

Blaby District Council **Statement**

2024 Air Quality Annual Status Report (ASR)

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Document Definition / Approval & Review

Defining the document type and how it is approved and reviewed

Blaby District Council statement **‘A definite or clear expression of something in writing (something that is written which provides information in a formal or definite way)’**.

Key published documents are approved for publication in line with the approval matrix illustrated in the [Key Published Document Procedure](#).

Unless agreed by exception, key published documents must be reviewed at least **every 3 years** from the date of approval.

Significant updates/changes must also seek reapproval in line with the approval matrix.

Scope

To what and to whom this statement applies

This report provides an overview of the air quality in Blaby District in 2023 and therefore applies to anyone who lives, works in or visits the District.

Terms & Definitions

Definition of any acronyms, jargon, or terms that might have multiple meanings.

Term	Definition
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
PM ₁₀	Airborne particulate matter with an aerodynamic diameter of 10µm or less
PM _{2.5}	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO ₂	Sulphur Dioxide



2024 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: June 2024

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Executive Summary: Air Quality in Our Area

Air Quality in Blaby District

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. In the UK, it is estimated that the reduction in healthy life expectancy caused by air pollution is equivalent to 29,000 to 43,000 deaths a year¹.

Air pollution particularly affects the most vulnerable in society, children, the elderly, and those with existing heart and lung conditions. Additionally, people living in less affluent areas are most exposed to dangerous levels of air pollution².

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.

¹ UK Health Security Agency. Chemical Hazards and Poisons Report, Issue 28, 2022.

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

The main pollutants of concern in the Blaby District, as in most areas of the UK, are associated with road traffic, in particular Nitrogen Dioxide (NO₂) and fine particulate matter (PM) at locations close to busy, congested roads where people may live or work. Previous review and assessments have identified areas of concern, known as Air Quality Management Areas (AQMA's). Currently there are five designated AQMAs in the district, all of which were declared in relation to exceedances of the national Air Quality annual mean Objective for NO₂. The boundaries of the five AQMAs can be viewed in the maps presented in Appendix D Figures 1-5.

The AQMAs are currently as follows:

- AQMA 1: A5460 Narborough Road South
- AQMA 2: M1 corridor in Enderby and Narborough
- AQMA 3: M1 corridor between Thorpe Astley and Leicester Forest East
- AQMA 4b: Enderby Road, Whetstone
- AQMA 6: Mill Hill, Enderby

[Link to Blaby District Council website: Air Quality](#)

The trend for 2023 is encouraging and air pollutant concentrations experienced an overall decrease across the Blaby District in comparison to 2022 and all existing AQMAs have remained below the Air Quality Objective (AQO) limit of 40µg/m³ for 2023. These figures support our proposed revocations from last year's Annual Status Report. The areas planned for revocation are AQMA 1, AQMA 2 and AQMA 4b following advice from Defra as there have been at least five years of continuous levels without exceedances of the AQO.

Due to an inaccurate distance correction and an administrative issue with the national portal that lists the AQMAs, the 2023 ASR was initially not accepted by Defra. However, these two issues were successfully addressed and Defra accepted the 2023 ASR in late February 2024. The Council subsequently initiated consulting on the proposed revocations and a report is due to be considered by our Cabinet Executive in Autumn 2024. In any event, monitoring will continue to ensure compliance.

The decision was made in the 2023 ASR to keep AQMA3 for a further year due to the significant levels of development in and around the area going forward, and there being the potential for levels of NO₂ to increase. The vast majority of monitoring results for 2023 have shown a further reduction in levels of NO₂. Therefore, in accordance with current

Defra guidance, we are proposing to revoke this AQMA. Protection against further increases are provided through policies in the Local Plan and monitoring will continue.

Throughout 2023 The Environmental Services team were subjected to limited resources as two full time members of staff left to progress their careers within the Council, and additional unplanned time-consuming site survey work relating to landfill gas. This resulted in a reduction of the capacity for air quality actions to be implemented by the Team.

AQMA 6 is a high traffic area and although levels of NO₂ decreased in 2023 and fell below the AQO, we need to ensure this continues and therefore the AQMA will remain in place as advised by DEFRA.

In 2022, An exceedance of the AQO was recorded around the junction of Lubbesthorpe Road and Narborough Road South in Braunstone Town for NO₂ with a measurement of 43 µg/m³* (*distance corrected), which reduced to 36µg/m³* in 2023. In last year's Annual Status Report, the council proposed to declare a new AQMA. This proposal is to be taken forward, as there is still a risk of the AQO being exceeded. The new AQMA will be known as AQMA 7 and a map showing the outline of the proposed area can be seen in Appendix D Figure 6.

Blaby District Council have made an ongoing commitment to continue the monitoring and management of air quality, taking action to reduce levels of airborne pollutants. The council has five Air Quality Monitoring Stations (AQMS) that are continuous monitors measuring NO₂, two of these also monitor Particulate Matter (PM). There are 27 diffusion tubes that measure NO₂ across the district and these are exchanged monthly. In 2022 and 2023 the council installed several mobile monitors (Zephyrs) that record real time data for NO₂ and PM. Illustrations below show examples of the Councils monitoring devices and Maps illustrating the locations of the monitors can be seen in Appendix D: Figures 1-16.



Air Quality Monitoring Station



Diffusion Tube



Zephyr

Actions to Improve Air Quality

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

The Environmental Improvement Plan³ sets out actions that will drive continued improvements to air quality and meet the new national interim and long-term targets for fine particulate matter (PM_{2.5}), the pollutant most harmful to human health. The Air Quality Strategy⁴ provides more information on local authorities' responsibilities to work towards these new targets and reduce fine particulate matter in their areas.

The Road to Zero⁵ details the Government's approach to reduce exhaust emissions from road transport through a number of mechanisms, in balance with the needs of the local community. This is extremely important given that cars are the most popular mode of personal travel and the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

The Council has been involved in several schemes aimed at reducing emissions and improving air quality within the district:

- Blaby District Council has been encouraging residents to use green energy rather than more pollutant energy sources such as log burners. There is the Council-backed Big Community Switch which helps households find better green energy deals. It focuses on 100% renewable energy and helps householders cut their carbon emissions.
- In June 2023 the Council actively took part in Clean Air Day with a 'Walk to School' initiative. This encouraged children and parents across the district to leave the car at home and walk to school to raise awareness of the benefits of clean air. The Council's Environmental Services Team organised four walks and were joined by officers from 'Active Blaby', Leicestershire County Council's 'Choose How You

³ Defra. Environmental Improvement Plan 2023, January 2023

⁴ Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

⁵ DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018

Move' and their mascot 'Theo the Fox'. The Air Quality Officer delivered four 'preschool' walks with primary school children and their teachers / parents to raise awareness about travelling to school in an eco-friendly manner. Resources from Global Action Plan such as wordsearch, design your own superhero, and PowerPoints were also provided to all schools within the district to help raise awareness. This work also formed some legacy work from the previous 'Countdown to Clean Air' Air Quality Project.

- Blaby District Council has been taking several measures to reduce its own impact on air quality. The Council has reduced greenhouse gas emissions by 30% in the last year contributing to the reduction in air pollution within the district. This reduction is largely due to switching all refuse vehicles to hydrogenated vegetable oil (HVO), a greener substitute to fossil fuels. The Council is committed to reducing emissions further and has plans to transition the whole fleet to electric over time. In 2023 the Council was awarded over £500,000 via an air quality grant from DEFRA entitled 'Let's Go Electric' which will be spent on an electric conversion kit for an existing refuse vehicle, and the purchase of the Council's first fully electric road sweeper. There are also plans for a fully electric refuse vehicle, and the installation of over 300 Solar panels on the roof of our Whetstone depot to help provide green energy to power these vehicles.
- In 2023 Blaby District Council installed four Electric Vehicle chargers to provide access to EV charging for staff and visitors to the main offices in Narborough. This is aimed to help influence Council Officers to consider purchasing an EV in the future and forms part of the Net Zero Action Plan helping Blaby to lead the way in reducing emissions and improving air quality. A further two chargers are planned in the future as and when they are required.
- Blaby District Council along with 6 other Leicestershire districts have been awarded a government grant to provide electric vehicle (EV) solar charging hubs. The project is being delivered by Harborough District Council and includes plans to install 12 EV chargers and a solar canopy at Enderby Leisure Centre for public use within Blaby District.
- There have been improvements to public transport such as a new bus route from New Lubbethorpe to Fosse Park encouraging residents to leave their cars at home. The route is part of the Novus Leicester network which is funded by the

Drummond Trust. Commuter journeys by car from New Lubbesthorpe have reportedly⁶ fallen by 20% since its launch in Summer 2022.

- A multi-agency scheme is underway to improve walking and cycling routes in the district, encouraging residents to leave their cars at home. One of the first sections opened in June 2023 from Braunstone Town to Meridian Leisure Park. The scheme involves multiple partners in addition to Blaby District Council, such as Leicestershire County Council, Leicester City Council, Sustrans, Meridian Leisure Park, Braunstone Town Council and Lubbesthorpe Parish Council.
- The Council have been awarded a grant from DEFRA to investigate and inform the public on levels of Particulate Matter (PM) within the district. Mobile Air Quality monitors (Zephyrs®) have been installed throughout the Blaby district to monitor levels of PM and the Council will be launching a 'live' portal which links to the Zephyrs® in 2024. A map with the current locations of the Zephyrs can be seen in Appendix D: figure 16, however this is subject to change depending on levels of PM measured. This will enable residents to make informed decisions about where and what times to avoid, especially those more vulnerable with existing health concerns. It will also enable those who contribute to pollutants, such as car users, to make informed choices for using alternative means of transport. Whilst the Council are in the early stages of data collection, measurements so far have shown the highest recorded levels of PM have been in the rural area of Fosse Meadows giving an average annual⁷ reading of 11.68µg/m³, followed by Narborough Road South of 8.32 µg/m³. Due to the higher levels recorded at Fosse Meadows, further investigation of the possible sources are required, and the Council have installed another Zephyr® to the nearest residential village of Sharnford. We will use this additional Zephyr® to closely monitor and investigate any trends that may occur to assist in future action plans on air quality.
- Blaby District Council approved the Hackney Carriage and Private Hire Licensing Policy for 2022- 2027 to incentivise the use of Ultra Low Emissions Vehicles (ULEV) and Electric Vehicles (EV). The licensing department offers a reduction in fees (50% for EV's and 25% for ULEV's) for Operators who License a vehicle under any

⁶ New Lubbesthorpe – News: Further improvements to New Lubbesthorpe public transport service

⁷ Data based on 6 months readings- data has not been annualised or distance corrected.

of these categories. In 2023, Blaby licensed its first fully electric Private Hire Vehicles.

- The Council have joined in with an innovative new scheme known as Solar Together Leicestershire, which is a group-buying scheme offering high quality solar photovoltaic (PV) panels and battery storage. This scheme encourages residents to look at alternative zero emission energy sources.
- The Council's Development Services team consult Environmental Services on planning applications that are in or close to AQMAs, on busy road corridors, or are otherwise associated with significant traffic generation. Larger developments can sometimes take over a year to process, such as the proposed The Enderby Hub. The most significant consultations that were received in 2023, together with an update on those mentioned in the 2023 ASR are listed on page 44. Controls on dust and other airborne emissions are often imposed through the use of Construction and Demolition Method Statements and Construction Environmental Management Plans (CEMPs).
- There are also several ongoing proposed developments around Blaby District. Air Quality monitoring is being conducted to understand background levels in the vicinity of these development sites. These include the Lubbethorpe development, Croft Quarry extension, a potential new housing development close to Stoney Stanton and the proposed Hinckley National Rail Freight Interchange.

Blaby District Council continues to work closely with the following partners:

- All Leicestershire District & Borough Authorities
- Leicester City Council
- Leicestershire County Council (various sections including Highways and Transportation, Public Health and Sustainable Travel)
- National Highways
- The Environment Agency
- The UK Health Security Agency (UKHSA)

Blaby District Council has an active role in the Air Quality and Health Partnership Steering Group working closely with Public Health and Environment and Transportation implementing an Action Plan based on the outcomes of the Joint Strategic Needs Assessment (JSNA) to tackle poor air quality and related health issues. This action plan informs the Councils air quality and climate change work and supports a joint delivery alongside the Council's Air Quality Action Plan (AQAP) and Air Quality Grant work.

Blaby District Council is a member of the East Midlands Air Quality Network and also is an active participant in the Leicester, Leicestershire, and Rutland Air Quality Forum which brings together a partnership of different organisations and expertise in matters of air quality.

Both of these bodies improve the sharing of information, offering a space for networking and aiding in consistency of approach.

In addition to operating its own air quality monitoring stations, BDC manages Leicestershire County Council's Air Quality Monitoring Station: Continuous Monitor 4 (CM4) (Blaby 4) - located in AQMA 3, Leicester Forest East.

Conclusions and Priorities

In 2023, there were no exceedances* (*once distance corrected) of the Air Quality Objectives for NO₂ recorded in the Blaby District. Going forward there will be two AQMAs where air pollutants will be closely monitored and action plans will be implemented to ensure these pollution levels remain below the Air Quality Objective (AQO). These areas are as follows:

- AQMA 6: Mill Hill, Enderby
- AQMA 7: Lubbesthorpe Road, Braunstone Town

Whilst the Council are positive about being able to revoke four of the existing AQMA's due to ongoing compliance of NO₂ levels, it is acknowledged that the health impacts of air pollution exposure can occur even below the objectives. The Council will continue to closely monitor levels appropriately throughout the district as a whole and continually seek to improve the Air Quality in the district.

Particulate Matter (PM) is an emerging area of interest and will be a focus for the Council in 2024. The Council will continue to measure levels and identify potential sources of PM with an aim to reduce exposure. The Council continues to work closely with Public Health Leicestershire and other partnership agencies to develop a better understanding of the health implications. The 'Particulates Matter' Air Quality Grant project is instrumental in making progress on this.

Local Engagement and How to get Involved

There has been an increased awareness of environmental matters in recent years and with this has come an increase in interest from residents as to what they can do to help minimise the effects of pollution in the local area.

The Council plays a pivotal role in addressing air quality issues, but the effectiveness of measures will be determined by the level of their adoption through behavioural change. There are many ways in which members of the public can act to reduce their impact on local air quality.

- Riding bicycles, walking, or scooting to work and school.
- Using public transport rather than private vehicles or taxi. You can book an on-demand bus service connecting the rural areas of South-West Leicestershire known as the Fox Connect. [FoxConnect website](#)
- Turning vehicles off when you are stationary.
- Consider changing to a lower emission or electric vehicle. There may be government grants available to assist the cost of doing so.
- Compost your garden waste or sign up to Blaby District Council garden waste collection service: [Garden Waste Collections – Blaby District Council](#)
- Use renewable energy to heat your home, such as solar panels. Solar together can make the buying process easier: [Solar Together Leicestershire | Leicestershire County Council](#)
- If you must use a log burner, make sure it is serviced regularly and always use appropriate fuel for your appliance. Make sure that all fuel is fully dry before burning it as this will improve combustion, increase the heat produced and reduce pollution.
- Reduce household energy bills and reduce pollution by turning down the thermostat in your home by one or two degrees when the outside temperature allows.
- Improving your home's insulation may help to reduce heating bills. You may be eligible for a grant to improve insulation: [Energy efficiency grants | Leicestershire County Council](#)

Local Responsibilities and Commitment

This ASR was prepared by the Environmental Services Department of Blaby District Council with the support and agreement of the following officers and departments:

- Anna Farish- Environmental Services Manager
- David Gould- Senior Environmental Health Officer -Environmental Services
- Catherine Redshaw- Air Quality Projects Officer- Environmental Services
- Sammie Turton- Technical Officer- Environmental Services
- BDC Planning Policy Team
- BDC Development Services Team
- Leicestershire County Council- Public Health
- Leicestershire County Council- Environment and Transport

This ASR has been approved by:

- Environmental Health, Housing and Community Services Group Manager
- Strategic Director
- Portfolio Holder and Blaby District Council's Cabinet Executive

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



Mike Sandys

If you have any comments on this ASR, please send them to Environmental Services at:

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Local Air Quality Management

This report provides an overview of air quality in Blaby District during 2023. 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 Blaby 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 (AQMA) 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, maintained and provide dates by which measures will be carried out.

A summary of AQMAs declared by Blaby District Council can be found in Table 0.1. The table presents a description of the five AQMAs that are currently designated within Blaby District. Appendix D: Maps of Monitoring Locations and AQMAs provides maps of AQMAs and also the air quality monitoring locations in relation to the AQMAs. The air quality objectives pertinent to the current AQMA designations are as follows:

- NO₂ annual mean 40µg/m³

The Council propose to declare a new AQMA in Lubbesthorpe Road, Braunstone Town area due to previous exceedances of the NO₂ annual mean air quality objective of 40µg/m³ (see Monitoring results in Appendix A). This AQMA will be known as AQMA 7.

Monitoring results from 2023 support our proposed revocations from last year's Annual Status Report. The Council proposes to revoke three AQMAs due to ongoing compliance with the Air Quality Strategy Objective (AQO) limit of 40µg/m³, these being:

- AQMA 1: A5460 Narborough Road South
- AQMA 2: M1 corridor in Enderby and Narborough
- AQMA 4b: Enderby Road, Whetstone

Due to an inaccurate distance correction and an administrative issue with the national portal that lists the AQMAs the 2023 ASR was initially not accepted by Defra. However, these two issues were successfully addressed and Defra accepted the 2023 ASR in late February 2024. The Council subsequently initiated consulting on the proposed revocations and a report is due to be considered by our Cabinet Executive in autumn 2024. In any event, monitoring will continue to ensure compliance.

