



2023 Air Quality Annual Status Report (ASR)

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

Date: 26th June 2023

Endorsement from the Director of Health & Care Staffordshire County Council

Annual Status Report(ASR) Air Quality

Staffordshire County Council (SCC) is committed to working with partners to ensure that Staffordshire will be a place where improved health and wellbeing is experienced by all. Poor air quality has a negative impact on public health, with potentially serious consequences for individuals, families, and communities. Identifying problem areas and ensuring that actions are taken to improve air quality forms an important element in protecting the health and wellbeing of Staffordshire residents. Improving air quality is often a complex issue, presenting a multi-agency challenge – so it is essential that all agencies work together effectively to deliver improvements where they are needed.

As Director of Health and Care across Staffordshire I endorse this Annual Status Report which sets out the position in all the Local Authorities across Staffordshire and Stoke-on-Trent focusing on human made pollution with particulate matter.

The Air Aware project “phase 2” ran until March 2023 with Defra Funding. The Air Aware project continues with joint funding from Staffordshire Public Health and Connectivity Teams to March 2025. The project delivers behaviour change to increase active travel, decrease car use, and raise awareness of air quality issues through five elements. These are business and school engagement, communications and campaigns, electric vehicles, and air quality monitoring in three targeted locations, Burton, Leek, and Cannock. Campaigns include Anti-Idling, walking and cycle activities and Clean Air Day. These have been countywide engaging a large number of businesses and schools. The programme focuses on reducing levels of NO_x and PM_{2.5}, which are monitored at key locations.

A number of the Staffordshire Authorities are currently involved in implementing measures to reduce levels of NO_x. Since the update of the Environment Act 2021 there is now a statutory duty imposed on Local Authorities in England to reduce PM_{2.5}, a number of the measures are complementary with those being undertaken to reduce NO_x. A mapping exercise completed by the Staffordshire Air Quality Forum members details the measures currently in place which are considered to have an impact in reducing PM_{2.5} within the County. These can be viewed in Table 2.4

In addition, Levelling up Fund 2 Schemes will improve a number of major roads around the county, reduce journey times, put greener, cleaner buses on main roads, improve walking and cycling routes and reduce the impact of housing and commercial developments. They will benefit East Staffordshire, Cannock Chase, and Stafford Borough. Total package cost circa £20m.

Finally, Officers from Newcastle Borough Council, Stoke City Council and Staffordshire County Council are jointly working under Ministerial Direction to improve transport related air pollution in North Staffordshire.

Dr Richard Harling



**Director of Health and Care
Staffordshire County Council**

[6 June 2023]

Information	Tamworth Borough Council Details
Local Authority Officer	Susan Timmis
Department	Environmental Health
Address	Marmion House, Lichfield St, Tamworth, B79 7BZ
Telephone	01827 709445
E-mail	environmentalmanagement@tamworth.gov.uk
Report Reference Number	TBC/ASR/23
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Executive Summary: Air Quality in Our Area

Air Quality in Tamworth Borough Council

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 343,000 deaths at typical ages³, with a total estimated healthcare cost to the NHS and social care of £157 million in 2017⁴.

In the Tamworth Borough Council area, the main pollutant of concern is nitrogen dioxide which is emitted as a product of combustion from heating sources and especially road vehicles. It follows that the areas of greatest interest in terms of air quality are dwellings close to busy roads or busy junctions, particularly where these are prone to congestion or where the streets are narrow and the houses are close to the carriageway and residential areas close to point sources of combustion such as chimneys serving large boiler plant.

Since 2006 monitoring undertaken by the Council had identified one particular busy junction (the Two Gates crossroads, Dosthill) was showing concentrations of nitrogen dioxide that were very close to the health based standard (called the Air Quality Objective) for nitrogen dioxide, the monitoring intensified and in 2011 it was concluded that certain properties located close to this crossroads were at risk of exceeding the annual mean air quality objective for nitrogen dioxide. In 2012 a specialist firm of air quality consultants, Ricardo-AEA undertook a detailed assessment that involved modelling the pollution concentrations. As a result, the council declared an Air Quality Management Area (AQMA) at Two Gates in May 2014. An Air Quality Management Area gives the area special status where relevant professionals are required to consider a range of actions to improve air quality in the affected area (an Air Quality Action Plan). To some extent air quality issues arising from vehicle exhausts has been reducing (and throughout the borough) due to improved engine efficiency and other technical advances such as the requirement for catalytic converters. In addition, the Staffordshire County Council Highways Department, which is responsible for traffic management at this junction, made alterations to the sequence of the traffic lights at the junction. As a result there was a reduction in the nitrogen dioxide concentration which led the Council to revoke the Air Quality Management Area in March 2018, after the Council had commissioned another detailed assessment that involved remodelling the pollution concentrations (Report ref ED62310- 26 May 2016). The modelling results indicated that there were no exceedances of the annual mean NO₂ objective occurring at any residential properties within the AQMA and recommended the revocation of the Two Gates AQMA which was completed on 23rd March 2018.

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, JAN 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

Although the busy A5 trunk road runs through the Borough and the M42 Motorway runs close to the Borough boundary, there are no sensitive receptors (dwellings) sufficiently close to these roads, so that air quality is not considered to be an issue.

Although there have been no specific problem areas identified locally, nationally there is currently great interest in the extent that very small particles called PM_{2.5} impact on public health. In line with national guidance the Council is giving consideration to this pollutant and actions that can be taken to minimise its impact.

Tamworth Borough Council continues to work with other partners to tackle Air Quality such as other Borough & District Councils, Staffordshire County Council, the Highways Authority, Director of Public Health and Public Health England and where appropriate will participate in projects to improve Air Quality.

The Council is also responsible for the regulation of a number of Part A2 and Part B industrial installations that are of significance in terms of air quality. Each process / installation is regulated under the Environmental Permitting (England and Wales) Regulations 2016 and are regularly inspected by the Council's Environmental Health Officers to ensure they are controlling their emissions to atmosphere in accordance with national guidance. A list of processes that currently hold an Environmental Permit issued by Tamworth Borough Council (as of November 2022) is shown at Appendix F

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 2023 Environment Improvement Plan⁵ sets out actions what 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 to be published 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 Zero⁶ 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 (AQMA) are designated due to elevated concentrations heavily influenced by transport emissions.

As stated above, Tamworth Borough Council has been working with partner organisations to tackle air quality, particularly in and around our former Air Quality Management Area. We revoked our Air Quality Management Area in 2018 as the concentrations of nitrogen dioxide had fallen below the Air Quality Objective.

We work with the Staffordshire local authorities via the Staffordshire Air Quality Forum to discuss and participate in county wide initiatives. However we have noted that since revoking our AQMA it is only the authorities that have retained an AQMA who primarily receive the benefits of schemes and have grants awarded.

Notwithstanding this, we intend access to the Active Travel project to engage with children and their parents in their schools on ways to reduce our individual contributions to air pollution.

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

Conclusions and Priorities

The trend for the levels of Nitrogen Dioxide over the last five years as can be seen in fig A1 have been decreasing, though some of this can be attributed to the post pandemic effect of more people working from home, however levels rose slightly in 2022 due to traffic returning to the roads after the pandemic.

The key priorities for air quality in Tamworth include the continuation of the long-term air quality monitoring program which is kept under constant review to ensure that monitoring takes place in the most relevant locations and to tackle air quality issues at source wherever possible through regulatory controls of emissions to air from certain potentially polluting industries.

Though, the Two Gates Crossroads AQMA has been revoked, officers of the Environmental Health team will continue to consider the impact of new development on existing dwellings and ensuring that no new dwellings or other sensitive developments are constructed in areas of unacceptable air quality through the Planning system.

We moved two diffusion tubes in 2020 which had had continually low readings to new locations that we identified, which could possibly benefit from monitoring due to an increase in traffic, the two new sites are 60 High St, Dosthill(Q4) and 114 Overwoods Rd(Q1).

The tubes that are no longer being monitored due to consistently low readings are 2 Wessenden and 12 Brookside Way. The results for the new tubes Q1 & Q4 were reported for the first time in the 2020 ASR this will be their third year of readings.

Local Engagement and How to get involved

During 2022 due to the after effects of the Covid 19 pandemic engagement with other bodies and the public was not as developed as we would have liked, however we participated in a National Clean air day on the 16th of June 2022 via social media, ie our website, and other social media platforms.

However going forward Tamworth wants to work with more organisations than we already do such as the West Midlands Combined Authority.

We also seek to integrate some of the activities employed to tackle Climate Change with improving local air quality. To these ends Tamworth Borough Council is exploring a number of options

- Installing up to 4 electric vehicle charging points in public car parks.
- Installing electric vehicle charging hubs for our housing tenants
- Switching nearly 20% of our Street-scene vehicles to electric when the lease expires.

Air Quality is not “someone else’s problem”. All members of the community can play a part in improving air quality. Simple steps that we can all take include making short journeys on foot or by bicycle rather than by car or using public transport. As it is often traffic congestion that exacerbates poor air quality, avoiding using vehicles at busy times can be beneficial. Car sharing for journeys to work or for the school run can reduce the number of vehicles using busy roads and junctions.

