



## **2023 Air Quality Annual Status Report (ASR)**

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

Date: 31<sup>st</sup> July 2023

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## Executive Summary: Air Quality in Our Area

### Air Quality in Blaby District

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

The mortality burden of air pollution within the UK is equivalent to 29,000 to 343,000 deaths at typical ages<sup>3</sup>, with a total estimated healthcare cost to the NHS and social care of £157 million in 2017<sup>4</sup>.

Blaby District Council (BDC) has five Air Quality Management Areas (AQMAs). All were declared after monitoring (where indicated) or modelling indicated an exceedance of the annual mean air quality objective for nitrogen dioxide ( $40\mu\text{g}/\text{m}^3$ ). These 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

AQMAs 2, 3 and 4b were reduced in size in 2020, due to low  $\text{NO}_2$  results from 2019 and the previous 4 years. No changes were made to any of the AQMA's in 2021 and 2022 due to the effects on air quality of the pandemic and following advice from DEFRA.

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

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

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

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

BDC Elected Members and Senior Managers have an ongoing commitment to continue the monitoring and management of air quality and taking action to reduce levels of airborne pollutants.

The Environmental Services Team are responsible for undertaking monitoring and action planning. The Team also provides consultation responses with regard to air quality constraints on planning applications.

Section 106 funds have been secured from several approved developments to support air quality work and this has allowed for both pre and post development monitoring to take place.

Multiple Teams across the Council have worked to deliver a programme of projects funded by Air Quality Grants.

BDC continues to work closely with the following partners:

- All Leicestershire 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)

BDC has an active role in the Air Quality and Health Partnership which is implementing an Action Plan based on the outcomes of the Joint Strategic Needs Assessment (JSNA). This Action Plan informs BDC's 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.

BDC 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 Leicester Forest East.

Although concentrations in some locations have shown increases in comparison to 2021 and two exceedances were recorded overall, a substantial majority of the monitoring network complies with the National Air Quality Objective (NAQO) for NO<sub>2</sub> and results remain below 40 µg/m<sup>3</sup>.

### Exceedances

In 2022 there were two recorded exceedances of the NAQO for NO<sub>2</sub> in the following locations:

- Enderby  
An exceedance of the NAQO was recorded within AQMA6. An additional exceedance was recorded at roadside however once distance corrected the concentration falls below the NAQO.
- Braunstone Town  
An exceedance at Continuous Monitor 6 (CM6) (Braunstone Town) was identified and this area will be declared as an AQMA.

### Compliances & Revocations

- **AQMA 1** (A5460 Narborough Road South)  
Concentrations of NO<sub>2</sub> have remained below the NAQO during 2022, despite a small increase in recorded levels. As results have remained consistently low and under the NAQO during the last five years, this AQMA will be revoked.
- **AQMA 2** (M1 Corridor in Enderby and Narborough)  
There have been no exceedances in AQMA2, with levels well below the NAQO in 2022 and only a small increase in concentrations from 2021. Monitoring results outside the AQMA have also shown a slight decrease in comparison to 2021, further informing the long-term trends within this area, therefore AQMA 2 will also be revoked.
- **AQMA 3** (M1 corridor between Thorpe Astley and Leicester Forest East)  
All monitoring remains within the NAQO for NO<sub>2</sub>, however monitoring will continue within this AQMA due to new and proposed housing and economic developments nearby and the associated use of the A47 which is a key road corridor between Blaby District and Leicester City.

- **AQMA 4B** (Enderby Road, Whetstone)

Following consistency with the previous five years, concentrations remain well below the NAQO which supports the revocation of this AQMA.

- **AQMA 6** (Mill Hill, Enderby)

Whilst two diffusion tubes (DTs) within AQMA 6 have shown an exceedance of the NAQO, once distance corrected there was found to be only one exceedance. Other monitoring within the AQMA has shown compliance with the NAQO. However, monitoring will continue in this area to understand if the changes are reflective of a longer-term trend and due to potential nearby developments which may be approved, the AQMA is therefore proposed to be maintained.

To summarise the following AQMAs will be revoked due to ongoing compliance with objective levels:

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

### **Diffusion Tube Monitoring - Enderby, Glenfield and Stoney Stanton**

To gain a greater insight into the air quality of these areas, monitoring has been undertaken in Enderby, Glenfield and Stoney Stanton and the Council found concentrations in Glenfield and Stoney Stanton to be below the NAQO.

Through the Countdown to Clean Air Grant project (CDTCA) 2022, monitoring in Enderby and Glenfield was introduced. As compliance with the NAQO has been evident and the CDTCA has come to an end, a number of these tubes in Enderby and Glenfield have since been removed from the 2023 monitoring network. Monitoring will continue in Stoney Stanton to due to potential nearby developments and to inform long term trends in the area.

### **Continuous Monitoring - Braunstone Town**

CM6 located on Lubbethorpe Road, Braunstone Town showed an exceedance of the NAQO for NO<sub>2</sub> in 2022. BDC will be declaring this area an AQMA and further investigations will be undertaken. Monitoring will be increased utilising low-cost devices

(Zephyrs) to provide real time data, supplementing the monitoring currently in place. BDC are working closely with Leicester City Council and Leicestershire County Council to obtain data and understand traffic flow trends and their correlation to the exceedances recorded.

### **Development within the District**

There are a number of ongoing and proposed developments around the District of Blaby, and it is possible that there may be an impact on local air quality. Monitoring is being conducted to understand background levels within close proximity to these development sites.

A summary of the development sites are as follows:

- 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 the remaining phases are expected to be completed in the 2030's (This is a continuing development)
- Extension to Croft Quarry (planning permission approved on 12/01/2022 by Leicestershire County Council)
- Land north of A47 Hinckley Road, Kirby Muxloe – This is a proposal for 885 dwellings (planning permission is currently under consideration)
- Enderby Hub – This is an Outline Application for a commercial development consisting of four warehouse buildings and one training and education centre (planning permission 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.

### **Actions to Improve Air Quality**

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

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

Using the On-Street Residential Charge Scheme (ORCS) BDC installed twenty-four 7kW Electrical Vehicle (EV) chargers in 2021 throughout its Pay and Display car parks to support residents who have limited off-street parking and to encourage the use of Electric Vehicles within the District. The implementation of infrastructure to support the usage of lower emission vehicles will aid in the reduction of NO<sub>2</sub> emissions throughout Blaby District.

BDC also approved The Hackney Carriage and Private Hire Licensing Policy for 2022 – 2027 to incentivise the use of Ultra Low Emission Vehicles (ULEV) and Electric Vehicles (EV). The Licensing department offered reductions in the fees for Operators who License a vehicle under any of these categories. The Policy also put procedures in place to reduce the age of the Private Hire and Hackney Carriage fleet Licensed by the Authority.

### **DEFRA Air Quality Grant Projects:**

#### **Count Down to Clean Air Project (CDTCA)**

The CDTCA Project continued in 2022, engaging with schools and businesses to encourage Active Travel and raise awareness on Air Quality. The project focussed on areas of concern such as the M1 corridor around Junction 21, areas in close proximity to AQMAs and around schools within the district. There was a particular focus to work in areas of Enderby and Glenfield and as part of this, an additional 22 diffusion tubes were

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<sup>5</sup> Defra. Environmental Improvement Plan 2023, January 2023

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



deployed in 2022.

Part of the Count Down to Clean Air project work included:

- Attending and delivering business breakfast sessions, hosted by BDC, to raise awareness on Air Quality and how businesses can make a positive difference through employee travel plans and incentives for green travel.
- Delivering Air Quality and Active Travel educational sessions and assemblies to schools, providing resources for students who were encouraged to take part in Clean Air Day and Great Big Green week.
- The 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. These games saw 11 primary schools take part as well as several community groups and businesses. A total of 33 boxes were installed with 3053 players taking part and 24,314 miles were covered by bike, scooter or foot which increased active travel over a four-week period between May and June 2022.

The CDTCA project came to an end in March 2023, however legacy work continues to take place within other projects.

### **Particulate Matters Project**

In 2022 BDC were awarded grant funding of £151,121 for a new DEFRA Air Quality Project: 'Particulate Matters'. This project is currently underway and will finish in July 2024 with a focus on PM<sub>2.5</sub> and the sources associated with it across the district. Progress to date includes installation of low-cost monitors within the district, working with Croft Quarry with regard to PM<sub>2.5</sub> generation from their complex and operations and working with public health partners to further understand the health associated impacts.

### **Let Go Electric Project**

In 2023 BDC were successful with a grant application for £573,701 to deliver their 'Let's Go Electric' project. This will allow the Council to purchase an electric Road Sweeper and undertake the retrofit a diesel Refuse Collection Vehicle (RCV) to an electric Refuse Collection Vehicle (RCV) to reduce levels of NO<sub>2</sub> and particulate matter (PM) within AQMAs in the district.

## Conclusions and Priorities

Two exceedances have been measured in the district in 2022 one in Braunstone Town and one in AQMA 6, Enderby.

Of the two exceedances, the highest was measured at CM6 (Braunstone Town) and this area will be declared as an AQMA with investigations being undertaken to better understand the change in concentration. Monitoring will continue in this area and an action plan will be developed and implemented.

An additional exceedance was also indicated within AQMA 6, however once distance corrected the concentration value fell below the NAQO and therefore there were two exceedances recorded across the district.

Overall concentrations of NO<sub>2</sub> have shown an increase over 2022, however other than the reported exceedances, the monitoring network remains within the NAQO.

AQMAs, 1, 2 and 4b have shown no exceedance of the NAQO and remain well below the objective threshold and will be revoked. AQMAs 3 and 6 will remain.

BDC's priorities in 2023 are to;

- Continue monitoring throughout 2023 to assess trends, and actions.
- Revoke AQMAs 1, 2 and 4b
- Declare a new AQMA (7) due to the exceedance at CM6.
- Undertake investigation work within the new AQMA (7) to inform an action plan.
- Prepare a replacement AQAP.

## Local Engagement and how to get involved

BDC continues to work closely with other stakeholders and local authorities on air quality matters and projects and to improve education and awareness throughout the district.

Members of the public can help improve air quality by participating in alternative methods of transport to personal car usage such as park and ride schemes, car sharing, buses, walking and cycling. More information may be found on the Choose How You Move website: <https://www.choosehowyoumove.co.uk/>

'Walk and Ride Blaby' is a long-term project which aims to encourage sustainable travel options within Blaby District. Funding has been sourced by BDC, The Leicester and Leicestershire Enterprise Partnership and Leicester City Council to plan, develop, and deliver this project. The focus of this work is to create a cycle route from New

Lubbesthorpe through to Braunstone Town joining the Great Central Way with Leicester City Centre. In addition to this there is also a partnership with 'Sustrans' to develop a Local Cycling and Walking Improvement Plan to increase provision of more sustainable travel routes.

### **Local Responsibilities and Commitment**

This ASR was prepared by the Environmental Services Team with the support and agreement of the following officers and departments:

- BDC Health, Leisure and Tourism Services
- BDC Planning Policy Team
- BDC Development Services Team
- UKHSA
- Leicestershire County Council
  - Public Health
  - Traffic Management
  - Sustainable Travel Team

This ASR has been approved by:

- Environmental Health, Housing and Community Services Group Manager
- Strategic Director
- Portfolio Holder and Elected Members

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

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

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Telephone: 0116 275 0555

Email: [environmental.services@blaby.gov.uk](mailto:environmental.services@blaby.gov.uk)

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## 1. Local Air Quality Management

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

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

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

## 2. Actions to Improve Air Quality

### 2.1 Air Quality Management Areas

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

A summary of AQMAs declared by BDC can be found in Table 0.1. The table presents a description of the five AQMA(s) that are currently designated within Blaby District.

Appendix D: Map(s) of Monitoring Locations and AQMAs provides maps of AQMA(s) and also the air quality monitoring locations in relation to the AQMA(s). The air quality objectives pertinent to the current AQMA designation(s) are as follows:

- NO<sub>2</sub> annual mean.

BDC will declare a new AQMA in Braunstone Town along the vicinity of Lubbesthorpe Road and Narborough Road South A5460 due to an exceedance of the NO<sub>2</sub> annual mean air quality objective.

The Council propose to revoke AQMA 1, 2 and 4b due to ongoing compliance with the national air quality objective.



**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	NO <sub>2</sub> Annual Mean	Residential properties along a small section of Narborough Road South to the extent of Blaby District	NO	50 µg/m <sup>3</sup>	23 µg/m <sup>3</sup>	5	Air Quality Action Plan 2021-2025	<a href="https://www.blaby.gov.uk/media/z3opt2yt/air-quality-action-plan-2021-2025.pdf">https://www.blaby.gov.uk/media/z3opt2yt/air-quality-action-plan-2021-2025.pdf</a>
AQMA 2: M1 corridor in Enderby and Narborough	Declared September 2000; Amended 2020	NO <sub>2</sub> Annual Mean	Residential properties adjacent to the M1, between around 1.5 km and 3 km south of Junction 21.	YES	50 µg/m <sup>3</sup>	24 µg/m <sup>3</sup>	5	Air Quality Action Plan 2021-2025	<a href="https://www.blaby.gov.uk/media/z3opt2yt/air-quality-action-plan-2021-2025.pdf">https://www.blaby.gov.uk/media/z3opt2yt/air-quality-action-plan-2021-2025.pdf</a>
AQMA 3: M1 corridor between Thorpe Astley and Leicester Forest East	Declared September 2000; Amended April 2005; Amended 2020	NO <sub>2</sub> Annual Mean	Residential houses adjacent to the M1 and A47 between Thorpe Astley and Leicester Forest East	YES	62 µg/m <sup>3</sup>	23 µg/m <sup>3</sup>	4	Air Quality Action Plan 2021-2025	<a href="https://www.blaby.gov.uk/media/z3opt2yt/air-quality-action-plan-2021-2025.pdf">https://www.blaby.gov.uk/media/z3opt2yt/air-quality-action-plan-2021-2025.pdf</a>

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 4B: Enderby Road, Whetstone	Declared April 2005; Amended 2020	NO2 Annual Mean	Residential houses along Enderby Road, Whetstone	NO	50 µg/m <sup>3</sup>	25 µg/m <sup>3</sup>	5	Air Quality Action Plan 2021-2025	<a href="https://www.blaby.gov.uk/media/z3opt2yt/air-quality-action-plan-2021-2025.pdf">https://www.blaby.gov.uk/media/z3opt2yt/air-quality-action-plan-2021-2025.pdf</a>
AQMA6: Mill Hill, Enderby	Declared January 2018	NO2 Annual Mean	Residential properties along Hall Walk and Mill Hill, Enderby	NO	43 µg/m <sup>3</sup>	43 µg/m <sup>3</sup>	0	Air Quality Action Plan 2021-2025	<a href="https://www.blaby.gov.uk/media/z3opt2yt/air-quality-action-plan-2021-2025.pdf">https://www.blaby.gov.uk/media/z3opt2yt/air-quality-action-plan-2021-2025.pdf</a>

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

Defra's appraisal of last year's ASR concluded that the report was well structured, detailed, and provided the information specified in the Guidance. The report was accepted, and the following comments were provided to help inform future reports:

1. The council have provided maps in Appendix D that clearly show the locations of the AQMA's, the monitoring locations and the annual mean results of each location. This allows the reader to easily see the monitoring locations in relation to major roads and to see at a glance the main monitoring result from each monitoring location.

**Response: Comment welcomed.**

2. The council have provided a comprehensive justification for their choice of bias adjustment factor. This is encouraged for future reports as it will allow the reader to easily see if the council are using the correct bias adjustment factor.

**Response: Comment welcomed.**

3. For the AQMA areas, make sure that the dates of any declarations and amendments are submitted to the portal so that all the details in the portal and in Table 2.1 match.

**Response: Comment welcomed and actioned.**

4. For all of the figures in Figure A.1, make sure that the figures have the current names of all of the monitoring locations so that it is easier for the reader to see which monitoring results correlate to which monitoring location.

**Response: Action taken to implement in ASR 2023**

BDC has taken forward a number of direct measures during the current reporting year of 2022 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 0.2. 26 measures are included within Table 0.2, with the type of measure and the progress BDC have made during the reporting year of 2022 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 0.2.

Key completed measures are:

- Action 1 - Gather information from local sources and interrogate air quality monitoring data to inform actions and support bids for funding.

- Action 4 - 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
- Action 6 - Improve driver information about air quality for example, signs and active signs.
- Action 11 - Gather information from local sources and interrogate air quality monitoring data to inform actions and support bids for funding.
- Action 13 - Improve driver information about air quality for example, signs and active signs.
- Action 15 - Gather information from local sources and interrogate air quality monitoring data to inform actions and support bids for funding.
- Action 21 - Behavioural change project with businesses in vicinity of AQMA
- Action 23 - Develop a partnership to create a charging network across the district (public and private car parks, petrol stations, on street).
- Action 24 - Engage with Private Hire and Hackney Carriage operators and drivers to encourage the switch to electric vehicles
- Action 25 - Improve air quality information on BDC website.

Blaby District Council worked to implement these measures in partnership with the following stakeholders during 2022:

- Leicestershire County Council
  - Public Health,
  - Traffic Management,
  - Sustainable Travel

BDC's priorities for the coming year are to continue to work on completing the action plan measures and undeclaring AQMAs 1,2 and 4b. Blaby District Council intend to declare a new AQMA centred on a section of Lubbethorpe Road and Narborough Road South, A5460.

The principal challenges and barriers to implementation that BDC anticipate facing are the continuing limited resources available to both it and its partners.

BDC anticipate that the measures stated above and in Table 0.2 will achieve compliance in AQMAs 1, 2 and 4B.

Whilst the measures stated above and in Table 0.2 will help to contribute towards compliance, BDC anticipates that further additional measures not yet prescribed will be required in subsequent years to achieve compliance and enable the revocation of AQMA 6.

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
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	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 needed
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
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 needed
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	

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 M1 corridor between Thorpe Astley and Leicester Forest East	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-21	BDC	BDC	NO	Not Funded	< £10k	Implementation	N/A	Clearer picture of traffic flows and effects on air quality	Evidence continues to be gathered.	
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



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
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
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 with this monitored data, this information has been used to apply for further air quality grant funding.	
16 - AQMA 6 Mill Hill, Enderby	Increased air quality monitoring	Traffic Management	UTC, Congestion management, traffic reduction	Autumn 2020	2024	BDC	BDC/DEFRA	YES	Partially Funded	£10k - 50k	Implementation	N/A	Additional Monitors installed	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
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	Presentation completed by LCC showing research and future considerations	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



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
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 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.	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
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	Attending and delivering business breakfast sessions, hosted by the BDC, to raise awareness on Air Quality and how businesses can make a positive difference, through employee travel plans, awareness raising and incentives for green travel.	Changes in staffing and workstreams affected the progress made in 2022.
22 - Wider measures	Behavioural change project with schools	Promoting Travel Alternatives	School Travel Plans	Autumn 2020 onwards	To be determined	BDC	BDC/DEFRA	YES	Funded	£10k - 50k	Implementation	N/A	Completion of project	Delivering Air Quality and Active Travel educational session and assemblies to schools.	Changes in staffing and workstreams affected the progress made in 2022.
														Creation and delivery of engaging activities for schools – linking in initiatives such as Clean Air Day 2022 and Great Big Green Week to showcase the multitude of positive benefits.	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.
														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 groups/businesses. A total of 33 boxes were installed, 3053 players took part, and 24,314	

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
														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.	
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	
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).	This action will be revisited in 2022 (ASR 2023) with drivers continuing to be engaged
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.	

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

As detailed in Policy Guidance LAQM.PG22 (Chapter 8), local authorities are expected to work towards reducing emissions and/or concentrations of PM<sub>2.5</sub> (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that PM<sub>2.5</sub> has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

BDC is taking the following measures to address PM<sub>2.5</sub>:

There are two continuous monitors that record concentrations of PM. CM1 located near AQMA2 monitors PM<sub>10</sub>, a correction factor is then used to give a PM<sub>2.5</sub> concentration. The second continuous monitor (CM5) located in AQMA 6 directly monitors PM<sub>2.5</sub>. In addition to this BDC have installed a number of low-cost monitors known as Zephyrs which monitor NO<sub>2</sub>, PM<sub>1</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> and O<sub>3</sub>. Although these monitors are not yet recognised as reference methods, they allow for a greater understanding of trends within the area. The Zephyrs were obtained through the Count Down To Clean Air Project and will be used to monitor in other grant funded projects in the future.

#### 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<sub>2.5</sub> such as Croft Quarry, Concrete Batching and Mobile Crushing Plants. BDC currently regulate 33 processes across the district.

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 construction management plans. New sources that have a potential to contribute to levels of PM<sub>2.5</sub> 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.

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

This section sets out the monitoring undertaken within 2022 by BDC and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2018 and 2022 to allow monitoring trends to be identified and discussed.

### 3.1 Summary of Monitoring Undertaken

#### 3.1.1 Automatic Monitoring Sites

BDC undertook automatic (continuous) monitoring at five sites during 2022. 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 .

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.

In regard to data capture, a significant improvement has been made in comparison to previous years. In 2022, CM1 was the only monitoring location which required annualisation due to obtaining a data capture below 75%. The remaining four monitoring stations presented a sufficient volume of data capture which did not require annualisation. Further details can be found in the [Quality Assurance / Quality Control \(QA/QC\)](#) section in Appendix C.

#### 3.1.2 Non-Automatic Monitoring Sites

BDC undertook non- automatic (i.e. passive) monitoring of NO<sub>2</sub> at 80 sites during 2022. Table A.2 in Appendix A presents the details of the non-automatic sites.