The decision was made in the 2023 ASR to keep AQMA3 for a further year due to the significant levels of development in and around the area going forward, and there being

the potential for levels of NO₂ to increase. The vast majority of monitoring results for 2023 have shown a further reduction in levels of NO₂. Therefore, in accordance with current Defra guidance, we are proposing to revoke this AQMA. Protection against further increases are provided through policies in the Local Plan and monitoring will continue

Table 0.1 – 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
AQMA 1: A5460 Narborough Road South	Declared September 2000; Amended January 2018	NO2 Annual Mean	Residential properties along a small section of Narborough Road South to the extent of Blaby District.	NO	50 µg/m3	28.6 µg/m3	6	Air Quality Action Plan 2021-2025	Air Quality Action Plan 2021-2025 (blaby.gov.uk)
AQMA 2: M1 corridor in Enderby and Narborough	Declared September 2000; Amended 2020	NO2 Annual Mean	Residential properties adjacent to the M1, between around 1.5km and 3km south of Junction 21	YES	50 µg/m3	20.7 µg/m3	6	Air Quality Action Plan 2021-2025	Air Quality Action Plan 2021-2025 (blaby.gov.uk)
AQMA 3: M1 corridor between Thorpe Astley and Kirby Muxloe	Declared September 2000; Amended April 2005; Amended 2020	NO2 Annual Mean	Residential properties adjacent to the M1 and A47 between Thorpe Astley and Leicester Forest East	YES	60 µg/m3	23.6 µg/m3	5	Air Quality Action Plan 2021-2025	Air Quality Action Plan 2021-2025 (blaby.gov.uk)
AQMA 4B: Enderby Road, Whetstone	Declared April 2005; Amended 2020	NO2 Annual Mean	Residential properties along Enderby Road, Whetstone	NO	50 µg/m3	19.8 µg/m3	6	Air Quality Action Plan 2021-2025	Air Quality Action Plan 2021-2025 (blaby.gov.uk)

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
AQMA 6: Mill Hill, Enderby	Declared January 2018	NO2 Annual Mean	Residential properties along Hall Walk and Mill Hill, Enderby	NO	43 µg/m3	35.6 µg/m3	1	Air Quality Action Plan 2021-2025	Air Quality Action Plan 2021-2025 (blaby.gov.uk)

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

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

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

The 2023 had to be resubmitted to address 2 issues that were identified by Defra (points 1 and 2 below). Following this resubmission, Defra's appraisal of last year's ASR concluded:

'On the basis of the evidence provided by the local authority the conclusions reached in the report are **accepted** for all sources and pollutants, on the proviso that the grammatical and formatting errors in the report are corrected prior to publication on the council's website. ASRs are public facing documents that serve to keep local communities informed of the steps being taken by their local authority to improve air quality, and as such it is important that they are accessible and easy to read. Following the completion of this report, Blaby District Council should submit an Annual Status Report in 2024.'

Their appraisal also included a 'Commentary' as follows:

- 1. Automatic monitoring station CM6, Braunstone Town is 7 metres away from relevant exposure and is currently over the NO₂ annual mean AQO. However, distance correction for this site has not been carried out. The report will need to be updated following distance correction for this location.** *Distance correction has now been undertaken on CM6 as the monitor is not located at relevant exposure. Details of this distance correction have been included in Table C.4.*
- 2. AQMA 4b is missing from the portal. This will need to be added to the portal so that all the details in the portal and in Table 2.1 match.** *AQMA 4b is now included within the Portal.*

The following comments are designed to help inform future reports:

1. The Council has decided to revoke AQMAs 1, 2 and 4b in 2023. This is welcomed as these AQMAs have achieved compliance for 5 years or more for NO₂ annual mean AQO.
2. There is a good discussion of annual mean concentration trends across the district and the AQMAs. Observed trends are also presented clearly, this is encouraged.
3. Following last year's appraisal, the Council has addressed the issues raised and made necessary changes to the report. This is encouraged.
4. The ASR has been signed off by the Director of Public Health. This is welcomed. Collaboration and consultation with those who have responsibility for Public Health is expected to increase support for measures to improve air quality, with co-benefits for all.
5. The Council is currently undertaking 'Particulate Matters' project and it focuses on PM_{2.5} using low-cost monitors within the district. Progress and results from this project should be included in next year's report.

RESPONSE: information from the project is included in this ASR

6. It may be beneficial to include a north arrow and scale bar on the figures for completeness. The current base mapping also makes it difficult to identify the monitoring locations as there are additional points on the map. A different base mapping may be beneficial.

RESPONSE: The maps have been reviewed and improved

Blaby District Council has taken forward several direct measures during the current reporting year of 2023 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 0.2. 26 measures are included within Table 0.2, with the type of measure and the progress Blaby District Council have made during the reporting year of 2023 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 0.2.

As mentioned earlier, Blaby District Council is currently consulting on the revocation of 3 existing AQMAs and the declaration of a new AQMA. The changes in AQMAs are expected to be completed by summer 2024. A new Air Quality Action Plan will be produced as soon as possible afterwards, with work on this being undertaken with the agencies listed on pages vi and vii.

The Environmental Services team have been subject to limited resources in 2023 due to two full time members of staff leaving to progress their careers within the Council, along with additional time-consuming unexpected site survey work relating to landfill gas. This has led to less air quality actions being implemented throughout the year.

Table 0.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant 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
7 - AQMA 3	Gather information from local sources and interrogate air quality monitoring data to inform actions and support bids for funding. To include reconsideration of source apportionment	Transport Planning and Infrastructure	Other	2019	2030	Local Authority Environmental Health, Local Authority Transport Dept, County Council.	DfT, County Council, Private sector	NO	Partially Funded	> £10 million	Planning	Significantly reduce levels of HGVs, µg/m3 reduction, achievement of annual mean air quality objective	Traffic count, measured concentrations	A feasibility study has been completed and report shared with Transport Strategy Members	Phase 1 delivered through private sector development. Further funding required
16 - AQMA 6	Increased air quality monitoring	Traffic Management	UTC, Congestion management, traffic reduction	2020	2023	BDC	BDC/DEFRA	YES	Partially Funded	£10k - 50k	Implementation	N/A	Additional Monitors installed	Further monitors to be installed as part of Particulates Matters Air Quality Grant Project	Review of Diffusion Tubes completed and resulted in rationalisation of monitoring locations
22 - Wider measures	Behavioural change project with schools	Promoting Travel Alternatives	School Travel Plans	2020	To be determined	BDC	BDC/DEFRA	YES	Funded	£10k - 50k	Implementation	N/A	Completion of project	<ul style="list-style-type: none"> * Delivering Air Quality and Active Travel educational session and assemblies to schools. * Creation and delivery of engaging activities for schools – linking in initiatives such as Clean Air Day and Great Big Green Week to showcase the multitude of positive benefits. * Beat the Street Programme – which encouraged students to use alternative and more environmentally friendly methods of travel. Small Games were held across the North of Blaby District which includes Enderby and Glenfield. These games seen 11 primary schools take part as well as several community 	Changes in staffing and workstreams affected the progress made in 2022. Elements of the Project are being taken forward into 2023 beyond the formal project end date. For example, Clean Air Day 2023 and work with the schools sport partnership.

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	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
														groups/businesses. A total of 33 boxes were installed, 3053 players took part, and 24,314 miles were covered on bike, scooter, or foot, which increased active travel over a four-week period between May and June 2022 and subsequently had the potential to improve Air Quality.	
1 - AQMA 1 A5460 Narborough Road South	Gather information from local sources and interrogate air quality monitoring data to inform actions and support bids for funding.	Traffic Management	Urban Traffic Control (UTC), Congestion management, traffic reduction	Summer 2021	September 2023	BDC, Leicestershire County Council, Leicester City Council	BDC and Defra AQ Grant	YES	Partially Funded	< £10k	Completed	N/A	Clearer picture of traffic flows and effects on air quality	Data gathered throughout the year using a variety of sources	Data from 2022 indicates that AQMA 1 will be undeclared
2 - AQMA 1 A5460 Narborough Road South	Integrate traffic management (for example, SCOOT) with air quality monitoring	Traffic Management	UTC, Congestion management, traffic reduction	To be determined	2025	Leicestershire County Council	To be identified	NO	Not Funded		Aborted	N/A	Systems integrated	This work is dependent upon the outcome of Measure 1	Measure no longer required
3 - AQMA1 A5460 Narborough Road South	Improve driver for example, signs and active signs	Traffic Management	UTC, Congestion management, traffic reduction	To be determined	2025	Leicestershire County Council	To be identified	NO	Not Funded		Completed	N/A	Signs installed	Current signs already active in park and ride locations such as Fosse Park and Narborough Road South	
4 - AQMA 2 M1 corridor in Enderby and Narborough	Gather information from local sources and interrogate air quality monitoring data to inform actions and support bids for funding. To include reconsideration of source apportionment	Traffic Management	UTC, Congestion management, traffic reduction	Summer 2021	Sep-23	BDC	BDC	NO	Not Funded	< £10k	Completed	N/A	Clearer picture of traffic flows and effects on air quality	Data gathered throughout the year using a variety of sources	Data from 2022 indicates that AQMA 2 will be undeclared

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	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
5 - AQMA 2 M1 corridor in Enderby and Narborough	Integrate traffic management (for example, SCOOT) with air quality monitoring	Traffic Management	UTC, Congestion management, traffic reduction	To be determined	To be determined	Leicestershire County Council	To be identified	NO	Not Funded		Aborted	N/A	Systems integrated	Presentation completed by LCC showing research and future considerations	measure no longer required
6 - AQMA 2 M1 corridor in Enderby and Narborough	Improve driver information about air quality for example, signs and active signs	Traffic Management	UTC, Congestion management, traffic reduction	To be determined	To be determined	Leicestershire County Council	To be identified	NO	Not Funded		Completed	N/A	Signs installed	Current signs already active in park and ride locations such as Fosse Park and Narborough Road South	
8 - AQMA 3 M1 corridor between Thorpe Astley and Leicester Forest East	Deliver Braunstone Crossroads junction improvement	Traffic Management	UTC, Congestion management, traffic reduction	To be determined	To be determined	Leicestershire County Council /Developers	LCC/S106 money	NO	Funded		Planning	N/A	Junction improved	Awaiting date for implementation when development commences	
9 - AQMA 3 M1 corridor between Thorpe Astley and Leicester Forest East	Integrate traffic management (for example, SCOOT) with air quality monitoring	Traffic Management	UTC, Congestion management, traffic reduction	To be determined	2025	Leicestershire County Council	Leicestershire County Council	NO	Not Funded		Planning	N/A	Systems integrated	This work is dependent upon the outcome of Measure 7	
10 - AQMA 3 M1 corridor between Thorpe Astley and Leicester Forest East	Improve driver information about air quality for example, signs and active signs	Traffic Management	UTC, Congestion management, traffic reduction	To be determined	2025	Leicestershire County Council	Leicestershire County Council	NO	Not Funded		Implementation	N/A	Signs installed	Park and ride signs in area have been amended to represent appropriate wording.	
11 - AQMA 4B Enderby Road, Whetstone	Gather information from local sources and interrogate air quality monitoring data to inform actions and support bids for funding.	Traffic Management	UTC, Congestion management, traffic reduction	Summer 2021	Sep-23	BDC	BDC	NO	Not Funded	< £10k	Completed	N/A	Clearer picture of traffic flows and effects on air quality	Data from 2022 and observations supports undeclaration of this AQMA	
12 - AQMA 4B Enderby Road, Whetstone	Integrate traffic management (for example, SCOOT) with air quality monitoring	Traffic Management	UTC, Congestion management, traffic reduction	To be determined	2025	Leicestershire County Council	Leicestershire County Council	NO	Not Funded		Aborted	N/A	Systems integrated	This work is dependent upon the outcome of Measure 11	Measure no longer needed
13 - AQMA 4B Enderby Road, Whetstone	Improve driver information about air quality for example, signs and active signs	Traffic Management	UTC, Congestion management, traffic reduction	To be determined	2025	Leicestershire County Council	Leicestershire County Council	NO	Not Funded		Completed	N/A	Signs installed	LCC considering appropriate wording on new signage and effect it will have on drivers.	Careful consideration not to overload drivers with too much signage information

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	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
14 - AQMA 4B Enderby Road, Whetstone	Increased air quality monitoring on Enderby Road, Whetstone	Traffic Management	UTC, Congestion management, traffic reduction	To be determined	To be determined	BDC	Section 106 from Cork Lane housing development.	NO	Not Funded		Planning		Additional Monitor (s) installed	Signed Section 106 agreement in place. However, conditions remain undischarged to facilitate commencement of development and release of funds	Siting specific and relevant location for additional monitors to record the best data was complex in order to represent façade data
15 - AQMA 6 Mill Hill, Enderby	Gather information from local sources and interrogate air quality monitoring data to inform actions and support bids for funding.	Traffic Management	UTC, Congestion management, traffic reduction	Summer 2021	Sep-21	BDC	BDC	NO	Not Funded	< £10k	Completed	N/A	Clearer picture of traffic flows and effects on air quality	Air Quality improvement officers undertook site observations and have compared this with monitored data, this information has been used to apply for further air quality grant funding.	
17 - AQMA 6 Mill Hill, Enderby	Integrate traffic management (for example, SCOOT) with air quality monitoring	Traffic Management	UTC, Congestion management, traffic reduction	To be determined	To be determined	Leicestershire County Council	Leicestershire County Council	NO	Not Funded		Planning	N/A	Systems integrated	This work is dependent upon the outcome of Measure 16	Ongoing implementation over coming years
18 - AQMA 6 Mill Hill, Enderby	Improve driver information about air quality for example, signs and active signs	Traffic Management	UTC, Congestion management, traffic reduction	To be determined	2025	Leicestershire County Council	Leicestershire County Council	NO	Funded		Implementation	N/A	Signs installed	LCC considering appropriate wording on new signs and affect it will have on drivers. Current signs already active in park ride signs such as nearby Fosse Park	Careful consideration not to overload drivers with too much signage information
19 - AQMA 6 Mill Hill, Enderby	Delivery of Enderby Relief Road	Traffic Management	Strategic highway improvements, Re-prioritising Road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	To be determined	2025	Leicestershire County Council /Developers	Leicestershire County Council /S106 money	NO	Funded	> £10 million	Planning	N/A	Relief Road operational	Relevant planning application currently being processed	
20 - Wider measures	Secure investment through The LLEP and Transforming	Promoting Travel Alternatives	Promotion of walking	2021 onwards	2025	BDC	BDC/DEFRA	YES	Funded		Implementation	N/A	Project completed	Liaison continued with work undertaken by the Health and Leisure Team	

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	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
	Cities funding to improve our walking and cycling routes. To develop key routes across the district. To work with colleagues in Leicester City, Leicestershire County Council and Sustrans on improvements to our cycle routes. Promotion of our walking and cycling routes to increase usage and a change in residents' behaviour. Implementation of a Walk and ride Connectivity strategy.														
21 - Wider measures	Behavioural change project with businesses in vicinity of AQMA	Promoting Travel Alternatives	Workplace Travel Planning	Autumn 2020 onwards	To be determined	BDC	BDC/DEFRA	YES	Funded	£10k - 50k	Completed	N/A	Completion of project	.	
23 - Wider measures	Develop a partnership to create a charging network across the district (public and private car parks, petrol stations, on street)	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	September 2020	To be determined	BDC	BDC	NO	Funded		Completed	N/A	Completion of Project	Further project work being coordinated with Leicestershire County Council	

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	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
24 - Wider measures	Engage with the taxi drivers to encourage the switch to electric vehicles.	Promoting Low Emission Transport	Taxi emission incentives	2021	2022	BDC	BDC	NO	Not Funded		Completed	N/A	Completion of project	BDC approved The Hackney Carriage and Private Hire Licensing Policy for 2022 – 2027 to incentivise the use of Ultra Low Emission Vehicles (ULEV's) and Electric Vehicles (EV).	
25 - Wider measures	Improve air quality information on BDC website	Public Information	Via the Internet	Summer 2021	End of July 2021	BDC	BDC	NO	Not Funded		Completed	N/A	Improved webpage	Web page made easier to access information and reports. All the latest information and reports are now made available through BDC's website.	
26 - Wider measures	Use the Pan Regional Transport Model (PRTM) to build an Air quality model to be able to assess proposed physical mitigation measures and provide the evidence to bid for funding	Traffic Management	UTC, Congestion management, traffic reduction	2021	To be determined	LCC	LCC	NO	Not Funded		Aborted	N/A	Clearer picture of traffic flows and effects on air quality	The main focus of the modelling was to be AQMA 6. However, monitoring has indicated that the situation may be simpler than originally envisaged and therefore this measure is no longer required.	

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 Strategy⁸, 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 than 2.5 micrometres) has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

Blaby District Council is taking the following measures to address PM_{2.5}:

There are two continuous monitors (CM) and fifteen Zephyr® Low-cost monitoring devices that record concentrations of PM in the Blaby District. CM1 is located in Enderby and monitors PM₁₀, a correction factor is then used to give a PM_{2.5} concentration. CM5 is located in AQMA 6, also in Enderby and directly monitors PM_{2.5}. The Zephyrs® were purchased with a DEFRA grant throughout 2022 and 2023 and whilst we understand they are not yet recognised as Reference Methods; they are used across the district to identify areas of concern for further investigation. Maps of CMs and Zephyr® locations can be seen in Appendix D: figure 1-16. The Council will be launching a 'live' portal which links to the Zephyrs® in 2024. This will enable residents to make informed decisions about where and what times to avoid, especially those more vulnerable with existing health concerns. It will also provide advice to road users about reducing their impacts. The Council will investigate the findings and build it into the Air Quality action plan going forward.

Control of sources:

Emissions to atmosphere generated by Permitted Processes are regulated by the Council. There are a number of Processes in the district which may give rise to PM_{2.5} such as Croft Quarry, Concrete Batching, and Mobile Crushing Plants. BDC currently regulates a total of 33 processes across the district.

⁸ Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

The Environmental Services Team provide expert advice and consultation comments to the Development Services Team in relation to planning applications and where appropriate, the Team recommend controls over dust from construction and demolition sites, generally through demolition and construction management plans, and Construction Environmental Management Plans (CEMPs). New sources that have a potential to contribute to levels of PM_{2.5} are also assessed with actions implemented to control emissions.

The section of the District termed as the Principle Urban Area (PUA) is covered by Smoke Control Areas (SCAs). BDC has a number of SCA's that are enforced where reports of visible smoke occur. The Environment Act 2021 provides legislation to further tackle smoke from domestic chimneys and work is progressing within the Authority to produce a policy for action under this legislation. Enforcement action is taken by the Environmental Health Team. In 2023, action was taken for a smoking commercial chimney, in conjunction with the Environment Agency. A warning letter was also issued for a smoking domestic chimney. In addition, 72 complaints were received in regard to domestic and commercial bonfires and were dealt with by the Environmental Health Team.

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

This section sets out the monitoring undertaken within 2023 by Blaby District Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2019 and 2023 to allow monitoring trends to be identified and discussed.

3.1 Summary of Monitoring Undertaken

Automatic Monitoring Sites

Blaby District Council undertook automatic (continuous) monitoring at five sites during 2023. Table A.1 in Appendix A shows the details of the automatic monitoring sites. NB. Local authorities do not have to report annually on the following pollutants: 1,3 butadiene, benzene, carbon monoxide and lead, unless local circumstances indicate there is a problem. The [Air Quality - Monitoring in Blaby District | Tableau Public](#) page presents automatic monitoring results for BDC, with automatic monitoring results also available through the UK-Air website:

[UK Air Blaby District Council- Defra, UK](#)

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

Non-Automatic Monitoring Sites

Blaby District Council undertook non- automatic (i.e. passive) monitoring of NO₂ at twenty-seven sites during 2023, using diffusion tubes. Table A.2 in Appendix A presents the details of the non-automatic sites.