Other simple measures that can be taken include:

- Purchasing low emission vehicles and or hybrid vehicles as individuals.
- Fleet vehicles and transport companies could play a major role in the use of low emission vehicles.
- Upgrading boilers to the newest and most efficient gas condensing boilers with the lowest nitrogen dioxide and carbon dioxide emissions
- Installing renewable options such as solar panels or wind turbines (in appropriate locations).

Members of the public can play their part in improving air quality in the area by obtaining further information from Tamworth Borough Council website <http://www.tamworth.gov.uk/air-quality>.

Local Responsibilities and Commitment

This ASR was prepared by the Environmental Health Department of Tamworth Borough Council with the support and agreement of the following officers and departments:

Richard Powell	Planning Department
Tom Hobbs	Regeneration Department
Mark Weston	Assistant Director Assets

This ASR has been approved by:

Martin Summers Environment Portfolio holder
 Tamworth Borough Council does not have a director of Public Health however Richard Harling Director of Health & Care, Staffordshire County Council has signed off section 2.3 (PM_{2.5}) of this ASR
 Anna Millar Assistant Director for Growth & Regeneration

If you have any comments on this ASR please send them to Pollution Lead Officer at:

Environmental Protection
 Environmental Health
 Tamworth Borough Council
 Marmion House
 Tamworth
 B79 7BZ

Tel: 01827 709 445

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1 Local Air Quality Management

This report provides an overview of air quality in Tamworth Borough Council 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 the measure will be carried out. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by Tamworth Borough 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.

Tamworth Borough Council declared an AQMA at Two Gates in May 2014, which was revoked on 23rd March 2018 after monitoring results for the area were consistently under the air quality objective standard.

Information on Tamworth`s former AQMA can be found at: https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=271.

Table 2.1 – Former Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	City / Town	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance (maximum monitored/modelled concentration at a location of relevant exposure)		Action Plan	
						At Declaration	Now 2022		Link
AQMA 1/2014	1 st May 2014, Revoked 23rd March 2018	NO ₂ annual mean	Tamworth	Two Gates, Dosthill, Tamworth.	YES	41.6 µg/m ³	21.9 µg/m ³	Two Gates Air Quality Action Plan 2015 http://www.tamworth.gov.uk/sites/default/files/environment_docs/Two%20Gates%20AQAP.pdf	

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

Defra's appraisal of last year's ASR concluded

1. TBC undertook non-automatic NO₂ diffusion tube monitoring at 14 sites in 2021, no sites recorded NO₂ annual mean concentrations in excess of the AQO of 40µg/m³. The highest concentration was recorded at site Q6S, which recorded a concentration of 28.6µg/m³.
2. QA/QC procedures have been applied, with the national bias adjustment factor being used. This factor has been used as opposed to a local bias adjustment factor as TBC do not currently use continuous analysers.
3. As TBC does not have any AQMAs, they are under no legal obligation to produce an Air Quality Action Plan (AQAP). However, TBC do have a number of measures to improve air quality which have been completed. TBC also have a number of measures that are to be investigated/completed/progressed over the course of the next reporting year.
4. From 2023 those authorities who have not had to designate AQMAs and produce AQAPs will be required to draw up a local Air Quality Strategy. These strategies will not have a set format and authorities will be able to draw on content within their ASRs and local transport plans to produce them. The local Air Quality Strategy requirement aims to encourage local authority prevention and reduction of polluting activities in preference to only taking steps to reduce air pollution once exceedances have been identified.
5. On the basis of the evidence provided by the local authority the conclusions reached are **accepted** for all sources and pollutants.

Tamworth Borough Council 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 **Error! Reference source not found.**, with the type of measure and progress Tamworth Borough Council 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 Tabel 2.1a. More detail on these measures can be found in The Air Quality Strategy 2022 - 2027, and in the respective Action Plans of : TMBC Local Plan 2006 – 2031, Local Cycling & Walking Infrastructure Plan 2020 – 2030.

Progress on Key measures are:

Completion of planning application for the proposed South Staffordshire College

This will replace the college in Croft St. It will provide opportunities to promote sustainable transport as well as giving priority to pedestrian & cycle movement and facilitate and maximise the use of local transport. It will also be designed to enable charging of plug in and other ultra low emission vehicles. Demolition is now underway with the aim is to be ready for September 2024 intake.

Investigation of Electric Vehicle EV charging points in 2 public car parks

We have signed a hosting agreement with BP pulse, and the provider and we are awaiting a response regarding their investment proposal. Their intention is to put a new EV charging Hub in a public car park with up to 12 Ultra-Fast EV charging units.

Investigation into EV charging hubs for Tamworth Borough Housing tenants

At present there has been some organisational changes in the potential providers organisation which is causing a delay with the project.

Research into the replacement of some Street-scene vehicles with electric vehicles.

Three compact sweepers arrived May 2022, however at the moment there is a global slowdown on the delivery of vehicles partly due to the ongoing Covid pandemic in China affecting the supply chain of vehicle and vehicle parts. We are still waiting for a 7.5 tonne sweeper, the estimated delivery date of which is August 2023. We have five electric pool vans on order with the option of an extra two, with no confirmed delivery date, as well as sixteen flat back 3.5 tonne vehicles due to arrive 2023, we have 3 flat back and caged 7.5 tonne vehicles on order, we have no confirmed delivery date.

Exploration of Policy HG3 of the Local Plan Wilnecote Corridor has identified the need for a comprehensive approach to regenerating vacant or underused private property and improving the immediate environment to enhance this important transport corridor.

The principal challenges and barriers to implementation that Tamworth Borough Council anticipates is facing it that without an AQMA there is less government funding available for air quality projects.

Tamworth Borough Council expects the following measures to be investigated/completed/progressed over the course of the next reporting year:

Construction of the South Staffordshire College It is expected to be completed 2024 with its first intake of students Sept 2024. This will replace the college in Croft St. It will provide opportunities to promote sustainable transport as well as giving priority to pedestrian & cycle movement and facilitate and maximise the use of local transport. It will also be designed to enable charging of plug in and other ultra low emission vehicles.

Further investigation of Electric Vehicle EV charging points in 2 public car parks

Tamworth Borough Council and its private partner will still explore the cost and potential of installing a number of EV chargers in a Tamworth Borough owned car park.

Further investigation into EV charging hubs for Tamworth Borough Housing tenants

Tamworth Borough Council will continue exploring the possibility of providing a limited number of charging points for Council tenants with a suitable partner organisation.

Replacement of some Street-scene vehicles with electric vehicles.

The replacement of a number of vehicles at the end of their lease and their replacement with electric vehicles is being awaited due to supply chain issues.

Further exploration of Policy HG3 of the Local Plan Wilnecote Corridor which identified the need for a comprehensive approach to regenerating vacant or underused private property and improving the immediate environment to enhance this important transport corridor.

Table 2.2a – Progress on measures to Improve Air Quality

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated/Actual Completion year	Organisation involved	Measure status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to implementation
1	Promotion of walking reduction in vehicle use in Tamworth	Alternatives to private vehicle use	Other	2019	Ongoing	Tamworth Borough Council & SCC	Planning	Reduced vehicle emissions	Length of new foot paths	Planning phase	LAs with AQMA's are prioritised for SCC funded projects that assist schools with alternative modes of travel. We have no AQMA
2	Promotion of Cycling	Alternatives to private vehicle use	Other	2019	Ongoing	Tamworth Borough Council & SCC	Implementation	Reduced vehicle emissions	Length of new cycle paths	Implementation ongoing	https://www.staffordshire.gov.uk/Transport/transportplanning/Walking-and-cycling.aspx No completion year given as ongoing initiative
3	Increase in Bus use	Alternatives to private vehicle use	Other	2019	Ongoing	Tamworth Borough Council & SCC	Planning	Reduced vehicle emissions	Number of Bus Routes	Planning phase	Put on hold due to the Covid 19 Pandemic
4	Domestic smoke control	Public Information	Via the internet	2019	Ongoing	Tamworth Borough Council	Planning	Reduced emissions	Reduction in breaches	Planning phase	No completion year given as ongoing initiative.
5	Enforcement of persistent dark smoke from household chimneys	Enforcement	Other	2022	Introduction of a fine policy	Tamworth Borough Council	Implementation	Reduced emissions	Reduction in breaches	Policy read to be implemented	Ongoing
6	Continued Integration with planning system	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2019	Ongoing	Tamworth Borough Council	Implementation	Reduced emissions	Reduced emissions	Ongoing	No completion year given as ongoing initiative.
7	Regulation of industrial processes	Environmental Permits	Other measure through permit systems and economic instruments	2019	Ongoing	Tamworth Borough Council	Implementation	Reduced emissions	Reduced emissions	Ongoing	Tamworth only has 13 Permitted processes of which 7 are petrol stations. No completion year given as ongoing initiative.
8	EV charging points in public car parks	Promoting low emission transport	Procuring alternative refuelling infrastructure to promote EV recharging.	2021	Ongoing	Tamworth Borough Council & Private Company	Planning	Reduced emissions	Reduced emissions	Planning phase	Site chosen, next step is external sign off.
9	EV charging hubs for Council tenants	Promoting low emission transport	Procuring alternative refuelling infrastructure to promote EV recharging.	2021	Ongoing	Tamworth Borough Council	Planning	Reduced emissions	Reduced emissions	Planning phase	Location viability still being investigated.
10	20% electric street-scene vehicles	Promoting low emission transport	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	2021	April 2023	Tamworth Borough Council	Planning	Reduced emissions	Reduced emissions	Delivery phase	Supply chain issues due to the Covid Pandemic in China
11	Introduction of Home & Hybrid working contracts for Tamworth Borough Council employees.	Alternatives to private vehicle use	Other	2022	Ongoing	Tamworth Borough Council	Home – 41% Hybrid - 20.7% Site – 38.3%	Reduced emissions	Reduced emissions	Ongoing	Ongoing
12	Approval of planning applications to install EV charging points at motorway services & other private sites.		Other	2022	Ongoing	Tamworth Borough Council/ Private Enterprise		Reduced emissions	Reduced emissions	Ongoing	Ongoing

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

The Environment Act 2021 established a legally binding duty on Government to set an annual mean target on the level of fine particulate matter (PM_{2.5}), these have been set in The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023. Also 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 are now two targets to work towards:

The annual mean concentration target, which requires that by the end of 31st December 2040, the annual mean level of PM_{2.5} in ambient air must be equal to or less than 10 µg/m³, with an interim target of 12 µg/m³ to be achieved by the end of January 2028 as set out in the Environmental Improvement Plan 2022.