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

## 3.2 Individual Pollutants

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

### 3.2.1 Nitrogen Dioxide (NO<sub>2</sub>)

Table A.3 and Table A.4 in Appendix A compare the ratified and adjusted monitored NO<sub>2</sub> annual mean concentrations for the past five years with the air quality objective of 40µg/m<sup>3</sup>. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

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

Table A.5 in Appendix A compares the ratified continuous monitored NO<sub>2</sub> hourly mean concentrations for the past five years with the air quality objective of 200µg/m<sup>3</sup>, not to be exceeded more than 18 times per year.

Below is a summary of air quality trends across 2022 for each monitoring area. An additional 22 tubes were introduced, with a particular focus on areas of concern. Those introduced in Enderby and Glenfield were part of the CDTCA project. Based on consistent low concentrations of NO<sub>2</sub> a decision was made to no longer monitor in the area of Cosby and to reduce monitoring in the areas of Sapcote, Glen Parva and Thorpe Astley.

#### **AQMA 1 – A5460 Narborough Road South**

Diffusion tube data concentrations have remained consistently low over the last five years, based on this the AQMA will be revoked.

#### **AQMA 2 – M1 Corridor in Enderby and Narborough**

No changes were made to this AQMA in 2022 and monitoring continued through DT48 which has shown a small increase in concentration in comparison to 2021, but remains well below the NAQO. Based on this and consistency over previous years, AQMA 2 will be revoked.

**AQMA 3 – M1 Corridor between Thorpe Astley and Leicester Forest East**

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. Whilst CM4 has shown a reduction in concentrations, diffusion tube data has shown small increases across the AQMA. The largest change in concentration can be noted at DT16 and DT57, both of which are located on Ratby Lane.

Monitoring will continue within this AQMA over the next year to assess trends and analyse the impacts of nearby developments, and where compliance is evident, it possible that this AQMA may be amended.

Monitoring has been reduced in 2023 with DT18 and DT81 removed.

**AQMA 4B – Enderby Road, Whetstone**

Monitoring has continued within this AQMA (DT20 and DT26). Concentrations show a small increase however they remain below the NAQO and are consistent with previous year's results. Based on this the AQMA will be revoked, however, to maintain an understanding of the area monitoring will continue through the use of DT20.

**AQMA – 6 Mill Hill, Enderby**

Monitoring was increased within this AQMA over 2022, with the addition of 15 new diffusion tubes: five within the AQMA and 10 outside the AQMA along the B582, through the CDTCA project. CM5 has shown a small increase in concentration yet remains below the NAQO with no requirement for annualisation.

There were two exceedances recorded overall within the AQMA at DT4 and DT118.

As DT4 has exceeded in the past and came close to exceeding in 2019, monitoring will continue.

DT118 was introduced in 2022 and is located centrally within the AQMA. Although this tube was exceeding at roadside, distance correction was necessary as the nearest receptor (housing) is set back from the road. Distance correction results in the concentration reducing to 22.5  $\mu\text{g}/\text{m}^3$ , falling well below the NAQO. Further details can be found in the QA/QC section. Monitoring will continue to assess if the higher concentrations are part of a longer-term trend.

The remaining diffusion tubes within the AQMA have shown some small changes but remain within the NAQO.



As the CDTCA project ended in 2023 DT40 and DT116 (within the AQMA) have been removed, however some tubes have been retained for continued monitoring in relation to the AQMA.

### **Enderby**

The 10 additional diffusion tubes were added to map the concentrations over a wider area. The elevated concentrations recorded within this area could potentially be owed to the steep hill and idling during busy times. However, as there are no relevant receptors the NAQO is not directly applicable. DT84 and DT120 are located outside of the AQMA, with close proximity to Enderby Village. Both monitoring sites show no exceedances of the NAQO.

As the CDTCA project ended in 2023, DT 106, 107, 108, 109, 113, 116 and 120 have been removed. All concentrations at these sites remain below the NAQO.

### **Other Monitoring Areas**

#### **Braunstone Town**

CM6 located on Lubbesthorpe Road reported an annual exceedance for NO<sub>2</sub> above the NAQO in 2022. BDC will be declaring an AQMA and investigating the exceedance, with the aim of understanding if there is a singular or multiple sources attributing to the increase of levels. As part of this, additional monitoring will be undertaken, and work will continue with Leicestershire County Council and Leicester City Council to supplement investigations. The triplicate set co-located with CM1 has also shown a small increase but remains within the NAQO. Concentrations at DT1 have shown a small increase but remain within the NAQO. Monthly concentrations for CM6 can be found under Figure A.1 in [Appendix A](#).

#### **Sharnford Hill, Sharnford**

Monitoring in Sharnford has indicated a small increase in comparison to last year, however, demonstrates no exceedance of the NAQO.

#### **Glenfield Village**

CM7 located in Glenfield has shown no exceedance of the NAQO and is consistent with the previous five years results. Four additional diffusion tubes were introduced from the CDTCA project due to initial concerns within the area however all diffusion tube monitoring sites remain within the NAQO for 2022.

As the CDTCA project came to an end in 2023, DTs 85, 103, 104 and 105 were not deployed in 2023.

#### **Glen Parva**

Both diffusion tubes remain below the NAQO with a small change in concentrations in comparison to 2021.

Monitoring will continue due to the potential of nearby developments.

### **Stoney Stanton Village**

Monitoring continued in 2022 with an additional three diffusion tubes, DT75, 98 and 101 deployed, to further inform initial concerns raised, however there were no exceedances of the NAQO.

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**

In 2022 a reduced number of diffusion tubes were deployed. In trend with the previous five years, Sapcote Village shows no exceedance of the NAQO.

Monitoring will continue through DT31 due to the potential of nearby developments.

### **Elmesthorpe Railway Bridge**

Concentrations have shown no change over the previous monitoring year, 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**

Concentrations have not changed significantly within this area and remain well within the NAQO. In 2022 there was a reduction of diffusion tube monitoring due to consistent low readings.

### **Kirby Muxloe**

Monitoring in Kirby Muxloe continued in 2022, and the concentration from DT77 shows a small increase from 2021, however still remaining well below the NAQO.

### **Aston Firs, near Sapcote**

Monitoring shows a small increase from 2021 yet remains well below NAQO.

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

## **Main Street, Kilby**

A small increase in concentration can be seen at Kilby, however this remains low, consistent with the previous three years of monitoring.

## **Active Travel Monitoring**

2022 provided the final full year of monitoring data in regard to the CDTCA Project.

No exceedances of the NAQO were noted over the four years of monitoring and in 2022 levels ranged between 11  $\mu\text{g}/\text{m}^3$  and 22  $\mu\text{g}/\text{m}^3$ .

Although this project has ended and the additional diffusion tubes are no longer deployed, legacy work will continue through additional grant projects and initiatives such as Clean Air Day.

## **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  $\text{NO}_2$  in the district have seen an increase consistent with levels recorded in 2019, with three exceedances across the monitoring network (two overall once distance corrected).

Investigations into the exceedance at CM6 will continue.

### **3.2.2 Particulate Matter ( $\text{PM}_{10}$ )**

Table A.6 in Appendix A: Monitoring Results compares the ratified and adjusted monitored  $\text{PM}_{10}$  annual mean concentrations for the past five years with the air quality objective of  $40\mu\text{g}/\text{m}^3$ .

Table A.7 in Appendix A compares the ratified continuous monitored  $\text{PM}_{10}$  daily mean concentrations for the past five years with the air quality objective of  $50\mu\text{g}/\text{m}^3$ , not to be exceeded more than 35 times per year.

Concentrations of  $\text{PM}_{10}$  have shown a small increase in comparison to 2021, from  $10.8\mu\text{g}/\text{m}^3$  to  $11.7\mu\text{g}/\text{m}^3$ . No exceedances of  $\text{PM}_{10}$  have been recorded in 2022 of the annual and daily NAQOs.

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

Table A.8 in Appendix A presents the ratified and adjusted monitored PM<sub>2.5</sub> annual mean concentrations for the past five years.

CM5 directly measures concentrations of PM<sub>2.5</sub>. For CM1 a conversion calculation is used to calculate PM<sub>2.5</sub> from PM<sub>10</sub> further details are provided in the [QA/QC section](#). PM<sub>2.5</sub> levels remain consistent with the previous five year representing an improvement. Monitoring will continue in 2023.

## Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Inlet Height (m)
CM1	Blaby 1 (Packhorse Drive, Enderby)	Roadside	454482	298573	NO <sub>2</sub> ; PM <sub>10</sub>	NO	Chemiluminescent; Gravimetric (TEOM)	12.6	0.65	3
CM4	Blaby 4 (Hinckley Road, LFE)	Roadside	453492	303315	NO <sub>2</sub>	YES; AQMA 3	Chemiluminescent	4	1	1.5
CM5	Blaby 2 (Mill Hill, Enderby)	Roadside	453594	299549	NO <sub>2</sub> ; PM <sub>2.5</sub>	YES; AQMA 6	Chemiluminescent; Gravimetric (TEOM)	4	1	1.5
CM6	Blaby 5 (Lubbesthorpe Road, Braunstone Town)	Roadside	455722	300782	NO <sub>2</sub>	NO	Chemiluminescent	7	1	1.5
CM7	Blaby 3 (Stamford Street, Glenfield)	Roadside	453934	305999	NO <sub>2</sub>	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	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	453606	299557	NO2	Yes, AQMA 6	0.0	1.5	No	1.8
15	1 Newbridge Road, Glen Parva	Roadside	457011	299627	NO2	No	0.0	7.8	No	2.8
16	The Cottage, Ratby Lane	Other	456786	298547	NO2	Yes, AQMA 3	15.0	5.4	No	1.8
18	62 Packer Avenue, LFE	Roadside	453220	304273	NO2	Yes, AQMA 3	0.0	22.7	No	1.8
20	159 Enderby Rd, Whetstone	Other	453488	303637	NO2	Yes, AQMA 4B	0.0	4.7	No	1.7
25	7 Narborough Road South	Roadside	455819	297954	NO2	Yes, AQMA 1	0.0	7.0	No	1.8
26	Junction of Victoria Rd, Whetstone	Roadside	456470	301903	NO2	Yes, AQMA 4B	15.5	2.2	No	2.0
31	5 Hinckley Road, Sapcote	Roadside	455817	297937	NO2	No	0.0	1.9	No	1.8
35	2 Narborough Rd. South	Roadside	448481	293549	NO2	No	0.0	13.2	No	1.9
40	Conery Lane/Mill Hill Road	Roadside	448876	293447	NO2	Yes, AQMA 6	7.6	1.6	No	1.9
41	9 Mill Hill Road, Enderby	Roadside	454554	294803	NO2	Yes, AQMA 6	0.0	3.8	No	1.7

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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
43	2 Blaby Rd, Enderby	Roadside	456521	301896	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	453468	299737	NO2	Yes, AQMA 2	0.0	8.7	No	1.8
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	453706	299455	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	453565	299609	NO2	No	12.1	2.4	No	1.7
65	11 Stamford Street, Glenfield	Roadside	452234	302753	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, Elmeathorpe	Roadside	454079	303535	NO2	No	49.3	1.2	No	1.8
73	New Road, Stoney Stanton	Roadside	454096	303599	NO2	No	11.1	2.3	No	1.8
74	Broughton Road, Stoney Stanton	Roadside	453622	306039	NO2	No	3.3	2.7	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
75	Blue Bell, Long Street, Stoney Stanton	Roadside	306077	453788	NO2	No	1.4	1.2	No	1.8
77	The Chestnuts, Kirby Muxloe	Roadside	299846	453281	NO2	No	0.0	12.2	No	1.8
78	Aston Firs, Sapcote	Roadside	447032	295877	NO2	No	17.0	37.5	No	1.8
80	Former Blaby 1 site, Packhorse Drive	Roadside	449036	294720	NO2	No	12.8	0.7	No	1.8
81	Newsagents near Blaby 4, LFE	Roadside	449105	294705	NO2	Yes, AQMA 3	6.2	2.4	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	446218	293831	NO2	No	6.7	1.2	No	1.8
85	14 The Square, Glenfield	Roadside	454483	298579	NO2	No	0.0	4.1	No	1.7
88	42 Main Street, Kilby	Roadside	454038	303471	NO2	No	0.0	2.0	No	1.8
89, 90, 91	Blaby 5 triplicate 3 of 3	Roadside	453914	306109	NO2	No	16.2	2.6	Yes	1.7
93	Former Blaby 3 site, LFE Opp Sainsburys	Roadside	453813	306106	NO2	No	29.3	3.9	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
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	462115	295374	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
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	453933	305973	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
103	72 Stamford Street, Glenfield	Roadside	454109	305725	NO2	No	4.8	3.0	No	1.8
104	4 Park Drive, Glenfield	Roadside	454062	305692	NO2	No	8.0	0.5	No	1.8
105	6 Park Drive, Glenfield	Roadside	454065	305665	NO2	No	18.0	0.4	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
106	36 Conery Lane, Enderby	Roadside	453422	299556	NO2	No	2.0	0.5	No	1.7
107	28/30 Conery Lane, Enderby	Roadside	453422	299595	NO2	No	0.2	0.5	No	1.7
108	Lamppost 87 nr NEXT traffic lights, Enderby	Roadside	452907	300156	NO2	No	550.0	0.5	No	1.8
109	Lamppost 86 nr NEXT traffic lights, Enderby	Roadside	452916	300156	NO2	No	550.0	0.4	No	1.8
110	Lamppost 83 nr NEXT L'thorpe sign, Enderby	Roadside	452986	300097	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	453113	300009	NO2	No	295.0	0.2	No	1.8
113	Lamppost 72 on 30mph sign, Enderby	Roadside	453292	299879	NO2	No	84.7	1.0	No	1.8
114	Lamppost 71, Enderby	Roadside	453292	299876	NO2	No	38.5	1.0	No	1.8
115	20 Mill Hill, Enderby	Roadside	453432	299745	NO2	Yes, AQMA 6	0.0	0.4	No	1.7
116	Killiklok Woodman, Mill Hill, Enderby	Roadside	453463	299731	NO2	Yes, AQMA 6	15.5	2.5	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
117	Lamppost by walkway, Enderby	Roadside	454122	305701	NO2	Yes, AQMA 6	13.5	0.6	No	1.9
118	Lamppost 57, village centre sign, Enderby	Roadside	453673	299475	NO2	Yes, AQMA 6	22.4	0.5	No	1.8
119	Lamppost 62, nr Moores Lane, Enderby	Roadside	453850	299288	NO2	Yes, AQMA 6	24.0	0.6	No	1.8
120	Lamppost 41, nr Brockington College, Enderby	Roadside	453834	299303	NO2	No	30.9	0.5	No	1.8
AT1	Greystoke Primary, Narborough (BB54)	Roadside	454173	297603	NO2	No	5.5	2.0	No	1.8
AT2	Brockington College, Enderby (BB58)	Roadside	454356	298548	NO2	No	128.7	46.9	No	2.5
AT3	Danemill Primary, Enderby (BB60)	Roadside	453939	298947	NO2	No	103.7	1.5	No	1.8
AT4	Stafford Leys Primary, LFE (BB11)	Roadside	452944	303000	NO2	No	10.0	15.0	No	1.8
AT5	Fossebrook Primary, LFE (BB13)	Roadside	453982	303197	NO2	No	5.0	1.8	No	1.8
AT6	Glenfield Primary, Glenfield (BB05)	Roadside	453973	305842	NO2	No	14.0	2.4	No	1.8
AT7	Kingsway Primary,	Roadside	455214	302616	NO2	No	26.1	9.0	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
	Braunstone (BB16)									
AT8	The Winstanley School, Braunstone	Roadside	455251	302600	NO2	No	14.0	1.9	No	1.8
AT9	Ravenhurst Primary, Braunstone (BB21)	Roadside	455827	301842	NO2	No	18.0	3.4	No	1.8
AT10	Millfield Primary, Braunstone (BB23)	Roadside	453012	298723	NO2	No	15.0	2.3	No	1.8
AT11	The Pastures Primary, Enderby (BB59)	Roadside	455311	301428	NO2	No	25.9	1.6	No	1.8
AT12	Sainsbury's Footpath (BB27)	Other	455233	300417	NO2	No	472.8	22.5	No	1.8
AT13	Marriott Hotel (BB28)	Roadside	455035	300372	NO2	No	589.4	1.8	No	1.8
AT14	Badgerbrook Primary, Whetstone (BB42)	Roadside	455934	296288	NO2	No	35.9	1.2	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 NO<sub>2</sub> Monitoring Results: Automatic Monitoring (µg/m<sup>3</sup>)**

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
CM1	454482	298573	Roadside	64.38	64.38	27	30.9	16	24.3	21.8
CM4	453492	303315	Roadside	81.46	81.46	<b>47.3</b>	38.4	23.3	26.9	23.3
CM5	453594	299549	Roadside	84.34	84.34	38.3	30.9	22.9	18.9	24.9
CM6	455722	300782	Roadside	91.97	91.97	-	-	21	19.8	<b>47.8</b>
CM7	453934	305999	Roadside	96.94	96.94	-	-	21.1	20.2	19.1

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

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

**Notes:**

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

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

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

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

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

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

**Table A.4 – Annual Mean NO<sub>2</sub> Monitoring Results: Non-Automatic Monitoring (µg/m<sup>3</sup>)**

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
1	455970	301146	Roadside	92	92.3	30.8	25.1	20.5	20.0	24.7
4	453606	299557	Roadside	100	100.0	<b>47.1</b>	36.9	29.4	29.3	<b>40.3</b>
15	457011	299627	Roadside	92	90.4	20.0	16.4	13.5	14.3	17.0
16	456786	298547	Other	100	100.0	34.4	27.9	22.2	21.8	28.1
18	453220	304273	Roadside	100	100.0	30.1	24.9	20.6	19.1	24.3
20	453488	303637	Other	100	100.0	25.7	20.6	15.8	17.2	21.7
25	455819	297954	Roadside	100	100.0	29.4	23.0	17.0	18.1	22.0
26	456470	301903	Roadside	100	100.0	31.5	27.6	20.7	19.4	25.3
31	455817	297937	Roadside	100	100.0		15.4	11.5	11.6	16.2
35	448481	293549	Roadside	83	82.7		16.4	11.5	12.3	22.5
40	448876	293447	Roadside	75	73.1	28.7	21.9	17.8	17.9	19.8
41	454554	294803	Roadside	100	100.0	32.1	26.3	20.2	21.0	27.8
43	456521	301896	Roadside	100	100.0	32.5	25.2	18.3	19.2	22.3

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
44	448847	293462	Roadside	92	92.3	33.4	24.2	18.7	20.1	21.3
48	453468	299737	Roadside	100	100.0	34.0	25.0	18.2	18.3	23.8
49	453439	299740	Roadside	100	100.0	22.8	18.0	13.2	13.0	15.2
51	453780	299360	Roadside	100	100.0	22.4	18.0	13.0	13.1	17.2
54	453706	299455	Roadside	100	100.0	32.5	26.6	22.1	20.7	22.6
56	454519	298148	Roadside	100	100.0	24.8	21.0	15.9	15.8	17.0
57	453565	299609	Roadside	100	100.0	39.0	29.7	22.1	23.7	28.3
65	452234	302753	Roadside	100	100.0	25.4	32.9	26.0	25.6	30.9
68	453592	303415	Roadside	100	100.0	25.7	23.8	18.4	19.2	23.4
69	454079	303535	Roadside	100	100.0	26.3	16.7	12.9	14.5	15.3
73	454096	303599	Roadside	100	100.0		29.0	25.1	24.0	29.7
74	453622	306039	Roadside	92	92.3		25.5	20.4	21.1	22.8
75	306077	453788	Roadside	100	100.0		21.1	17.4	18.0	18.2
77	299846	453281	Roadside	92	90.4		17.5	15.1	14.5	17.0

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
78	447032	295877	Roadside	100	100.0		31.5	19.3	19.6	23.2
80	449036	294720	Roadside	100	100.0			15.8	15.7	16.5
81	449105	294705	Roadside	100	100.0			19.6	20.6	21.2
82	449080	294785	Roadside	100	100.0			17.5	17.1	20.4
83	452309	304870	Roadside	100	100.0			18.4	17.8	19.9
84	446218	293831	Roadside	100	100.0			20.7	22.0	27.7
85	454483	298579	Roadside	100	100.0			13.4	14.3	15.0
88	454038	303471	Roadside	100	100.0			13.0	13.9	18.5
89, 90, 91	453914	306109	Roadside	100	100.0				19.9	25.7
93	453813	306106	Roadside	100	100.0				20.0	23.5
94	454930	302529	Roadside	75	75.0				15.3	18.8
95	454178	302627	Roadside	100	100.0				16.1	20.2
96	462115	295374	Roadside	92	92.3				25.0	29.8
97	455695	300824	Roadside	100	100.0				21.8	25.5



Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
98	453957	302912	Roadside	100	100.0				15.4	17.9
99	453219	303310	Roadside	100	100.0				17.3	19.4
100	453933	305973	Roadside	100	100.0				10.7	12.8
101	449094	294690	Roadside	100	100.0					18.6
102	453960	305928	Other	100	100.0					19.3
103	454109	305725	Roadside	100	100.0					21.1
104	454062	305692	Roadside	75	73.1					19.2
105	454065	305665	Roadside	83	84.6					16.9
106	453422	299556	Roadside	100	100.0					11.2
107	453422	299595	Roadside	100	100.0					10.5
108	452907	300156	Roadside	100	100.0					18.9
109	452916	300156	Roadside	100	100.0					22.3
110	452986	300097	Roadside	100	100.0					24.2
111	452992	300094	Roadside	100	100.0					24.8

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
112	453113	300009	Roadside	100	100.0					36.8
113	453292	299879	Roadside	100	100.0					24.9
114	453292	299876	Roadside	100	100.0					33.4
115	453432	299745	Roadside	92	90.4					33.5
116	453463	299731	Roadside	100	100.0					27.3
117	454122	305701	Roadside	100	100.0					34.6
118	453673	299475	Roadside	100	100.0					<b>43.0</b>
119	453850	299288	Roadside	67	67.3					33.0
120	453834	299303	Roadside	92	92.3					20.1
AT1	454173	297603	Roadside	92	90.4		15.3	12.2	11.7	14.6
AT2	454356	298548	Roadside	92	92.3		16.2	13.2	13.3	12.9
AT3	453939	298947	Roadside	92	92.3		17.0	10.8	12.9	12.2
AT4	452944	303000	Roadside	100	100.0		14.5	10.1	10.6	11.3
AT5	453982	303197	Roadside	100	100.0		16.9	12.6	13.7	14.9

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
AT6	453973	305842	Roadside	100	100.0		17.1	12.2	12.5	13.3
AT7	455214	302616	Roadside	100	92.3		16.2	11.9	11.6	12.8
AT8	455251	302600	Roadside	100	100.0		17.0	13.5	12.8	14.8
AT9	455827	301842	Roadside	100	100.0		19.1	16.1	16.6	18.8
AT10	453012	298723	Roadside	100	100.0		18.5	13.8	13.9	15.2
AT11	455311	301428	Roadside	100	100.0		13.6	10.1	10.5	11.1
AT12	455233	300417	Other	100	100.0		25.5	18.0	20.4	22.0
AT13	455035	300372	Roadside	100	100.0		24.6	17.6	18.0	19.1
AT14	455934	296288	Roadside	83	82.7			12.0	12.1	12.6

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<sub>2</sub> annual mean objective of 40 $\mu\text{g}/\text{m}^3$  are shown in **bold**.