Maps showing the location of the monitoring sites are provided in Appendix D, Figures 1-15. 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.

As part of our 'Particulates Matter' air quality grant project, fifteen Zephyrs are being used around the district to investigate Particulate matter levels. The majority of Zephyrs are at fixed points, the locations of which can be viewed in Appendix D, figure 16. One is used for mobile or short-term measurements.

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.

Nitrogen Dioxide (NO₂)

Table A.3 and Table A.4 in Appendix A compare 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 2023 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

Table A.5 in Appendix A compares the ratified continuous monitored NO₂ hourly mean concentrations for the past five years with the air quality objective of 200µg/m³, not to be exceeded more than 18 times per year.

A summary of air quality trends across 2023 is given below, with maps included in Appendix D. The number of diffusion tubes was reviewed in June 2023, with some being removed. The results for the removed tubes were annualised, and the results are marked with an *.

AQMA 1 – A5460 Narborough Road South (Figure 1)

Diffusion tube data concentrations have remained consistently low over the last five years. Although DT25 did show a small increase over the 6 month period, it still remains below the Air Quality Objective. Based on this dataset the AQMA is in the process of being revoked.

AQMA 2 – M1 Corridor in Enderby and Narborough (Figure 2)

Diffusion tube data concentrations in this area reduced again in 2023 compared to the previous year and have remained consistently low over the last five years. Based on this dataset the AQMA is in the process of being revoked.

AQMA 3 – M1 Corridor between Thorpe Astley and Leicester Forest East (Figure 3)

The A47 (Hinckley Road) is located within this AQMA and is extensively used throughout the day, with higher levels of traffic present in particular during peak rush hour times. CM4 has shown a reduction in concentrations in 2023 compared to 2022, along with all the diffusion tubes apart from one.

The decision was made in the 2023 ASR to keep AQMA3 for a further year due to the significant levels of development in and around the area going forward, and there being some potential for levels of NO₂ to increase. The vast majority of monitoring results for 2023 show a further reduction in levels of NO₂. In accordance with current Defra guidance, we are therefore proposing to revoke this AQMA. Protection against further increases are provided through policies in the Local Plan. Monitoring will also continue.

AQMA 4B – Enderby Road, Whetstone (Figure 4)

Monitoring has continued within this AQMA using DT20. Concentrations showed a small decrease compared to 2022 and remain below the AQO. Based on this dataset the AQMA is in the process of being revoked. However, to maintain an understanding of the area monitoring will continue through the use of DT20.

AQMA – 6 Mill Hill, Enderby (Figure 5a)

A total of 10 diffusion tubes were used to monitor this area in 2023, all but one being located in the declared AQMA. All of the tubes had lower results compared to the previous year, with no exceedances of the AQO.

CM5 also showed a small decrease in concentration and remained below the AQO with no requirement for annualisation.

Our monitoring arrangements will remain in place during 2024, with the results being included in the ASR 2025.

Enderby (Figure 5b)

3 diffusion tubes were retained from the previous, more intensive monitoring of concentrations over a wider area (DTs 110,111 and 112). The 2023 result for DT112 was lower than for 2022, but was relatively high, and could potentially be owed to the steep hill and idling during busy times. However, as there are no relevant receptors the AQO is not directly applicable.

DT84 and DT120 are located outside of the AQMA and are within the central part of Enderby Village. Both monitoring sites show no exceedances of the AQO and had results for 2023 which were similar to the previous year.

Other Areas Monitored

Braunstone Town (Proposed AQMA 7) (Figure 6)

CM6 located on Lubbethorpe Road reported a lower annual result for 2023. However, due to the exceedances of the AQO in preceding years, the declaration of a new AQMA (AQMA 7) is being pursued. The diffusion tubes located in this area all gave results for 2023 that were well within the AQO. Monthly concentrations for CM6 can be found under Figure A.1 in [Appendix A](#).

Sharnford Hill, Sharnford (Figure 13)

Monitoring in Sharnford gave a slightly increased result for 2023 compared to 2022, with no exceedance of the AQO.

Glenfield Village (Figure 8)

CM7 located in Glenfield has shown no exceedance of the AQO, although there was a small increase for 2023 compared to 2022. The 5 diffusion tubes all showed a slight decrease in results and remained within the AQO for 2023.

Glen Parva (Figure 9)

Both diffusion tubes remain below the AQO with exactly the same result for 2023 as for 2022. Monitoring will continue due to the potential of nearby developments.

Stoney Stanton Village (Figure 7)

Monitoring continued in 2023 using a total of 7 diffusion tubes; there were no exceedances of the AQO, with several tubes showing a slight reduction compared to 2022.

Monitoring will continue within this area to understand long term patterns and to obtain background data due to the potential of nearby developments.

Sapcote Village (Figure 10a)

In trend with the previous five years, Sapcote Village shows no exceedance of the AQO, there being a slight decrease in 2023 compared to the previous year. Monitoring will continue using DT31 due to the potential impact of nearby developments.

Elmesthorpe Railway Bridge (Figure 11)

Concentrations have shown a slight decrease for 2023, remaining at a low concentration.

Monitoring will continue to ensure background levels are obtained to assess the impact of surrounding proposed developments, such as the Hinckley National Rail Freight Interchange.

Thorpe Astley (Figure 15)

The concentration for DT99 reduced slightly for 2023 compared to the previous year, remaining well within the AQO.

Kirby Muxloe (Figure 12)

Monitoring in Kirby Muxloe continued in 2023, and the concentration at DT77 showed an increase for 2023 compared to 2022, however remaining well below the AQO.

Aston Firs, near Sapcote (Figure 10b)

Monitoring shows a small decrease from 2022 and remains well below AQO.

Monitoring will continue to understand background trends, in relation to larger scale developments within the area.

Main Street, Kilby (Figure 14)

The result for 2023 was the same as for 2022 at Kilby, remaining low, consistent with the previous three years of monitoring.

Summary

An assessment of monitoring locations is conducted annually and takes into consideration areas of local concern, potential or nearby developments and busy main roads.

Concentrations of NO₂ in the district have been generally consistent with levels recorded in 2022, with no exceedances across the monitoring network. The diffusion tube in Kirby Muxloe was the exception, as discussed above.

Particulate Matter (PM₁₀)

Table A.6 in Appendix A: Monitoring Results compares the ratified and adjusted monitored PM₁₀ annual mean concentrations for the past five years with the air quality objective of 40µg/m³.

Table A.7 in Appendix A compares the ratified continuous monitored PM₁₀ daily mean concentrations for the past five years with the air quality objective of 50µg/m³, not to be exceeded more than 35 times per year.

Concentrations of PM₁₀ have shown a small increase in comparison to 2022, from 11.7 µg/m³ to 13 µg/m³. No exceedances of PM₁₀ have been recorded in 2023 of the annual and daily NAQOs.

Particulate Matter (PM_{2.5})

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

CM5 directly measures concentrations of PM_{2.5}. For CM1 a conversion calculation is used to calculate PM_{2.5} from PM₁₀ further details are provided in the [QA/QC section](#). PM_{2.5} levels decreased slightly at CM1, but at CM5 there was a significant increase (from 5.2 to 9.1).

Monitoring will continue at both sites 2024, with further monitoring being undertaken as part of the Particulates Matter Air Quality Grant Project, described in Section 2.3 above.

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Inlet Height (m)
CM1	Blaby 1 (Packhorse Drive, Enderby)	Roadside	454482	298573	NO2; PM10	NO	Chemiluminescent; Gravimetric (TEOM)	12.6	0.65	3
CM4	Blaby 4 (Hinckley Road, LFE)	Roadside	454020	303473	NO2	YES; AQMA 3	Chemiluminescent	22	3.6	1.5
CM5	Blaby 2 (Mill Hill, Enderby)	Roadside	453602	299558	NO2; PM2.5	YES; AQMA 6	Chemiluminescent; Gravimetric (TEOM)	4	1	1.5
CM6	Blaby 5 (Lubbesthorpe Road, Braunstone Town)	Roadside	455722	300782	NO2	NO	Chemiluminescent	5.8	2.7	1.5
CM7	Blaby 3 (Stamford Street, Glenfield)	Roadside	453934	305999	NO2	NO	Chemiluminescent	5	2.4	1.5

Notes:

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

(2) N/A if not applicable

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

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)
1	Kingsway	Roadside	455970	301146	NO2	No	11.0	1.5	No	2.2
4	Hall Walk, Moores Lane, Enderby	Roadside	453596	299557	NO2	Yes, AQMA 6	0.0	1.5	No	1.8
15	1 Newbridge Road, Glen Parva	Roadside	456785	298543	NO2	No	0.0	7.8	No	2.8
16	The Cottage, Ratby Lane	Roadside	453216	304275	NO2	Yes, AQMA 3	15.0	5.4	No	1.8
20	159 Enderby Rd, Whetstone	Other	455819	297955	NO2	Yes, AQMA 4B	0.0	4.7	No	1.7
25	7 Narborough Road South	Roadside	456468	301901	NO2	Yes, AQMA 1	0.0	7.0	No	1.8
31	5 Hinckley Road, Sapcote	Roadside	448862	293437	NO2	No	0.0	1.9	No	1.8
35	2 Narborough Rd. South	Roadside	456505	301889	NO2	No	0.0	13.2	No	1.9
41	9 Mill Hill Road, Enderby	Roadside	453468	299735	NO2	Yes, AQMA 6	0.0	3.8	No	1.7
43	2 Blaby Rd, Enderby	Roadside	454267	299124	NO2	No	1.4	1.4	No	1.8
44	1 Mill Hill Rd, Enderby	Roadside	448847	293462	NO2	Yes, AQMA 6	1.2	1.6	No	1.8
48	98 Leicester Rd, Enderby	Roadside	454518	298140	NO2	Yes, AQMA 2	0.0	8.7	No	1.8

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
49	10 Hall Walk, Enderby	Roadside	453439	299740	NO2	Yes, AQMA 6	0.0	13.0	No	2.0
51	257 Willow Way, LFE	Roadside	453780	299360	NO2	No	0.0	11.3	No	1.9
54	71 Hinckley Rd, LFE	Roadside	453591	303420	NO2	Yes, AQMA 3	0.0	32.9	No	1.5
56	Avalon, 9 Hinckley Rd, LFE	Roadside	454519	298148	NO2	Yes, AQMA 3	0.0	20.0	No	1.8
57	6 Ratby Lane, LFE	Roadside	454090	303600	NO2	No	12.1	2.4	No	1.7
65	11 Stamford Street, Glenfield	Roadside	453889	306038	NO2	No	0.0	1.9	No	1.5
68	45 Mill Hill, Enderby	Roadside	453592	303415	NO2	Yes, AQMA 6	0.0	5.6	No	1.8
69	Station Road, Elmhurst	Roadside	447033	295876	NO2	No	49.3	1.2	No	1.8
73	New Road, Stoney Stanton	Roadside	449050	294720	NO2	No	11.1	2.3	No	1.8
74	Broughton Road, Stoney Stanton	Roadside	449112	294708	NO2	No	3.3	2.7	No	1.8
75	Blue Bell, Long Street, Stoney Stanton	Roadside	449072	294799	NO2	No	1.4	1.2	No	1.8
77	The Chestnuts, Kirby Muxloe	Roadside	453281	299846	NO2	No	0.0	12.2	No	1.8
78	Aston Firs, Sappocote	Roadside	446336	293883	NO2	No	17.0	37.5	No	1.8

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
80	Former Blaby 1 site, Packhorse Dr	Roadside	449036	294720	NO2	No	12.8	0.7	No	1.8
82	Corner of King St/Mill Lane, Enderby	Roadside	449080	294785	NO2	No	0.5	1.0	No	1.8
83	Sharnford Hill, Sharnford	Roadside	452309	304870	NO2	No	2.9	1.4	No	1.8
84	Parking sign nr Station Rd CP, Glenfield	Roadside	453915	306128	NO2	No	6.7	1.2	No	1.8
88	42 Main Street, Kilby	Roadside	462114	295369	NO2	No	0.0	2.0	No	1.8
89, 90, 91	Blaby 5 triplicate 3 of 3	Roadside	455722	300782	NO2	No	16.2	2.6	Yes	1.7
93	Former Blaby 3 site, LFE Opp Sainsburys	Roadside	453140	303311	NO2	No	29.3	3.9	No	1.8
94	Lamppost opp Blaby 3, Stamford Street	Roadside	454930	302529	NO2	No	2.7	1.5	No	1.9
95	5 Main Street, Glenfield	Roadside	454178	302627	NO2	No	1.9	1.9	No	1.9
96	Estate Agents, roundabout Broughton Rd	Roadside	449085	294703	NO2	No	0.5	1.1	No	1.8
97	Scout hut, Broughton Rd, Stoney Stanton	Roadside	455695	300824	NO2	No	15.8	1.6	No	1.8

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
98	3 Station Rd, opposite Foxbank Ind Est	Roadside	453957	302912	NO2	No	2.8	3.0	No	1.8
99	5 Murby Way, Thorpe Astley (former DT70)	Roadside	453219	303310	NO2	No	6.1	2.0	No	1.8
100	Windsor Avenue, Glen Parva	Roadside	458294	298317	NO2	No	5.5	1.2	No	1.9
101	21 Long Street, Stoney Stanton	Roadside	449094	294690	NO2	No	0.0	0.5	No	1.8
102	28 Stamford Street, Glenfield	Other	453960	305928	NO2	No	0.0	3.0	No	1.7
110	Lamppost 83 nr NEXT L'thorpe sign, Enderby	Roadside	452958	300105	NO2	No	484.0	0.3	No	1.8
111	Lamppost 82 nr NEXT L'thorpe sign, Enderby	Roadside	452992	300094	NO2	No	484.0	0.3	No	1.8
112	Lamppost 78 opp Granite Close, Enderby	Roadside	453126	300009	NO2	No	295.0	0.2	No	1.8
114	Lamppost 71, Enderby	Roadside	453324	299850	NO2	No	38.5	1.0	No	1.8
115	20 Mill Hill, Enderby	Roadside	453467	299735	NO2	Yes, AQMA 6	0.0	0.4	No	1.7
117	Lamppost by walkway, Enderby	Roadside	453496	299696	NO2	Yes, AQMA 6	13.5	0.6	No	1.9

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
118	Lamppost 57, village centre sign, Enderby	Roadside	453635	299518	NO2	Yes, AQMA 6	22.4	0.5	No	1.8
119	Lamppost 62, nr Moores Lane, Enderby	Roadside	453637	299539	NO2	Yes, AQMA 6	24.0	0.6	No	1.8
121	16 Lubbesthorpe Road - Side Gate (Braunstone Town)	Other	455700	300765	NO2	No	0.0	13.3	No	1.8
122	Lamppost outside 20 Lubbesthorpe Road (Braunstone Town)	Roadside	455684	300777	NO2	No	8.8	1.6	No	1.8

Notes:

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

(2) N/A if not applicable.

Table A.3 – Annual Mean NO₂ Monitoring Results: Automatic Monitoring (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
CM1	454482	298573	Roadside	70.77	70.77	30.9	16	24.3	21.8	16.1
CM4	453492	303315	Roadside	89.5	89.5	38.4	23.3	26.9	23.3	18.9
CM5	453594	299549	Roadside	88.03	88.03	30.9	22.9	18.9	24.9	19.1
CM6	455722	300782	Roadside	96.8	96.8	-	21	19.8	47.8 (43)	40.2 (35.7)
CM7	453934	305999	Roadside	88.04	88.04	-	21.1	20.2	19.1	23.7

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

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

☒ Where exceedances of the NO₂ annual mean objective occur at locations not representative of relevant exposure, the fall-off with distance concentration has been calculated and reported concentration provided in brackets for 2023. The value for 2022 has also been inserted for comparison, although this was not a Defra requirement for the ASR 2023.

Notes:

The annual mean concentrations are presented as µg/m³.

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

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

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

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year. Monitoring was carried out for the complete year, so the value is the same as the ‘data capture for the full calendar 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%). The relevant data capture for CM1 was 70.77% due to software issues in the logger at this monitoring station. These issues are being addressed.

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 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
1	455970	301146	Roadside	100	100.0	25.1	20.5	20.0	24.7	18.8
4	453596	299557	Roadside	100	100.0	36.9	29.4	29.3	40.3	35.6
15	456785	298543	Roadside	100	50.0	16.4	13.5	14.3	17.0	17.1
16	453216	304275	Roadside	100	100.0	27.9	22.2	21.8	28.1	24.4
20	455819	297955	Other	100	100.0	20.6	15.8	17.2	21.7	19.8
25	456468	301901	Roadside	100	50.0	23.0	17.0	18.1	22.0	28.6
31	448862	293437	Roadside	100	100.0	15.4	11.5	11.6	16.2	14.8
35	456505	301889	Roadside	100	50.0	22.0	17.0	17.0	22.5	17.7
41	453468	299735	Roadside	100	100.0	26.3	20.2	21.0	27.8	24.5
43	454267	299124	Roadside	100	50.0	25.2	18.3	19.2	22.3	21.3
44	448847	293462	Roadside	100	50.0	24.2	18.7	20.1	21.3	18.3
48	454518	298140	Roadside	100	100.0	25.0	18.2	18.3	23.8	20.7

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
49	453439	299740	Roadside	100	50.0	18.0	13.2	13.0	15.2	13.2
51	453780	299360	Roadside	100	50.0	18.0	13.0	13.1	17.2	14.3
54	453591	303420	Roadside	92.3	92.3	26.6	22.1	20.7	22.6	23.6
56	454519	298148	Roadside	100	50.0	21.0	15.9	15.8	17.0	16.4
57	454090	303600	Roadside	100	100.0	30.0	22.0	24.0	28.3	25.9
65	453889	306038	Roadside	100	100.0	32.9	26.0	25.6	30.9	25.6
68	453592	303415	Roadside	100	50.0	23.8	18.4	19.2	23.4	22.4
69	447033	295876	Roadside	100	50.0	16.7	12.9	14.5	15.3	13.8
73	449050	294720	Roadside	100	100.0	29.0	25.1	24.0	29.7	22.0
74	449112	294708	Roadside	100	100.0	25.5	20.4	21.1	22.8	23.3
75	449072	294799	Roadside	83.3	42.3	21.1	17.4	18.0	18.2	16.1
77	453281	299846	Roadside	100	50.0	17.5	15.1	14.5	17.0	22.9
78	446336	293883	Roadside	100	100.0	31.5	19.3	19.6	23.2	18.9
80	449036	294720	Roadside	100	50.0		15.8	15.7	16.5	14.8

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
82	449080	294785	Roadside	100	50.0		17.5	17.1	20.4	19.8
83	452309	304870	Roadside	100	50.0		18.4	17.8	19.9	21.4
84	453915	306128	Roadside	82.7	82.7		20.7	22.0	27.7	24.0
88	462114	295369	Roadside	100	50.0		13.0	13.9	18.5	18.9
89, 90, 91	455722	300782	Roadside	100	100.0			19.9	25.7	22.2
93	453140	303311	Roadside	100	50.0			20.0	23.5	19.9
94	454930	302529	Roadside	66.7	34.6			15.3	18.8	17.0
95	454178	302627	Roadside	100	50.0			16.1	20.2	17.9
96	449085	294703	Roadside	92.3	92.3			25.0	29.8	28.0
97	455695	300824	Roadside	100	50.0			21.8	25.5	23.2
98	453957	302912	Roadside	100	50.0			15.4	17.9	15.7
99	453219	303310	Roadside	100	50.0			17.3	19.4	16.7
100	458294	298317	Roadside	100	100.0			10.7	12.8	12.5
101	449094	294690	Roadside	100	50.0				18.6	16.9

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 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
102	453960	305928	Other	100	50.0				19.3	17.4
110	452958	300105	Roadside	100	100.0				24.2	22.9
111	452992	300094	Roadside	100	50.0				24.8	20.0
112	453126	300009	Roadside	100	100.0				36.8	34.1
114	453324	299850	Roadside	100	100.0				33.4	28.9
115	453467	299735	Roadside	100	100.0				33.5	28.6
117	453496	299696	Roadside	100	100.0				34.6	27.9
118	453635	299518	Roadside	92.3	92.3				43.0	40.3
119	453637	299539	Roadside	100	100.0				33.0	27.2
121	455700	300765	Other	100	50.0					18.3
122	455684	300777	Roadside	83.3	42.3					17.9

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 $\mu\text{g}/\text{m}^3$.