The other major target is, the population exposure reduction target, this requires that there is at least a 35% reduction in population exposure by the end of 31st December 2040 (“the target date”), as compared with the average population exposure in the three-year period from 1st January 2016 to 31st December 2018 (“the baseline period”), determined in accordance with regulation 8.

There is clear evidence that PM_{2.5} has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

Particulate matter, or PM, is the term used to describe particles found in the air, including dust, dirt and liquid droplets. PM comes from both natural and man-made sources, including traffic emissions and Saharan-Sahel dust. These particles can be suspended in the air for long periods of time, and can travel across large distances.

PM less than 10 micrometres in diameter (PM₁₀) pose a health concern because they can be inhaled into and accumulate in the respiratory system. PM less than 2.5 micrometres in diameter (PM_{2.5}) are referred to as "fine" particles and are believed to pose the greatest health risks, as they can lodge deeply into the lungs and also pass into the bloodstream.

PM_{2.5} is the pollutant which has the biggest impact on public health and on which the Public Health Outcomes Framework (PHOF) D01 Fraction of mortality attributable to particulate air pollution (2021), Public Health Outcomes Framework indicator ⁷ is based.

Air pollution affects us all. It is associated with impacts on lung development in children, heart disease, stroke, cancer, exacerbation of asthma and increased mortality, among other health effects.⁸

The mortality burden of air pollution in England is estimated to be between 26,000 and 38,000 a year.⁸

Within Staffordshire it is estimated that in 2021 (latest figures) (5.0% of all deaths can be attributed to exposure to PM_{2.5}, compared to 5.5% across England (29,850 deaths annually)⁷. Overall, the estimated cost to individuals and society is more than £20 billion annually for the UK.

2.3.1 Particulate Matter (PM_{2.5}) Levels in Staffordshire and Stoke-on-Trent

Only Stoke on Trent monitor locally for PM₁₀. However a number of authorities have been approached by Defra to host an Automatic Urban and Rural Network (AURN) monitor, which if suitable sites can be found would mean that these councils will have PM data specific to their area rather than having to rely on the PM_{2.5} background maps provided by Defra.

As Tamworth Borough Council doesn't monitor either PM_{2.5} nor PM₁₀ a map indicating the area of maximum background annual mean PM_{2.5} concentrations and the area of minimum background annual mean PM_{2.5} has been derived from the Defra Background maps. From these maps Tamworth Borough Council has determined that, its highest level is 10.35 µg/m³ and is located at Peel Drive, Wilnecote, its lowest level is 7.57 µg/m³ and is located at Amington Old Hall, off the Ashby Road.

Fig 3 Map of highest & lowest concentrations of PM_{2.5} in Tamworth



⁷ Public Health England. Public Health Outcomes Framework 1st June https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/3/qid/1000043/pat/6/par/E12000005/ati/102/are/E10000028/iid/30101/age/230/sex/4/cid/4/tbm/1/page-options/car-do-0_ine-yo-1:2019:-1:-1_ine-ct-2_ine-pt-0 © Crown copyright 2021

⁸ Chief Medical Officer's annual report 2022

2.3.2 PM_{2.5} and Mortality in Staffordshire & Stoke-on-Trent

Although the levels of PM_{2.5} within the County and City of Stoke on Trent are below the 2020 EU Limit value, the impact on adult mortality directly attributable to PM_{2.5} is nonetheless still an important public health issue within Staffordshire and Stoke-on-Trent. This is revealed in data obtained from UK Health Security Agency(UKHSA) used to inform Public Health Outcomes Framework indicator D01⁷, as shown in Figure 1

The estimated percentage number of deaths attributable to PM_{2.5} in adults over 30 has been translated into the estimated number of attributable deaths for each local authority area within Staffordshire, and are shown in Figure 2. The data presented to 2021 is the latest data available at time of publication of this report. Approximately on average 5.8% of deaths between 2018 to 2021 within the County can be attributed to PM_{2.5}. (Note the method for calculating this figure has changed we only have the data for 2018,2019 & 2020 using this new method). As the 2020 data for this indicator includes the period from March 2020 onwards, the mortality data used in its calculation will reflect effects of the COVID-19 pandemic).

Figure 1 Estimated average number of deaths by local authority area attributable to PM_{2.5} within Staffordshire for adults over 30 2018 to 2021

District/County	Percentage
Newcastle-under-Lyme	5.5%
Stafford	5.5%
East Staffordshire	6.0%
South Staffordshire	5.8%
Lichfield	6.0%
Staffordshire Moorlands	5.3%
Cannock Chase	6.0%
Tamworth	6.4%
Stoke on Trent	5.9%
Staffordshire County	5.8%
England	6.3%

Figure 2 Public Health Outcomes Framework Indicator 3.01- Fraction of annual all cause adult mortality attributable to anthropogenic (human made) particulate air pollution (measured as fine particulate matter, PM_{2.5}) for Staffordshire Authorities 2018 to 2021⁷

District/County	2018			2019			2020			2021		
	Deaths - all causes persons 30+	%*	Estimated attributable deaths	Deaths - all causes persons 30+	%*	Estimated attributable deaths	Deaths - all causes persons 30+	%*	Estimated attributable deaths	Deaths - all causes persons 30+	%*	Estimated attributable deaths
Newcastle-under-Lyme	1334	5.7	80	1282	6.8	90	1548	4.7	70	1409	5	70
Stafford	1336	5.8	80	1315	6.8	90	1565	4.5	70	1432	4.8	70
East Staffordshire	1093	6.3	70	1128	7.3	80	1355	5.1	70	1287	5.1	70
South Staffordshire	1211	6.3	80	1212	7.0	90	1418	4.9	70	1333	5.1	70
Lichfield	1087	6.4	70	1093	7.2	80	1272	5.2	70	1129	5.1	60
Staffordshire Moorlands	1108	5.2	60	1080	6.6	70	1276	4.5	60	1133	4.7	50
Cannock Chase	976	6.4	60	908	7.2	70	1046	5.1	50	1089	5.2	60
Tamworth	653	6.9	50	678	7.7	50	752	5.6	40	730	5.4	40
Stoke on Trent	2746	6.1	170	2490	7.2	180	3034	5.0	150	2790	5.2	150
Staffordshire	8798	6.1	530	8692	7.0	610	10227	4.9	500	9539	5	480

2.3.3 Actions being taken within Staffordshire to reduce PM_{2.5}

A number of the Staffordshire Authorities are currently involved in implementing measures to reduce levels of NO₂ within their areas, which are detailed elsewhere in their ASR. Since the update of the Environment Act 2021 there is now a statutory duty imposed on Local Authorities in England to reduce PM_{2.5}, a number of the measures are complementary with those being used to reduce NO_x. A mapping exercise completed by the Staffordshire Air Quality Forum members details the measures currently in place which are considered to have an impact in reducing PM_{2.5} within the County. These are outlined in Table 2.4 below;

Tamworth Borough Council is taking the following measures as outlined in Table 2.4 and in conjunction with our partners at the county council and other partners identified in the table to address PM_{2.5}

Smoke Control areas

Tamworth Borough Council declared the whole of the borough to be a smoke control area in the late 1970s.

Changes to the Environment act 2021 has enabled councils to now issue fines with respect to dark persistent smoke coming from household chimneys were as before this change this was difficult to address as household chimneys were exempt from being a statutory nuisance.

This change should enable Tamworth Borough Council to address the incorrect use of log burners even if they are Defra exempt.