NO<sub>2</sub> annual means exceeding 60 $\mu\text{g}/\text{m}^3$ , indicating a potential exceedance of the NO<sub>2</sub> 1-hour mean objective are shown in **bold and underlined**.

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

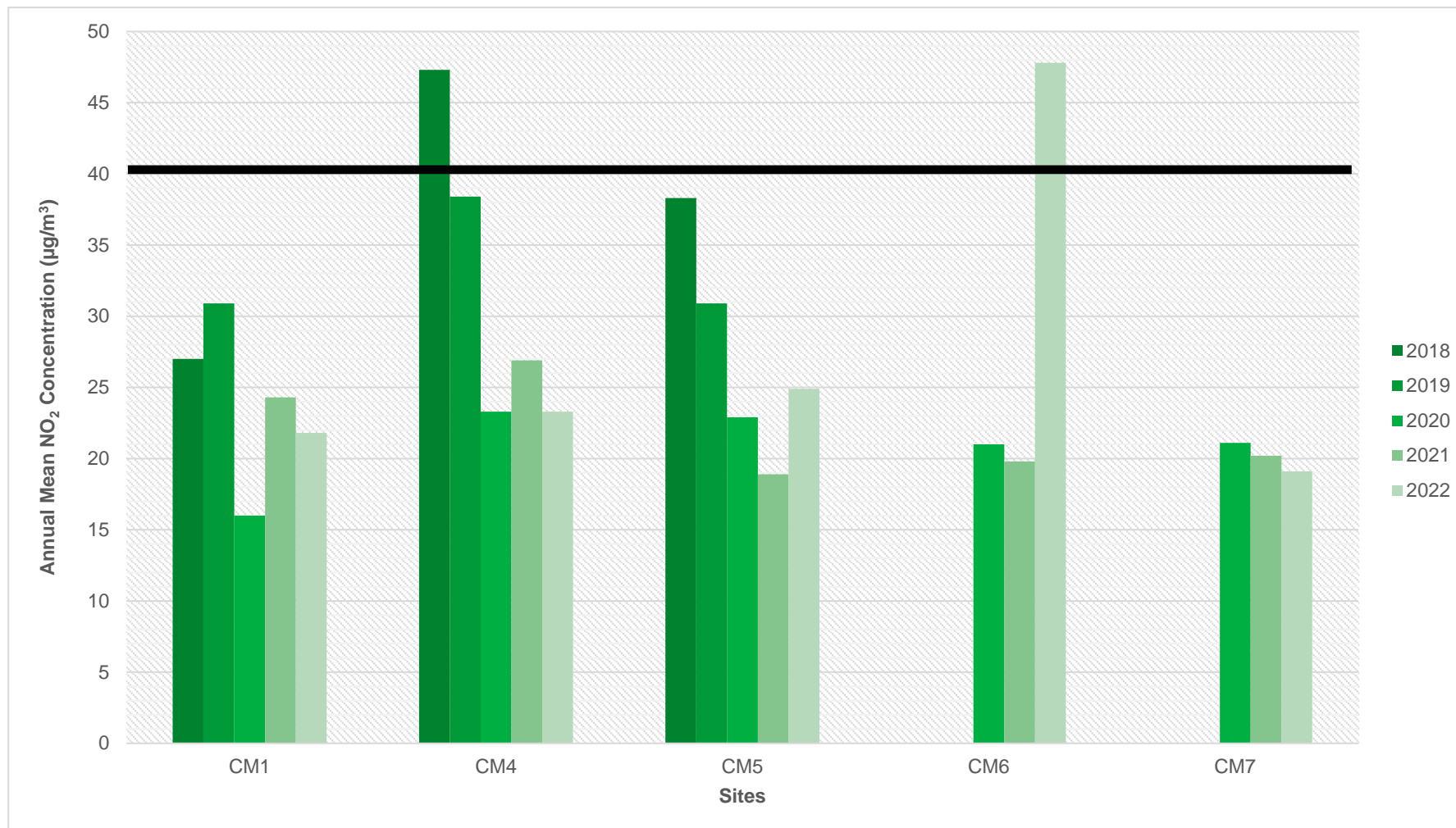
Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

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

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

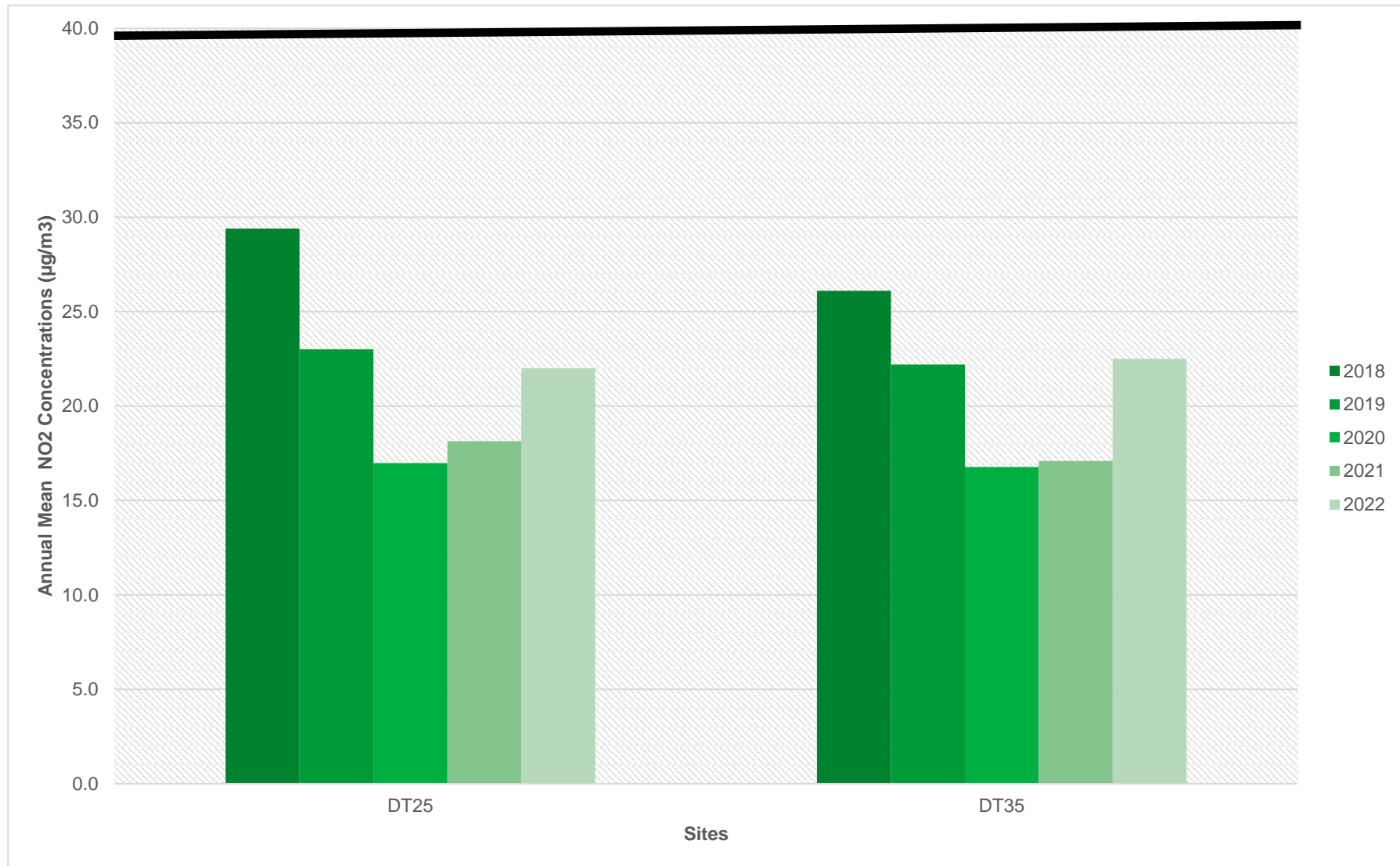
**Figure A.1 – Trends in Annual Mean NO<sub>2</sub> Concentrations**

**Air Quality Monitoring Stations**



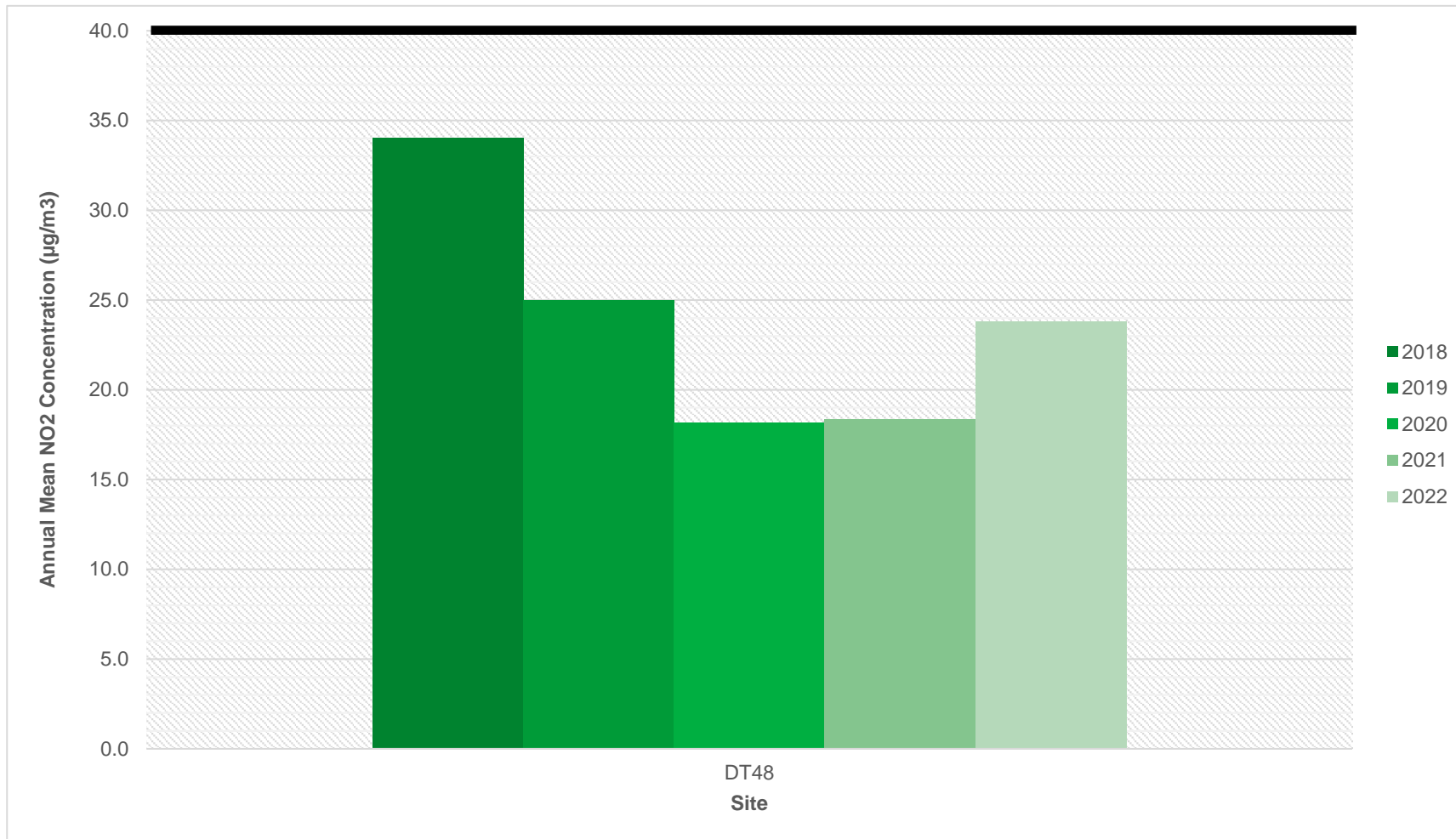
The black line represents the NAQO for the named pollutant.

**AQMA 1 – A5460 Narborough Road South**



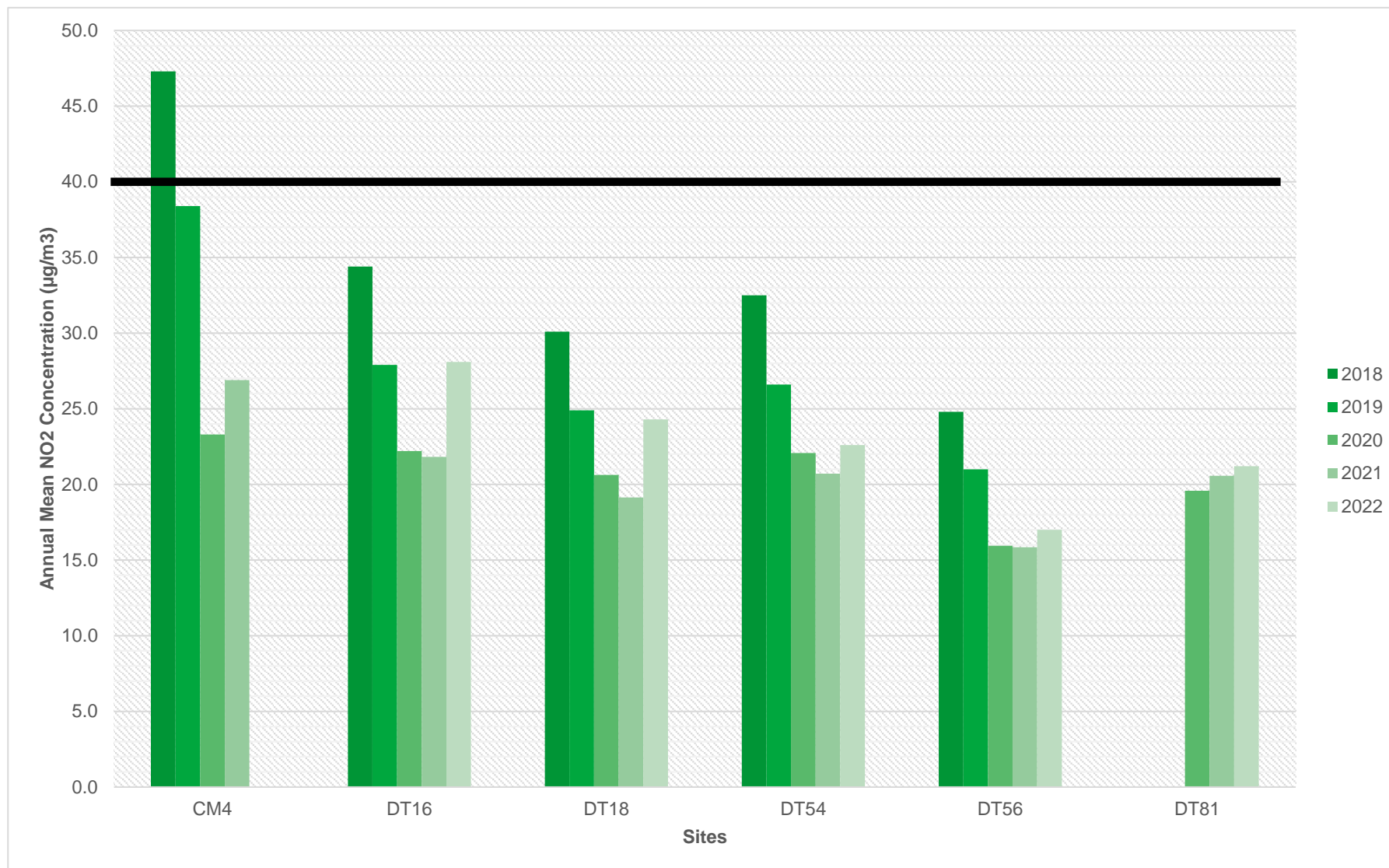
The black line represents the NAQO for the named pollutant.

**AQMA 2 – M1 corridor in Enderby and Narborough**



The black line represents the NAQO for the named pollutant.

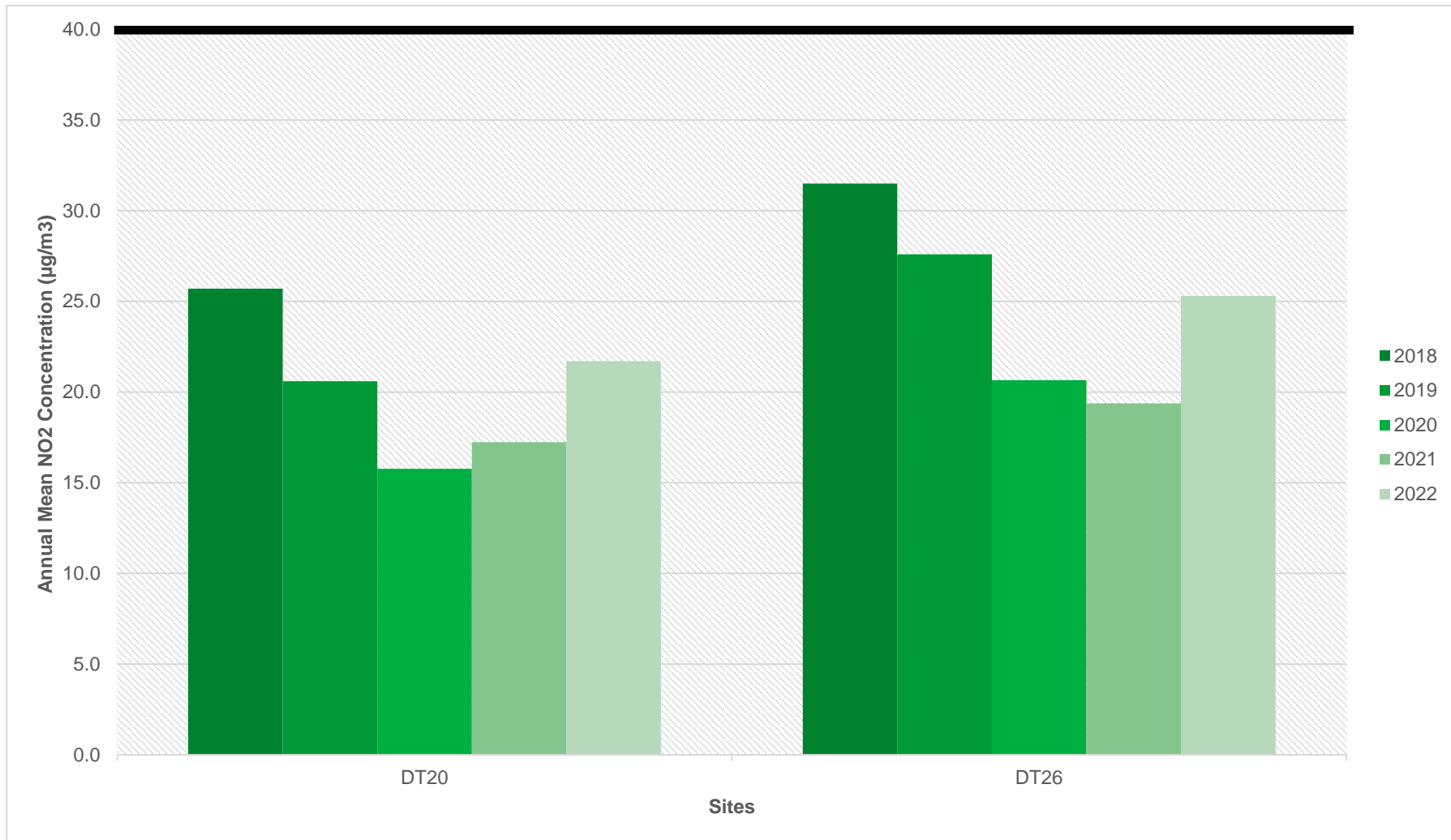
**AQMA 3 – M1 corridor between Thorpe Astley and Leicester Forest East**



The black line represents the NAQO for the named pollutant.