Exceedances of the NO_2 annual mean objective of $40\mu\text{g}/\text{m}^3$ are shown in **bold**.

NO_2 annual means exceeding $60\mu\text{g}/\text{m}^3$, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

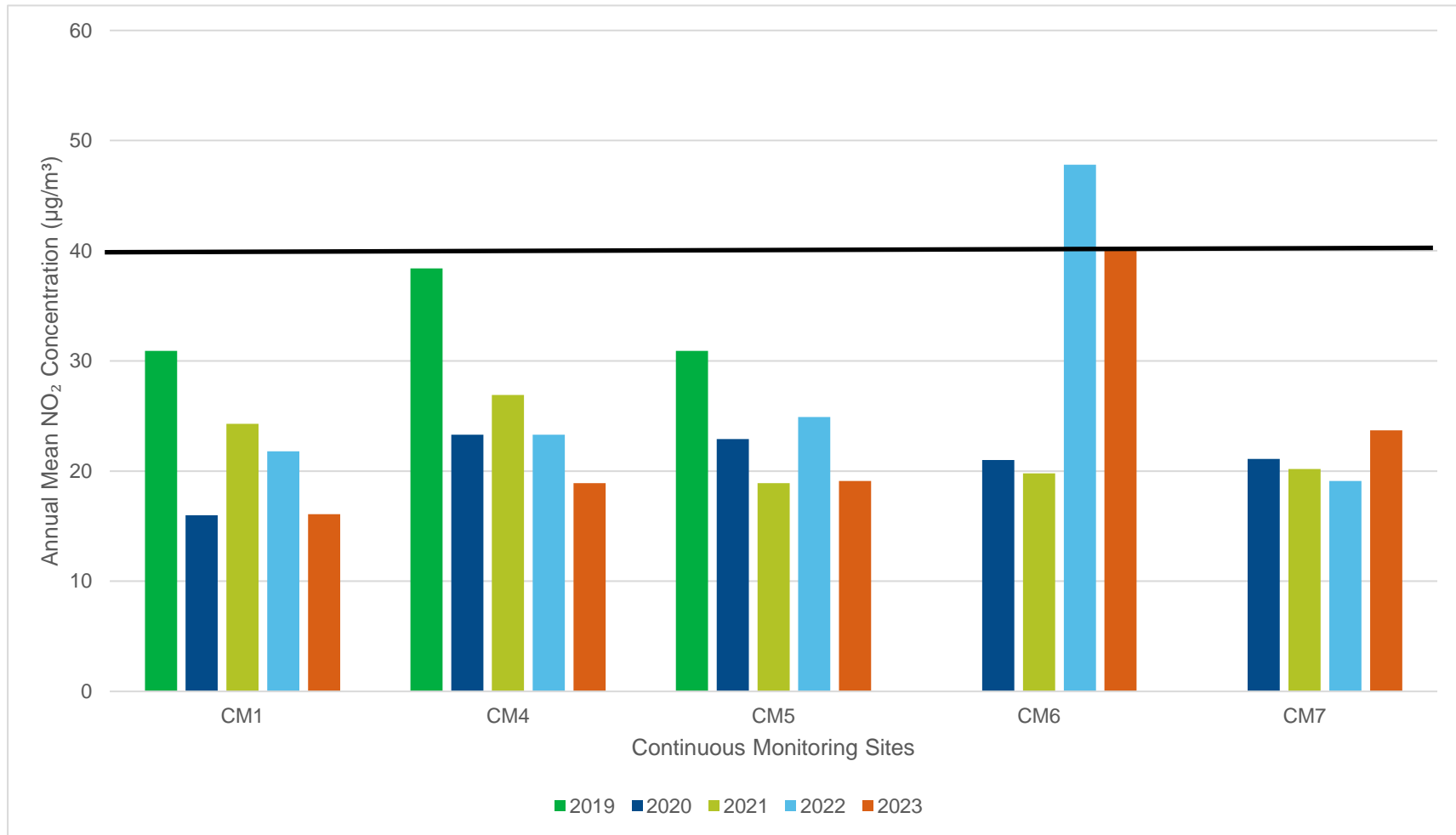
Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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. Monitoring was carried out for the complete year, so the value is the same as the ‘data capture for the full calendar 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



Notes:

Results are not distance corrected.

The black line represents the annual mean objective for NO₂

Table A.5 – 1-Hour Mean NO₂ Monitoring Results, Number of 1-Hour Means > 200µg/m³

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
CM1	454482	298573	Roadside	71.13	71.13	0	0	0	0	0 (90.4)
CM4	453492	303315	Roadside	90.09	90.09	0	0	0	0	0
CM5	453594	299549	Roadside	87.9	87.9	0	0	0	0	0
CM6	455722	300782	Roadside	98.55	98.55	-	0	0	0	0
CM7	453934	305999	Roadside	87.04	87.04	-	0	0	0	0

Notes:

Results are presented as the number of 1-hour periods where concentrations greater than 200µg/m³ have been recorded.

Exceedances of the NO₂ 1-hour mean objective (200µg/m³ not to be exceeded more than 18 times/year) are shown in **bold**.

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

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year. Monitoring was carried out for the complete year, so the value is the same as the 'data capture for the full calendar 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%). The relevant data capture for CM1 was 71.13 % due to software issues in the logger at this monitoring station. These issues are being addressed.

There have been no exceedances of 200µg/m³ for the 1-Hour mean NO₂ Monitoring results.

Table A.6 – Annual Mean PM₁₀ Monitoring Results (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
CM1	454482	298573	Roadside	78.34	78.34	11.8	11.5	10.8	11.7	13

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

Notes:

The annual mean concentrations are presented as µg/m³.

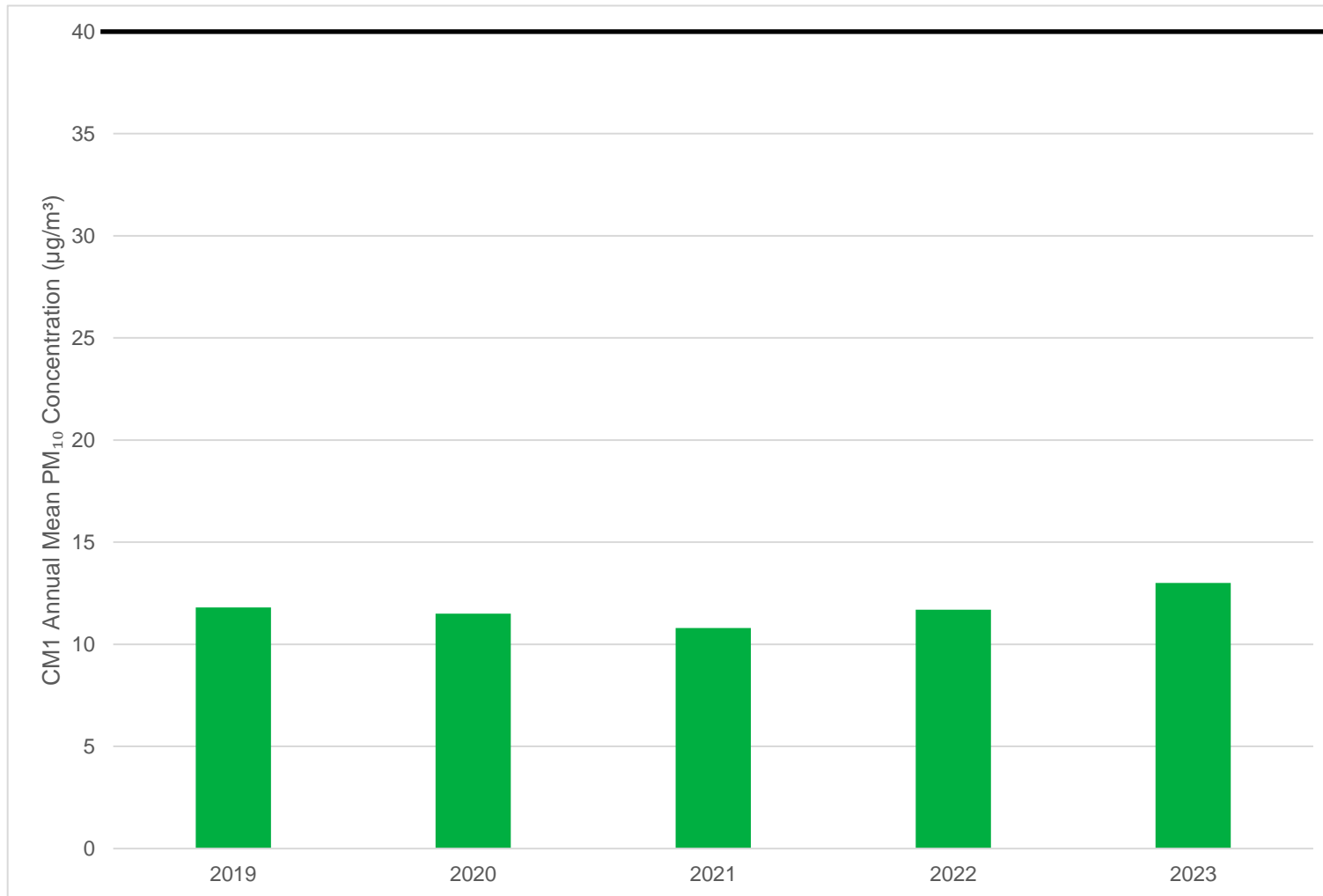
Exceedances of the PM₁₀ annual mean objective of 40µg/m³ are shown in **bold**.

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

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year. Monitoring was carried out for the complete year, so the value is the same as the ‘data capture for the full calendar 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%). The relevant data capture for CM1 was 78.34% due to software issues in the logger at this monitoring station. These issues are being addressed.

Figure A.2 – Trends in Annual Mean PM₁₀ Concentrations



Notes:

The black line represents the national annual concentration air quality objective for PM₁₀.

Table A.7 – 24-Hour Mean PM₁₀ Monitoring Results, Number of PM₁₀ 24-Hour Means > 50µg/m³

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
CM1	454482	298573	Roadside	70.96	70.96	0	0	0	0	0 (14.5)

Notes:

Results are presented as the number of 24-hour periods where daily mean concentrations greater than 50µg/m³ have been recorded.

Exceedances of the PM₁₀ 24-hour mean objective (50µg/m³ not to be exceeded more than 35 times/year) are shown in **bold**.

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

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year. Monitoring was carried out for the complete year, so the value is the same as the 'data capture for the full calendar 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%). The relevant data capture for CM1 was 70.96% due to software issues in the logger at this monitoring station. These issues are being addressed.

Notes:

There have been no exceedances of 50µg/m³ for the 24-Hour mean PM₁₀ results.

Table A.8 – Annual Mean PM_{2.5} Monitoring Results (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
CM1	454482	298573	Roadside	78.34	78.34	8.3	8.1	7.6	8.2	7.1
CM5	453594	299549	Roadside	98.91	98.91	16.9	8.4	8.4	5.2	9.1

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

Notes:

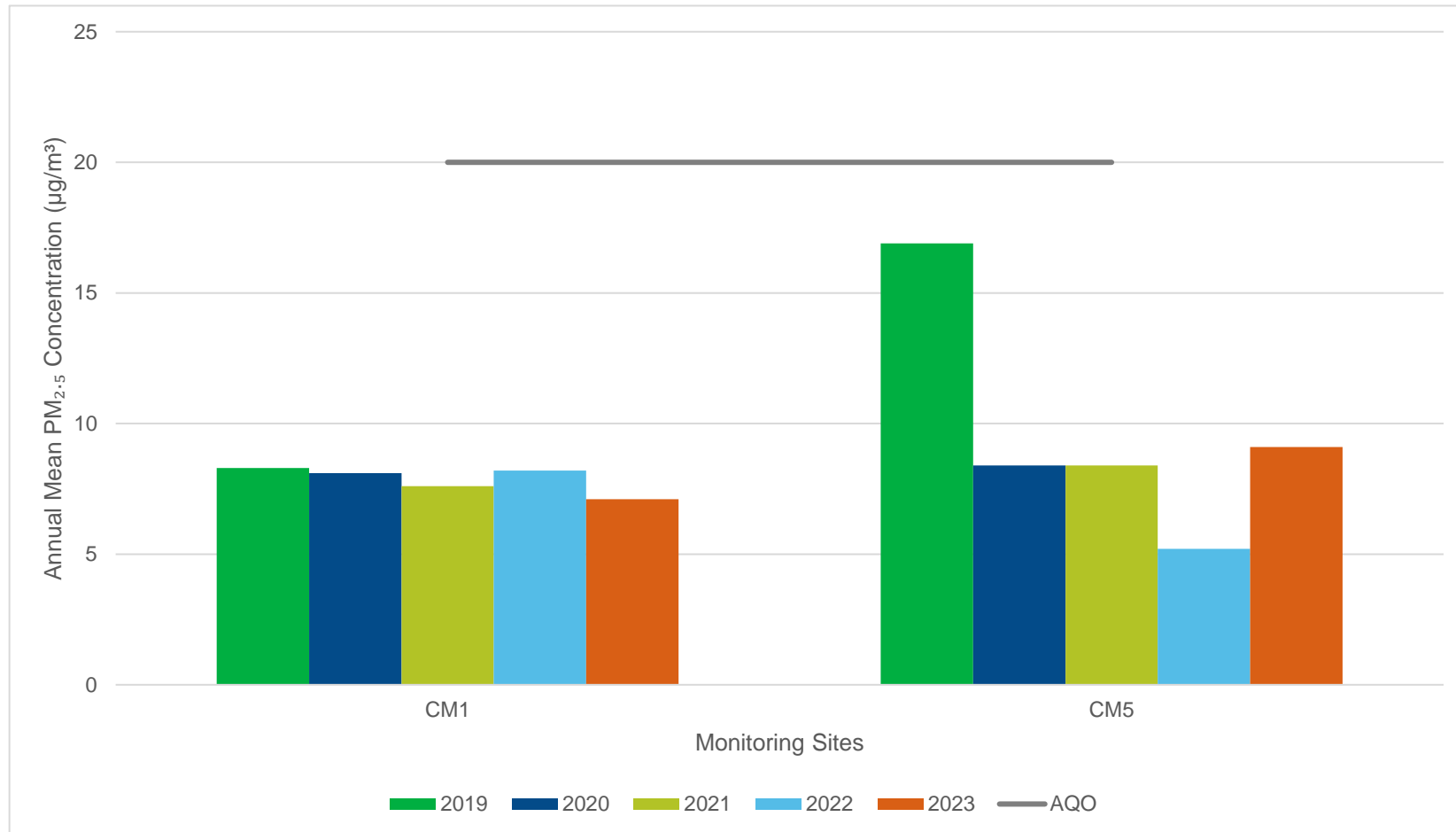
The annual mean concentrations are presented as µg/m³.

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

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year. Monitoring was carried out for the complete year, so the value is the same as the ‘data capture for the full calendar 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%). The relevant data capture for CM1 was 78.34% due to software issues in the logger at this monitoring station. These issues are being addressed.