Table 2.3 – Actions being taken within Staffordshire to reduce PM2.5

Measures category	Measure Classification	Effect on reducing NOx and PM10 emissions (low, medium, high)	Reduces PM2.5 emissions	Local Authority							
				Staffordshire Moorlands DC	Newcastle under - Lyme BC	Stafford BC	East Staffs BC	Lichfield DC	South Staffs DC	Tamworth BC	
Traffic Management	Urban Traffic Control systems, Congestion management, traffic reduction	low	<input type="checkbox"/>	UTC in Leek Town Centre	UTC in areas of Newcastle Town Centre AQMA and Kidsgrove AQMA. Live labs monitoring work linked to congestion in Newcastle.	UTC in Stafford Town Centre	Town Centre Regeneration Programme & a number of schemes are currently being progressed which will aid traffic management. Many of these will help improve traffic flow within the AQMA. Live labs monitoring work linked to congestion in Burton.	Liaising with Midlands Connect to increase usage of M6 Toll to reduce congestion on A5 & lobbying for upgrade of A38 & A5. The A5 corridor priority for congestion control, but the central section outside of LDC has been prioritised for transport intervention measures. Consideration of Junction improvements at Muckley Corner.		UTC in Tamworth Town Centre at Ventura Park	
	Reduction of speed limits, 20mph zones	low	<input type="checkbox"/>	20mph zones near some schools in residential areas		20mph zones near some schools in residential areas	20 mph zones near some schools in residential areas	.	20mph zones in Trysull, Bradley, Kinver and Bilbrook		
	Road User Charging (RUC)/ Congestion charging	low	<input type="checkbox"/>	No					M6 Toll	M6 Toll	
	Anti-idling enforcement	low	<input type="checkbox"/>	Campaign only Air Aware project	Campaign only Air Aware project		Campaign only Air Aware project	Campaign only Air Aware project	Campaign only Air Aware project.	Campaign only Air Aware project.	
	Other		<input type="checkbox"/>								
Promoting Travel Alternatives	Workplace Travel Planning	low	<input type="checkbox"/>	No workplace travel planning currently.							
	Encourage / Facilitate home-working	low	<input type="checkbox"/>	Agile working policy applied	Homeworking Policy adopted	Homeworking Policy adopted	Homeworking Policy adopted	Homeworking policy adopted	Agile working policy adopted	Homeworking policy adopted	
	School Travel Plans	low	<input type="checkbox"/>	https://www.staffordshire.gov.uk/activeschooltravel							
	Promotion of cycling	low	<input type="checkbox"/>	https://www.staffordshire.gov.uk/Transport/transportplanning/Walking-and-cycling.aspx Review of LCWIP will include additional areas such as Biddulph and Rugeley INTO Walking and Cycling Social Prescribing Specific to Newcastle-under-Lyme www.staffordshire.gov.uk/walkingandcycling							Same as other Staffs authorities
	Promotion of walking	low	<input type="checkbox"/>	https://www.staffordshire.gov.uk/Transport/transportplanning/Walking-and-cycling.aspx Review of LCWIP will include additional areas such as Biddulph and Rugeley INTO Walking and Cycling Social Prescribing Specific to Newcastle-under-Lyme www.staffordshire.gov.uk/walkingandcycling					Good Life Health & Wellbeing in the Community		Same as other Staffs authorities
	Staffordshire Share a Lift Scheme		<input type="checkbox"/>	No Car Share Scheme currently.							
	Promote use of rail and inland waterways	medium	<input type="checkbox"/>	North Staffordshire Community Rail Partnership operating along the North Staffordshire Line includes Blythe Bridge station.	North Staffordshire Community Rail Partnership operating along the North Staffordshire Line includes Kidsgrove station. Kidsgrove station to be fully accessible and regenerated through Town Deal.	Redevelopment of Stafford Station into a gateway associated with HS2 works.	Burton Forecourt improvements completed 2021.	Lichfield Trent Valley access for all works recently completed including lifts.	Improved access/ park facilities at Codsall Station. Upgrades and Landywood Station Brinsford Park and Ride - Parkway Station business case ongoing		

Measures category	Measure Classification	Effect on reducing NOx and PM10 emissions (low, medium, high)	Reduces PM2.5 emissions	Local Authority						
				Staffordshire Moorlands DC	Newcastle under - Lyme BC	Stafford BC	East Staffs BC	Lichfield DC	South Staffs DC	Tamworth BC
Transport Planning & Infrastructure	Local Transport Plans and District Strategies	high	<input type="checkbox"/>	District integrated transport strategies - Staffordshire County Council						
	Public transport improvements-interchanges stations and services	low	<input type="checkbox"/>	Proposed reinstatement of Leek rail connection. Planning application approved during 2022. Funding being sought from central government	Kidsgrove will be multi-modal through Town Deal funding.	New services with S106 funding provided in Stone to new estates in Walton and Yarnfield. Stafford Gateway will be multi-modal		Lichfield Bus Station resurfaced, repainted & new coach parking bays provided. Alternative location for bus station currently under consideration	Parkway station will be multi-modal	Planned improvements at Tamworth station
	Public cycle hire scheme	low	<input type="checkbox"/>			e-scooter trials NOW ENDED AWAITING CONCLUSIONS				
	Cycle network	low	<input type="checkbox"/>	Local cycling and walking infrastructure plan 2021 - Staffordshire County Council Staffordshire cycle maps currently awaiting audit and review						
	Bus route improvements	high	<input type="checkbox"/>	Review of Integrated Transport Strategy will include consideration of improvements for public transport	RTPI on key routes in Newcastle Town Centre. Improved future bus services to Chatterley Valley	Improved bus priority and interchange on key routes in Stafford post-SWAR	Improvements in Burton town centre	RTPI introduced at key stops in Lichfield City.	Consideration of future bus stop upgrades on key routes & improvements to rural services	Corporation Street interchange improvements planned discussion ongoing with SCC
	Active Travel Fund	low	<input type="checkbox"/>		ATF 2 measures to encourage walking and cycling	ATF 2 measures to encourage walking and cycling	ATF 2 and 4 measures to encourage walking and cycling			ATF 3 and 4 measures to encourage walking and cycling
	Levelling Up Fund 2	medium	<input type="checkbox"/>	<p>Schemes will improve a number of major roads around the county, reduce journey times, put greener, cleaner buses on main roads, improve walking and cycling routes and reduce the impact of housing and commercial developments. They will benefit East Staffordshire, Cannock Chase and Stafford Borough. Total package cost circa £20m.</p> <ul style="list-style-type: none"> ▪ Circa £6 million at the A38/A5121 Branston Interchange, near Burton, to complete the work at junction and open up for large scale housing and business development. Staffordshire County Council is adding additional money to walking and cycling schemes in the area for non-motorists to cross the A38 safely. ▪ More than £9 million for work at either end of the A34 between Cannock and Stafford. In Cannock there will be walking and cycling routes to complement the planned town centre regeneration and link to the train station. In Stafford there will be the creation and maintenance of walking and cycling routes along from Radford Bank to the town centre. ▪ Approximately £4.2 million to introduce either the latest generation Euro VI diesels, or electric-powered buses on certain busy routes, as well as improving bus stops and changing priority at junctions. <p>Bus routes benefiting from the new investment include the #8 and #9 services in Burton, run by Midland Classic; the #74 between Stafford and Cannock, run by Chaserider; and the #875 from Stafford to Cannock, via Penkrigde, run by Select Buses.</p>						
Alternatives to private vehicle use	Bus based Park & Ride	medium	<input type="checkbox"/>					New bus central station as part of Friarsgate development scheme		
	Car Clubs	low	<input type="checkbox"/>	<input type="checkbox"/>						

Measures category	Measure Classification	Effect on reducing NOx and PM10 emissions (low, medium, high)	Reduces PM2.5 emissions	Local Authority						
				Staffordshire Moorlands DC	Newcastle under - Lyme BC	Stafford BC	East Staffs BC	Lichfield DC	South Staffs DC	Tamworth BC
Policy Guidance and Development Control	Planning applications to require assessment of exposure / emissions for development requiring air quality impact assessment	high	<input type="checkbox"/>	https://www.staffsmoorlands.gov.uk/media/6155/Adopted-Local-Plan/pdf/Adopted_Local_Plan.pdf?m=1601645140880	Included as part of Local Validation List https://www.newcastle-staffs.gov.uk/planning-applications/information-requirements-validation-planning-applications	http://www.staffordbc.gov.uk/planning/planning-policy/local-plan-2012-2031	http://www.eaststaffsbc.gov.uk/planning/planning-policy/local-plan-2012-2031	https://www.lichfielddc.gov.uk/Council/Planning/The-local-plan-and-planning-policy/Planning-policy.aspx	Adopted South Staffordshire Local Plan, Local Plan, Planning Framework (sstaffs.gov.uk)	Local & National Validation requirements : http://www.tamworth.gov.uk/sites/default/files/planning_docs/National-and-Local-Validation-requirements-2017.pdf
	Air Quality Strategy				Revised Air Quality Action Plan due in 2024 will include requirements for PM _{2.5}	2019-2023 Air Quality Strategy			In development	
	Planning Guidance for developers		<input type="checkbox"/>	SMDC "Air Quality and Emissions Mitigation" Guidance for Developers available, and currently being updated with view to be adopted as a official SPD	To be developed alongside New Local Plan HERE	http://www.stafforddc.gov.uk/planning/planning-policy/supplementary-planning-policy-documents	Informal guidance in place		Planning Guidance and SPDs (sstaffs.gov.uk)	https://www.tamworth.gov.uk/sites/default/files/planning_docs/Tamworth_Design_SPD_July_2019_v1-0.pdf
	Developer Contributions based on damage cost calculation		<input type="checkbox"/>	Damage cost assessment has been used for applicable applications.	To be considered as above		Damage cost assessment now required for applicable applications.			
	Planning Policies		<input type="checkbox"/>	https://www.staffsmoorlands.gov.uk/media/6155/Adopted-Local-Plan/pdf/Adopted_Local_Plan.pdf?m=1601645140880	Various policies support alternatives to use of car and increased use of public transport HERE	http://www.staffordbc.gov.uk/planning/planning-policy/local-plan-2012-2031	Supplementary planning document in development	https://www.lichfielddc.gov.uk/Council/Planning/The-local-plan-and-planning-policy/Planning-policy.aspx	Planning Guidance and SPDs (sstaffs.gov.uk)	https://www.tamworth.gov.uk/local-plan
	STOR Sites (Short Term Operating Reserve) Energy Generation . Regulation via planning / permitting regime	high	<input type="checkbox"/>	<input type="checkbox"/>						
	Low Emissions Strategy	high	<input type="checkbox"/>	Forms part of Climate change action plan & Climate change action plan part 2	In development					