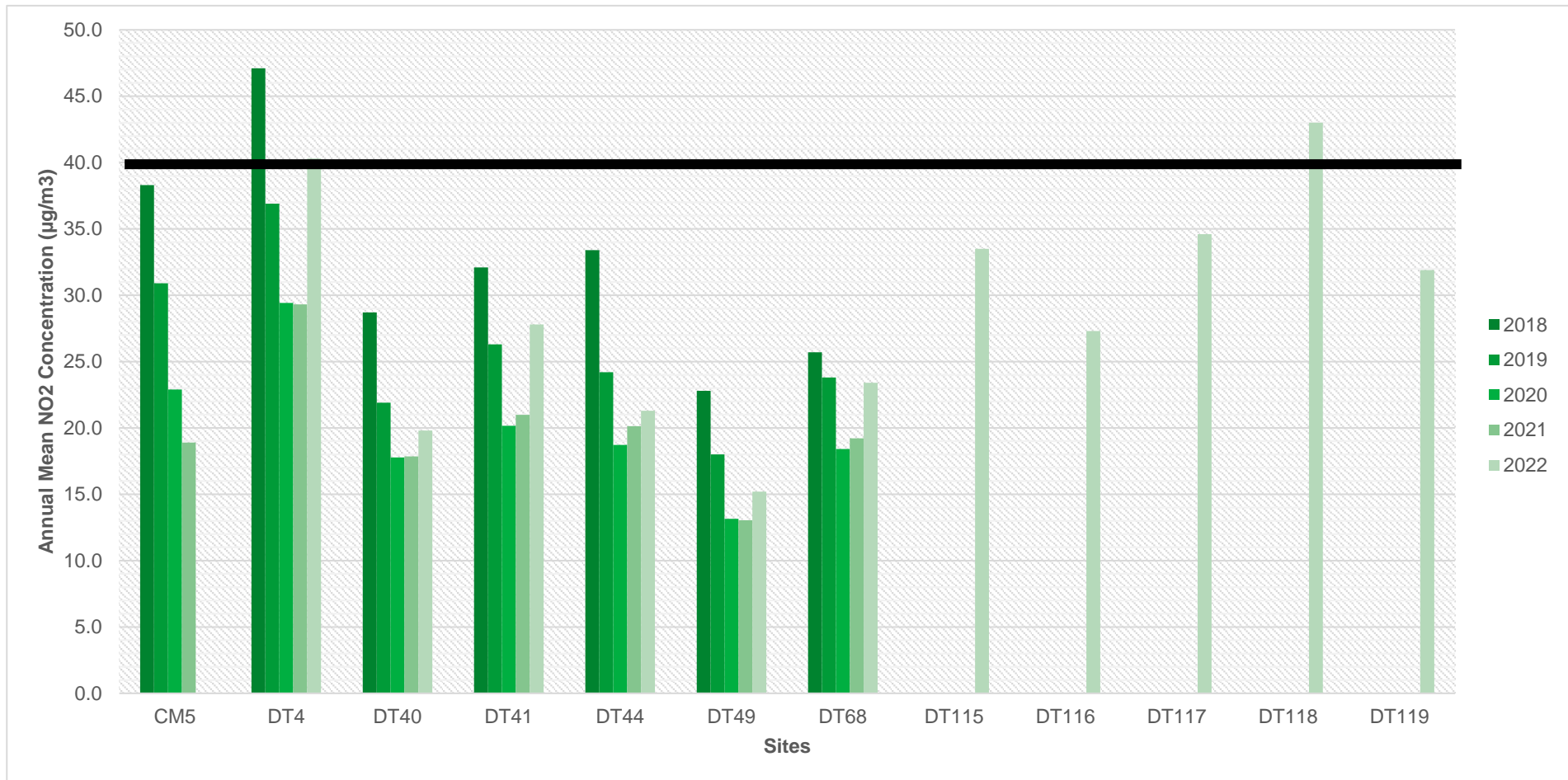


AQMA 4B – Enderby Road, Whetstone



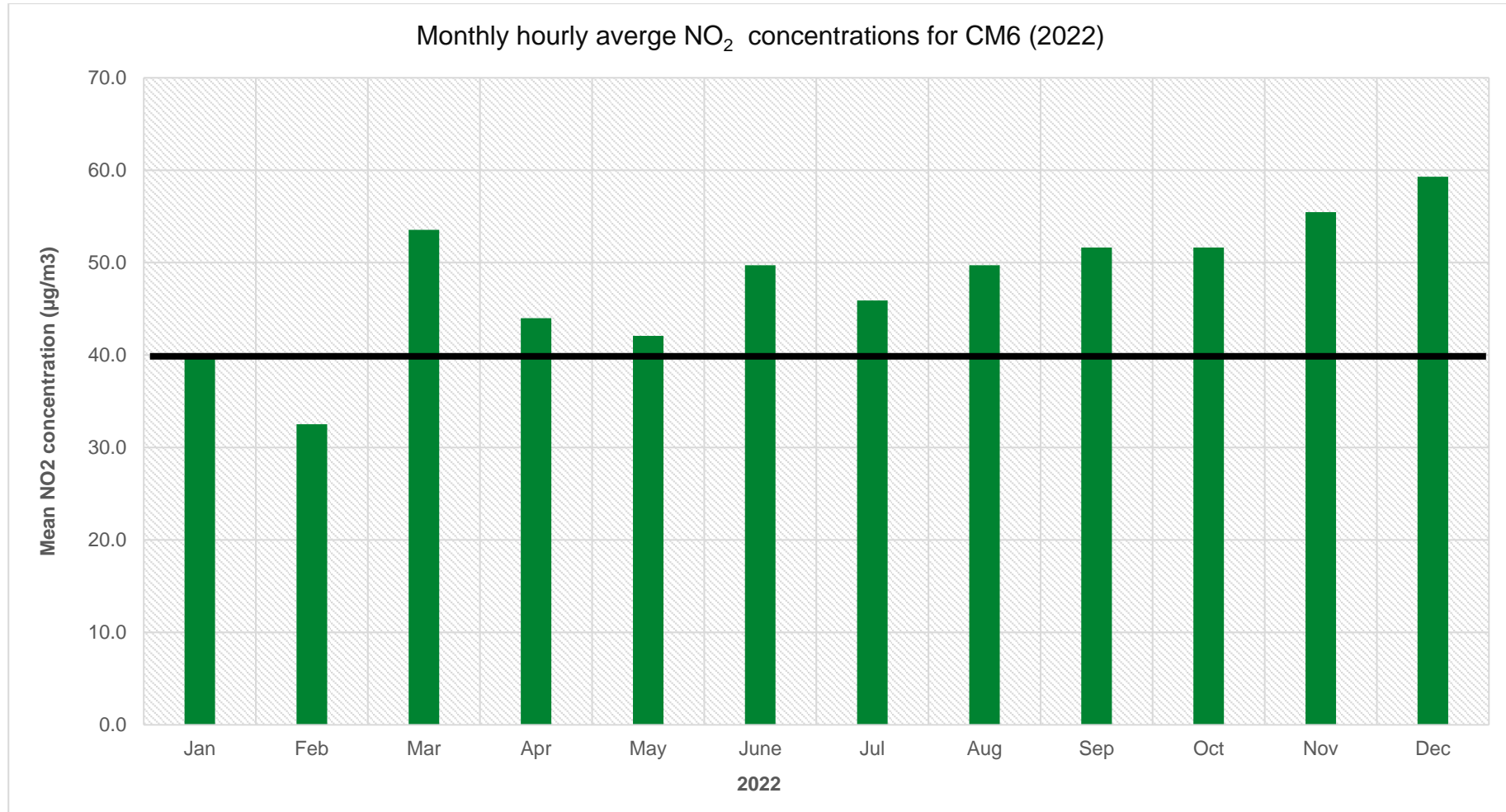
The black line represents the NAQO for the named pollutant.

AQMA 6 – Mill Hill, Enderby



The black line represents the NAQO for the named pollutant.

**CM6 – Lubbethorpe Road, Braunstone Town**



**Table A.5 – 1-Hour Mean NO<sub>2</sub> Monitoring Results, Number of 1-Hour Means > 200µg/m<sup>3</sup>**

Site ID	X OS Grid Ref (Eastin g)	Y OS Grid Ref (Northin g)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
CM1	454482	298573	Roadside	64.38	64.38	0	0	0	0	0
CM4	453492	303315	Roadside	81.46	81.46	1	0	0	0	0
CM5	453594	299549	Roadside	84.34	84.34	0	0	0	0	0
CM6	455722	300782	Roadside	91.97	91.97	-	-	0	0	0
CM7	453934	305999	Roadside	96.94	96.94	-	-	0	0	0

**Notes:**

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

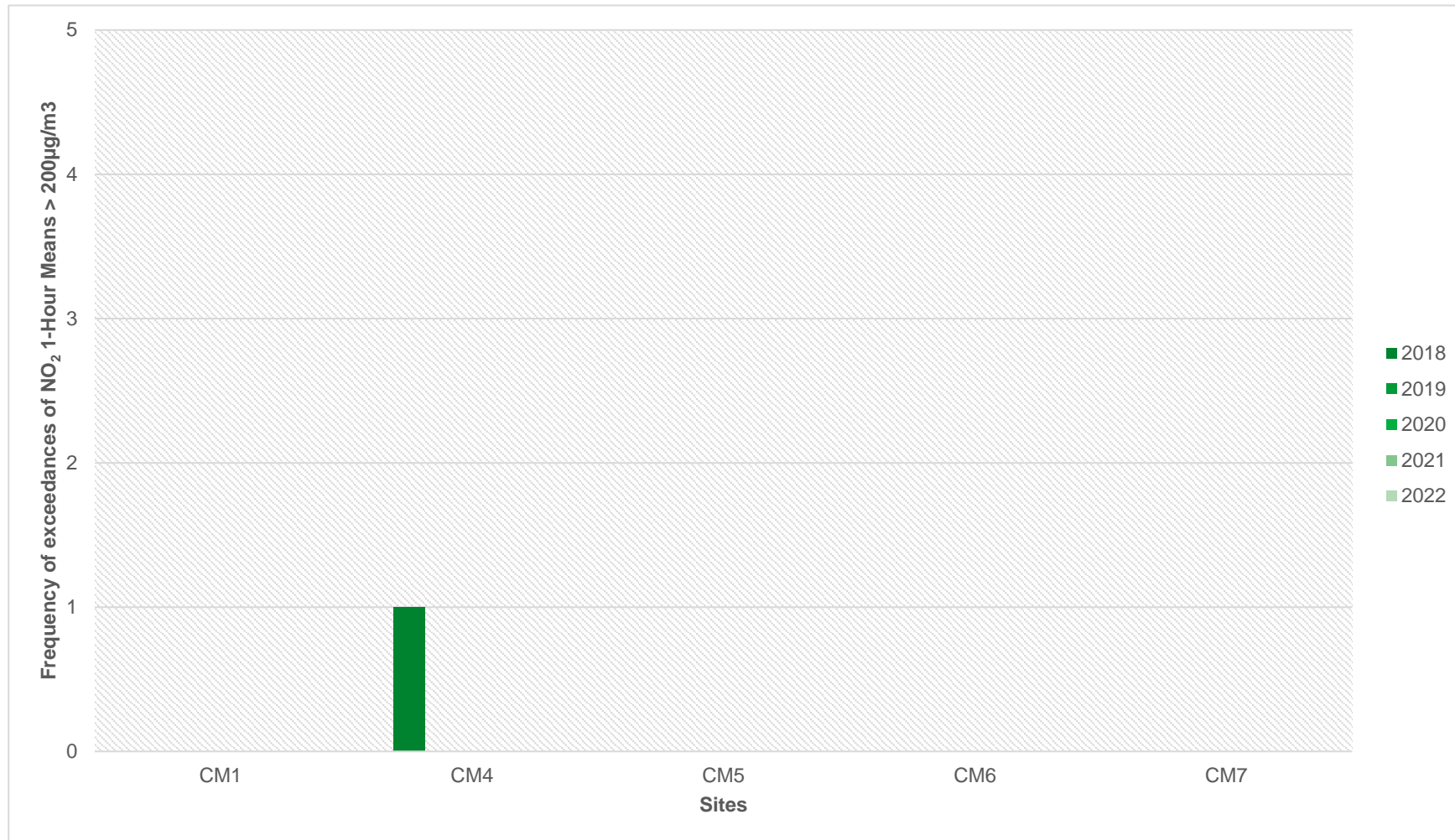
Exceedances of the NO<sub>2</sub> 1-hour mean objective (200µg/m<sup>3</sup> not to be exceeded more than 18 times/year) are shown in **bold**.

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

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

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

**Figure A.2 – Trends in Number of NO<sub>2</sub> 1-Hour Means > 200µg/m<sup>3</sup>**



**Table A.6 – Annual Mean PM<sub>10</sub> Monitoring Results (µg/m<sup>3</sup>)**

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
CM1	454482	298573	Roadside	92.11	92.11	11	11.8	11.5	10.8	11.7

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/m<sup>3</sup>.

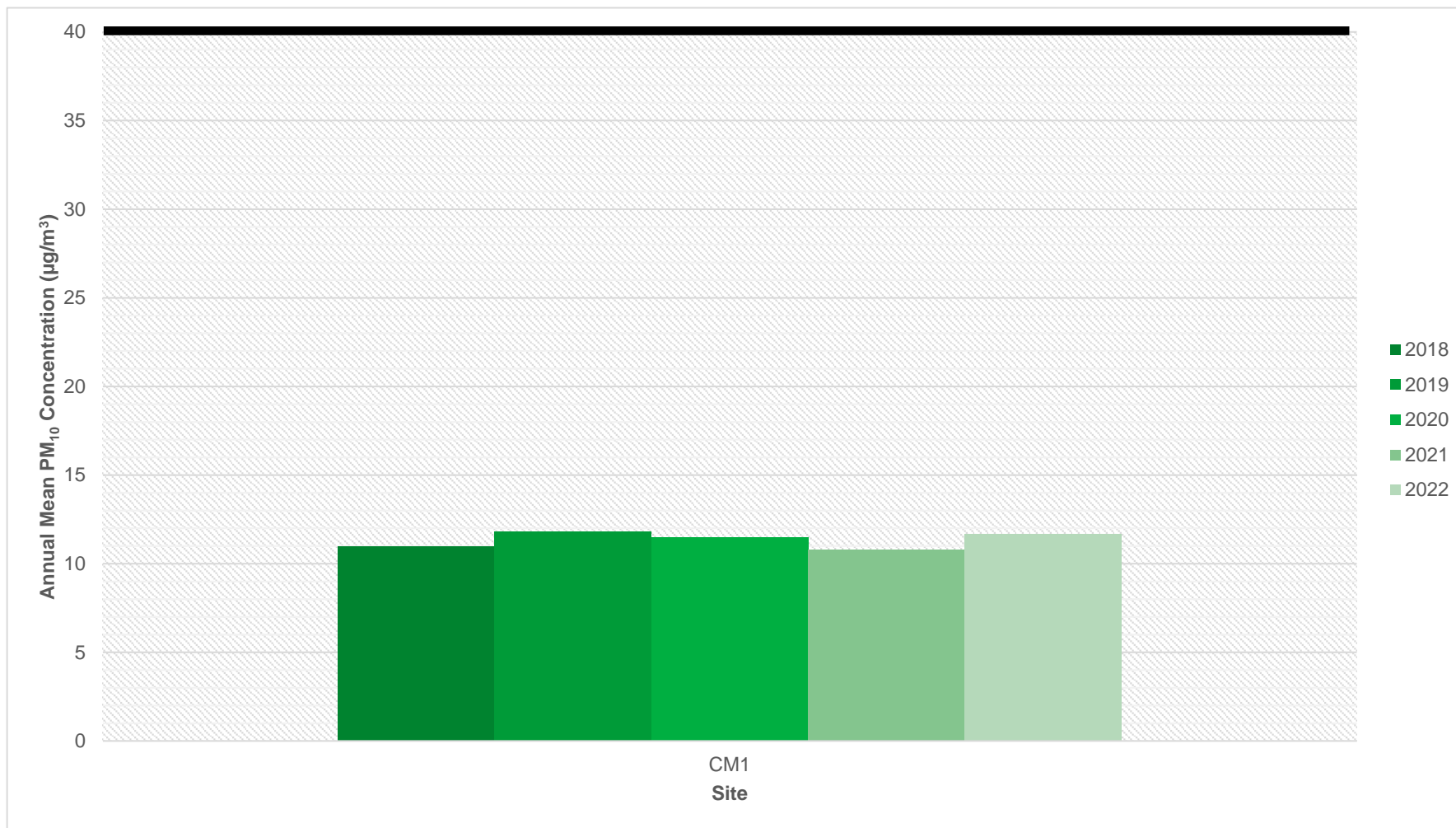
Exceedances of the PM<sub>10</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

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

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

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

**Figure A.3 – Trends in Annual Mean PM<sub>10</sub> Concentrations**



The black line represents the NAQO for the named pollutant.

**Table A.7 – 24-Hour Mean PM<sub>10</sub> Monitoring Results, Number of PM<sub>10</sub> 24-Hour Means > 50µg/m<sup>3</sup>**

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
CM1	454482	298573	Roadside	92.11	92.11	0	0	0	0	0

**Notes:**

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

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

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

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

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



**Table A.8 – Annual Mean PM<sub>2.5</sub> Monitoring Results (µg/m<sup>3</sup>)**

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2022 (%) <sup>(2)</sup>	2018	2019	2020	2021	2022
CM1	454482	298573	Roadside	92.11	92.11	7.7	8.3	8.1	7.6	5.3
CM5	453594	299549	Roadside	87.78	87.78	16	16.9	8.4	8.4	8.0

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

**Notes:**

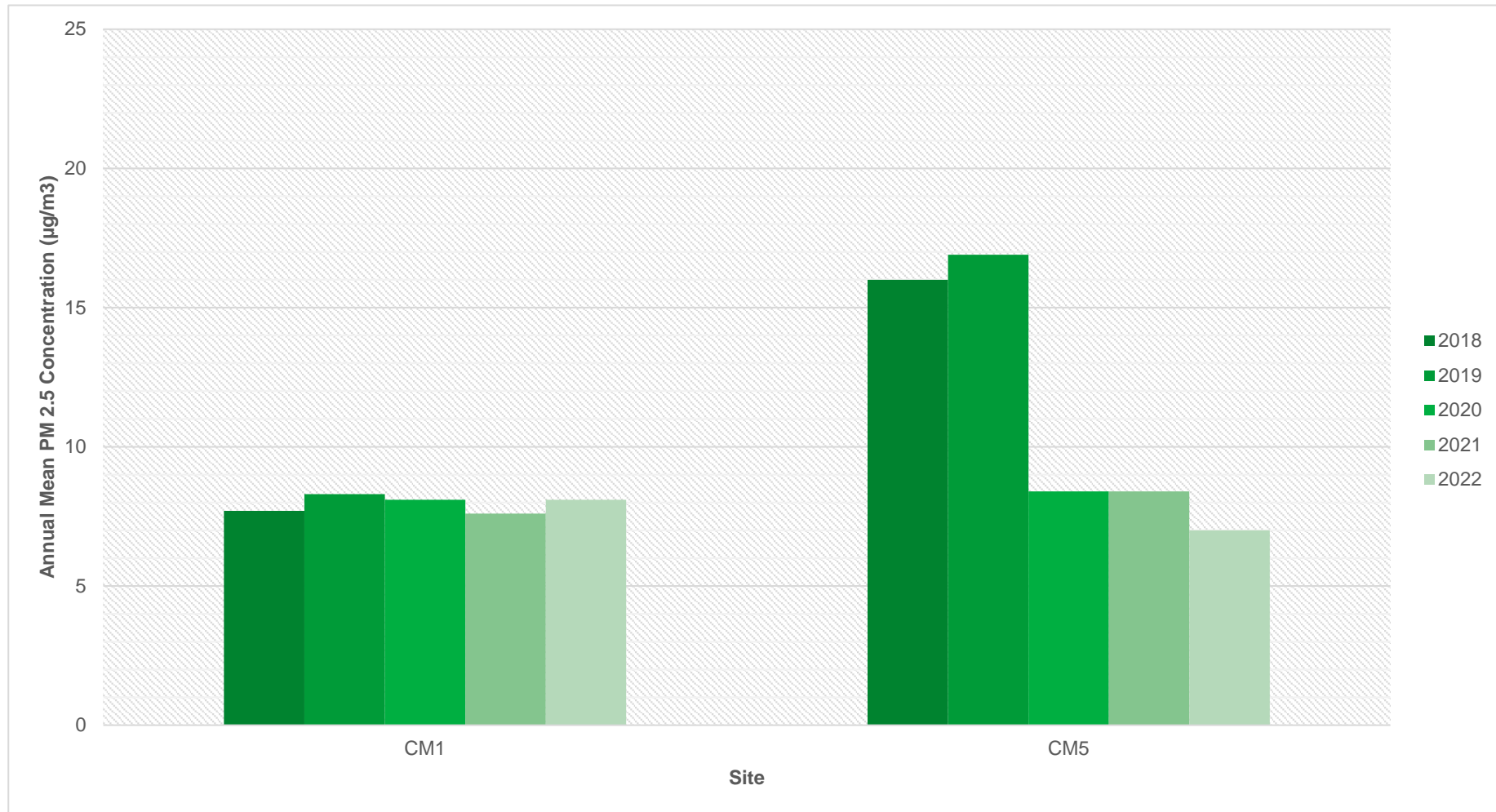
The annual mean concentrations are presented as µg/m<sup>3</sup>.