Figure A.3 – Trends in Annual Mean PM_{2.5} Concentrations



Appendix B: Full Monthly Diffusion Tube Results for 2023

Table B.1 – NO2 2023 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 0.77	Annual Mean: Distance Corrected to Nearest Exposure	Comment
1	455970	301146	26.5	10.4	28.8	25.8	21.6	20.7	20.2	24.0	28.0	28.7	26.4	31.2	24.4	18.8	-	
4	453606	299557	54.9	36.8	50.6	43.3	46.8	45.0	43.4	45.1	49.9	46.8	49.7	41.9	46.2	35.6	-	
15	456785	298543	24.7	21.6	22.8	26.4	22.1	18.4	-	-	-	-	-	-	22.7	17.1	-	
16	456786	298547	39.6	32.1	30.7	30.9	28.3	21.5	31.7	29.5	31.2	34.7	33.9	36.2	31.7	24.4	-	
20	453488	303637	34.0	31.8	26.8	27.7	24.0	19.8	17.8	21.5	26.4	23.9	30.9	24.2	25.7	19.8	-	
25	455819	297954	45.6	37.1	42.6	35.6	36.9	30.4	-	-	-	-	-	-	38.0	28.6	-	
31	455817	297937	24.3	22.2	17.8	18.6	18.2	13.9	11.2	15.3	18.2	21.2	29.9	20.5	19.3	14.8	-	
35	448481	293549	29.4	26.8	24.7	18.0	25.1	17.1	-	-	-	-	-	-	23.5	17.7	-	
41	454554	294803	38.1	36.1	34.8	31.9	37.8	30.4	18.1	27.1	37.3	35.0	29.0	26.3	31.8	24.5	-	
43	454267	299124	33.3	33.5	28.6	19.4	28.1	26.5	-	-	-	-	-	-	28.2	21.3	-	
44	448847	293462	17.3	19.0	15.4	30.1	32.4	31.3	-	-	-	-	-	-	24.3	18.3	-	
48	453468	299737	29.9	31.9	24.4	25.7	23.8	20.9	25.1	27.4	28.9	24.6	30.6	28.8	26.8	20.7	-	
49	453439	299740	25.5	15.8	17.2	16.5	16.0	14.3	-	-	-	-	-	-	17.6	13.2	-	
51	453780	299360	25.5	22.5	17.2	18.1	15.0	15.6	-	-	-	-	-	-	19.0	14.3	-	
54	453706	299455	-	46.4	36.6	34.6	21.3	18.5	21.9	23.4	28.3	33.7	37.9	35.0	30.7	23.6	-	
56	454519	298148	26.2	24.6	24.2	21.6	18.0	16.2	-	-	-	-	-	-	21.8	16.4	-	
57	453565	299609	36.3	40.8	36.3	37.0	31.5	31.9	23.6	26.5	36.1	34.8	38.6	30.2	33.6	25.9	-	
65	452234	302753	48.6	13.3	37.8	32.4	31.0	27.8	30.7	35.0	39.8	41.1	37.7	23.8	33.3	25.6	-	

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 0.77	Annual Mean: Distance Corrected to Nearest Exposure	Comment
68	453592	303415	31.4	33.6	26.7	31.9	26.7	28.0	-	-	-	-	-	-	29.7	22.4	-	
69	454079	303535	22.9	18.2	12.0	21.2	19.4	16.1	-	-	-	-	-	-	18.3	13.8	-	
73	454096	303599	31.5	29.5	32.6	30.4	24.7	24.3	30.0	6.9	36.9	34.0	39.5	23.2	28.6	22.0	-	
74	453788	306077	40.4	39.3	32.1	27.1	26.9	20.8	22.9	27.6	26.6	34.6	36.7	28.5	30.3	23.3	-	
75	449072	294799	22.1	-	22.4	22.8	17.7	14.9	-	-	-	-	-	-	20.0	16.1	-	
77	453281	299846	34.3	30.0	31.2	28.0	28.9	29.7	-	-	-	-	-	-	30.4	22.9	-	
78	447032	295877	29.3	23.4	25.0	27.6	21.7	23.6	17.0	21.5	26.6	32.4	23.4	23.3	24.6	18.9	-	
80	449036	294720	25.6	23.7	20.1	19.3	16.0	13.5	-	-	-	-	-	-	19.7	14.8	-	
82	449080	294785	37.1	31.4	26.4	24.8	22.5	15.4	-	-	-	-	-	-	26.3	19.8	-	
83	452309	304870	28.8	29.8	28.4	26.5	28.2	28.8	-	-	-	-	-	-	28.4	21.4	-	
84	446218	293831	38.9	-	35.2	32.6	33.2	-	20.4	30.6	34.2	32.5	37.6	16.7	31.2	24.0	-	
88	462114	295369	29.3	28.8	24.2	24.7	22.7	20.8	-	-	-	-	-	-	25.1	18.9	-	
89	453705	299187	33.8	23.5	29.6	31.7	26.6	24.0	18.5	25.5	36.1	31.2	30.4	31.5	-	-	-	Triplicate Site with 89, 90 and 91 - Annual data provided for 91 only
90	448277	291869	39.2	37.2	30.3	28.2	26.9	23.7	-	-	-	-	-	-	-	-	-	Triplicate Site with 89, 90 and 91 - Annual data provided for 91 only
91	453914	306109	32.1	22.4	29.4	30.5	26.6	23.8	-	-	-	-	-	-	28.9	22.2	-	Triplicate Site with 89, 90 and 91 - Annual data provided for 91 only
93	453813	306106	36.0	26.8	21.8	28.6	22.6	22.7	-	-	-	-	-	-	26.4	19.9	-	
94	454930	302529	24.1	-	21.2	-	23.0	17.4	-	-	-	-	-	-	21.4	17.0	-	
95	454178	302627	32.3	28.4	22.8	22.8	19.7	16.5	-	-	-	-	-	-	23.8	17.9	-	
96	462115	295374	42.3	44.9	36.6	33.9	30.2	26.4	32.4	35.3	44.8	34.4	39.3	-	36.4	28.0	-	
97	455695	300824	44.2	13.2	33.6	35.8	31.0	27.4	-	-	-	-	-	-	30.9	23.2	-	
98	453957	302912	25.9	26.2	20.6	19.9	16.8	15.6	-	-	-	-	-	-	20.8	15.7	-	

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 0.77	Annual Mean: Distance Corrected to Nearest Exposure	Comment
99	453219	303310	29.4	27.7	19.5	22.6	18.1	15.9	-	-	-	-	-	-	22.2	16.7	-	
100	453933	305973	24.9	24.3	16.3	12.3	13.5	10.5	9.6	11.1	14.7	16.5	24.3	17.0	16.3	12.5	-	
101	449094	294690	24.2	16.2	24.0	24.5	25.6	20.2	-	-	-	-	-	-	22.5	16.9	-	
102	453960	305928	24.9	21.0	22.4	25.1	24.9	20.2	-	-	-	-	-	-	23.1	17.4	-	
110	452986	300097	36.7	24.4	33.3	27.9	25.9	23.3	22.8	26.6	32.6	38.5	32.2	32.2	29.7	22.9	-	
111	452992	300094	33.3	23.8	21.2	29.7	27.7	23.8	-	-	-	-	-	-	26.6	20.0	-	
112	453113	300009	56.0	52.6	46.2	42.0	42.1	38.2	42.0	41.7	45.3	44.7	45.9	35.5	44.4	34.1	-	
114	453292	299876	41.2	36.8	34.5	42.9	43.6	31.6	25.6	35.8	40.5	38.0	42.3	37.4	37.5	28.9	-	
115	453432	299745	41.8	40.3	36.8	38.0	37.9	26.6	32.1	33.7	43.0	44.4	40.6	31.1	37.2	28.6	-	
117	454122	305701	42.7	33.6	44.7	39.3	37.0	30.4	30.7	30.4	35.9	37.7	40.3	31.6	36.2	27.9	-	
118	453673	299475	57.0	61.3	53.0	64.3	-	54.0	36.0	48.2	51.7	45.6	50.6	53.4	52.3	40.3	21.3	
119	453850	299288	46.9	35.2	28.5	31.9	39.5	35.4	14.5	32.6	43.2	43.1	44.9	28.4	35.3	27.2	-	
121	455700	300765	-	-	-	-	-	-	17.9	21.9	23.3	25.6	26.5	24.1	23.2	18.3	-	
122	455684	300777	-	-	-	-	-	-	18.3	21.2	23.9	25.9	26.2	-	23.1	17.9	-	

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.

Blaby District Council confirm that all 2023 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**.

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

In June 2023, the Council decided to reduce the number of diffusion tubes across the district owing to several years of low readings. There remains a higher concentration of diffusion tubes in Enderby and Braunstone Town to monitor both AQMA6 and the pending AQMA7. The remaining tubes are spread throughout the district to monitor areas previously in AQMAs to ensure continuous compliance and to monitor areas of local concern.

New or Changed Sources Identified Within Blaby District Council During 2023

Blaby District Council has not identified any new sources relating to air quality within the reporting year of 2023.

New significant planning consultations received during 2023 and update on planning proposals mentioned in the 2023 ASR

- Lubbesthorpe Development – This is a sustainable urban extension to the west of the M1 consisting of 4,250 homes and associated facilities. Phase one began in 2016 and is nearing completion. The remaining phases are expected to be completed in the 2030s;
- Extension to Croft Quarry (planning permission approved on 12/01/2022 by Leicestershire County Council). A number of conditions have been discharged, with several outstanding;
- Land north of A47 Hinckley Road, Kirby Muxloe – This is a proposal for 885 dwellings and outline planning permission has now been granted;
- Enderby Hub – This is a proposed commercial development consisting of four warehouse buildings and one training and education centre. The original outline planning application was refused, an application for a revised scheme is currently under consideration.
- Hinckley National Rail Freight Interchange Development – This is a National Infrastructure Application and is being determined by the Planning Inspectorate with a decision expected in the Summer of 2024.

Updates on the status and potential impact of these developments will be reported on in the next ASR.

Additional Air Quality Works Undertaken by Blaby District Council During 2023

Blaby District Council has not completed any additional works within the reporting year of 2023.

QA/QC of Diffusion Tube Monitoring

The chosen diffusion tube supplier of the Council for 2023 was SOCOTEC, using the 50% TEA in acetone method of preparation.

The monitoring has been completed in adherence with the 2023 Diffusion Tube Monitoring Calendar (± 2 days) and none were exposed for prolonged periods. Samplers were stored in accordance with the guidance and promptly posted for laboratory analysis.

Diffusion Tube Annualisation

Annualisation is required where a data capture is less than 75% (but more than 25%) to ensure the results are representative of an annual mean concentration. Several diffusion tubes required annualisation in 2023, due to the reduction in monitoring part way through the year, meaning they had a data capture of 40-50%.

The four background sites used to calculate the annualisation were:

- Coventry Allesley
- Coventry Binley Road
- Leicester A594 Roadside
- Leicester University

These stations were chosen because they had the necessary data capture and fit the requirements of a background site as per the guidance. These background sites were also used to annualise CM1.

Table C.1 shows the four annualisation factors calculated from the background stations and the annualised averages.

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

Site ID	Annualisati on Factor Coventry Allesley	Annualisati on Factor Coventry Binley Road	Annualisati on Factor Leicester Road A594 Roadside	Annualisati on Factor Leicester University	Average Annualisati on Factor	Raw Data Annual Mean	Annualised Annual Mean
CM1	0.999	0.999	0.999	0.999	0.999	19.3	19.3
DT15	0.9573	1.0019	0.9804	0.9727	0.9781	22.7	22.2
DT25	0.9573	1.0019	0.9804	0.9727	0.9781	38.0	37.2
DT35	0.9573	1.0019	0.9804	0.9727	0.9781	23.5	23.0
DT43	0.9573	1.0019	0.9804	0.9727	0.9781	28.2	27.6
DT44	0.9573	1.0019	0.9804	0.9727	0.9781	24.3	23.7
DT49	0.9573	1.0019	0.9804	0.9727	0.9781	17.6	17.2
DT51	0.9573	1.0019	0.9804	0.9727	0.9781	19.0	18.6
DT56	0.9573	1.0019	0.9804	0.9727	0.9781	21.8	21.3
DT68	0.9573	1.0019	0.9804	0.9727	0.9781	29.7	29.1
DT69	0.9573	1.0019	0.9804	0.9727	0.9781	18.3	17.9
DT75	1.0180	1.0543	1.0463	1.0574	1.0440	20.0	20.9
DT77	0.9573	1.0019	0.9804	0.9727	0.9781	30.4	29.7
DT80	0.9573	1.0019	0.9804	0.9727	0.9781	19.7	19.3
DT82	0.9573	1.0019	0.9804	0.9727	0.9781	26.3	25.7
DT83	0.9573	1.0019	0.9804	0.9727	0.9781	28.4	27.8
DT88	0.9573	1.0019	0.9804	0.9727	0.9781	25.1	24.5
DT93	0.9573	1.0019	0.9804	0.9727	0.9781	26.4	25.8
DT94	1.0064	1.0512	1.0386	1.0227	1.0297	21.4	22.1
DT95	0.9573	1.0019	0.9804	0.9727	0.9781	23.8	23.2
DT97	0.9573	1.0019	0.9804	0.9727	0.9781	30.9	30.2
DT98	0.9573	1.0019	0.9804	0.9727	0.9781	20.8	20.4
DT99	0.9573	1.0019	0.9804	0.9727	0.9781	22.2	21.7
DT101	0.9573	1.0019	0.9804	0.9727	0.9781	22.5	22.0
DT102	0.9573	1.0019	0.9804	0.9727	0.9781	23.1	22.6

Site ID	Annualisati on Factor Coventry Allesley	Annualisati on Factor Coventry Binley Road	Annualisati on Factor Leicester Road A594 Roadside	Annualisati on Factor Leicester University	Average Annualisati on Factor	Raw Data Annual Mean	Annualised Annual Mean
DT111	0.9573	1.0019	0.9804	0.9727	0.9781	26.6	26.0
DT121	1.0451	0.9981	1.0223	1.0295	1.0237	23.2	23.8
DT122	1.0313	0.9883	1.0105	1.0040	1.0085	23.1	23.3

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.

As part of the diffusion tube review in 2023, the Council decided not to continue with the triplicate at CM6. Despite having the triplicate at CM6 since 2021, the national bias factor has been chosen over a local bias factor every year. The local bias factor calculated previously was not found to be representative and so each year, after consideration of the TG22 guidance and advice from the LAQM helpdesk, the national bias adjustment factor was applied. Upon advice from the LAQM helpdesk this year, the local bias adjustment factor was not calculated for the CM6 triplicate site, as it was only a triplicate site until June.

Therefore, the national bias adjustment factor of 0.77 was applied to the diffusion tube results. This was selected from the 03/24 DEFRA Diffusion Tube Bias Adjustment Factors Spreadsheet, with SOCOTEC Didcot as the supplier. A total of 22 studies were used to calculate the factor.

A summary of bias adjustment factors used by Blaby District Council over the past five years is presented in Table C.2.

With the consideration and regard of Box 7.13 of TG22, the following analysis has been conducted:

- Tube exposure time (one week, two weeks, one month) – **monthly changes**
- Length of the monitoring study – **calendar year**

- QA/QC of the chemiluminescence analyser – **serviced 6 monthly, calibrations fortnightly**

Table C.2 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2023	National	03/24	0.77
2022	National	03/23	0.76
2021	National	03/22	0.77
2020	National	09/21	0.77
2019	National	09/20	0.78

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 has been 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.

One diffusion tube (DT118) required distance correction in 2023. Prior to distance correction, DT118 recorded a concentration of 40.3 µg/m³. After distance correction, this reduced to 21.3 µg/m³. Distance correction was calculated using the Diffusion Tube Data Processing Tool, details of which are presented below in Table C.4.

Table C.3 – Non-Automatic NO₂ Fall off With Distance Calculations (concentrations presented in µg/m³)

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted)	Background Concentration	Concentration Predicted at Receptor	Comments
DT118	0.5	22.9	40.3	12.2	21.3	This receptor is more than 20m further from the kerb than the monitor, therefore this result should be treated with caution.

QA/QC of Automatic Monitoring

The Environmental Services Team carry out Local Site Operator (LSO) duties on each automatic monitoring sites monthly and the stations are serviced every 6 months.

The data is manually ratified by the Environmental Services Team following the calibrations to remove any clearly faulty data. A linear two-point regression is then applied to the data linking the calibrations and adjusting any analyser offset.

PM10 and PM2.5 Monitoring Adjustment

PM₁₀ data has had a 1.3 scaling factor applied to it to account for the difference to the reference method.

PM_{2.5} concentrations are directly monitored by CM5. The PM₁₀ concentrations from CM1 have been used to derive the PM_{2.5} concentrations using DEFRA's latest guidance. The steps used to calculate this are shown below.

The annual mean PM₁₀ concentration for CM5 subtracted by the nationally derived correction factor:

$$13.0 - 5.9 = 7.1 \mu\text{g}/\text{m}^3$$

Automatic Monitoring Annualisation

Where less than 75% (but more than 25%) of the data set is available, the automatics monitoring stations have been annualised as per the Technical Guidance. This was only necessary for CM1. The following background stations were used:

- Coventry Allesley
- Coventry Binley Road

- Leicester A594 Roadside
- Leicester University

These stations were chosen because they had the necessary data capture and fit the requirements of a background site as per the TG22 guidance. Advice was also received from the LAQM helpdesk, to ensure the annualisation had been done correctly. Details of the annualisation can be found in Table C.1.

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 has been estimated using the NO₂ fall-off with distance calculator available on the LAQM Support website. Where appropriate, automatic annual mean NO₂ concentrations corrected for distance are presented in Table A.3.

This was necessary for CM6 which recorded a concentration for 2023 of 40.2 µg/m³. Once distance-corrected, this reduced to 35.7 µg/m³. Details of this can be seen in Table C.4.

