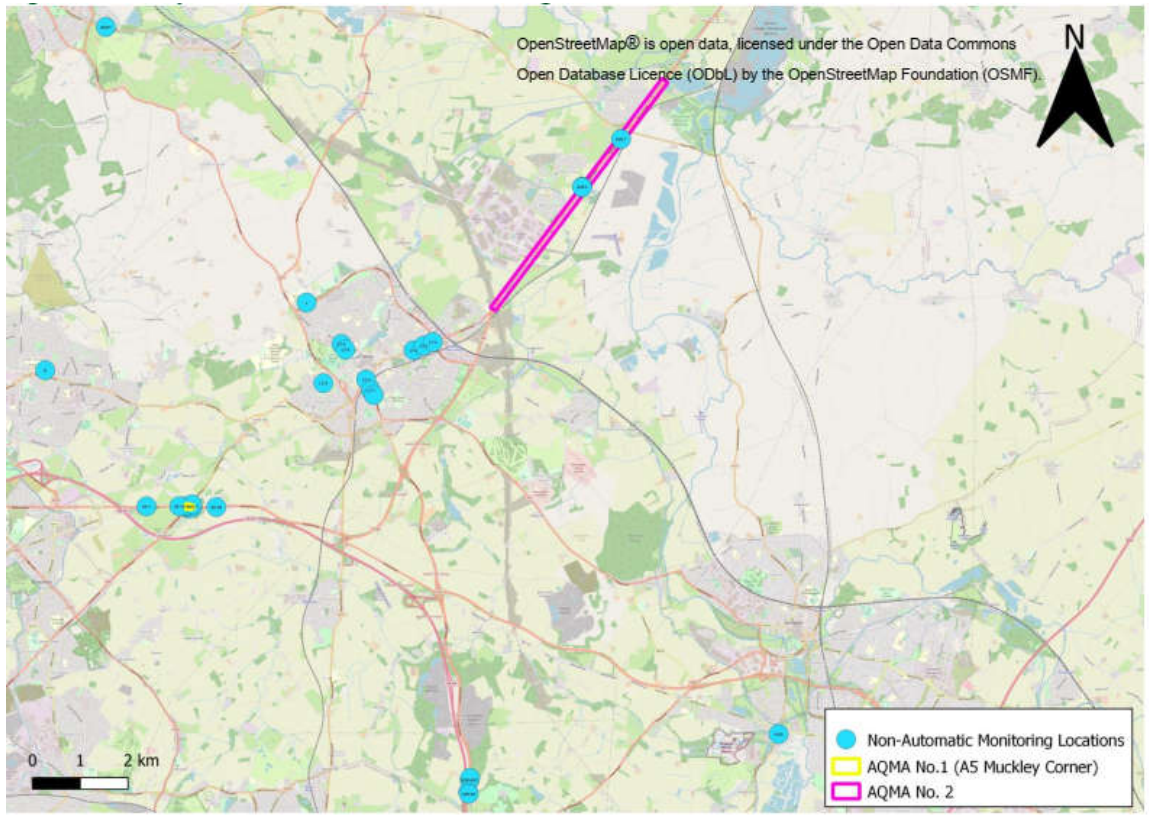
QA/QC of Automatic Monitoring

NO_2 Fall-off with Distance from the Road

There are no automatic NO_2 monitoring locations within Lichfield District Council.

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

Figure D 1- Map of All Non-Automatic Monitoring Locations



NOTE:

- Triplicate Site IDs MUC-1A, MUC-1B, and MUC-1C will only show label MUC-1A;
- Figure D.1 shows Site IDs LT-5 and LT-6, LT-7 and LT-8, A38-2 and A38-2A, A38-6A and A38-5A, A38-4A and A38-4(X), and MUC-1, MUC-2, MUC-3, MUC-4, MUC-5 and MUC-6 overlapping due to close locational proximity.