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

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

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

**Figure A.4 – Trends in Annual Mean PM<sub>2.5</sub> Concentrations**



## Appendix B: Full Monthly Diffusion Tube Results for 2022

Table B.1 – NO<sub>2</sub> 2022 Diffusion Tube Results (µg/m<sup>3</sup>)

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 <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
1	455970	301146	42.7	30.5	45.1	28.4	19.3	25.9	-	28.4	29.5	33.4	33.5	40.3	32.5	24.7	-	
4	453606	299557	63.7	56.2	44.4	52.7	49.9	56.7	52.0	54.1	58.6	53.3	50.3	44.3	53.0	<b>40.3</b>	-	
15	457011	299627	26.8	18.4	35.0	22.4	17.1	18.4	18.6	21.3	21.9	23.3	22.8		22.4	17.0	-	
16	456786	298547	58.3	44.1	34.2	20.2	33.3	40.3	36.1	26.5	33.2	40.8	38.8	37.8	37.0	28.1	-	
18	453220	304273	46.3	39.3	35.7	26.0	27.1	29.6	27.1	27.5	32.5	36.3	38.8	17.1	31.9	24.3	-	
20	453488	303637	38.9	23.4	34.7	24.0	23.8	25.9	26.8	28.3	32.1	24.8	26.7	34.0	28.6	21.7	-	
25	455819	297954	43.0	30.3	30.2	27.1	23.1	21.5	21.5	27.2	28.5	32.4	29.3	32.6	28.9	22.0	-	
26	456470	301903	50.6	36.3	47.0	27.9	26.4	29.1	27.8	26.1	31.0	27.8	32.0	37.6	33.3	25.3	-	
31	455817	297937	32.7	18.0	27.2	18.8	15.2	17.4	15.9	19.2	22.2	18.8	22.3	28.5	21.4	16.2	-	
35	448481	293549	42.0	28.7	44.3	29.6	24.3	25.6	21.2	27.9	28.6	23.7			29.6	22.5	-	
40	448876	293447	34.9	25.2	33.8	-	20.8	22.6	21.1	27.7	27.5			20.5	26.0	19.8	-	
41	454554	294803	44.1	26.7	52.9	34.1	28.8	32.1	32.8	42.7	41.8	31.6	33.1	38.2	36.6	27.8	-	
43	456521	301896	35.8	26.0	40.3	31.0	26.5	27.1	25.5	31.9	31.9	27.0	26.7	22.6	29.4	22.3	-	
44	448847	293462	36.5	25.3	38.9	35.3	23.2	23.0	23.1	29.6		25.3	28.8	19.2	28.0	21.3	-	
48	453468	299737	36.9	34.2	30.7	26.2	28.4	32.5	28.0	27.6	31.6	31.4	34.2	33.9	31.3	23.8	-	
49	453439	299740	27.6	19.5	26.9	17.6	15.7	16.5	14.7	18.8	18.7	20.6	20.6	23.3	20.0	15.2	-	
51	453780	299360	29.3	20.4	29.2	17.3	19.5	22.6	17.5	17.3	19.8	27.0	25.9	26.4	22.7	17.2	-	

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 <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
54	453706	299455	42.8	35.7	34.1	25.7	23.3	28.3	21.2	22.2	26.5	31.4	33.2	32.7	29.8	22.6	-	
56	454519	298148	31.1	25.0	32.1	20.1	18.7	21.6	18.6	21.7	22.5	14.9	31.0	10.6	22.3	17.0	-	
57	453565	299609	42.7	34.0	48.6	31.9	26.4	38.0	33.0	37.2	38.8	30.7	40.4	44.8	37.2	28.3	-	
65	452234	302753	52.8	43.6	38.2	32.9	36.2	41.1	36.8	35.5	37.4	43.8	45.0	44.0	40.6	30.9	-	
68	453592	303415	36.0	29.8	43.5	31.7	25.1	25.7	25.4	30.0	27.0	41.0	26.1	28.9	30.9	23.4	-	
69	454079	303535	14.4	17.1	30.2	18.3	15.9	19.0	17.8	21.4	23.4	19.9	19.5	25.0	20.2	15.3	-	
73	454096	303599	56.1	40.6	39.9	29.7	35.9	40.0	35.1	37.3	40.9	38.3	38.3	36.1	39.0	29.7	-	
74	453622	306039	-	35.8	35.4	31.4	29.2	29.8	27.4	33.4	31.5	28.1	35.6	12.9	30.0	22.8	-	
75	306077	453788	36.2	26.9	33.0	21.2	17.0	21.7	18.2	20.7	21.5	24.2	22.4	24.4	24.0	18.2	-	
77	299846	453281	25.6	21.1	24.3	-	18.8	20.1	13.8	17.2	17.4	27.2	32.7	27.7	22.4	17.0	-	
78	447032	295877	42.5	35.3	40.1	21.7	24.2	27.6	21.7	26.3	26.9	28.9	36.8	34.6	30.6	23.2	-	
80	449036	294720	31.5	24.6	26.7	18.6	17.2	18.4	15.6	18.9	20.6	21.0	24.2	22.5	21.7	16.5	-	
81	449105	294705	43.9	28.8	34.7	25.7	21.5	22.7	21.2	27.1	28.1	18.1	28.7	34.5	27.9	21.2	-	
82	449080	294785	37.7	26.0	35.8	22.3	19.3	23.0	19.8	25.2	27.5	23.7	29.7	31.4	26.8	20.4	-	
83	452309	304870	27.1	23.0	25.8	30.8	22.3	23.4	21.4	31.0	29.8	21.2	26.8	31.8	26.2	19.9	-	
84	446218	293831	47.6	32.2	44.1	34.3	31.8	33.0	31.5	39.1	38.6	31.2	36.2	37.6	36.4	27.7	-	
85	454483	298579	29.1	11.8	25.6	16.9	14.9	17.9	14.3	16.4	17.9	22.3	23.5	26.3	19.7	15.0	-	
88	454038	303471	34.1	19.4	30.5	23.7	17.5	18.5	21.8	24.7	26.1	20.9	24.3	31.0	24.4	18.5	-	
89	453705	299187	46.9	35.1	39.5	30.1	28.4	30.9	26.8	30.9	32.2	35.2	34.8	31.9	-	-	-	Triplicate Site with 89, 90 and 91 - Annual data provided for 91 only
90	448277	291869	43.4	33.0	44.3	26.3	28.2	28.8	26.4	30.3	32.5	34.9	35.9	37.9	-	-	-	Triplicate Site with 89, 90 and 91 - Annual data provided for 91 only
91	453914	306109	47.3	36.3	42.7	29.9	28.6	30.7	26.5	31.3	29.5	32.1	37.7	38.8	33.8	25.7	-	Triplicate Site with 89, 90 and 91 - Annual data provided for 91 only

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
93	453813	306106	43.9	35.5	41.0	28.2	26.1	25.6	21.7	27.8	23.5	32.2	30.0	34.8	30.9	23.5	-	
94	454930	302529	-	23.4	34.7	-	17.7	-	19.2	24.7	24.4	22.3	27.0	29.7	24.8	18.8	-	
95	454178	302627	39.3	26.9	32.3	20.3	21.1	26.7	20.1	21.6	25.4	25.3	28.0	32.5	26.6	20.2	-	
96	462115	295374	47.4	41.5	44.7	27.0	32.9	41.4	34.3	34.7	38.7	45.4		42.9	39.2	29.8	-	
97	455695	300824	38.8	32.3	46.9	35.7	25.4	32.1	30.4	36.4	18.4	35.6	39.8	31.2	33.6	25.5	-	
98	453957	302912	34.5	27.1	29.8	18.3	18.6	21.8	20.1	20.8	20.2	23.6	25.6	21.5	23.5	17.9	-	
99	453219	303310	38.3	23.7	34.7	20.6	20.6	20.9	20.8	23.0	23.6	26.7	31.5	21.9	25.5	19.4	-	
100	453933	305973	30.0	16.7	18.7	15.5	10.2	10.3	10.3	14.1	18.4	14.9	16.3	26.2	16.8	12.8	-	
101	449094	294690	27.0	17.4	34.6	25.4	20.5	22.0	21.5	28.8	28.0	22.3	21.3	24.9	24.5	18.6	-	
102	453960	305928	34.0	20.9	31.3	22.9	20.1	22.0	18.9	25.0	27.5	23.0	27.3	31.7	25.4	19.3	-	
103	454109	305725	27.8	29.8	36.9	29.7	24.9	25.9	19.5	27.9	29.5	25.6	27.4	28.4	27.8	21.1	-	
104	454062	305692	32.8	21.6	30.7	-	-	-	16.9	18.3	21.2	25.1	27.8	32.7	25.2	19.2	-	
105	454065	305665	-	25.5	28.3	22.0	18.1	-	13.3	21.4	22.1	21.2	26.7	23.5	22.2	16.9	-	
106	453422	299556	23.5	15.0	22.2	13.7	8.3	11.1	9.8	14.4	14.7	13.3	11.6	19.2	14.7	11.2	-	
107	453422	299595	22.3	11.1	20.4	12.3	9.9	10.7	9.3	14.2	13.7	12.4	14.1	14.7	13.8	10.5	-	
108	452907	300156	31.7	16.0	35.5	23.0	17.8	20.2	20.7	27.1	28.5	23.8	24.9	29.9	24.9	18.9	-	
109	452916	300156	44.0	28.8	35.7	18.7	24.4	26.8	25.3	27.2	27.3	29.9	34.3	29.5	29.3	22.3	-	
110	452986	300097	38.2	30.7	42.5	28.3	23.0	29.0	27.1	28.8	31.3	25.6	38.4	39.2	31.8	24.2	-	
111	452992	300094	43.5	28.4	40.8	27.5	22.8	27.7	32.3	35.4	33.1	30.9	31.4	37.4	32.6	24.8	-	
112	453113	300009	49.5	46.5	56.6	40.0	44.4	48.7	45.5	49.6	48.6	50.4	46.9	54.7	48.5	36.8	-	
113	453292	299879	40.3	31.6	46.0	34.1	24.2	28.1	28.2	33.8	32.5	27.2	30.7	37.1	32.8	24.9	-	

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 <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
114	453292	299876	52.7	46.6	52.1	43.4	37.5	40.6	39.0	47.9	46.0	37.4	41.9	42.3	44.0	33.4	-	
115	453432	299745	55.1	40.8	52.7	30.8	-	44.2	39.7	43.8	45.2	41.0	44.1	47.9	44.1	33.5	-	
116	453463	299731	59.2	36.8	38.3	27.7	29.3	33.4	33.8	31.8	37.2	34.9	33.8	34.4	35.9	27.3	-	
117	454122	305701	56.1	43.4	57.3	31.8	37.1	44.4	40.5	48.7	46.2	44.4	47.4	49.1	45.5	34.6	-	
118	453673	299475	77.5	56.6	76.3	65.8	52.7	52.9	53.6	61.9	54.9	44.1	36.0	47.2	56.6	<b>43.0</b>	22.5	House set back 22.4m from roadside where diffusion tube is located.
119	453850	299288	-	36.5	54.8	41.8	34.3	-	36.1	43.4			41.7	47.5	42.0	33.0	-	
120	453834	299303	36.1	-	35.6	24.2	17.9	24.0	19.4	24.4	28.0	26.4	27.6	27.3	26.4	20.1	-	
AT1	454173	297603	26.0	16.4	23.8	15.5	-	12.4	9.9	15.4	16.4	16.1	34.2	25.4	19.2	14.6	-	
AT2	454356	298548	25.7	17.8	23.2	19.0	0.7	-	12.1	17.7	17.3	9.4	19.2	24.2	16.9	12.9	-	
AT3	453939	298947	24.6	16.0	22.0	17.1	13.0	15.9	11.7	16.3		16.0	18.0	6.5	16.1	12.2	-	
AT4	452944	303000	20.4	11.8	35.6	13.1	9.1	9.3	8.7	13.4	13.6	12.9	16.4	14.9	14.9	11.3	-	
AT5	453982	303197	31.1	19.0	32.3	13.0	14.0	14.5	13.2	17.3	18.7	20.1	20.9	21.2	19.6	14.9	-	
AT6	453973	305842	24.4	16.4	16.5	14.1	12.7	14.6	12.7	16.0	18.4	16.3	21.6	25.9	17.5	13.3	-	
AT7	455214	302616	29.2	19.4	-	12.8	12.3	13.4	10.9	13.1	16.7	17.5	16.1	23.3	16.8	12.8	-	
AT8	455251	302600	33.4	21.8	27.2	13.5	10.4	13.3	10.6	14.8	17.1	17.9	21.8	32.1	19.5	14.8	-	
AT9	455827	301842	41.4	28.3	21.2	20.0	19.2	20.1	15.6	20.7	21.7	26.3	28.5	33.3	24.7	18.8	-	
AT10	453012	298723	32.2	25.7	18.4	14.1	14.0	16.1	13.9	14.8	14.9	21.5	26.4	28.5	20.0	15.2	-	
AT11	455311	301428	21.3	14.9	27.3	12.5	8.8	12.1	9.9	12.4	14.0	12.0	15.7	13.8	14.6	11.1	-	
AT12	455233	300417	25.8	31.7	21.6	24.3	28.6	29.6	27.2	28.8	32.4	28.3	33.4	35.9	29.0	22.0	-	
AT13	455035	300372	38.1	24.6	24.5	24.6	20.7	21.1	18.0	25.6	26.9	22.0	23.9	31.2	25.1	19.1	-	
AT14	455934	296288	29.5	19.7	-	13.0	12.0	13.2	11.0	12.9	15.3		18.0	20.7	16.5	12.6	-	

- All erroneous data has been removed from the NO<sub>2</sub> 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 2022 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.

**Notes:**

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

NO<sub>2</sub> annual means exceeding 60µg/m<sup>3</sup>, indicating a potential exceedance of the NO<sub>2</sub> 1-hour mean objective are shown in **bold and underlined**.

See Appendix C for details on bias adjustment and annualisation.

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

Over 2022 monitoring increased in the areas of Enderby, Glenfield, and Stoney Stanton to inform concerns based on monitored levels in previous years.

Monitoring in Enderby increased both within and outside the AQMA to understand how concentrations vary across the area.

Additional diffusion tubes in Enderby (15) and Glenfield (4) were introduced as part of the CDTCA project and at the end of the project in March 2023, eight diffusion tubes in Enderby and four in Glenfield were removed. Three additional diffusion tubes were also introduced in Stoney Stanton.

A review of diffusion tubes is conducted annually and takes into consideration areas of local concern as well as factors which may influence levels, such as increases in traffic levels.

### **New or Changed Sources Identified Within Blaby District During 2022**

BDC has not identified any new sources relating to air quality within the reporting year of 2022. It is possible that there are greater volumes of vehicles on the roads, contributing to the small increases in measured NO<sub>2</sub> concentrations.

BDC remain dedicated to understanding the sources behind the exceedances recorded.

Background monitoring will continue in relation to developments which may have an impact on Air Quality across the district. Furthermore, the “Particulates Matter” Air Quality Grant Project will enable a greater insight into potential sources of PM<sub>2.5</sub>.

### **Additional Air Quality Works Undertaken by Blaby District Council During 2022**

BDC has not completed any additional major works within the reporting year of 2022 regarding the development of action plan measures or the declaration, amendment, or revocation of an AQMA. Diffusion tube monitoring increased in specific areas of the district to inform levels recorded in 2021. A number of these tubes have since been removed due to low monitored levels.



## QA/QC of Diffusion Tube Monitoring

During the 2022 monitoring year all diffusion tubes were changed in accordance with the 2022 DEFRA calendar ( $\pm 2$  days) and no tubes were exposed for prolonged periods outside of the guidance.

The supplier in 2022 was SOCOTEC for both provision and analysis of the diffusion tubes. Preparation was conducted with the use of acetone:triethanolamine (50:50) in water. SOCOTEC analyses the tubes in line with their UKAS schedule and complies with guidance set out by DEFRA.

In relation to the AIR PT intercomparison scheme, SOCOTEC currently hold the highest accreditation of 'Satisfactory Laboratory'. This is the first monitoring year in which BDC has used SOCOTEC as the supplier.

## Diffusion Tube Annualisation

Diffusion tubes with a data capture of less than 75% (but more than 25%) require annualisation to offer a more representative analysis of air quality for the particular site/s. This process was necessary for DT119 which had a data capture of 66%. This can be attributed to missing samplers across the monitoring year. Details on the process and calculations of annualisation can be found in Table C.1.

Annualisation was performed within the Diffusion Tube Data Processing Tool (DTDPT) following DEFRA guidance. The background stations utilised were:

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

all of which had the requisite data capture in accordance with the guidance.

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

Site ID	Annualisation Factor 1 Coventry Allesley	Annualisation Factor 2 Coventry Binley Road	Annualisation Factor 3 Leicester A594 Roadside	Annualisation Factor 4 Leicester University	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
DT119	1.0297	1.0211	1.0518	1.0338	1.0341	42.0	43.4
CM1	0.64	0.9791	1.2208	0.7833	0.9073	24.0	21.7

### Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2022 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG22 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from  $\text{NO}_x/\text{NO}_2$  continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Blaby District Council have applied a national bias adjustment factor of 0.76 to the 2022 monitoring data. A local bias correction factor of 1.42 was calculated utilising the triplicate set at CM6, through use of the DTDPT.

Following careful consideration of the guidance in TG22 (see below) and advice from the LAQM helpdesk, a decision was made to use the national bias adjustment factor, chosen from the 03/23 DEFRA National Diffusion Tube Bias Adjustment Factor Spreadsheet for SOCOTEC Didcot as the supplier.

Due to the uncertainty behind the elevated concentrations, it did not appear representative to apply the local factor to the network of monitoring across the district until further investigations have been conducted.

A summary of bias adjustment factors used by BDC 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**
- QA/QC of diffusion tubes – **triplicate set results do have a degree of variation**
- Siting of the co-location study – **with the CMS**

**Cases where the combined bias adjustment factor may be more representative:**

- Where the survey consists of tubes exposed over a range of settings, which differ from the co-location site, e.g. the co-location site is in a very exposed setting and the tubes being assessed are on a building façade in a canyon-like street. **Tubes and co-location study are in the same setting.**
- Where the co-location study is for less than nine months in line with the Defra Calendar, although the diffusion tube monitoring is for a longer period. **Co-location study and diffusion tube monitoring are for the same period.**
- Where the automatic analyser has been operated using local, rather than national QA/QC procedures – **local QA/QC procedures used**
- Where data capture from the automatic analyser is less than 90%, or there have been problems with data quality – **data capture is above 90%**
- For co-location sites with “poor” precision or laboratories with predominately “poor” precision, as set out on the LAQM Support Helpdesk website – **precision is good**

**Table C.2 – Bias Adjustment Factor**

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2022	National	03/23	0.76
2021	National	03/22	0.77
2020	National	03/21	0.77
2019	National	09/20	0.78
2018	National	06/19	0.95

**Table C.3 – Local Bias Adjustment Calculation**

	Local Bias Adjustment Input 1	Local Bias Adjustment Input 2	Local Bias Adjustment Input 3	Local Bias Adjustment Input 4	Local Bias Adjustment Input 5
Periods used to calculate bias	12				
Bias Factor A	1.43 (1.24 - 1.7)				
Bias Factor B	-30% (-41% - -19%)				
Diffusion Tube Mean ( $\mu\text{g}/\text{m}^3$ )	33.8				
Mean CV (Precision)	4.5%				
Automatic Mean ( $\mu\text{g}/\text{m}^3$ )	48.4				
Data Capture	98%				
Adjusted Tube Mean ( $\mu\text{g}/\text{m}^3$ )	48 (42 - 57)				

**Notes:**

A single local bias adjustment factor has been calculated however a national bias adjustment factor has been applied to the 2022 diffusion tube results.

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

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO<sub>2</sub> concentration at the nearest location relevant for exposure has been estimated using the Diffusion Tube Data Processing Tool/NO<sub>2</sub> fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO<sub>2</sub> concentrations corrected for distance are presented in Table B.1.

Distance correction should be considered at any monitoring site where the annual mean concentration is greater than  $36\mu\text{g}/\text{m}^3$  and the monitoring site is not located at a point of relevant exposure. This was necessary for DT118 located in AQMA6, which recorded a concentration of  $43\mu\text{g}/\text{m}^3$ . However, this DT is located close to the roadside and the nearest receptor is set back from the main road and distance correction was necessary to report a more representative concentration at point of exposure.

DT112 is also included in the table below, however this monitoring site was chosen to understand the relative contributions of the B582 and M69 motorways.

There are no relevant receptors and therefore the NAQO is not directly applicable.

Details of the calculation for distance are presented below in Table C.4.

**Table C.4 – NO<sub>2</sub> Fall off With Distance Calculations (concentrations presented in  $\mu\text{g}/\text{m}^3$ )**

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted)	Background Concentration	Concentration Predicted at Receptor	Comments
112	0.2	295.2	36.8	-	-	There are no nearby receptors. Monitoring site chosen to understand the relative contributions of the B582 and M69.
118	0.5	22.9	43.0	12.7	22.5	DT is located close to the roadside and the nearest receptor (residential property) is set back from the main road.

### QA/QC of Automatic Monitoring

Local Site Operator (LSO) duties are carried out fortnightly for automatic monitoring sites by members of the Environmental Services Team.

Data validation and ratification is conducted fortnightly by the same LSO's allowing for screening erroneous readings. Monitoring station data and performance is checked daily through a back-office system.

Data is ratified as per the Automatic and Urban Rural Network (AURN) recommended procedures. During calibrations, a zero reading is taken from the equipment using either a gas of known concentration, or by the use of scrubbers.

Span gas of a known concentration is then applied to the system to ensure consistency in measured pollutant concentrations. The zero and span readings are then used to adjust any offset of the baseline of the data through application of a correction factor.

A linear two-point regression is then applied to the data linking the calibrations and adjusting any analyser offset.

Data is available to view through the [Air Quality - Monitoring in Blaby District | Tableau Public](#) webpage.

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

CM1 directly monitors PM<sub>10</sub> and a factor of 1.3 has been applied to the data to give gravimetric equivalent levels.

CM5 provides direct monitoring of PM<sub>2.5</sub> concentrations. Concentrations can also be derived from CM1 PM<sub>10</sub> data using the latest DEFRA correction factors. A national correction factor has been used as there are no sites which measure both PM<sub>10</sub> and PM<sub>2.5</sub>. A breakdown of the calculation is presented below.