Table C.4 – Automatic NO₂ Fall off With Distance Calculations (concentrations presented in µg/m³)

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised)	Background Concentration	Concentration Predicted at Receptor	Comments
CM6	2.7	5.8	17.1	40.2	35.7	

Appendix D: Maps of Monitoring Locations and AQMAs

An assessment of 2023 results in the context of past data has been carried out for the following areas:

Figure D.1: AQMA 1 - A5460 Narborough Road South

Figure D.2: AQMA 2 - M1 corridor in Enderby and Narborough

Figure D.3: AQMA 3 – M1 corridor between Thorpe Astley and Leicester Forest East

Figure D.4: AQMA 4B – Enderby Road, Whetstone

Figure D.5a: AQMA 6 – Mill Hill, Enderby

Figure D.5b & D.5c: Enderby outside of AQMA 6

Figure D.6: AQMA 7 (Proposed) – Lubbesthorpe Road, Braunstone Town

Figure D.7: Stoney Stanton village

Figure D.8: Glenfield village

Figure D.9: Glen Parva

Figure D.10a: Sapcote and Aston Firs - Sapcote

Figure D.10b: Sapcote and Aston Firs – Aston Firs

Figure D.11: Elmesthorpe village

Figure D.12: Kirby Muxloe village

Figure D.13: Sharnford village

Figure D.14: Kilby

Figure D.15: Thorpe Astley

Figure D.16: Locations of Zephyr® monitors in Blaby District

AQMA 1 – A5460 Narborough Road South

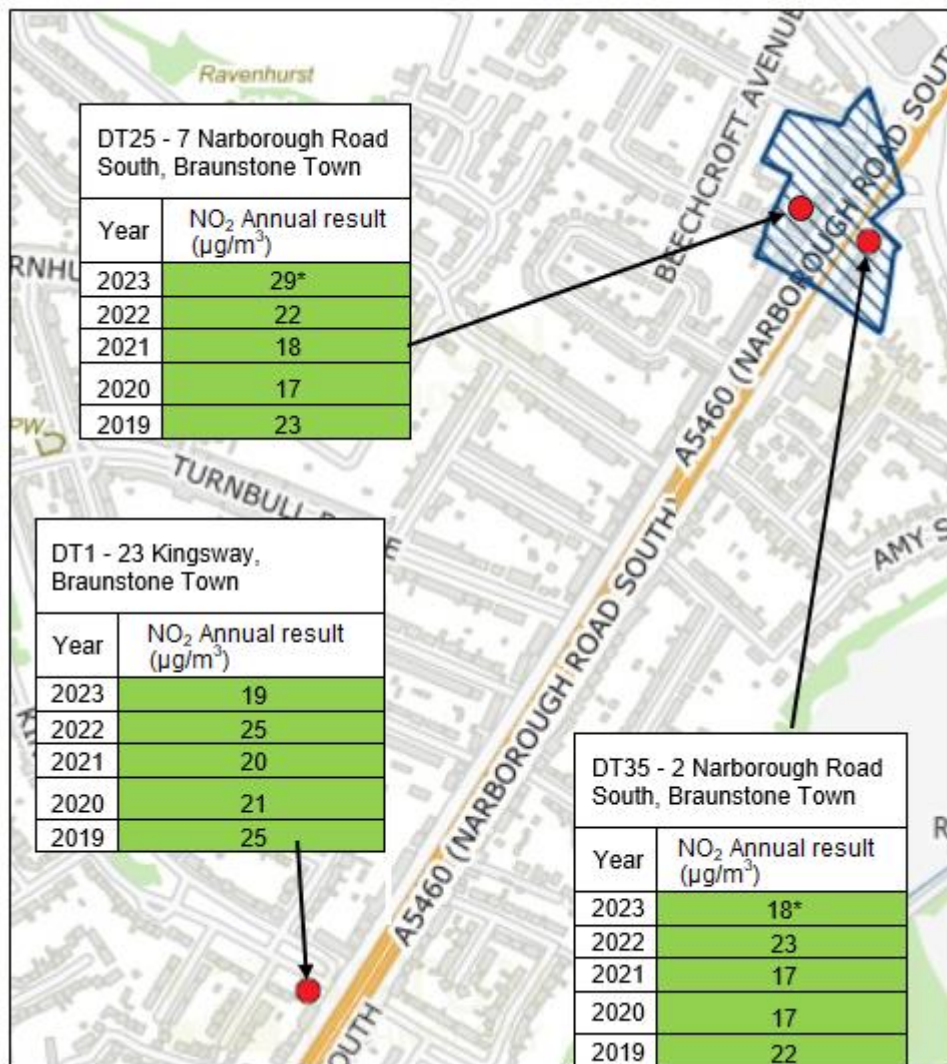


Figure 1: Map showing the locations and results of diffusion tubes in AQMA 1, including Narborough Road South and parts of Braunstone Town. AQMA boundary is represented by the blue grid lines. Results have been rounded to the nearest whole number. 40µg/m³ is the national air quality objective for this pollutant. Numbers with a * represent a figure that has been annualised and/or distance corrected. © Crown copyright. All rights reserved.

AQMA 2 – M1 corridor in Enderby and Narborough

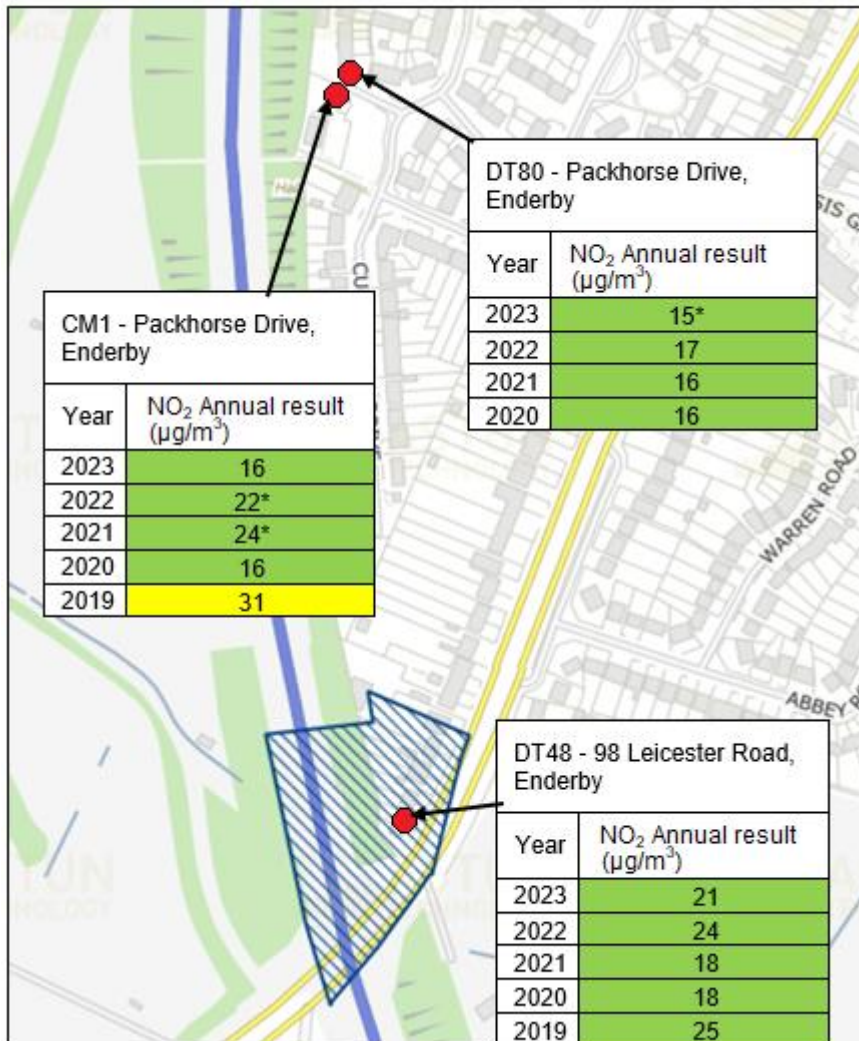


Figure 2: Map showing the locations and results of diffusion tubes and continuous monitoring stations in AQMA 2, along a corridor of the M1 between Enderby to the north and Narborough to the south. AQMA boundary is represented by the blue grid lines. Results have been rounded to the nearest whole number. 40µg/m³ is the national air quality objective for this pollutant. Numbers with a * represent a figure that has been annualised and/or distance corrected. © Crown copyright. All rights reserved.

AQMA 3 – M1 corridor between Thorpe Astley and Leicester Forest East

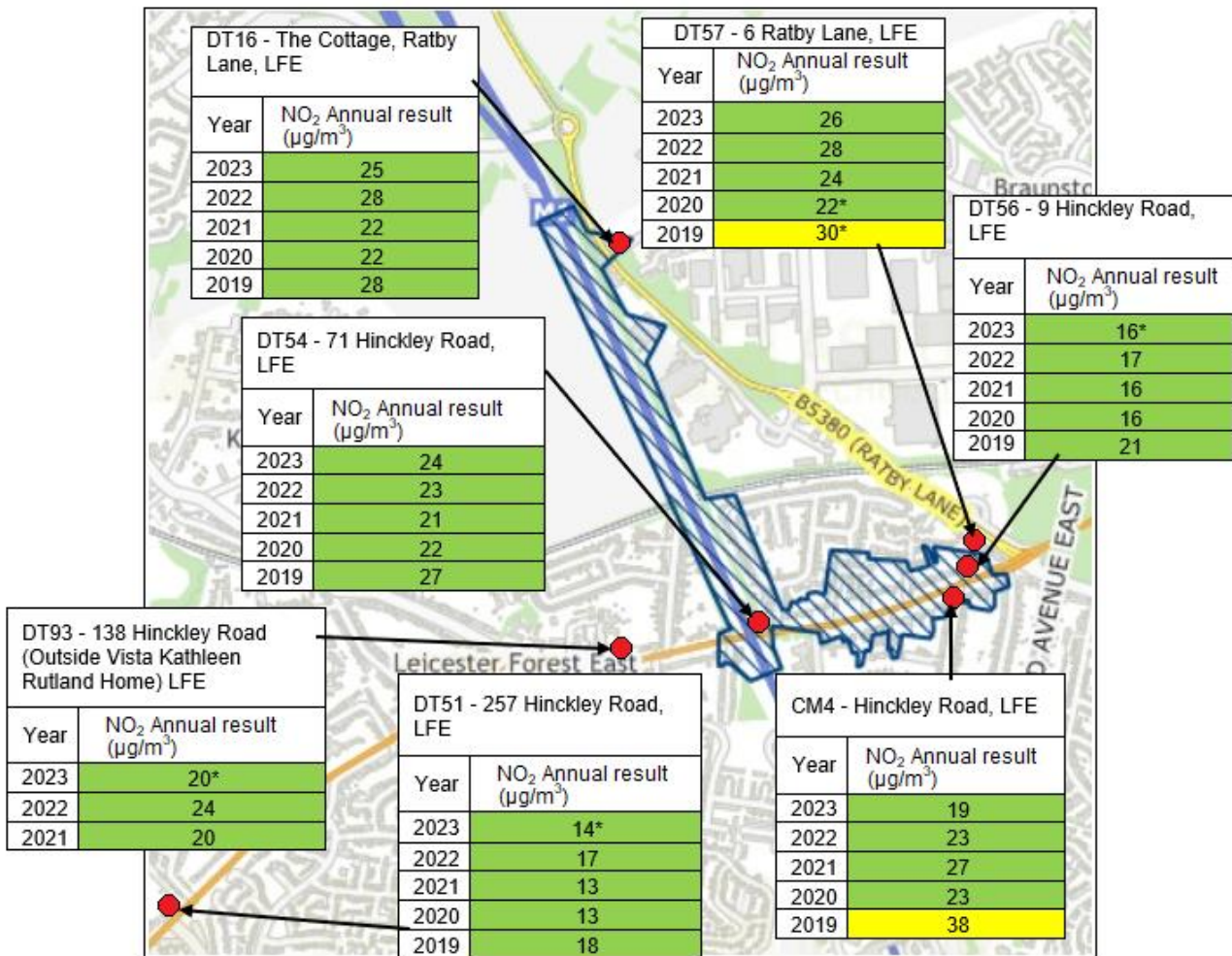


Figure 3: Map showing the locations and results of diffusion tubes and continuous monitoring stations in AQMA 3, along a corridor of the M1 between Thorpe Astley and Leicester Forest East. AQMA boundary is represented by the blue grid lines. Results have been rounded to the nearest whole number. 40µg/m³ is the national air quality objective for this pollutant. Numbers with a * represent a figure that has been annualised and/or distance corrected. © Crown copyright. All rights reserved.

AQMA 4B – Enderby Road, Whetstone

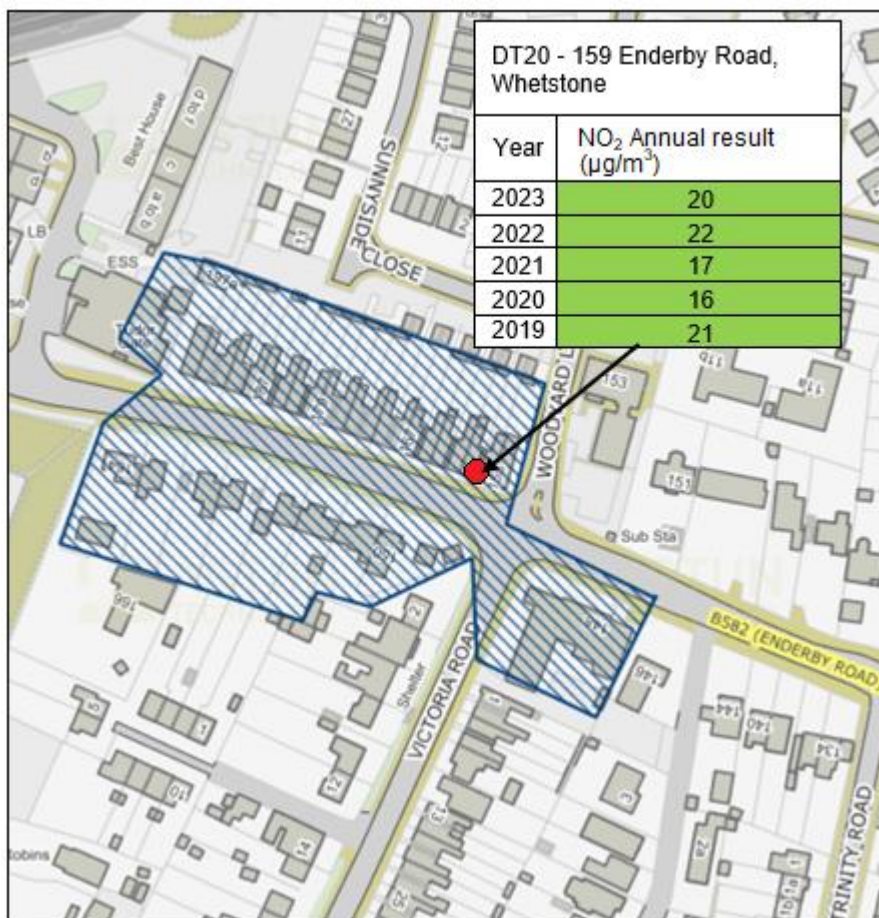


Figure 4: Map showing the locations and results of diffusion tubes in AQMA 4B, along Enderby Road in Whetstone. AQMA boundary is represented by the blue grid lines. Results have been rounded to the nearest whole number. 40µg/m³ is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

AQMA 6 – Mill Hill, Enderby

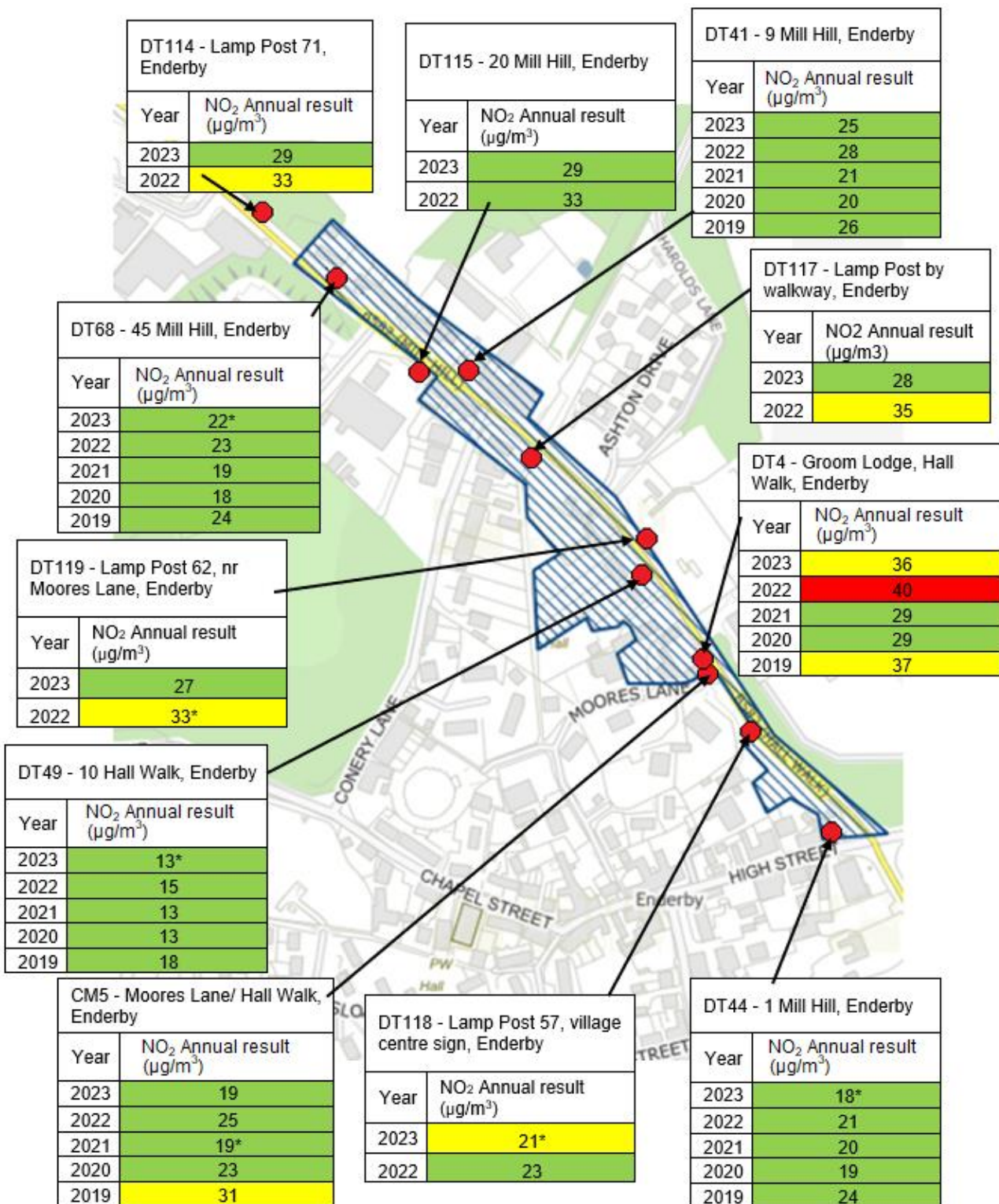


Figure 5a: Map showing the locations and results of diffusion tubes and continuous monitoring stations in AQMA 6, along Mill Hill in Enderby. AQMA boundary is represented by the blue grid lines. Results have been rounded to the nearest whole number. 40µg/m³ is the national air quality objective for this pollutant. Numbers with a * represent a figure that has been annualised and/or distance corrected. © Crown copyright. All rights reserved.