Figure D 2- Map of Non-Automatic Monitoring Locations-Lichfield

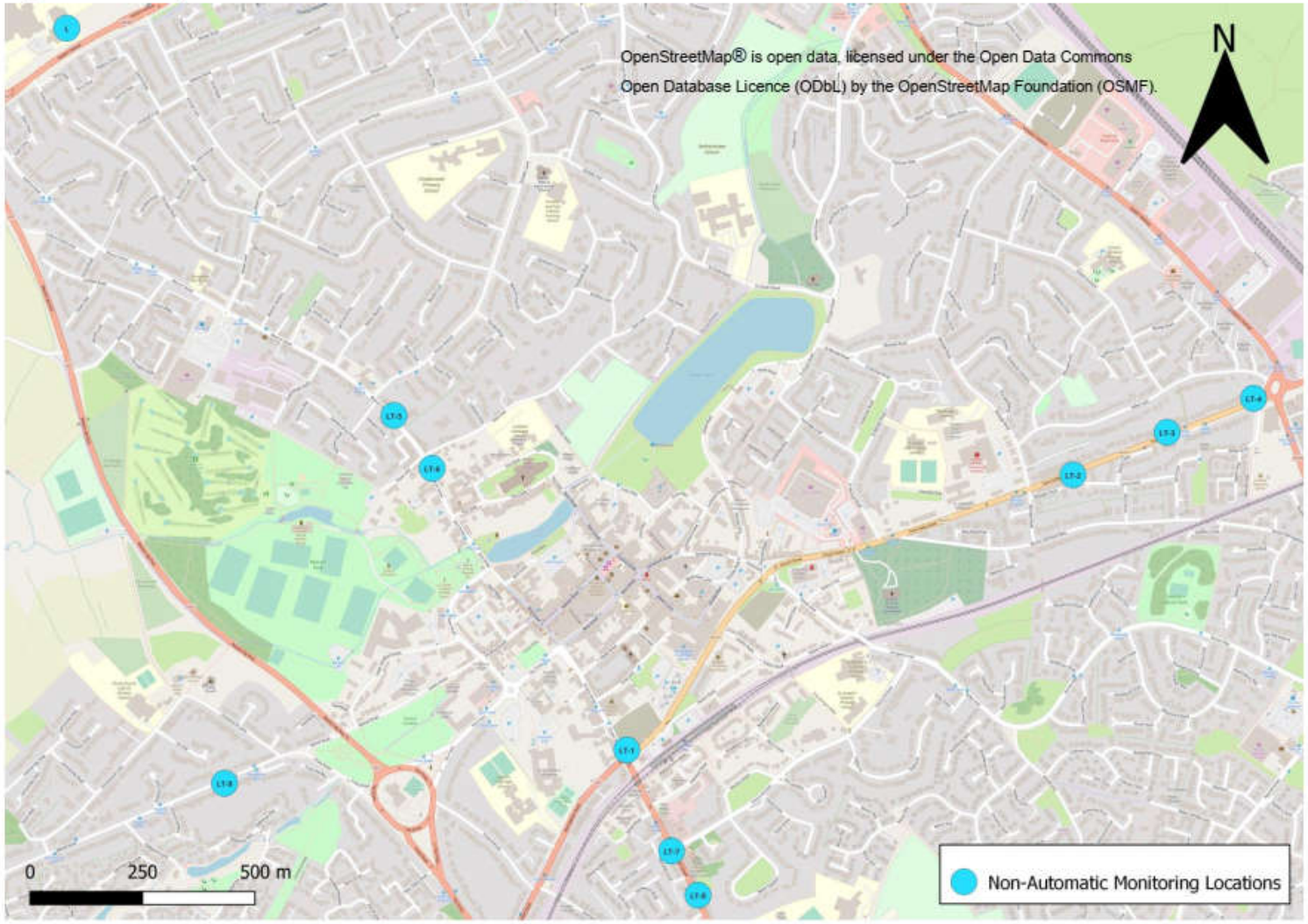


Figure D 3- Map of Non-Automatic Monitoring Locations-Burntwood

Figure D 4- Map of Non-Automatic Monitoring Locations-A38

Figure D 5- Map of Non-Automatic Monitoring Locations-Fazeley

Figure D 6- Map of Non-Automatic Monitoring Locations-A5 Muckley Corner

Figure D 7- Map of Non-Automatic Monitoring Locations-Fradley