Measures category	Measure Classification	Effect on reducing NOx and PM10 emissions (low, medium, high)	Reduces PM2.5 emissions	Local Authority						
				Staffordshire Moorlands DC	Newcastle under - Lyme BC	Stafford BC	East Staffs BC	Lichfield DC	South Staffs DC	Tamworth BC
Freight and Delivery Management	Freight Consolidation Centre	medium	<input type="checkbox"/>	X						
	Route Management Plans/ Strategic routing strategy for HGV's	high	<input type="checkbox"/>	https://www.staffordshire.gov.uk/Transport/transportplanning/localtransportplan/home.aspx This should be considered as part of planning applications where new proposals come forward.						
	Quiet & out of hours delivery	low	<input type="checkbox"/>			<input type="checkbox"/>				
	Delivery and Service plans	medium	<input type="checkbox"/>			x				
	Freight Partnerships for city centre deliveries	high	<input type="checkbox"/>			x				
Vehicle Fleet Efficiency	Driver training and ECO driving aids	medium	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>				
	Promoting low emission public transport	high	<input type="checkbox"/>	X		x				
	Vehicle retrofitting programmes	medium	<input type="checkbox"/>	On going / in development Energy Saving Trust (EST) have reviewed current fleet and issued recommendations including training.	Bus retrofit for vehicles using A53 service 4	x		Retrofitting of old Council owned HGVs and Buses with pollution abatement equipment will be considered by the Council where technically and financially feasible		
	Fleet efficiency & recognition schemes	medium	<input type="checkbox"/>	Staffordshire County Council's Climate Change Action Plan https://www.staffordshire.gov.uk/environment/Documents/Climate-Change-Action-Plan.pdf - Where possible consider and implement a transition plan to full EV vehicles within the SCC fleet						
Promoting low emission transport	Low emission zone (LEZ) Clean Air Zone (CAZ)	high	<input type="checkbox"/>	X						
	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	high	<input type="checkbox"/>	Procurement Strategy in development; Climate change action plan		Waste fleet vehicles comply with Euro VI.			Council new vehicles all comply with Euro 6	
	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	high	<input type="checkbox"/>	Energy Saving Trust have reviewed current fleet and issued draft The majority comply with are highest EURO emission standard tween with the rest completed by 2023		Investigating replacing old vehicles within the fleet with more modern cleaner vehicles, which comply with ht prevailing EURO standard. This will be extended to all Councill owned vehicles.		Vehicles replaced (in addition to normal fleet turnover)	Most council vehicles were replaced last year with new cleaner vehicles	

Measures category	Measure Classification	Effect on reducing NOx and PM10 emissions (low, medium, high)	Reduces PM2.5 emissions	Local Authority						
				Staffordshire Moorlands DC	Newcastle under - Lyme BC	Stafford BC	East Staffs BC	Lichfield DC	South Staffs DC	Tamworth BC
	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	high	<input type="checkbox"/>	<u>EV strategy</u> on council car parks. hydrated vegetable oil are currently being used by waste fleet	Newcastle towns deal includes EV charging infrastructure.	Procurement of EV on staff carparks partially completed.	EV infrastructure procures on E Staffs public car parks & being installed in 2023		EV Parking on staff car parks	
	Priority parking for LEV's	high	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		LiDC reviewing its car park strategy for the District in pursuit of increasing the provision of EV charging Infrastructure.		EV charging spaces being investigated.
	Taxi Licensing conditions	medium	<input type="checkbox"/>	In development		<input type="checkbox"/>				
	Taxi emission incentives	medium	<input type="checkbox"/>	In development		<input type="checkbox"/>				
	EV Strategy	high	<input type="checkbox"/>	https://democracy.stafsmoorlands.gov.uk/documents/s32243/SM-Public-EV-Charging-Strategy-V1_Final_15.09.22.pdf	Staffordshire EV Charging Infrastructure Strategy https://www.staffordshire.gov.uk/Transport/Sustainable-travel/Electric-vehicles/02-SCC-Public-EV-Charging-Strategy-V3-3.pdf					
Environmental permits	Introduction/increase of environment charges through permit systems and economic instruments (Permit fees set centrally)	medium	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		On going Environmental Permits inspection of installation adhering to permits and enforcement/penalties for breaches		
	Measures to reduce pollution through IPPC Permits going beyond BAT	medium	<input type="checkbox"/>	https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/211863/env-permitting-general-guidance-a.pdf (Chapter 15)						
	Large Combustion Plant Permits and National Plans going beyond BAT	high	<input type="checkbox"/>			NA				
	Other		<input type="checkbox"/>							
Other measures	Smoky Diesel Hotline		<input type="checkbox"/>	https://www.gov.uk/report-smoky-vehicle						

Measures category	Measure Classification	Effect on reducing NOx and PM10 emissions (low, medium, high)	Reduces PM2.5 emissions	Local Authority						
				Staffordshire Moorlands DC	Newcastle under - Lyme BC	Stafford BC	East Staffs BC	Lichfield DC	South Staffs DC	Tamworth BC
	A5 and M6 Partnership		<input type="checkbox"/>			x		Strategy for the A5 2011-2026	Strategy for the A5 2011-2026	
	Domestic Smoke Control advice and Enforcement		<input type="checkbox"/>	<u>SMDC Smoke Control</u>	-	https://www.staffordbc.gov.uk/environment/smoke-control.cfm	<u>Provided via ESBC Website & other literature</u>	https://www.lichfielddc.gov.uk/home-garden/bonfires-barbecues-smoke/1	<u>Smoke Control Areas South Staffordshire District Council (sstaffs.gov.uk)</u>	Drafting of fines policy for issue of persistent dark smoke from domestic chimneys.
	Garden Bonfires - Advice and nuisance enforcement		<input type="checkbox"/>	<u>SMDC Smoke Nuisance and Bonfires & EPUK leaflet used</u>	-	http://www.staffordbc.gov.uk/environmental-health/pollution/bonfires	<u>Provided via ESBC Website & other literature</u>	https://www.lichfielddc.gov.uk/home-garden/bonfires-barbecues-smoke/1	<u>Smells, Dust and Fumes South Staffordshire District Council (sstaffs.gov.uk)</u>	http://www.tamworth.gov.uk/air-quality
	Commercial burning advice and enforcement		<input type="checkbox"/>	<u>SMDC Commercial smoke & waste management "its a burning issue" EA leaflet</u>	-	http://www.staffordbc.gov.uk/environmental-health/pollution/bonfires	<u>Provided via ESBC Website & other literature</u>	https://www.lichfielddc.gov.uk/home-garden/bonfires-barbecues-smoke/1	<u>Smells, Dust and Fumes South Staffordshire District Council (sstaffs.gov.uk)</u>	http://www.tamworth.gov.uk/air-quality
	Multi agency working with Fire Service and Environment Agency for trade burning		<input type="checkbox"/>	<input type="checkbox"/> -	-	<input type="checkbox"/>	Information shared as appropriate	Information shared as appropriate	Information shared as appropriate	Information shared as appropriate
	Multi agency working with Staffordshire Fire Service & Local Authority Building Control regarding chimney fires and complaints about DIY domestic heating systems		<input type="checkbox"/>	<input type="checkbox"/> -	-	<input type="checkbox"/>	Information shared as appropriate	Information shared as appropriate	Information shared as appropriate	Information shared as appropriate
	Stoke-on-Trent Low Carbon District Heat Network		<input type="checkbox"/>	-	-	<input type="checkbox"/>	Information shared as appropriate.			

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

This section sets out the monitoring undertaken within 2022 by Tamworth Borough Council 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.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Tamworth Borough Council does not operate any automatic (continuous) monitors.

3.1.2 Non-Automatic Monitoring Sites

Tamworth Borough Council undertook non- automatic (i.e. passive) monitoring of NO₂ at 14 sites during 2022. Table A.2 in Appendix A presents the details of the non-automatic sites. Maps showing the location of the monitoring sites are provided in figure D.1 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 (NO₂)

Table A.4 in Appendix A compares the ratified and adjusted monitored NO₂ annual mean concentrations for the past five years with the air quality objective of 40µg/m³. 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.

There are no exceedances of the annual mean Air Quality Objective for nitrogen dioxide for 2022. There is no need, therefore, to consider declaring an AQMA in the Tamworth Borough Council area. The level of nitrogen dioxide in the borough appears to be have increased slightly in some areas of Tamworth(7 diffusion tubes) with the increase in post pandemic traffic as indicated in Fig A1,however the levels are still lower than those for 2019.

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites
Tamworth does not have any Automatic monitoring sites.