Step 1:

- PM<sub>10</sub> monitored concentration = 11.7 µg/m<sup>3</sup>
- Nationally derived factor (roadside) = 6.4 µg/m<sup>3</sup>

Step 2:

- $11.7 - 6.4 = 5.3$  µg/m<sup>3</sup> estimated annual mean of PM<sub>2.5</sub>

### **Automatic Monitoring Annualisation**

Where less than 75% (but > 25%) of the data set is available, the continuous monitoring station data has been annualised as per Technical Guidance LAQM.TG (22). This procedure was necessary for CM1, due to a data capture of 64%. The following background stations were used:

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

Guidance from TG22 was utilised for assistance in correctly annualising CM1, following additional advice from the DEFRA LAQM helpdesk. Details and a summary of the annulisation can be found in Table C.1.

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

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO<sub>2</sub> concentration at the nearest location relevant for exposure has been estimated using the NO<sub>2</sub> fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO<sub>2</sub> concentrations corrected for distance are presented in Table B.1.

No automatic NO<sub>2</sub> monitoring locations within BDC required distance correction during 2022.

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

An assessment of 2022 results in the context of past data has been carried out for the following areas:

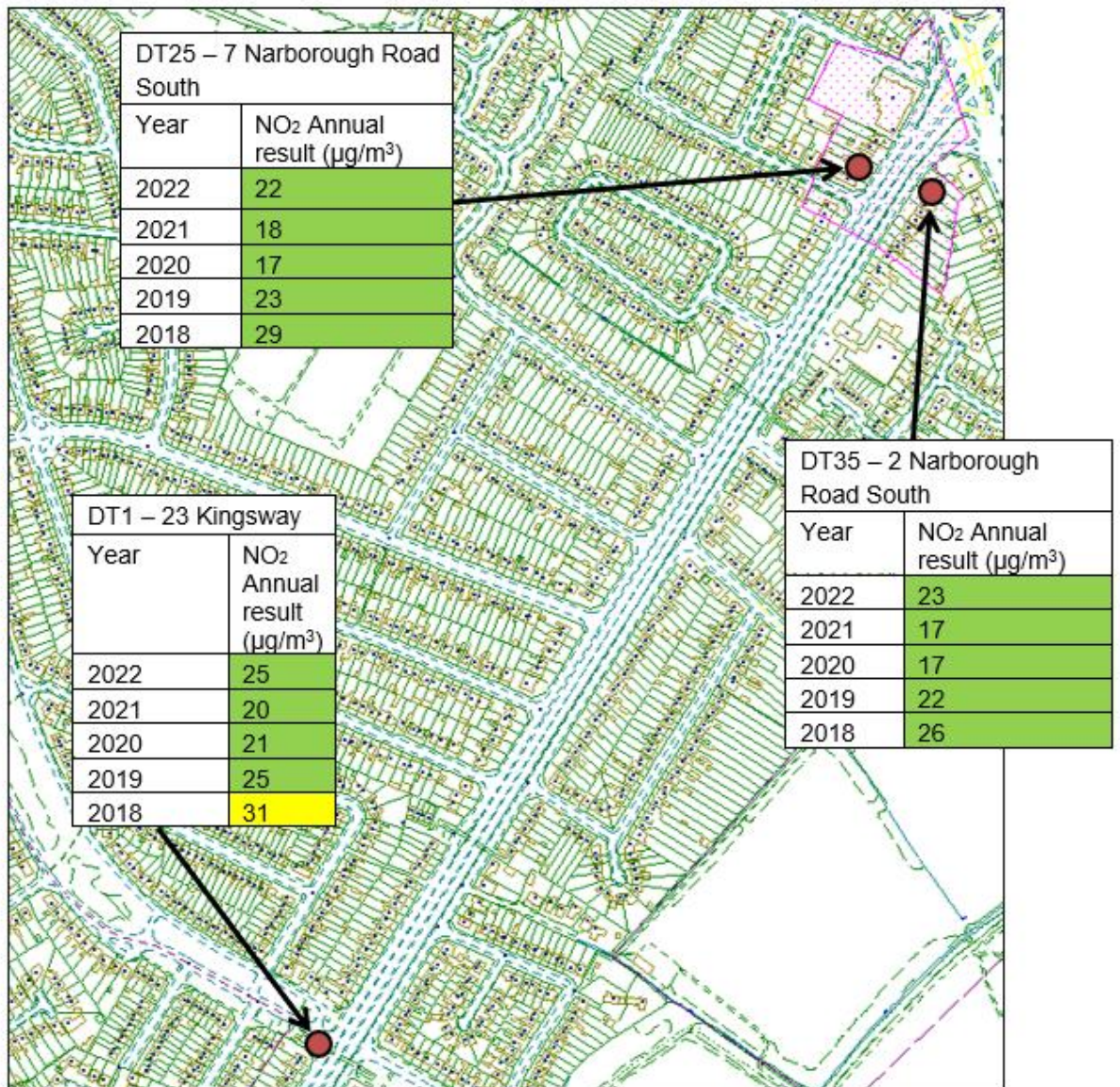
- [Figure 1 - AQMA 1 A5460 Narborough Road South](#)
- [Figure 2 - AQMA 2 M1 corridor in Enderby and Narborough](#)
- [Figure 3 - AQMA 3 M1 corridor between Thorpe Astley and Leicester Forest East](#)
- [Figure 4 - AQMA 4b Enderby Road, Whetstone](#)
- [Figure 5 - AQMA 6 Mill Hill, Enderby](#)
- [Figure 6 - Enderby \(out of AQMA\)](#)
- [Figure 7 - Lubbesthorpe Road, Braunstone Town](#)
- [Figure 8 - Sharnford Hill, Sharnford](#)
- [Figure 9 - Glenfield Village](#)
- [Figure 10 - New Bridge Road and Windsor Avenue, Glen Parva](#)
- [Figure 11 - Stoney Stanton Village](#)
- [Figure 12 - Sapcote Village](#)
- [Figure 13 - Elmesthorpe Railway Bridge](#)
- [Figure 14 - Thorpe Astley](#)
- [Figure 15 - Desford Road, Kirby Muxloe](#)
- [Figure 16 - Aston Firs, near Sapcote](#)
- [Figure 17 - Main Street, Kilby](#)
- [Figure 18 - Active Travel Tubes](#) in Narborough, Enderby, Braunstone Town, Glenfield, Leicester Forest East, Thorpe Astley, and Whetstone

Maps showing the monitoring locations and corresponding average annual nitrogen dioxide concentrations ( $\mu\text{g}/\text{m}^3$ ) are shown in Figures 1 to 17.

Active Travel Tubes are presented separately below.



## AQMA 1 – A5460 Narborough Road South

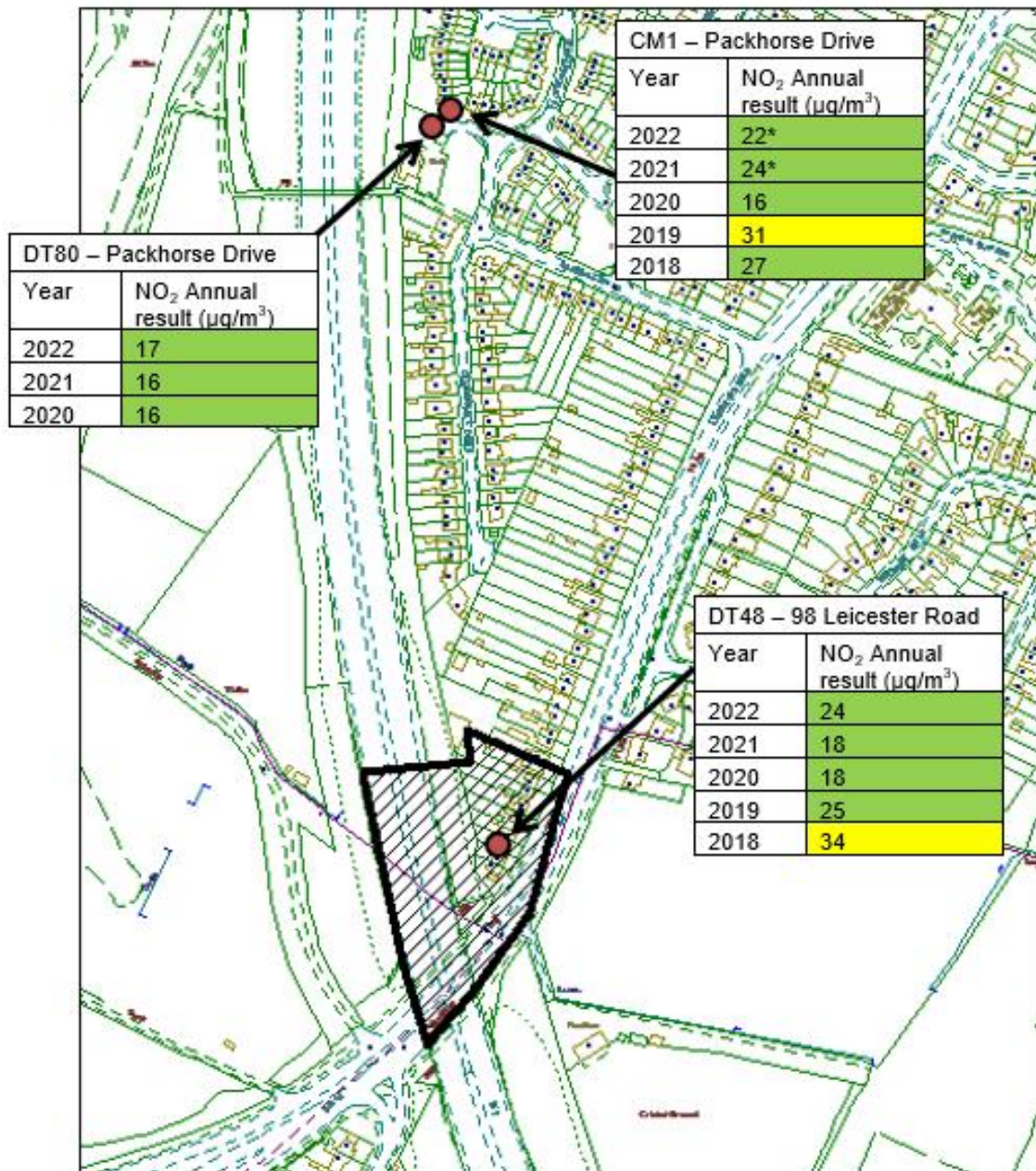


**Figure 1:** Map showing the locations and results of diffusion tubes in AQMA 1, including Narborough Road South and parts of Braunstone Town. AQMA boundary represented by pink outline. Results have been rounded to nearest whole number. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

NO<sub>2</sub> concentrations in the area have shown small increases from 2021. All sites within and outside the AQMA are below the national objective. AQMA1 will be revoked due to ongoing compliance.



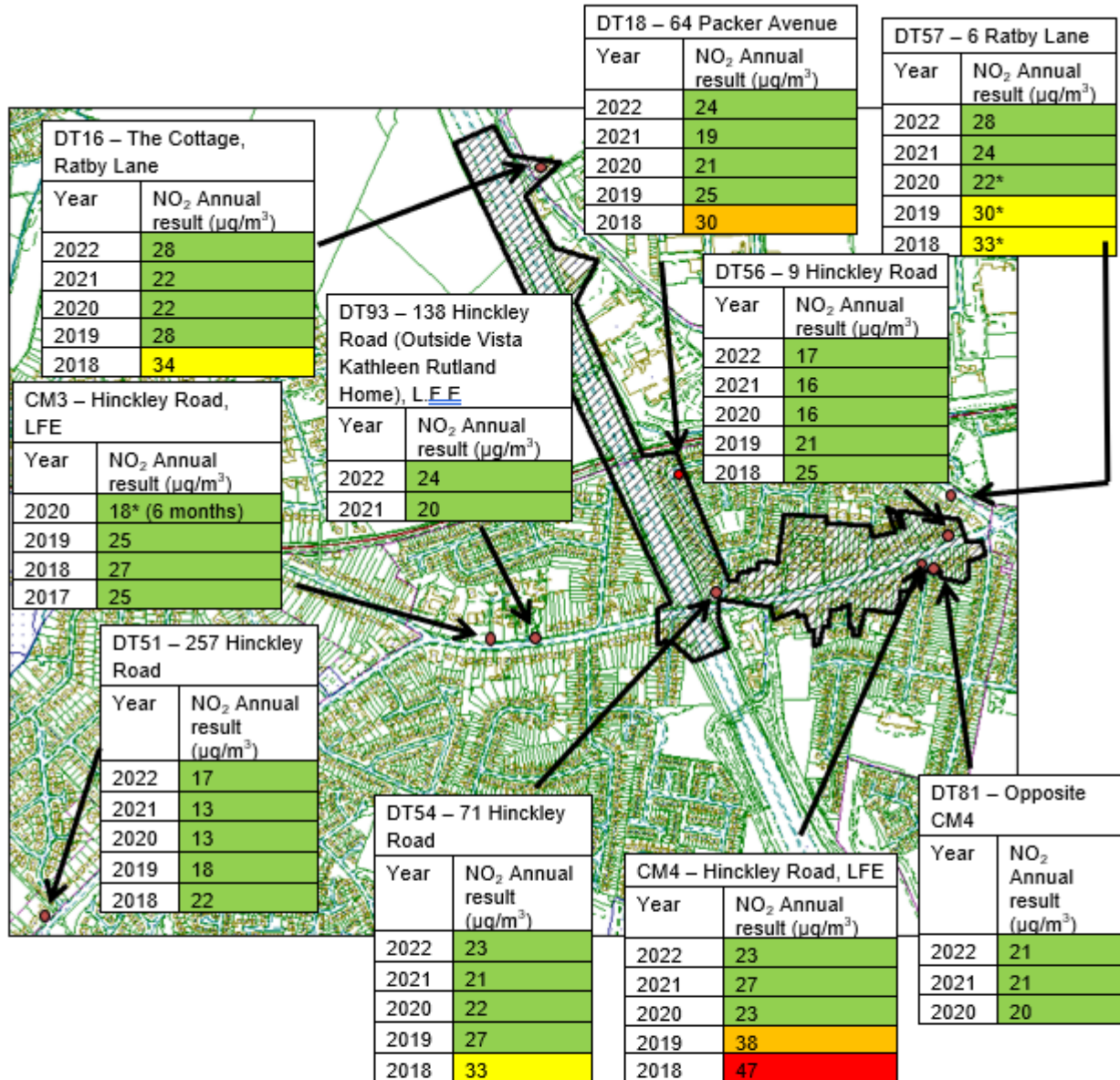
## AQMA 2 – M1 corridor in Enderby and Narborough



**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 represented by black outline. Results have been rounded to nearest whole number. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

Concentrations within the AQMA have increased yet remain below the national air quality objective. NO<sub>2</sub> levels at CM1 (outside the AQMA) show a small reduction, although this figure has been subject to annualisation. AQMA 2 will be revoked due to ongoing compliance.

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

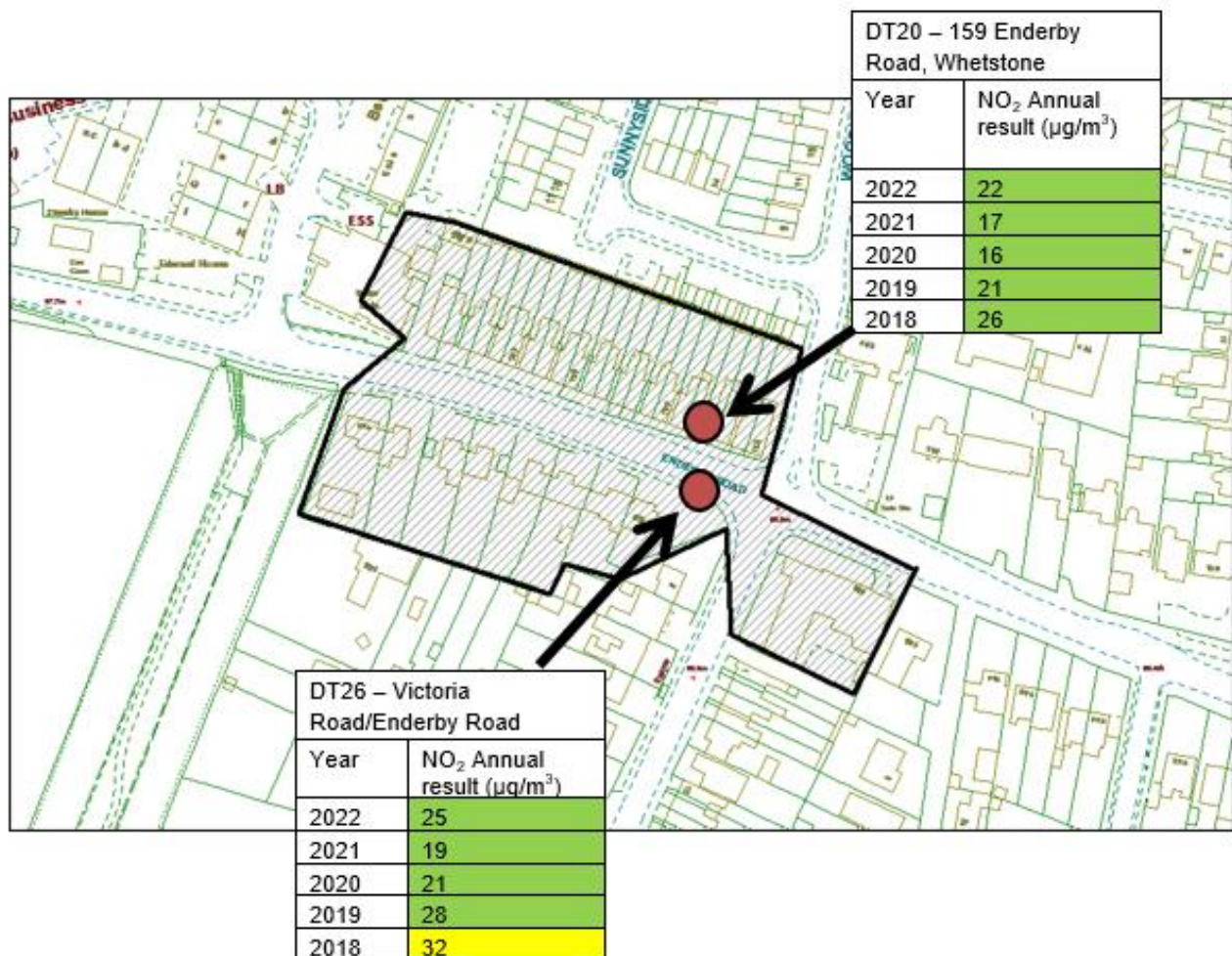


**Figure 3:** Map showing the locations and results of diffusion tubes and continuous monitoring stations in AQMA 3, along a corridor of the M1 between Thorpe Astley and Leicester Forest East. AQMA boundary represented by black outline. Results have been rounded to nearest whole number. \* represents a result that has been annualised and/or distance corrected. 40 µg/m<sup>3</sup> is the air quality objective for this pollutant. © Crown copyright. All rights reserved.

NO<sub>2</sub> concentrations remain consistent within the NAQO. Increases are noted in the southern extent of the AQMA, particularly at DT16 and DT57, both of which are at roadside of busy routes. All concentrations are below the national air quality objective for the pollutant showing small changes from 2021.