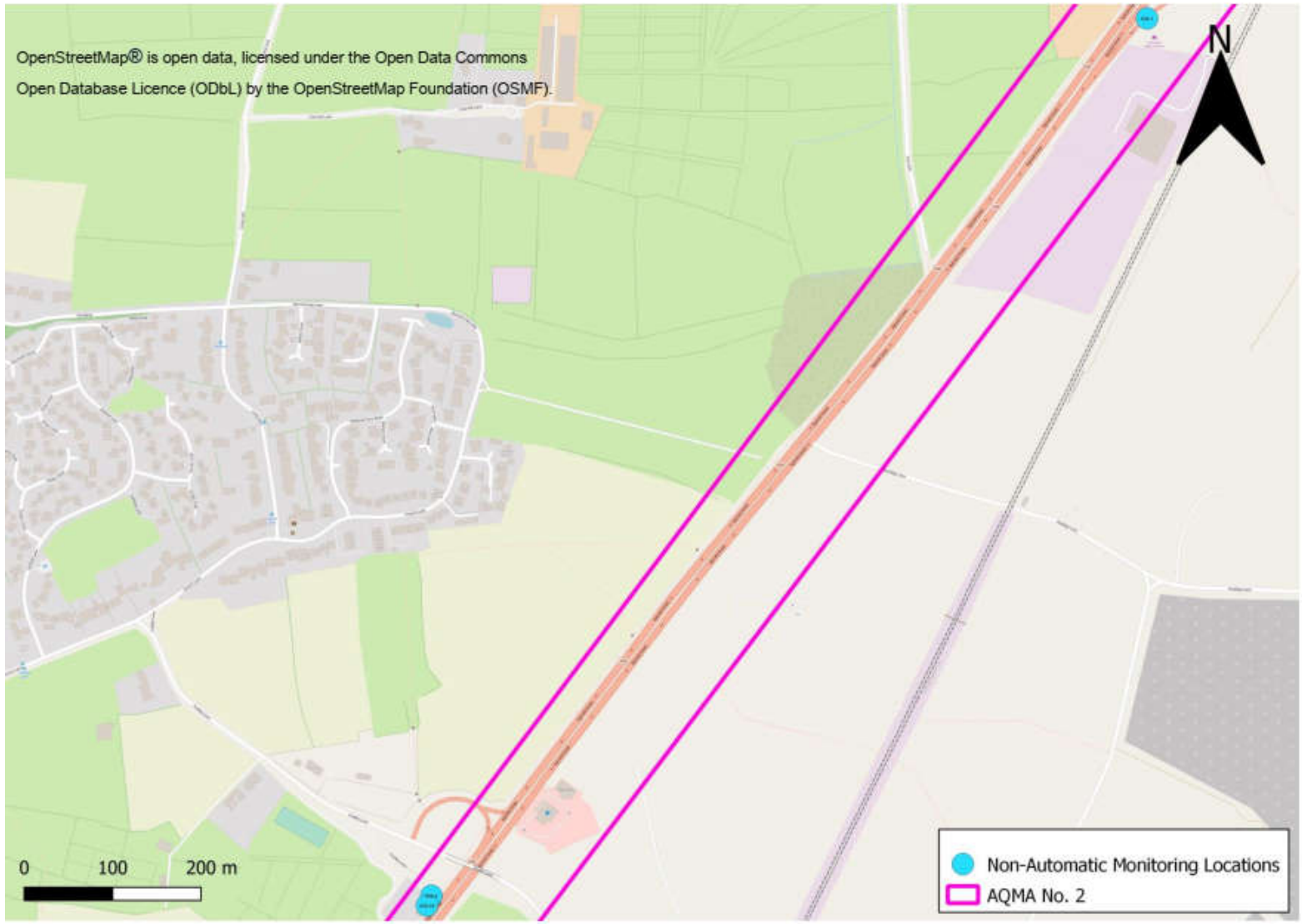


Figure D 8- Map of Non-Automatic Monitoring Locations-Brereton

Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England[2]

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

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

Glossary of Terms

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

References

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