Enderby

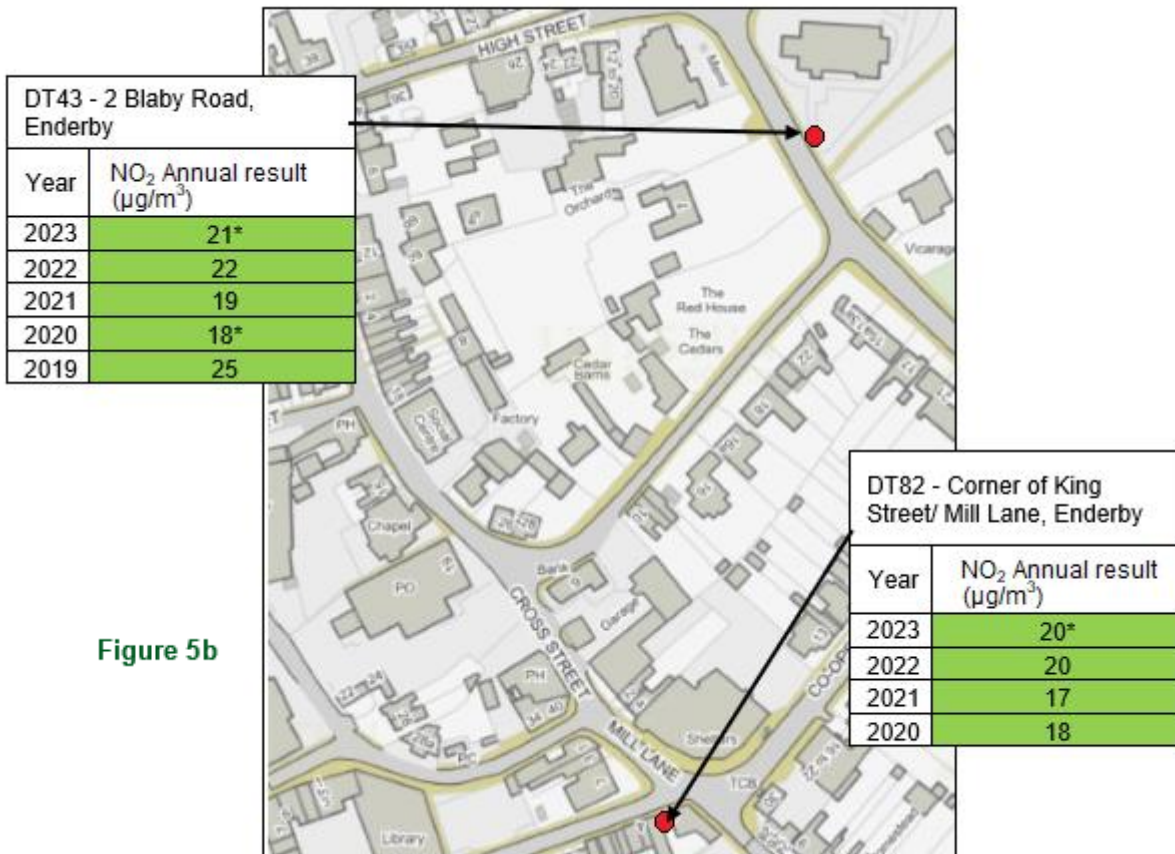


Figure 5b

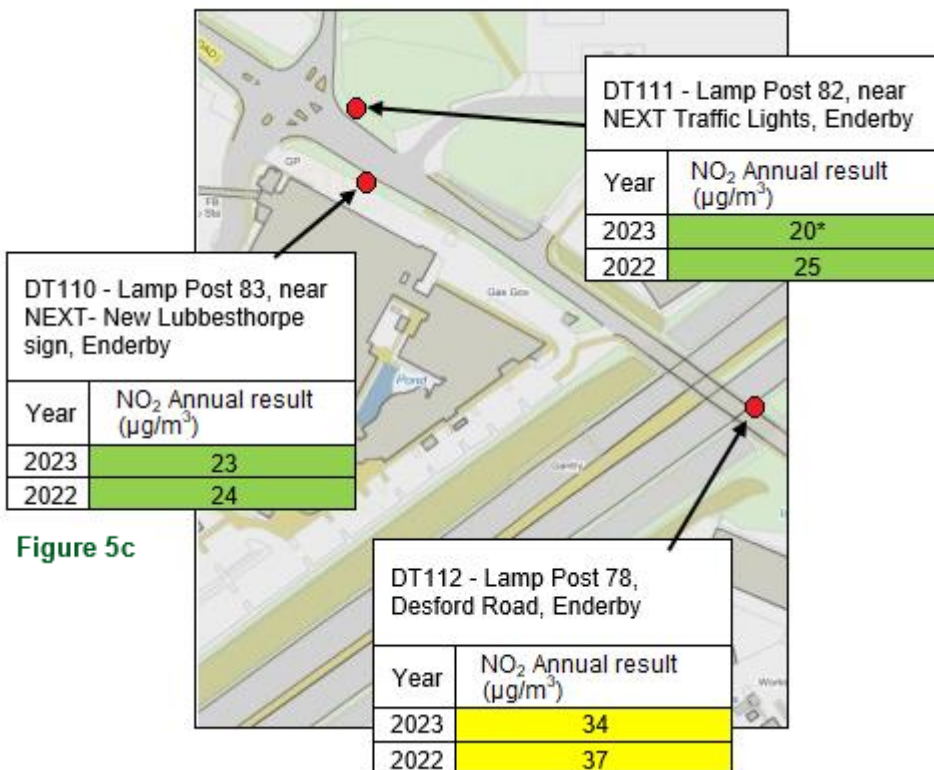


Figure 5c

Figure 5b & 5c: Map showing the locations and results of diffusion tubes in Enderby. Results have been rounded to the nearest whole number. 40µg/m³ is the national air quality objective for this pollutant. Numbers with a * represent a figure that has been annualised and/or distance corrected. © Crown copyright. All rights reserved.

AQMA 7 (Proposed) – Lubbesthorpe Road, Braunstone Town

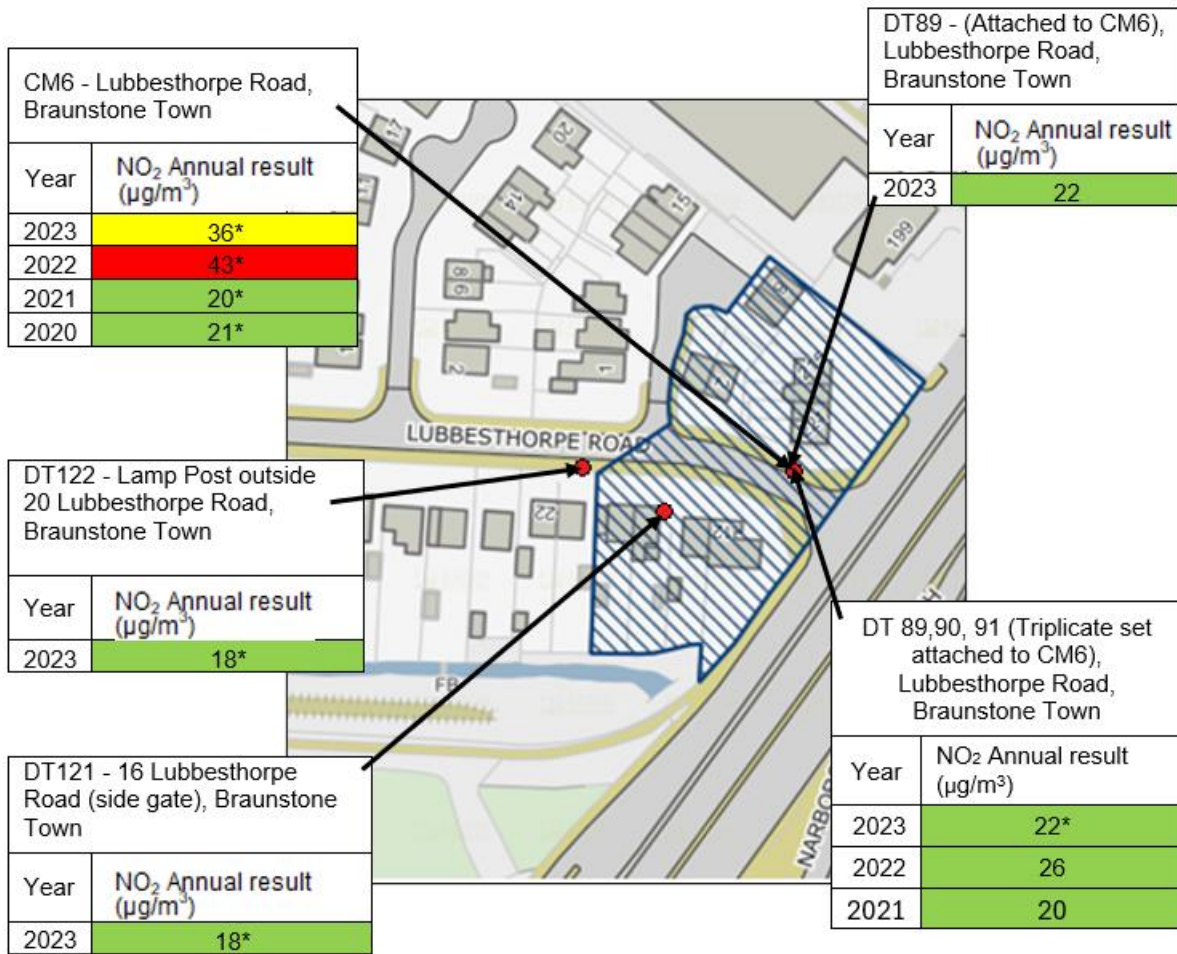


Figure 6: Map showing the locations and results of diffusion tubes and continuous monitoring stations in AQMA 7 (Proposed), at the end of Lubbesthorpe Road in Braunstone Town. AQMA boundary is represented by the blue grid lines. Results have been rounded to the nearest whole number. 40µg/m³ is the national air quality objective for this pollutant. Numbers with a * represent a figure that has been annualised and/or distance corrected. © Crown copyright. All rights reserved.

Stoney Stanton village

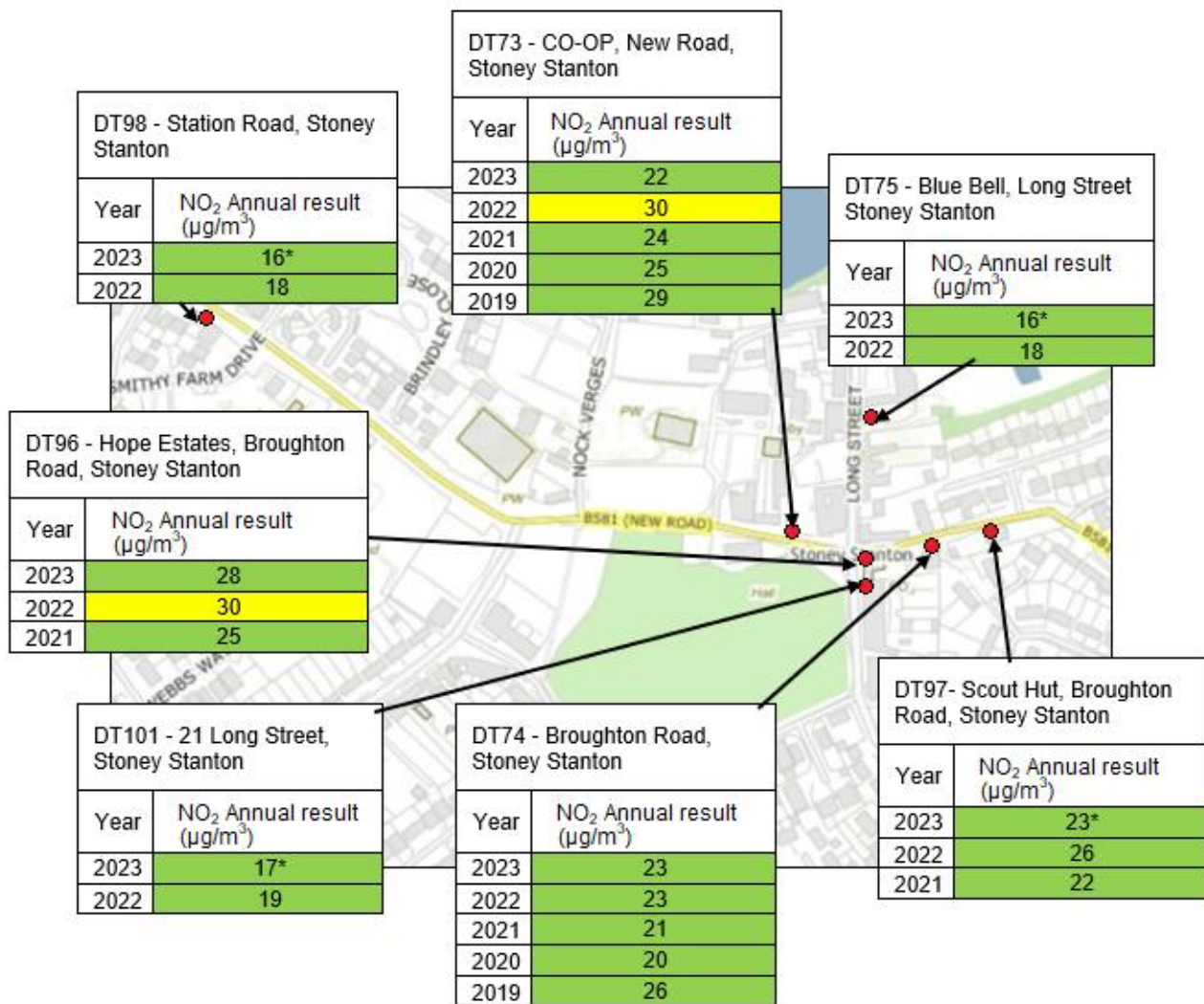


Figure 7: Map showing the locations and results of diffusion tubes in Stoney Stanton. Results have been rounded to the nearest whole number. 40µg/m³ is the national air quality objective for this pollutant. Numbers with a * represent a figure that has been annualised and/or distance corrected. © Crown copyright. All rights reserved.

Glenfield village

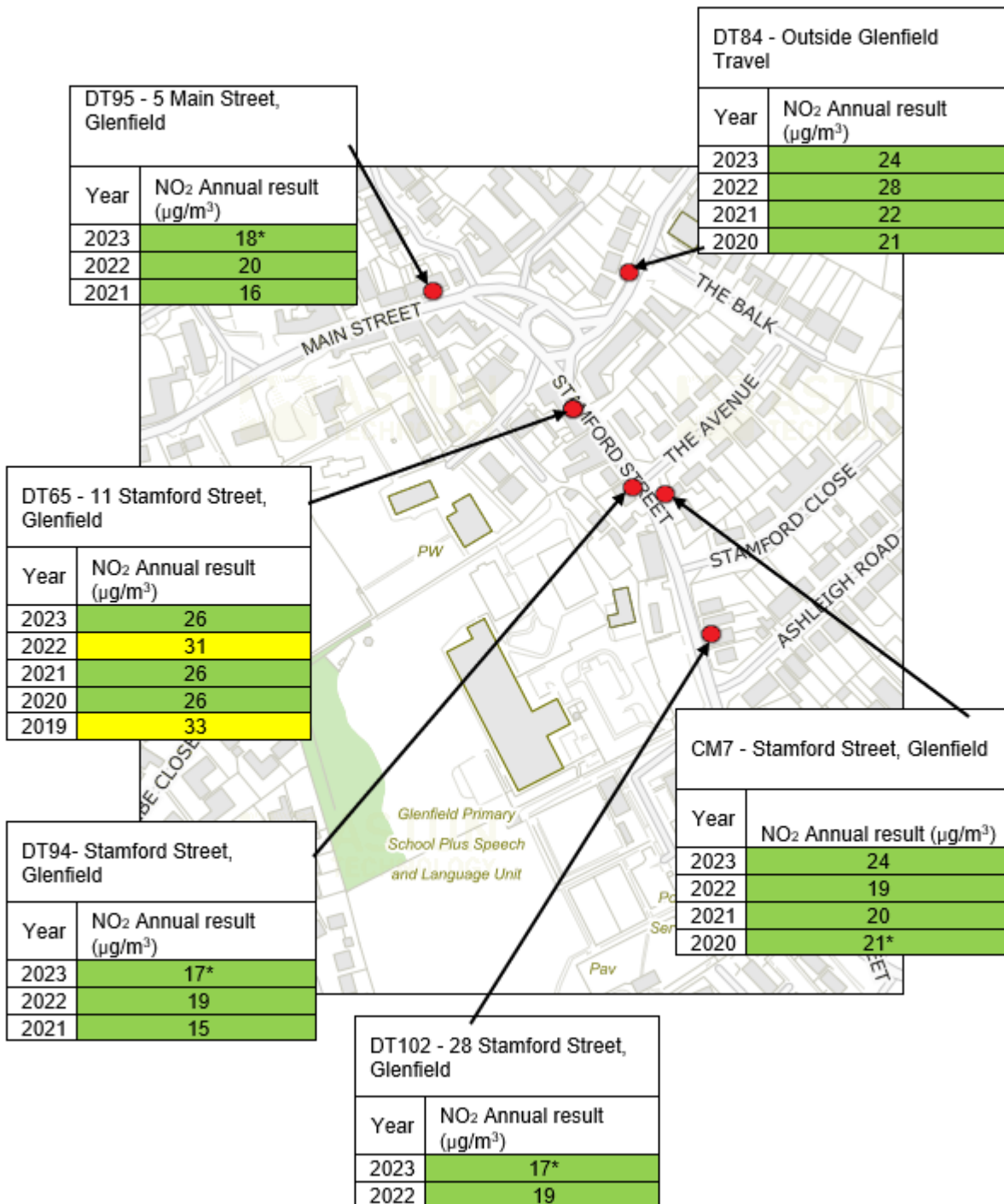


Figure D.8: Map showing the locations and results of diffusion tubes in Glenfield village. Results have been rounded to the nearest whole number. 40µg/m³ is the national air quality objective for this pollutant. Numbers with a * represent a figure that has been annualised and/or distance corrected. © Crown copyright. All rights reserved.