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)
N10	47 Upper Gungate	Roadside	420760	304560	NO2	No	5.0	2.2	No	3.0
N3	34 Claremont Rd	Urban Background	420040	305690	NO2	No	6.0	2.1	No	3.0
Q1	114 Overwoods	Roadside	423105	300367	NO2	No	4.0	2.1	No	3.0
Q2	50 Lakeland Drive	Roadside	423430	301280	NO2	No	39.0	1.7	No	3.0
Q3	14 High Broom Court	Roadside	420350	303480	NO2	No	6.0	1.8	No	3.0
Q4	60 High St Dosthill	Roadside	421452	300082	NO2	No	2.5	2.1	No	3.0
Q6S	Dosthill Rd Two Gates	Roadside	421588	301526	NO2	No	12.0	1.8	No	3.0
Q6W	Watling St Two Gates Club	Roadside	421560	301605	NO2	No	17.0	2.8	No	3.0
Q6N	Tamworth Rd Two Gates	Roadside	421580	301630	NO2	No	15	2.6	No	3.0
Q6EX	118 Highcliffe Rd	Roadside	421600	301600	NO2	No	6	15	No	3.0
Q7	253 Glascote Rd	Roadside	422110	303420	NO2	No	3	2	No	3.0
Q8	1 Arkall Close	Roadside	421380	305450	NO2	No	9	2.1	No	3.0
Q9	Opp 101 Gungate Comberford Rd	Kerbside	420823	304899	NO2	No	26	1	No	3.0
Q10	251 Tamworth Rd Ammington	Kerbside	4223090	304300	NO2	No	7	1.1	No	3.0

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.4 – 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 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
N10	420760	304560	Roadside	80.8	80.8	30.3	32.2	20.4	25.4	25.2
N3	420040	305690	Urban Background	90.4	90.4	17.1	19.4	14.3	13.8	13.4
Q1	423105	300367	Roadside	100.0	100.0			19.8	20.3	20.9
Q2	423430	301280	Roadside	100.0	100.0	23.8	22.7	17.3	18.5	18.2
Q3	420350	303480	Roadside	100.0	100.0	25.0	24.8	18.1	18.7	20.6
Q4	421452	300082	Roadside	100.0	100.0			20.7	21.3	21.6
Q6S	421588	301526	Roadside	100.0	100.0	35.5	36.9	23.3	28.6	28.6
Q6W	421560	301605	Roadside	90.4	90.4	32.6	32.0	22.2	26.1	26.1
Q6N	421580	301630	Roadside	100.0	100.0	34.1	33.9	26.1	26.7	28.8
Q6EX	421600	301600	Roadside	90.4	90.4	25.6	25.9	20.6	19.9	21.9
Q7	422110	303420	Roadside	100.0	100.0	31.0	29.6	23.7	24.0	23.7
Q8	421380	305450	Roadside	100.0	100.0	21.0	21.2	17.5	16.6	17.7
Q9	420823	304899	Kerbside	100.0	100.0	27.0	29.7	22.1	21.9	24.0
Q10	423090	304300	Kerbside	100.0	100.0	22.3	23.5	17.8	18.9	20.2

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

☒ Diffusion tube data has been bias adjusted .

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

Notes:

The annual mean concentrations are presented as µg/m³.

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **bold and underlined**.

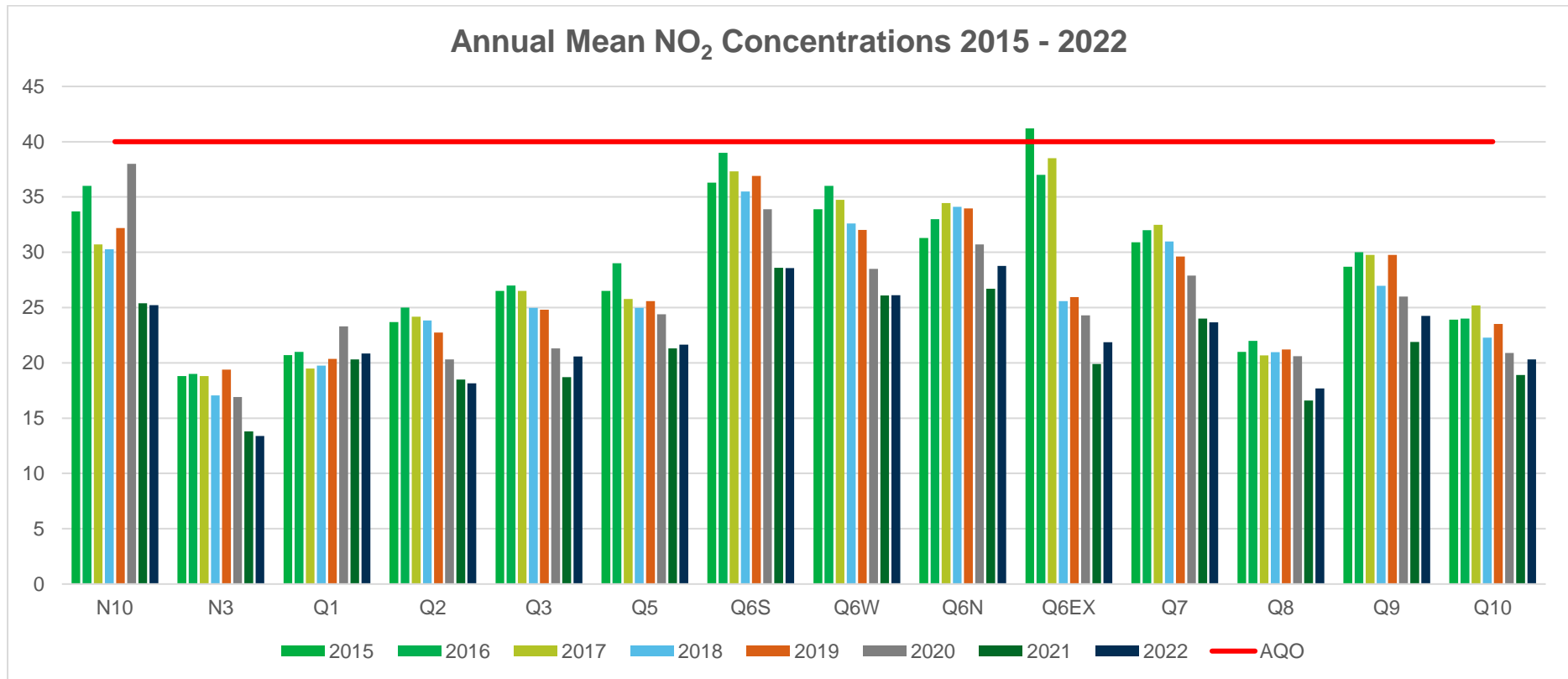
Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

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

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

Figure A.1 – Trends in Annual Mean NO₂ Concentrations



Appendix B: Full Monthly Diffusion Tube Results for 2022

Table B.1 – NO₂ 2022 Diffusion Tube Results (µg/m³)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted	Annual Mean: Distance Corrected to Nearest Exposure	Comment
N10	420760	304560	41.1	27.7	36.5	missing	missing	25.4	24.0	21.0	26.6	25.4	30.8	31.3	29.0	25.2		
N3	420040	305690	17.9	15.8	22.3	10.8	10.3	11.5	11.3	11.6	16.2	19.3	22.3	missing	15.4	13.4		
Q1	423105	300367	33.0	20.4	30.1	17.1	17.1	19.0	20.1	23.1	24.8	24.5	26.9	31.6	24.0	20.9		
Q2	423430	301280	32.3	16.5	30.1	17.5	14.1	12.2	17.2	21.1	22.1	20.0	21.6	25.7	20.9	18.2		
Q3	420350	303480	34.5	24.3	25.5	17.6	17.9	17.9	18.4	18.3	21.3	26.8	30.1	31.2	23.7	20.6		
Q4	421452	300082	37.9	19.2	31.1	21.7	17.7	10.8	19.9	23.5	26.1	26.7	30.8	33.2	24.9	21.6		
Q6S	421588	301526	38.2	26.8	39.2	33.2	27.9	28.3	27.7	27.8	30.3	35.6	35.9	43.3	32.9	28.6		
Q6W	421560	301605	40.2	24.5	40.5	30.0	missing	26.4	28.4	18.6	34.3	30.2	33.5	23.7	30.0	26.1		
Q6N	421580	301630	39.4	29.2	35.9	25.7	26.8	32.4	32.4	34.1	34.2	32.3	36.4	37.9	33.1	28.8		
Q6EX	421600	301600	38.2	21.7	24.9	missing	18.3	19.2	18.2	35.0	21.9	20.7	27.3	31.2	25.1	21.9		
Q7	422110	303420	39.5	27.6	32.9	25.7	20.5	19.3	25.0	26.5	22.6	26.5	28.6	31.6	27.2	23.7		
Q8	421380	305450	34.3	17.8	25.4	15.8	13.4	14.7	13.9	15.6	20.2	22.0	23.2	27.8	20.3	17.7		
Q9	420823	304899	39.9	25.6	28.5	20.4	17.3	22.6	22.9	25.0	26.2	28.2	37.2	37.7	27.6	24.0		
Q10	423090	304300	39.9	22.0	24.0	15.5	13.9	15.9	18.1	21.0	21.0	24.7	29.6	32.4	23.2	20.2		

All erroneous data has been removed from the NO₂ 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.

Tamworth Borough Council confirm that all 2022 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.