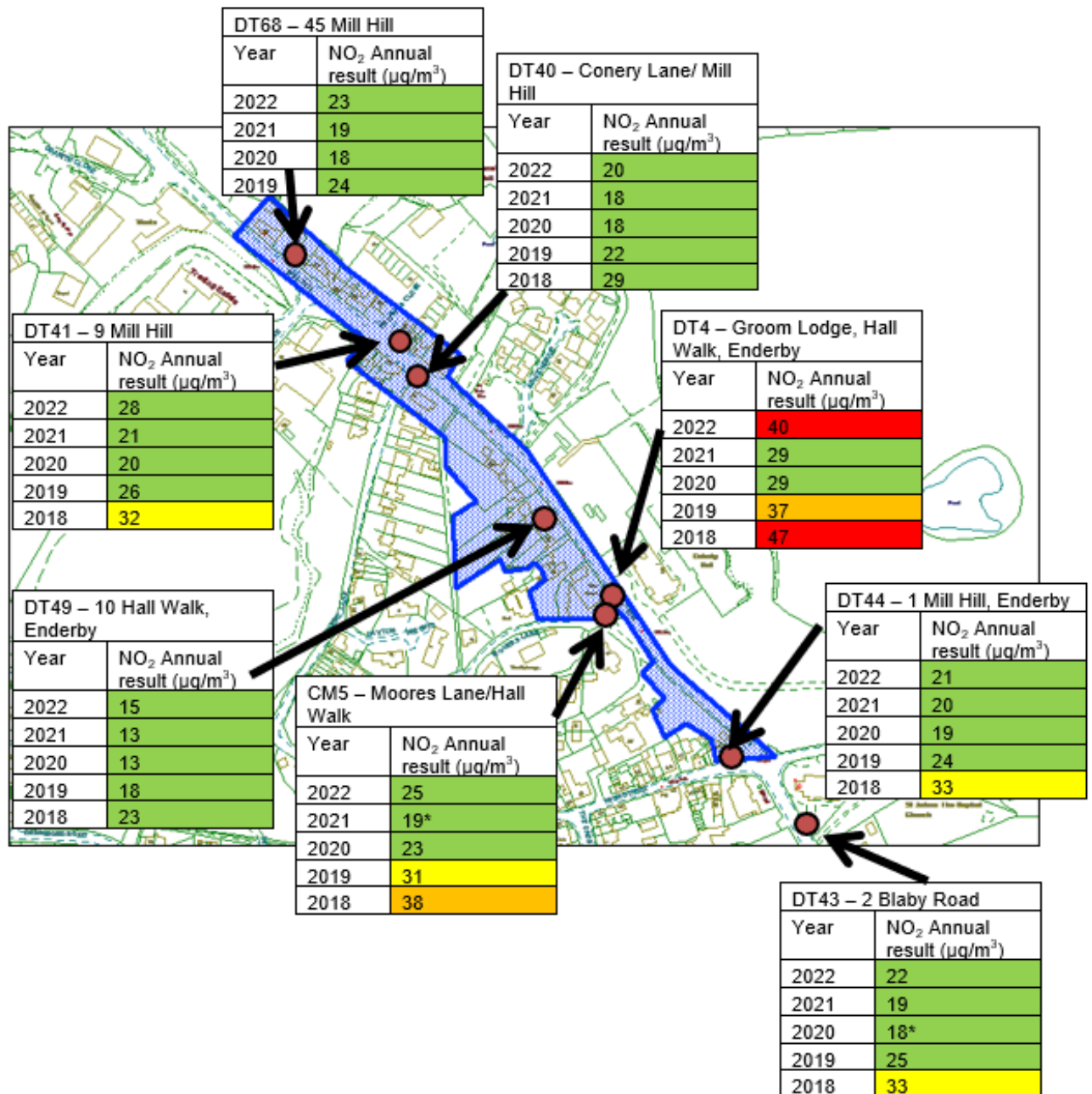
## AQMA 4B – Enderby Road, Whetstone



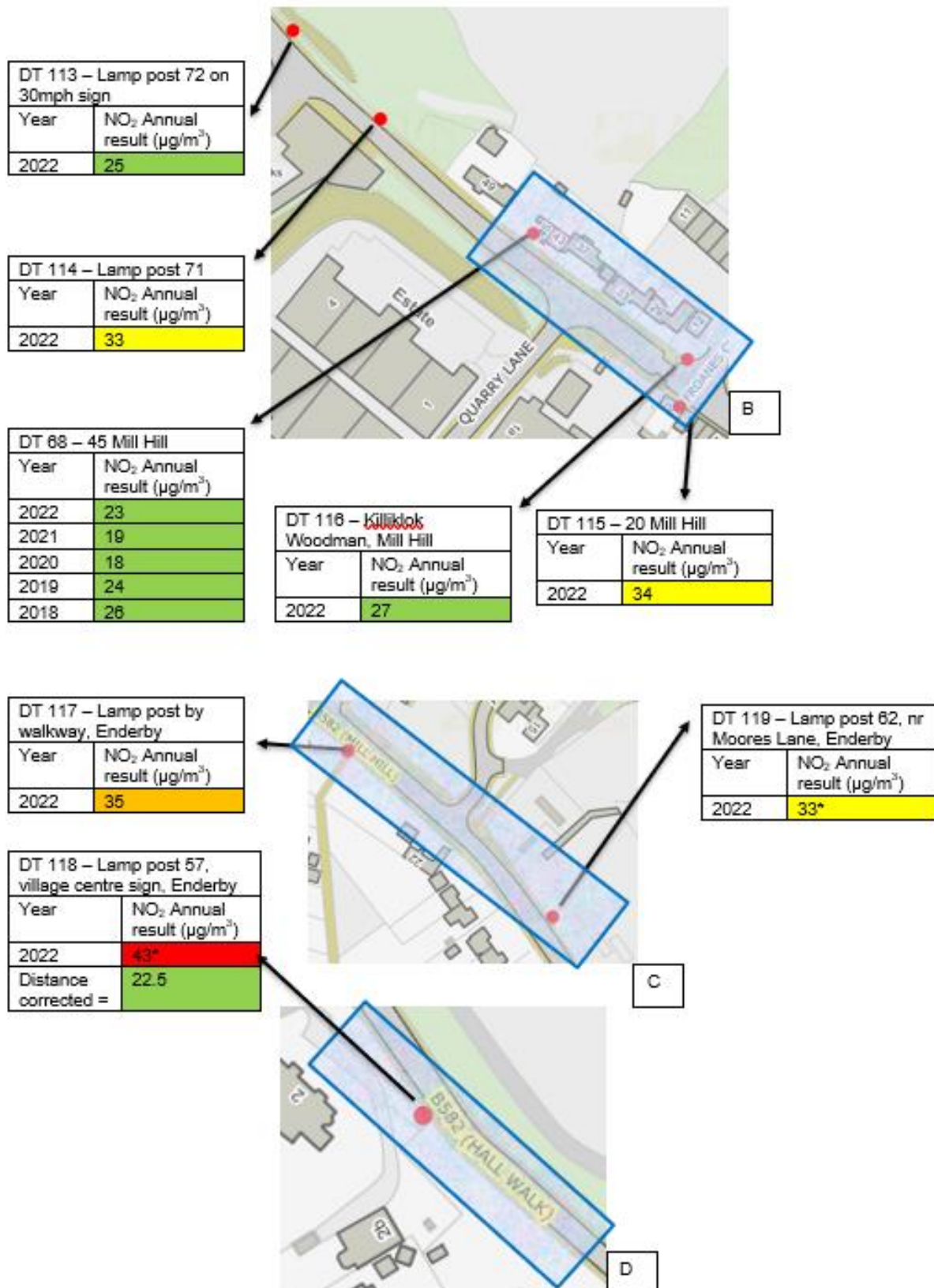
**Figure 4:** Map showing the locations and results of diffusion tubes in AQMA 4B, along Enderby Road in Whetstone. AQMA boundary represented by black outline. Results have been rounded to nearest whole number. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

Concentrations within the AQMA have shown a small increase from 2021 and sit well below national air quality objective. The AQMA will be revoked due to ongoing compliance. Monitoring will continue but be reduced to one diffusion tube (DT20) for 2023.

## AQMA 6 – Mill Hill, Enderby



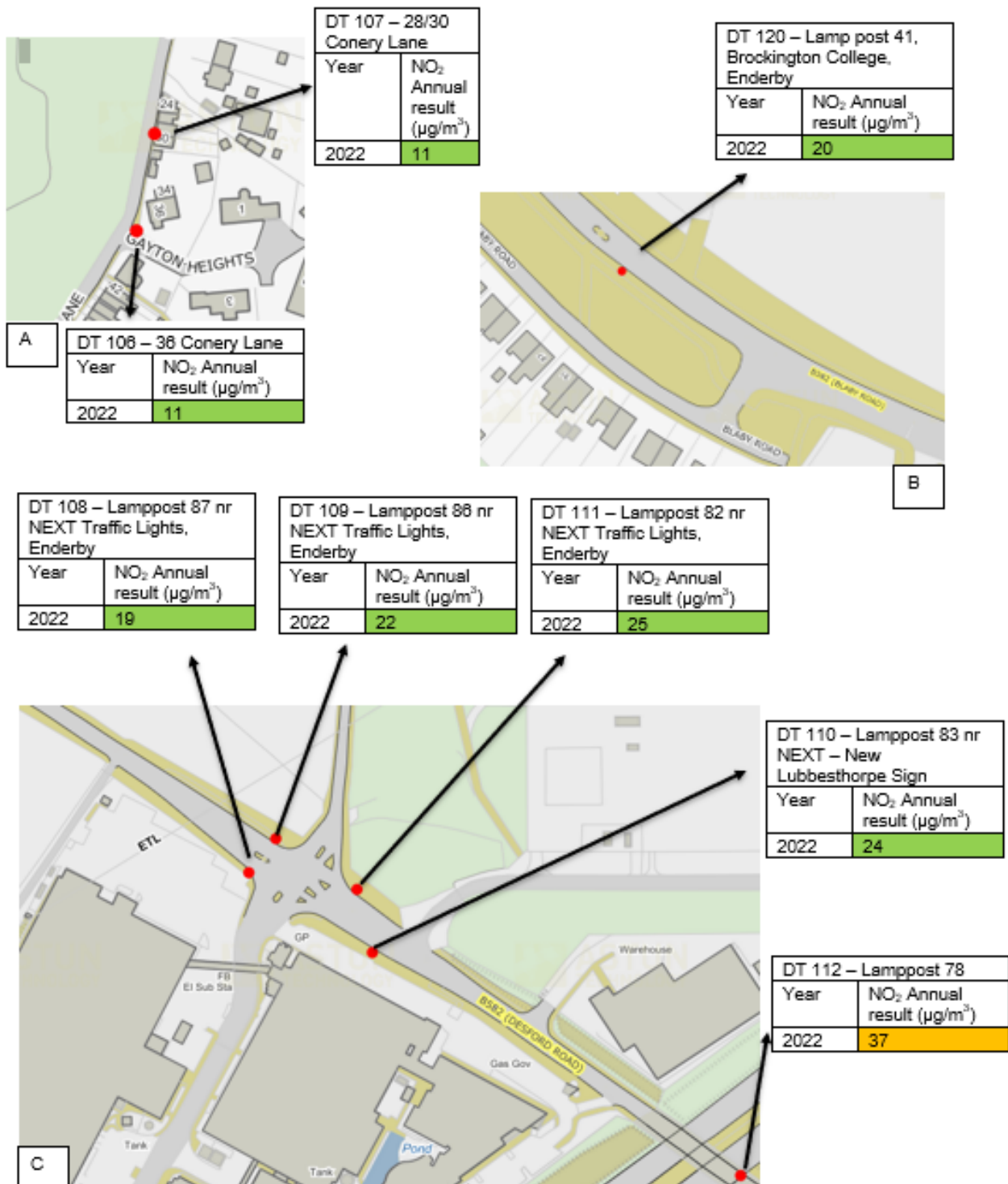
**Figure 5a:** Map showing the locations and results of diffusion tubes and continuous monitoring stations in AQMA 6, along Mill Hill in Enderby. AQMA boundary represented by blue outline. Results have been rounded to nearest whole number. \* represents a result that has been annualised and/or distance corrected. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.



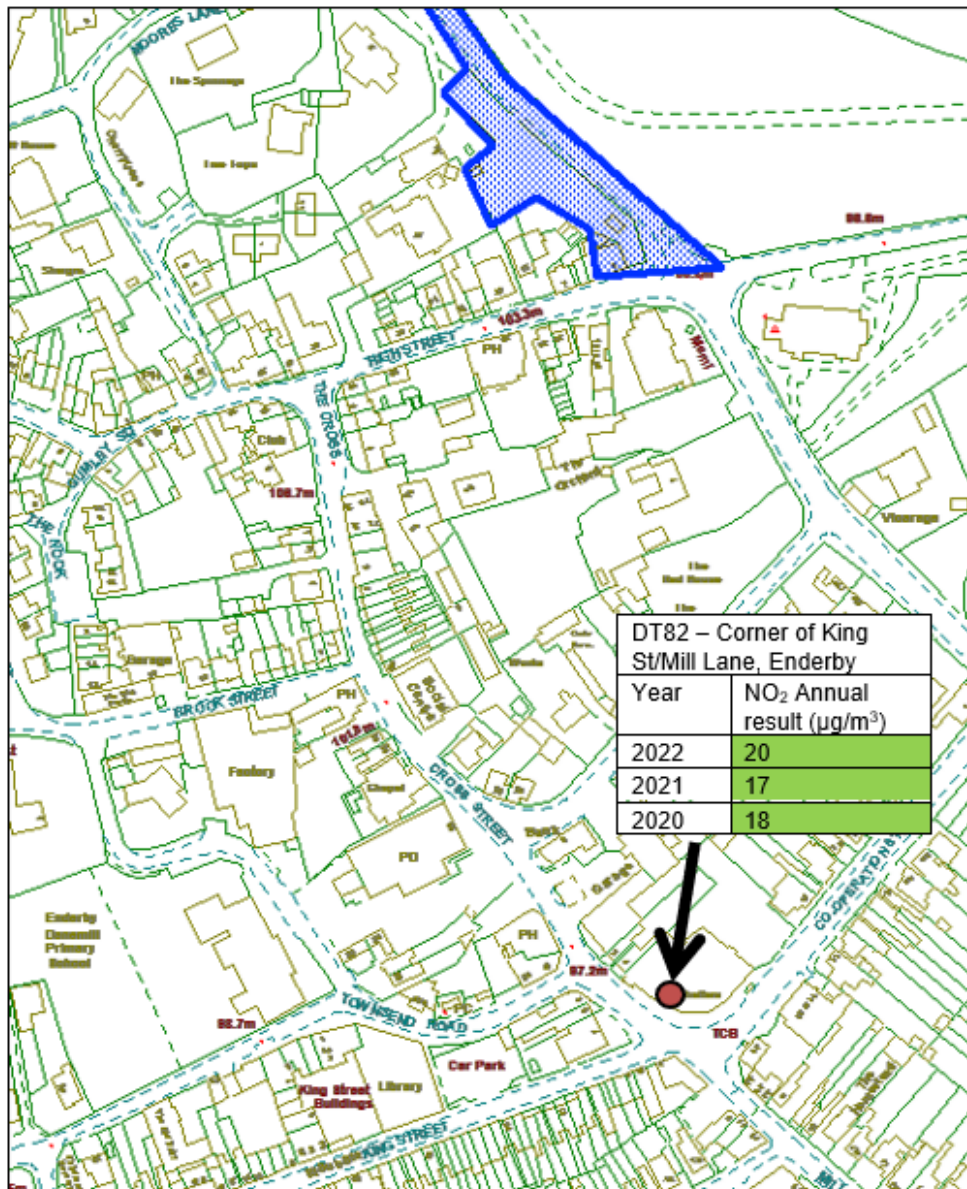
**Figure 5b, c and d:** Map showing the locations and results of diffusion tubes and continuous monitoring stations in AQMA 6, along Mill Hill in Enderby. AQMA boundary represented by blue outline. Results have been rounded to nearest whole number. \* represents a result that has been annualised and/or distance corrected. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.



## Enderby (out of AQMA)



**Figure 6a, b and c:** Map showing the locations and results of diffusion tubes and continuous monitoring stations in AQMA 6, along Mill Hill in Enderby. AQMA boundary represented by blue outline. Results have been rounded to nearest whole number. \* represents a result that has been annualised and/or distance corrected. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

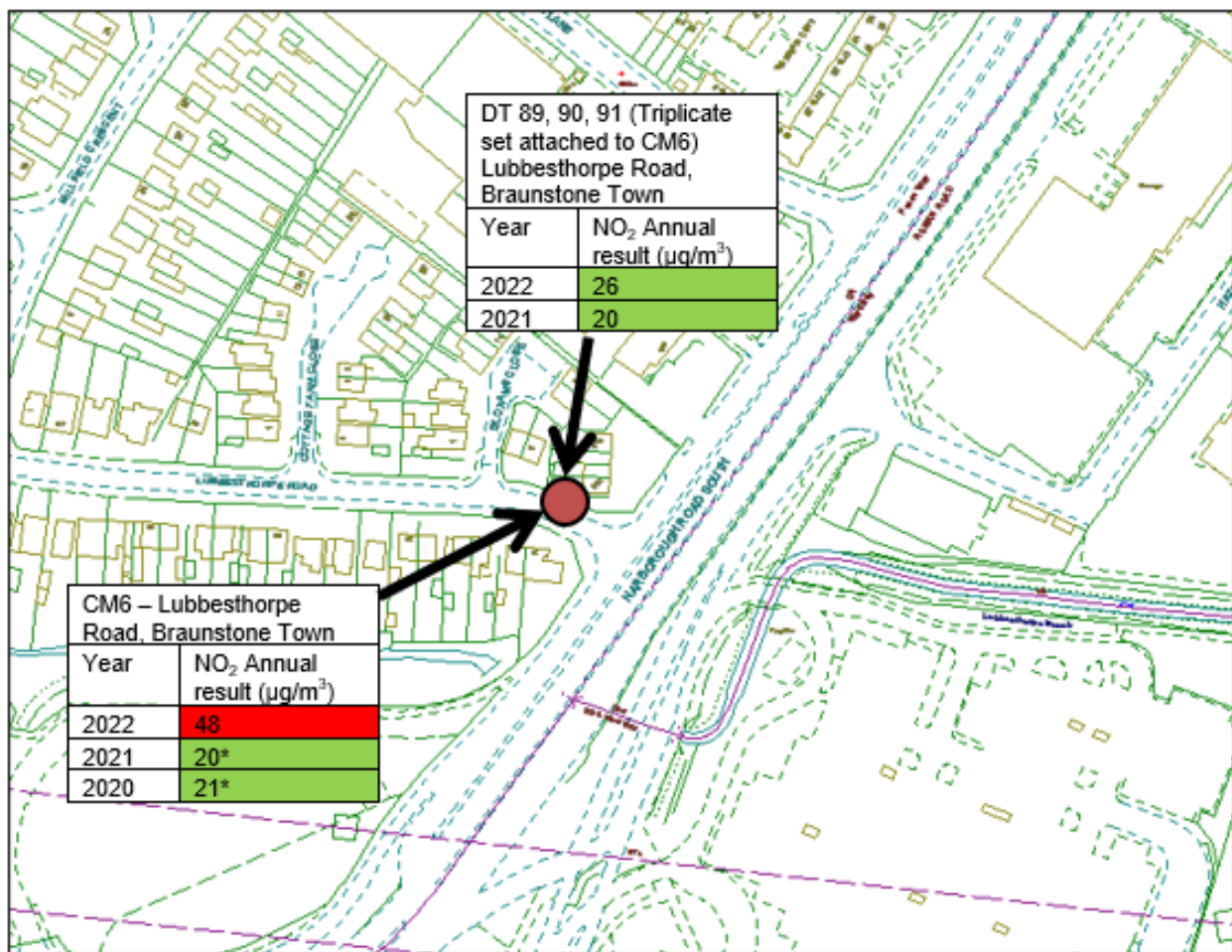


**Figure 6d:** Map showing the locations and results of diffusion tubes in Enderby village. AQMA 6 boundary is visible to the north. Results have been rounded to nearest whole number. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

NO<sub>2</sub> concentrations in outside the AQMA show a range of concentrations however remain below the national air quality objective for this pollutant. Figures 6a, b and c illustrate tubes introduced in 2022. Monitoring locations in Figure 6c are not in proximity to any receptors but rather to inform a wider understanding of concentrations within the area. Results in Enderby village (figure 6d) remain low and below the objective level.



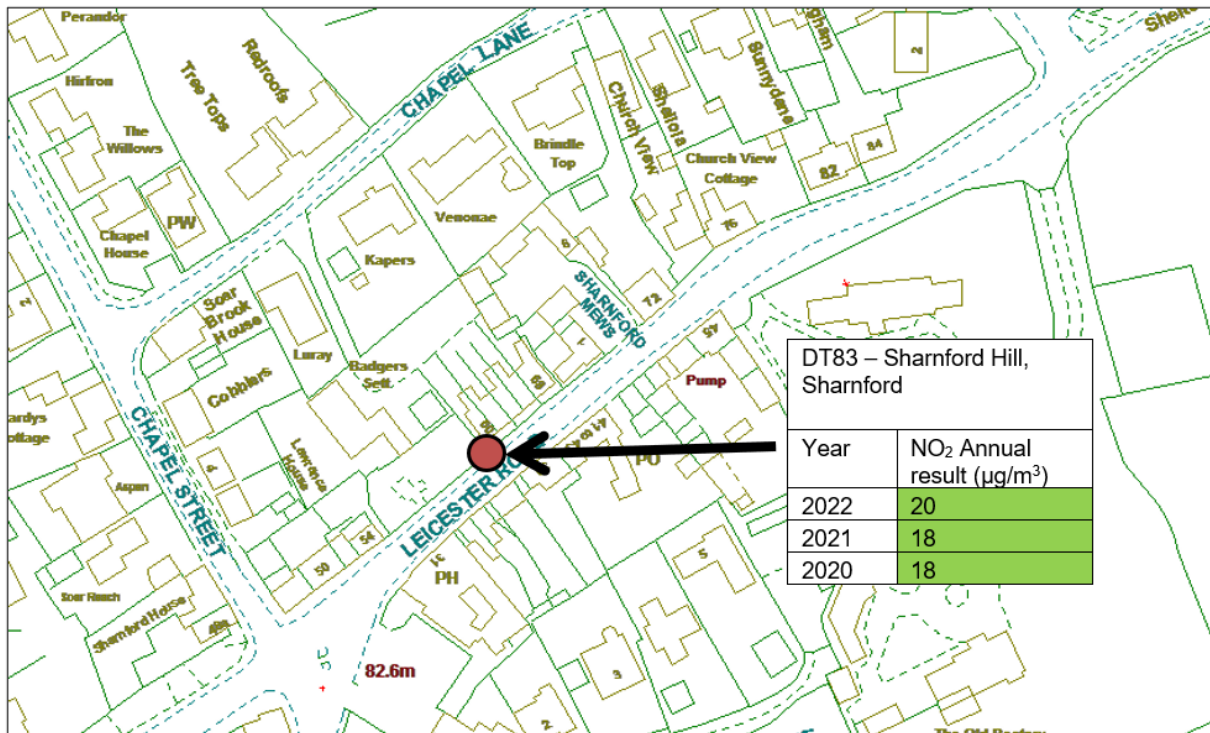
## Lubbesthorpe Road, Braunstone Town



**Figure 7:** Map showing the location of a continuous monitoring station and triplicate set of diffusion tubes in Braunstone Town. Fosse Park is visible to the south. Results have been rounded to nearest whole number and annualised. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights

This image represents the monitoring station (CM6) and accompanying triplicate set of diffusion tubes. Concentrations of NO<sub>2</sub> at CM6 have shown an increase in comparison to 2021, however without the requirement for annualisation. This exceedance will be investigated further and an AQMA will be declared. The triplicate set has also shown a small increase in concentrations however has not exceeded the national objective. Data was used from the triplicate set to calculate a local bias correction factor and is detailed further in the QA/QC section.

## Sharnford Hill, Sharnford



**Figure 8:** Map showing the locations and results of diffusion tubes in Sharnford. Results have been rounded to nearest whole number. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

NO<sub>2</sub> concentrations in Sharnford have shown little change and again remain below the national air quality objective.