Glen Parva

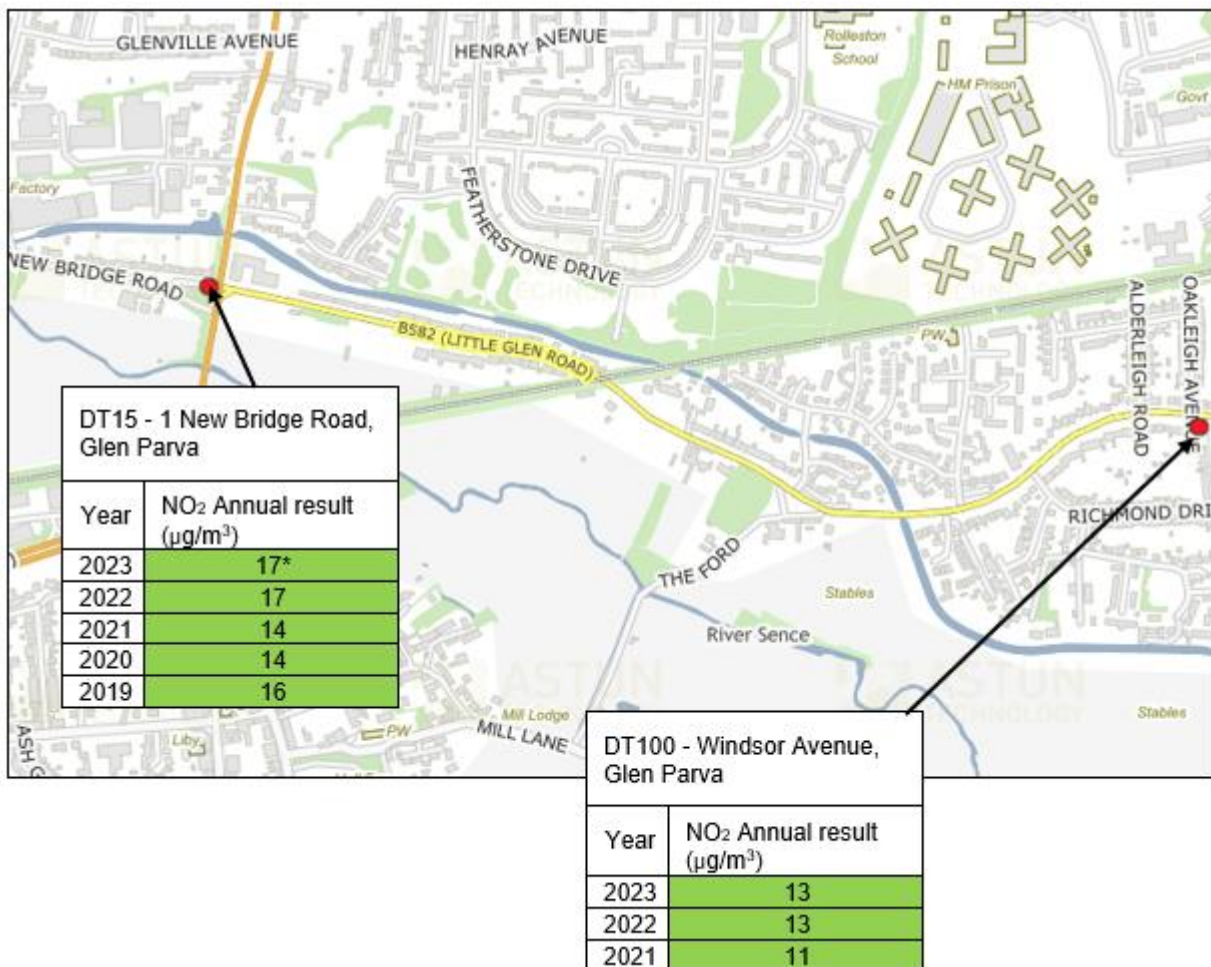


Figure D.9: Map showing the locations and results of diffusion tubes in Glen Parva. Results have been rounded to the nearest whole number. 40µg/m³ is the national air quality objective for this pollutant. Numbers with a * represent a figure that has been annualised and/or distance corrected. © Crown copyright. All rights reserved.

Sapcote village and Aston Firs

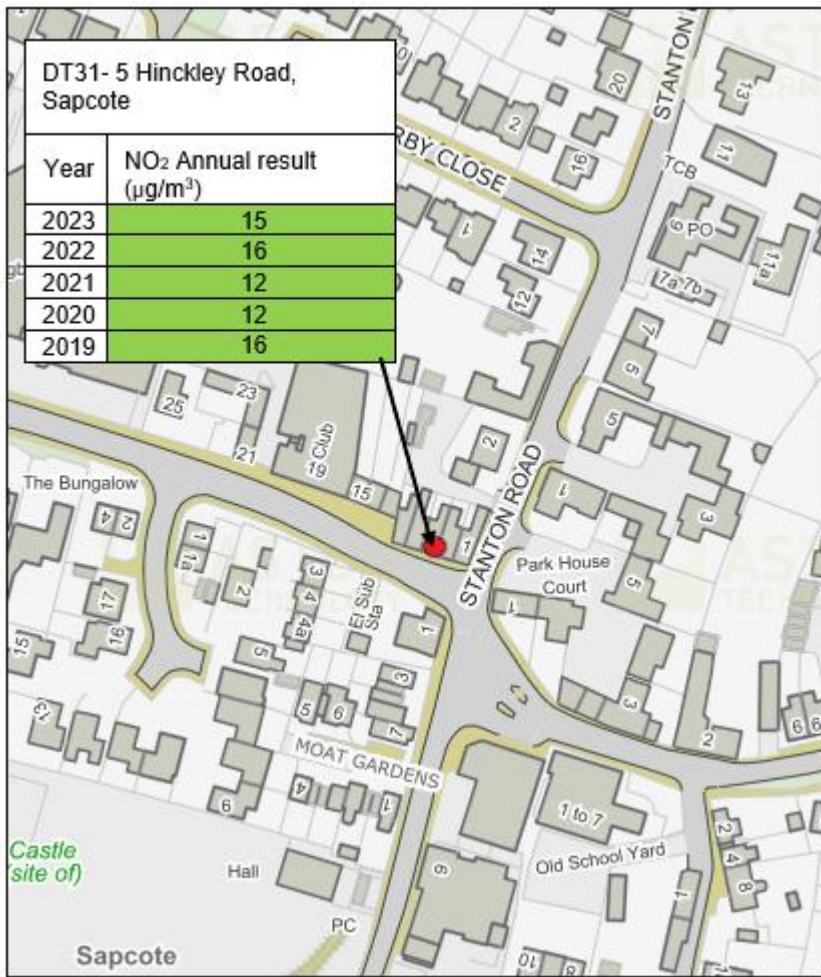


Figure D.10a: Map showing the locations and results of diffusion tubes in Sapcote village. Results have been rounded to the nearest whole number. 40µg/m³ is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

Figure D.10b: Map showing the locations and results of diffusion tubes in Aston Firs. Results have been rounded to the nearest 40µg/m³ is the national air quality objective for this pollutant. Numbers with a * represent a figure that has been annualised and/or distance corrected. © Crown copyright. All rights reserved.



whole number.

Elmesthorpe village

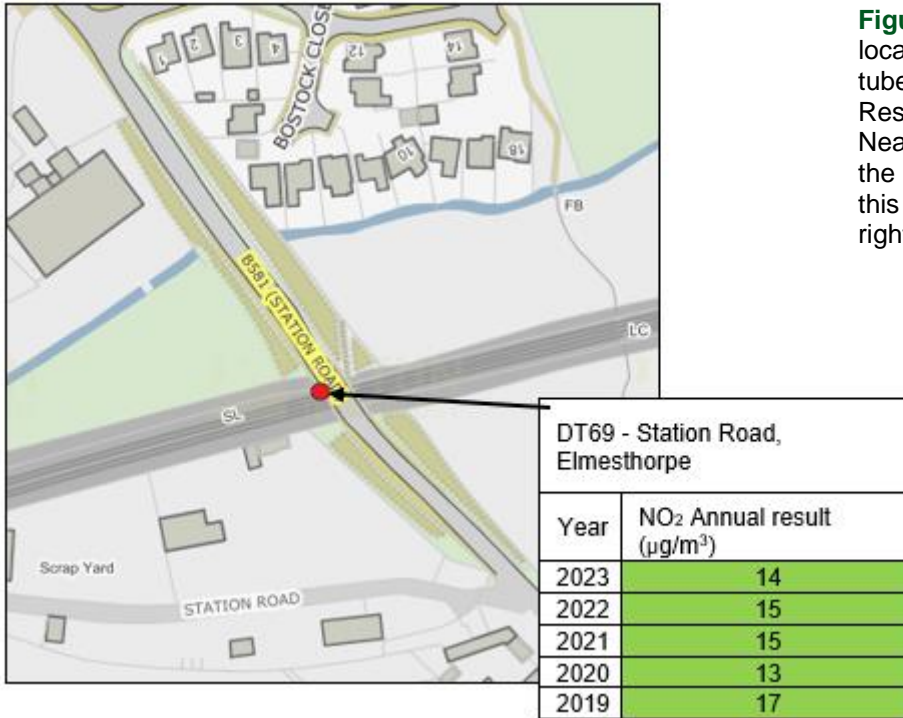


Figure D.11: Map showing the locations and results of diffusion tubes in Elmesthorpe village. Results have been rounded to the Nearest whole number. 40µg/m³ is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

Kirby Muxloe village

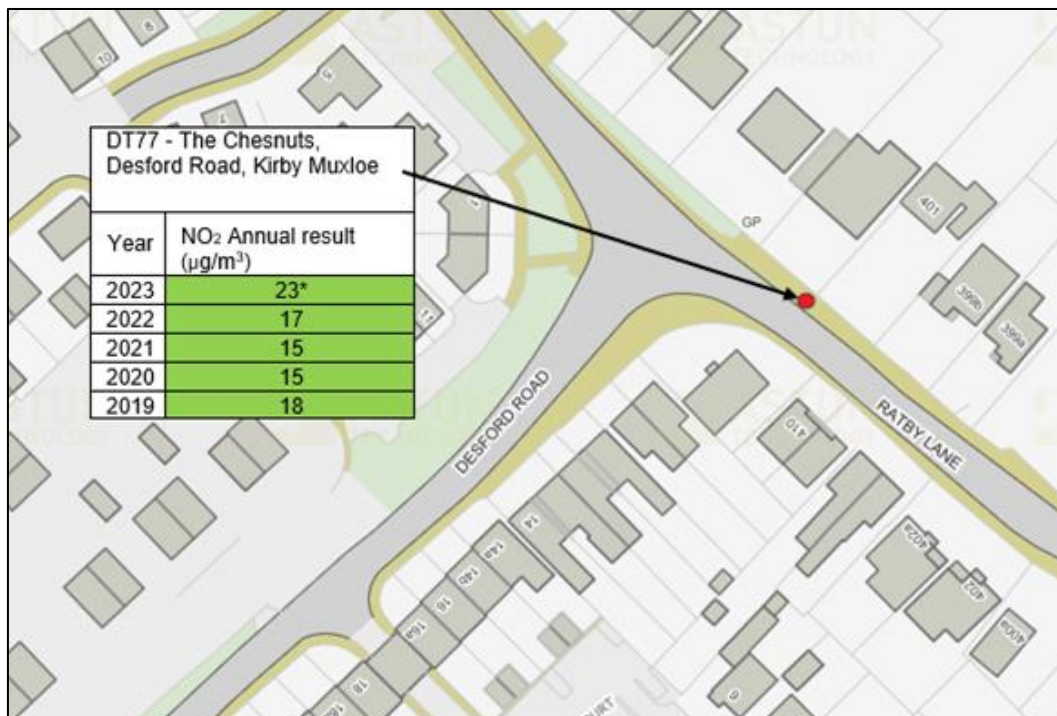


Figure D.12: Map showing the locations and results of diffusion tubes in Kirby Muxloe village. Results have been rounded to the nearest whole number. 40µg/m³ is the national air quality objective for this pollutant. Numbers with a * represent a figure that has been annualised and/or distance corrected. © Crown copyright. All rights reserved.

Sharnford village

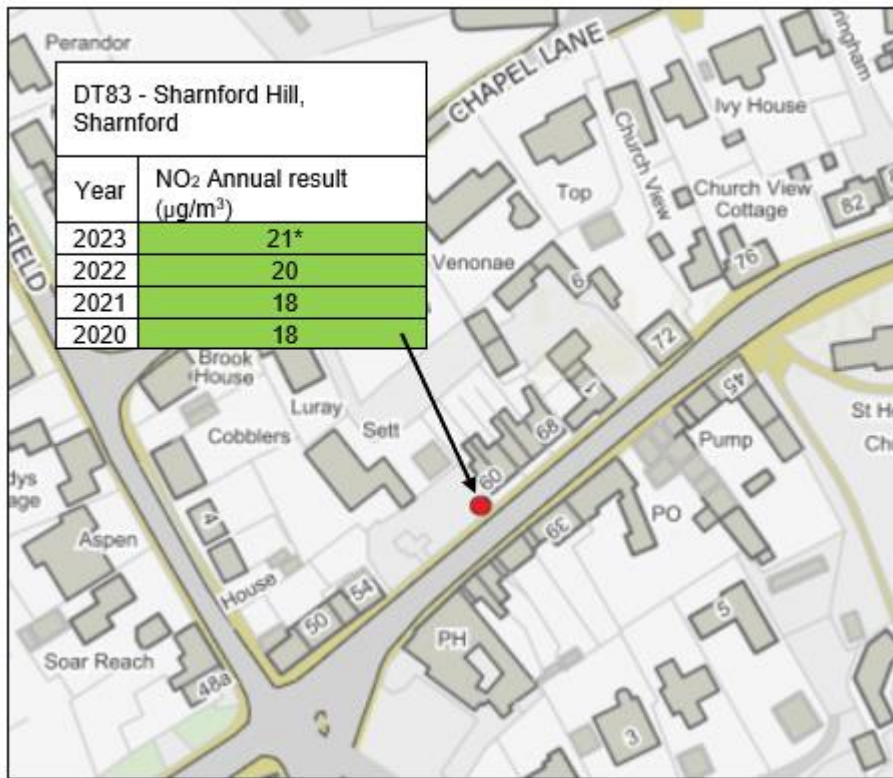
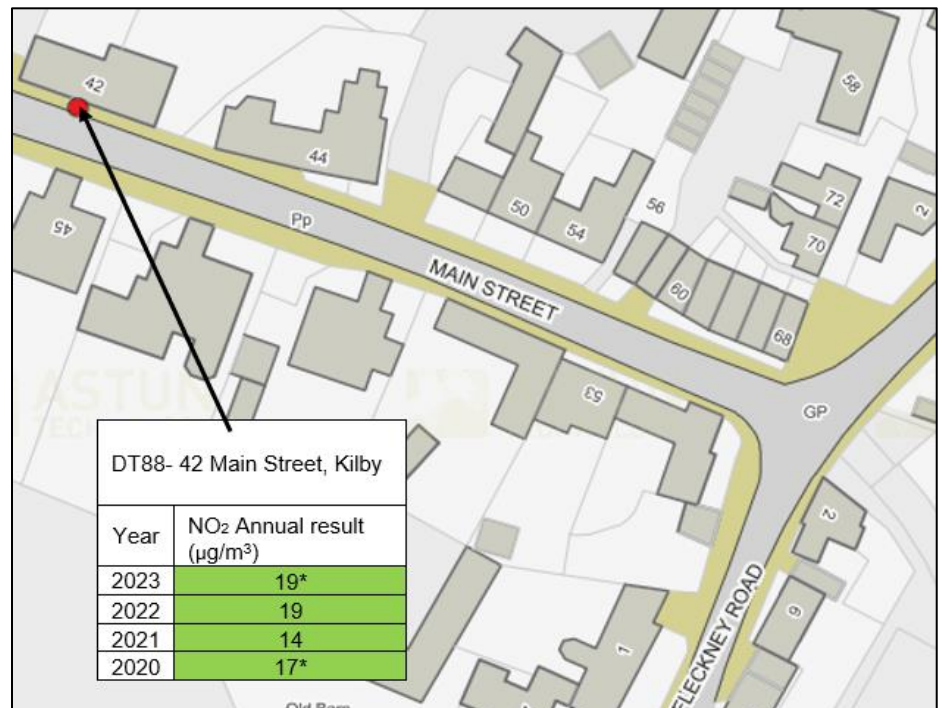


Figure D.13: Map showing the locations and results of diffusion tubes in Sharnford village. Results have been rounded to the nearest whole number. 40µg/m³ is the national air quality objective for this pollutant. Numbers with a * represent a figure that has been annualised and/or distance corrected © Crown copyright. All rights reserved.

Kilby

Figure D.14: Map showing the locations and results of diffusion tubes in Kilby. Results have been rounded to the nearest whole number. 40µg/m³ is the national air quality objective for this pollutant. Numbers with a * represent a figure that has been annualised and/or distance corrected. © Crown copyright. All rights reserved.



Thorpe Astley

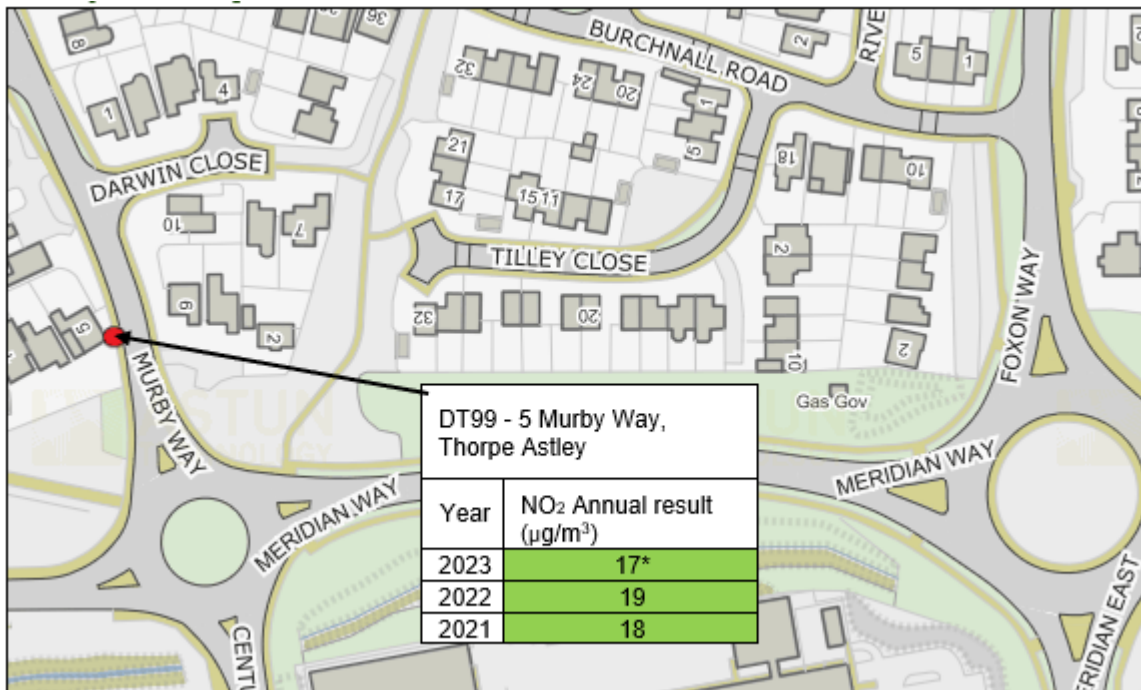


Figure D.15: Map showing the locations and results of diffusion tubes in Thorpe Astley. Results have been rounded to the nearest whole number. 40µg/m³ is the national air quality objective for this pollutant. Numbers with a * represent a figure that has been annualised and/or distance corrected. © Crown copyright. All rights reserved.

Locations of Zephyr® monitors in Blaby District



Figure D.16: Map showing the locations Zephyr® monitors in the Blaby District (blue dots). Railway stations are marked with red dots. The District boundary is shown in black. © Crown copyright. All rights reserved.

Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England⁹

⁹ The units are in microgrammes of pollutant per cubic metre of air ($\mu\text{g}/\text{m}^3$).

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

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
PM ₁₀	Airborne particulate matter with an aerodynamic diameter of 10µm or less
PM _{2.5}	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO ₂	Sulphur Dioxide

References

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