Notes:

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 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

Diffusion tubes are used to provide a relatively simple and cost-effective method of monitoring for nitrogen dioxide at several locations where nitrogen dioxide levels are likely to be high as identified in previous reviews and assessments, due to the proximity of significant sources (normally traffic).

The tube is a small plastic device, approximately 6 centimetres long, open at one end, with a disc at the other end that reacts to nitrogen dioxide. They are located at sites, typically on lamp posts or other street furniture or on the facades of properties and exposed for a 4–5 week period, in line with the UK national survey.

The tubes contain a mesh which is doped with 20% v/v Triethanolamine (TEA) in Water and are fitted with a cap before and after exposure which is undertaken according to the nationally published monthly schedule.

New or Changed Sources Identified Within Tamworth Borough During 2022

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

Additional Air Quality Works Undertaken by Tamworth Borough Council During 2022

Tamworth Borough Council has not completed any additional works within the reporting year of 2022, other than those reported in Table 2.1a.

QA/QC of Diffusion Tube Monitoring

The diffusion tubes are supplied and analysed by **Staffordshire Highways Laboratories**, which participates in the *AIR NO₂ Proficiency Testing Scheme* for the analysis the diffusion tubes.

Air PT Scheme

The AIR NO₂ Proficiency Testing Scheme is an independent analytical proficiency-testing (PT) scheme, operated by LGC Standards and supported by the Health and Safety Laboratory (HSL). The AIR PT scheme, started in April 2014, and combines two long running PT schemes: LGC Standards STACKS PT scheme and HSL WASP PT scheme.

Over a rolling five round AIR PT window, one would expect that 95 % of laboratory results should be $\leq \pm 2$. If this percentage is substantially lower than 95 % for a particular laboratory, within this five round window, it may be concluded that the laboratory in question may have significant systematic sources of bias in their assay.

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).

Usually Tamworth Borough Council would insert a table listing those UK laboratories undertaking LAQM activities that have participated in recent AIR NO₂ PT rounds however this was not available at the time of upload of the 2023 ASR where it has been in previous years.

Staffordshire Highways Laboratory explanation of their performance in this scheme is given below.

PT Rounds during 2022

- Round 49 – Feb 2022. 100% satisfactory results.
- Round 50 – July 2022. 100% satisfactory results.
- Round 52 – Sept 2022. 0% satisfactory, 100% unsatisfactory results. Investigation into the results for this round showed issues with the full extraction of the analyte from the tube and issues with training of new member of staff. This did not affect results for other samples. Additional samples of the following round were ordered, and analysis completed with 100% satisfactory results.

Round 53 – Nov 2022. 100% satisfactory results

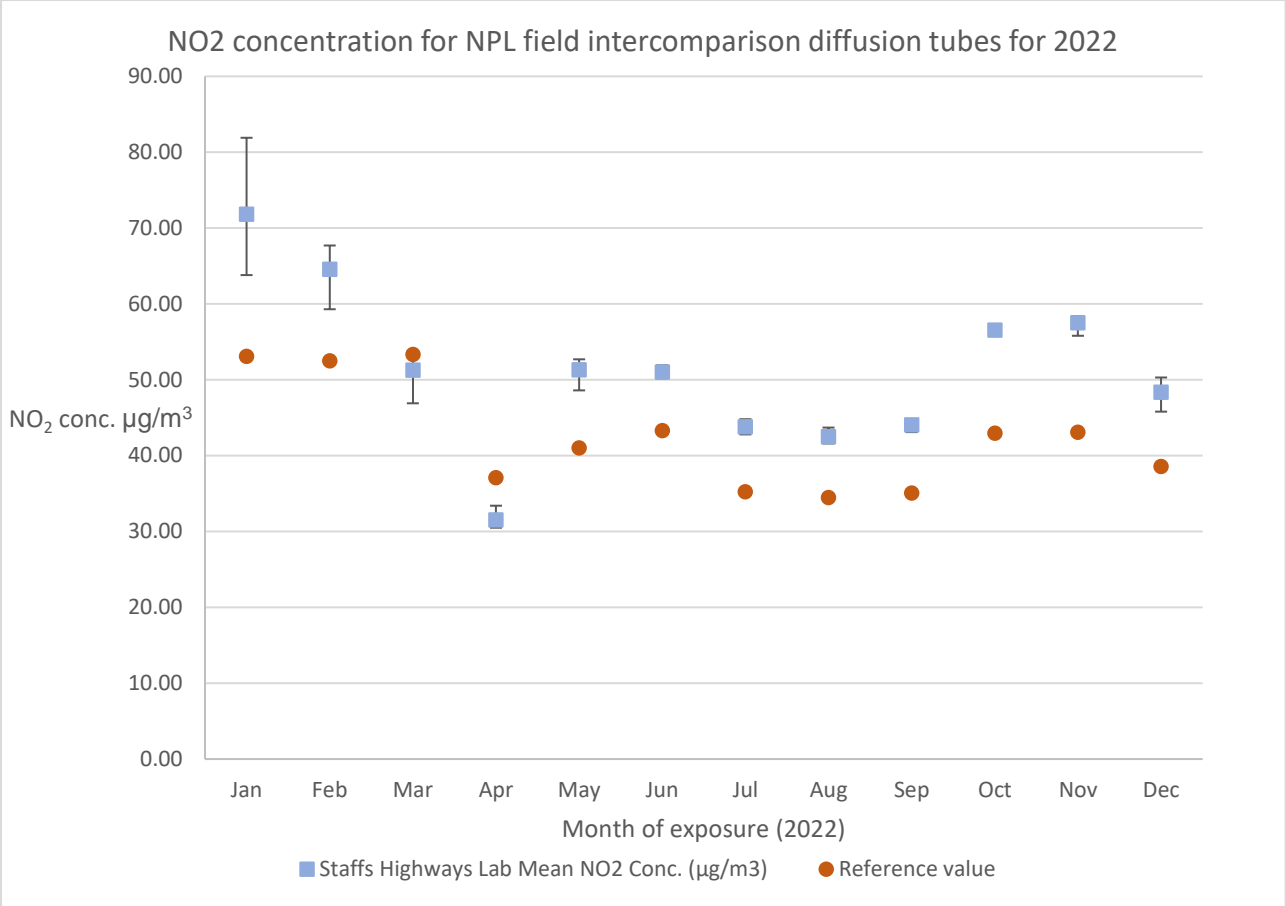
For the most up to date published results in the AIR PT Scheme see the Defra website: <https://laqm.defra.gov.uk/diffusion-tubes/qa-qc-framework.html>

A summary of Staffordshire Highways of z-score results for 2022 can be found in the table below.

PT Round	z-scores	Performance
49 – Feb 2022	-0.11, -0.03, -0.22, 0.00	100% SATISFACTORY
50 – July 2022	-1.00, -0.78, -1.20, -1.48	100% SATISFACTORY
52 – Sept 2022	-4.75, -4.26, -4.04, -4.09	0% SATISFACTORY, 100% UNSATISFACTORY
53 – Nov 2022	-0.16, -1.79, -1.33, -0.61	100% SATISFACTORY

Field Intercomparison (NPL)

Our performance for all results of 2022 was classified as 'GOOD' (CoV <20). The chart below shows our results (blue squares), compared to the reference value (orange dots) for each month.



Bias factor

The bias adjustment factor spreadsheet on the Defra website was updated in March 2023. The overall bias factor for Staffordshire Highways Laboratory for 2022 (including the Field Intercomparison result and all the co-location results from participating local authorities, total of 12 studies) was 0.87.

Diffusion Tube Annualisation

All diffusion tube monitoring locations within Tamworth Borough Council recorded data capture of 75% therefore it was not required to annualise any monitoring data. In addition, any sites with a data capture below 25% do not require annualisation.

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2023 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/NO₂ continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Tamworth Borough Council have applied a national bias adjustment factor of 0.87 to the 2022 monitoring data. A summary of bias adjustment factors used by Tamworth Borough Council over the past five years is presented in Table C.1.

We use a national bias adjustment factor chosen as opposed to a local factor because we do not use continuous analysers.

Table C.1 – Bias Adjustment Factor

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2022	National	03/23	0.87 (12 Studies)
2021	National	09/22	0.85 (16 studies)
2020	National	09/21	0.85 (15 studies)
2019	National	09/20	0.93 (17 studies)
2018	National	06/19	0.89 (14 studies)
2017	National	09/18	0.88 (11 studies)
2016	National	06/17	0.83 (15 studies)

NO₂ Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO₂ concentration at the nearest location relevant for exposure should be estimated using the Diffusion Tube Data Processing Tool/NO₂ fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO₂ concentrations corrected for distance are presented in Table B.1.

No diffusion tube NO₂ monitoring locations within Tamworth Borough Council required distance correction during 2022.

QA/QC of Automatic Monitoring

No automatic NO₂ monitoring locations within Tamworth Borough Council required distance correction during 2022.

Table C.2 – Annualisation Summary (concentrations presented in $\mu\text{g}/\text{m}^3$)

Site ID	Annualisation Factor	Annualisation Factor	Annualisation Factor	Annualisation Factor	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean	Comments

No diffusion tubes required annualisation.

Bias Adjustment Factor

It is known that there are systematic differences in the performance of different laboratories and preparation methods of diffusion tubes. Table C.3 shows the studies that have been used to compare results from diffusion tubes (analysed by Staffordshire Highways Laboratories) to results of co-located automatic chemiluminescence monitors, where data has been collected for 9 months or more.

From these studies it can be seen that the bias adjustment factor (A) of 0.87 has therefore to be applied (multiplied) to the diffusion tube results for the 2022 data as shown in Table C.3.

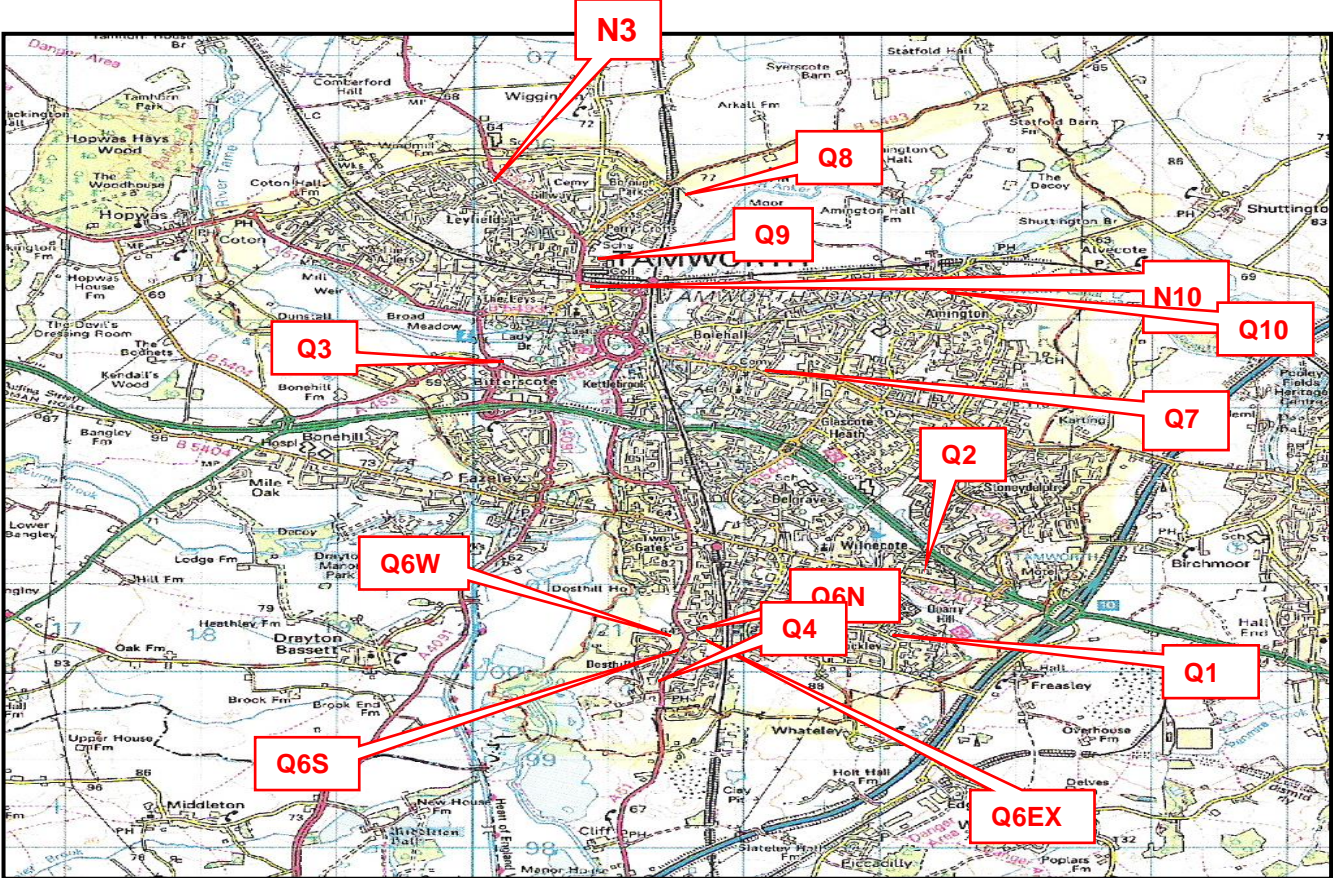
Table C.3

Bias Adjustment Factors for Staffordshire Scientific Services 2022

National Diffusion Tube Bias Adjustment Factor Spreadsheet							Spreadsheet Version Number: 03/23			
<p>Follow the steps below <u>in the correct order</u> to show the results of <u>relevant</u> co-location studies</p> <p>Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods</p> <p>Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet</p> <p>This spreadsheet will be updated every few months; the factors may therefore be subject to change. This should not discourage their immediate use.</p>									<p>This spreadsheet will be updated at the end of June 2023</p> <p>LAQM Helpdesk Website</p>	
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	<p>Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution.</p> <p>Where there is more than one study, use the overall factor³ shown in blue at the foot of the final column.</p>							
If a laboratory is not shown, we have no data for this laboratory.	If a 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 <small>To undo your selection, choose (All) from the pop-up list</small>	Year ⁵ <small>To undo your selection, choose (All)</small>	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m ³)	Automatic Monitor Mean Conc. (Cm) (µg/m ³)	Bias (B)	Tube Precision ⁶	Bias Adjustment Factor (A) (Cm/Dm)
Staffordshire Scientific Services	20% TEA in water	2022	KS	Manchester City Council	12	49	43	13.8%	G	0.88
Staffordshire Scientific Services	20% TEA in water	2022	UC	Manchester City Council	12	29	29	0.4%	G	1.00
Staffordshire Scientific Services	20% TEA in water	2022	SI	Manchester City Council	12	17	16	12.1%	G	0.89
Staffordshire Scientific Services	20% TEA in water	2022	KS	Manylebone Road Intercomparison	12	51	42	20.5%	G	0.83
Staffordshire Scientific Services	20% TEA in water	2022	UB	Salford City Council	12	23	22	6.9%	G	0.94
Staffordshire Scientific Services	20% TEA in water	2022	B	Salford City Council	10	13	11	16.3%	G	0.86
Staffordshire Scientific Services	20% TEA in water	2022	R	Salford City Council	12	40	34	17.6%	G	0.85
Staffordshire Scientific Services	20% TEA in water	2022	R	Bury Council	11	24	21	16.0%	G	0.86
Staffordshire Scientific Services	20% TEA in water	2022	R	East Staffordshire Borough Council	10	39	31	23.9%	G	0.81
Staffordshire Scientific Services	20% TEA in water	2022	UB	Stoke-On-Trent City Council	11	23	20	17.1%	G	0.85
Staffordshire Scientific Services	20% TEA in water	2022	UB	Wigan Council	12	21	17	21.6%	G	0.82
Staffordshire Scientific Services	20% TEA in water	2022	R	Wigan Council	12	27	22	22.6%	G	0.82
Staffordshire Scientific Services	20% TEA in water	2022		Overall Factor ³ (12 studies)				Use		0.87

Appendix D: Map(s) of Monitoring Locations

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



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NB The TAM Q6E site has been moved to 118 Highcliffe Rd and is now called TAM.6QEX

Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England⁹

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

⁹ The units are in microgrammes of pollutant per cubic metre of air (µg/m³).

Appendix F: Processes Regulated for Emissions to Air by Tamworth Borough Council under the Environmental Permitting (England & Wales) Regulations 2016 as at August 2022

Ref No	Operator Name	Process Address	Post Code	Process Description
Part A2				
P01	Forterra Building Products Ltd	Wilnecote Brick, Hedging Lane, Wilnecote	B77 5EU	Manufacture of heavy clay goods. (Brickworks)
Part B				
P03	Envirostrip (GB) Ltd	Unit 11, 12 and 12a Hedging Lane Industrial Estate	B77 5HH	Ferrous Metal
P06	Envirostrip (GB) Ltd	Warwick House, Watling Street, Wilnecote	B77 5BH	Metal decontamination by the application of heat
P02	Breedon Southern Ltd	Mica Close, Tamworth,	B77 4DS	Concrete batching plant
P09	Apollo Chemicals Limited	Sandy Way, Amington Industrial Estate	B77 4DS	Manufacture of solvent borne adhesives and solvents
P11	Sainsbury's Supermarkets Ltd	Sainsbury's Supermarkets Ltd, Bitterscote	B78 3HD	Unloading of petrol into stationary storage tanks
P12	William Morrisons Supermarkets Ltd	William Morrison Supermarket Plc, Hilmore Way	B77 2NY	Unloading of petrol into stationary storage tanks
P13	Tamworth Service Station	Tamworth Service Station, Upper Gungate	B79 7NU	Unloading of petrol into stationary storage tanks
P14	Tesco Stores Ltd	Dosthill Service Station, High Street, Dosthill	B77 1LE	Unloading of petrol into stationary storage tanks
P15	Fuel Centre Ltd	Wilnecote Service Station, Watling Street, Wilnecote	B77 5AB	Unloading of petrol into stationary storage tanks
P22/10	Roadside Welcome	78 Glascote Rd, Tamworth, B77 2AF	B77 2AF	Unloading of petrol into stationary storage tanks
P20	Asda Stores Ltd	Ventura Road	B78 3HD	Unloading of petrol into stationary storage tanks
P21	Stormking Plastics Ltd	Amington Point, Sandy Way, Amington	B77 4ED	Processes for the manufacturer of fibre reinforced plastics

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England
EU	European Union
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. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.