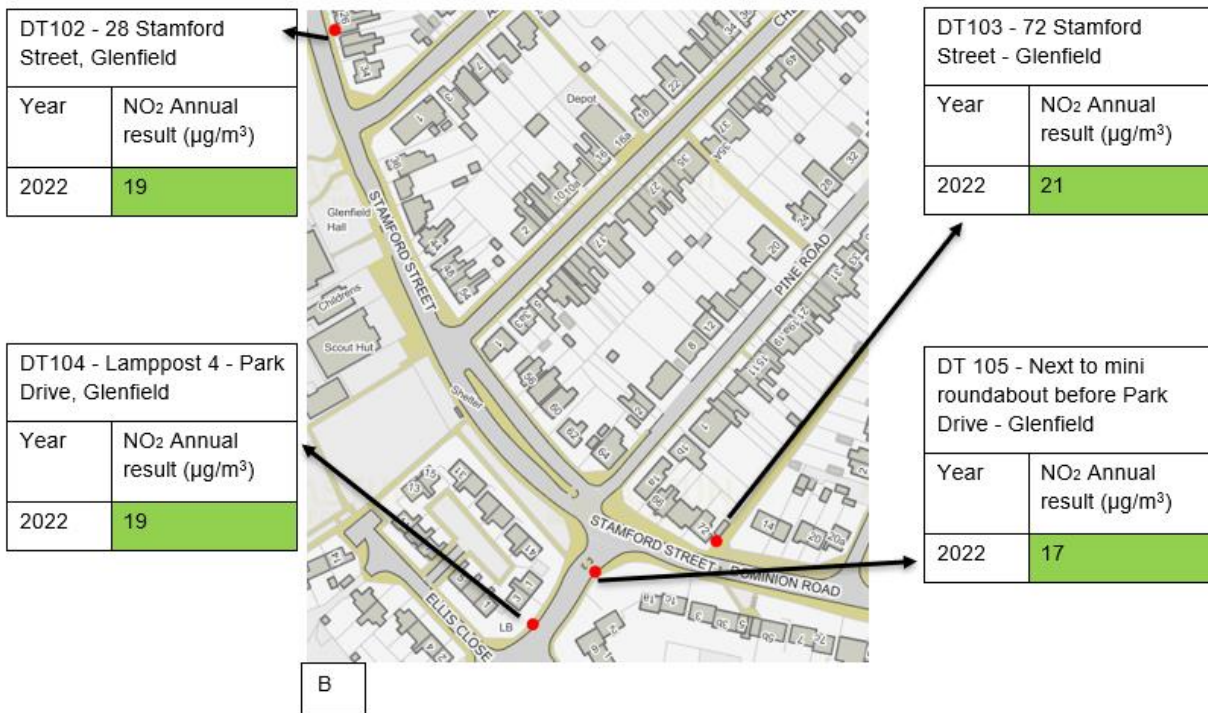
## Glenfield Village

DT95 – 5 Main Street, Glenfield		DT85 – 14 The Square, Glenfield		DT84 – Outside Glenfield Travel	
Year	NO <sub>2</sub> Annual result (µg/m <sup>3</sup> )	Year	NO <sub>2</sub> Annual result (µg/m <sup>3</sup> )	Year	NO <sub>2</sub> Annual result (µg/m <sup>3</sup> )
2022	20	2022	15	2022	28
2021	16	2021	14	2021	22
		2020	13	2020	21



A

DT65 – 11 Stamford Street, Glenfield		DT94 – 19 Stamford Street, Glenfield		CM7 – Blaby 3	
Year	NO <sub>2</sub> Annual result (µg/m <sup>3</sup> )	Year	NO <sub>2</sub> Annual result (µg/m <sup>3</sup> )	Year	NO <sub>2</sub> Annual result (µg/m <sup>3</sup> )
2022	31	2022	19	2022	19
2021	26	2021	15	2021	20
2020	26			2020	21* (6 months)
2019	33				
2018	42				

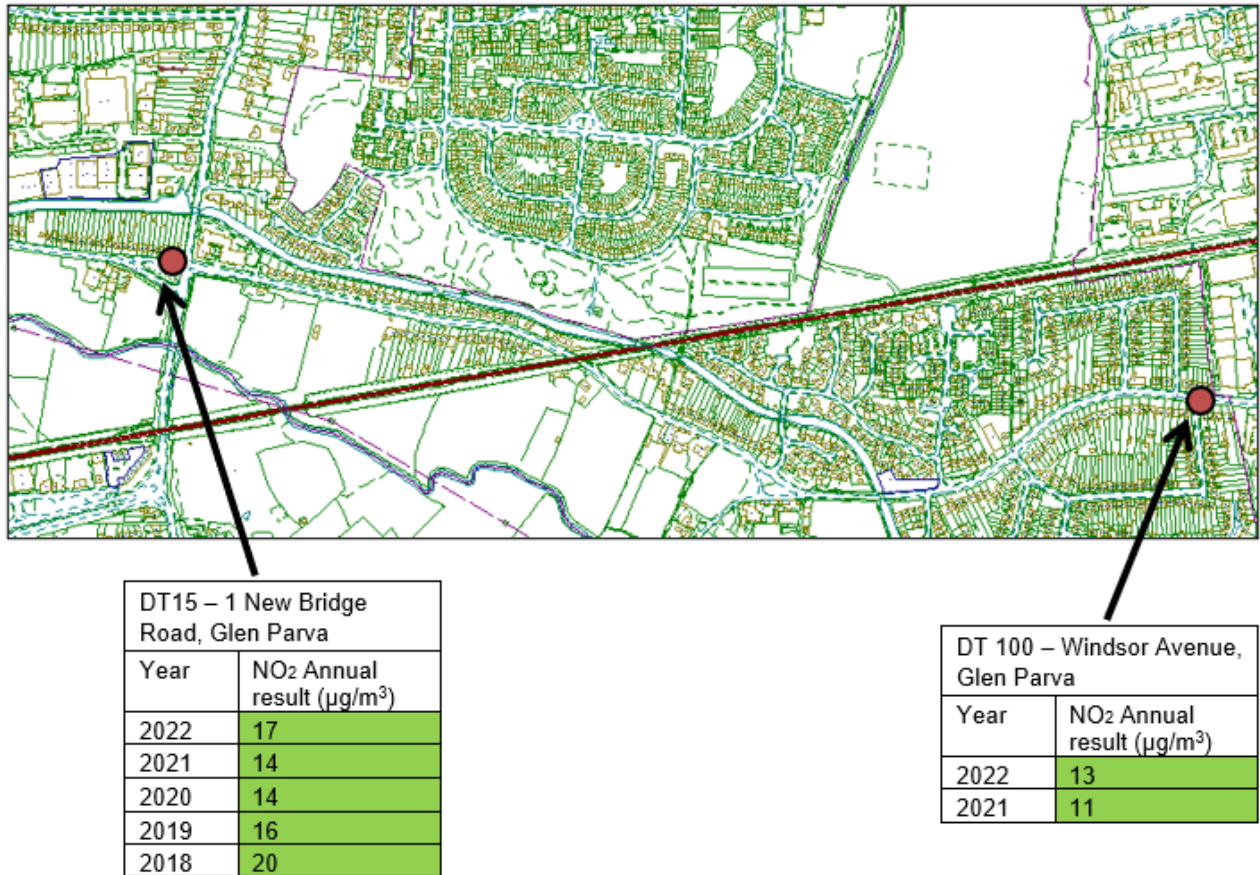


**Figure 9a and 9b:** Map showing the locations and results of diffusion tubes and continuous monitoring stations in Glenfield. Note the result for CM7 in 2020 is based on 6 months of data only. Results have been rounded to nearest whole number. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

CM7 was relocated here in 2020 and produced a similar annual figure in 2021 and 2022. Four additional DTs were installed in 2022 as part of the countdown to clean air project to assess any extent of NO<sub>2</sub> emissions. All monitoring results are below national air quality objectives.



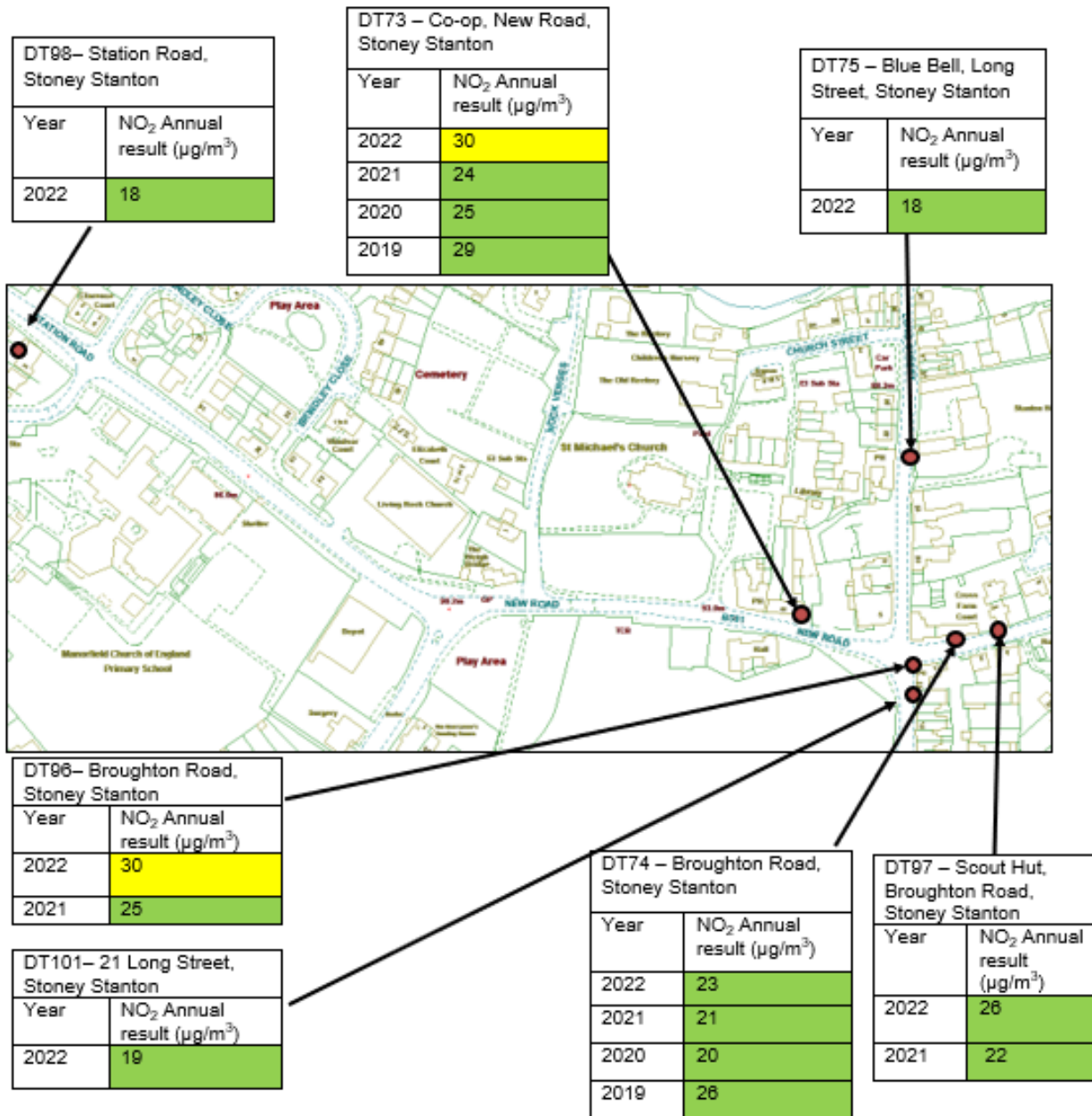
## New Bridge Road and Windsor Avenue, Glen Parva



**Figure 10:** Map showing the locations and results of diffusion tubes in Glen Parva. Results have been rounded to nearest whole number. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

Monitoring in Glen Parva continues to produce concentrations well below national air quality objectives and consistent with the previous years. DT100 was introduced on Windsor Avenue to provide some baseline and to assess any impact of the Fosse Way HMP development. Initial results here suggest concentrations around background level and monitoring will continue.

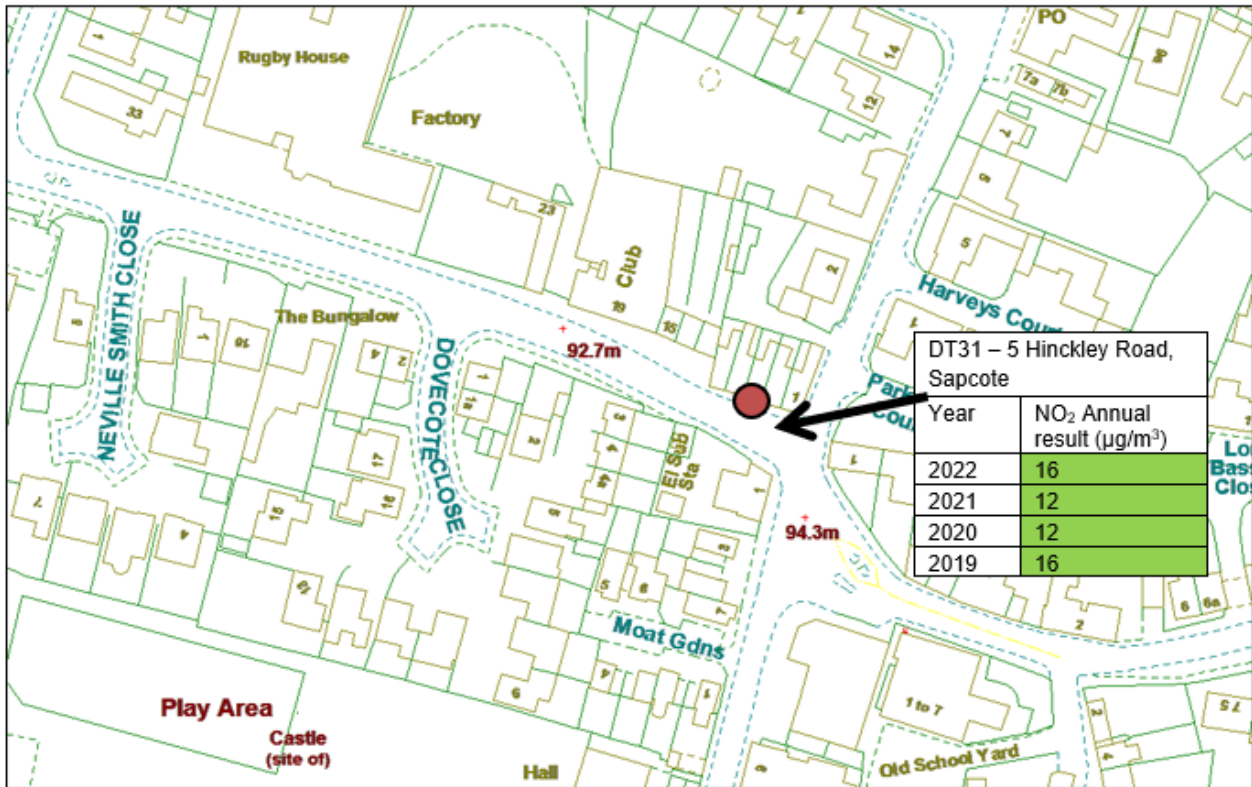
## Stoney Stanton Village



**Figure 11:** Map showing the locations and results of diffusion tubes in Stoney Stanton. Results have been rounded to nearest whole number. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

Stoney Stanton is another area of interest for the Council, with particular emphasis on the mini roundabout in the village centre. The addition of three DTs here represents an increase in monitoring to assess the extent of any NO<sub>2</sub> emissions. All monitoring points report concentrations well below national air quality objectives in the monitoring year, Monitoring will continue to assess the extent of levels.

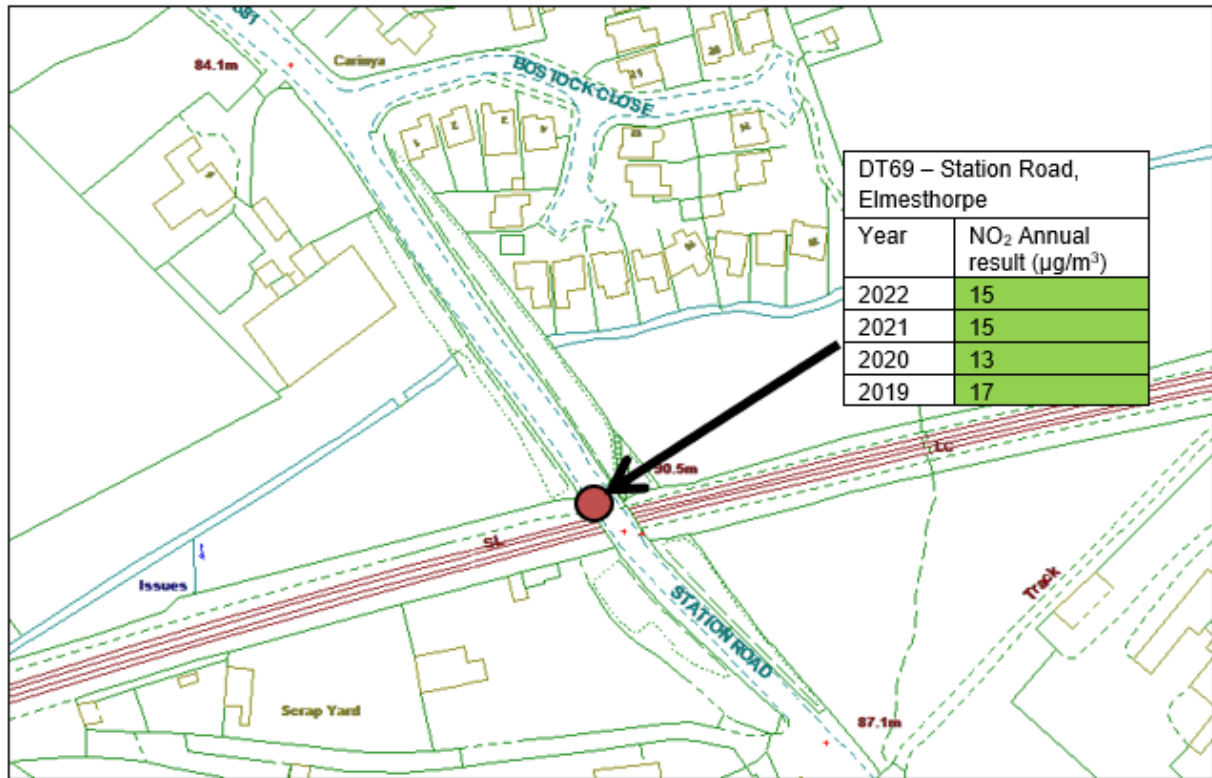
## Sapcote Village



**Figure 12:** Map showing the locations and results of diffusion tubes in Sapcote. Results have been rounded to nearest whole number. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

Monitoring in Sapcote has reported very low concentrations of NO<sub>2</sub>. Monitoring was reduced within this area owed to the consistent low levels. The current monitoring will be important in assessment of the proposed Hincley National Rail Freight Interchange development.

## Elmesthorpe Railway Bridge



**Figure 13:** Map showing the locations and results of diffusion tubes near Elmesthorpe. Results have been rounded to nearest whole number. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

Concentrations at the railway bridge reported no increase to 2021 and remains below levels seen in previous years. This tube will again be important with regards to assessment of the Hinckley National Rail Freight Interchange, with emphasis on railway emissions and monitoring will continue to obtain background readings.



## Thorpe Astley

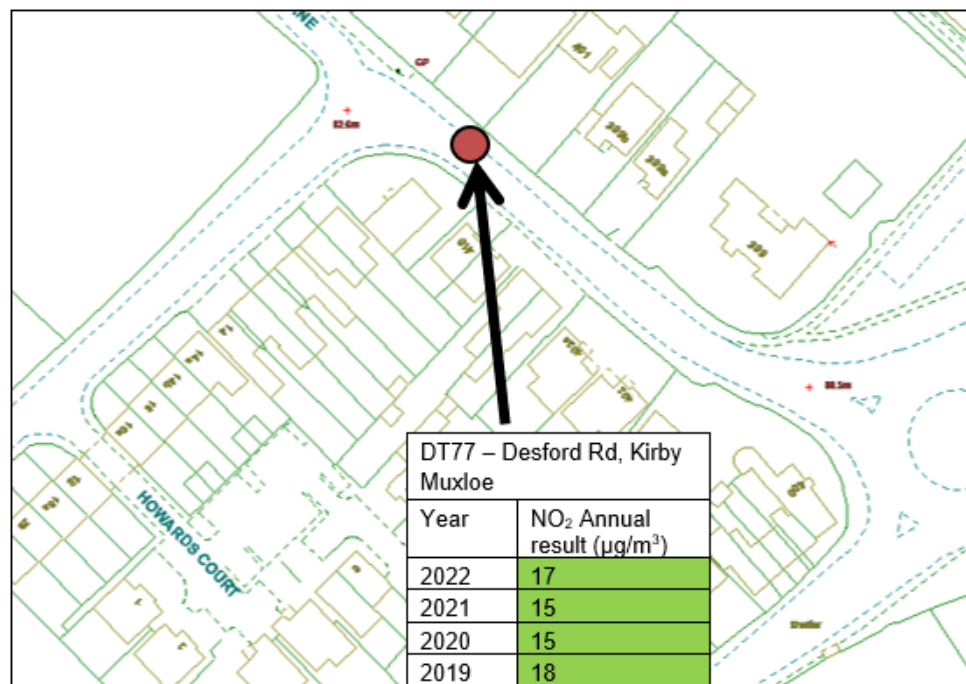


DT99– 5 Murby Way, Thorpe Astley	
Year	NO <sub>2</sub> Annual result (µg/m <sup>3</sup> )
2022	19
2021	18

**Figures 14:** Maps showing the locations and results of diffusion tubes in Thorpe Astley. Results have been rounded to nearest whole number. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

All monitoring points in Thorpe Astley report low NO<sub>2</sub> concentrations below national air quality objectives. Monitoring was also reduced within this area due to the low consistent levels, with monitoring remaining at DT99.

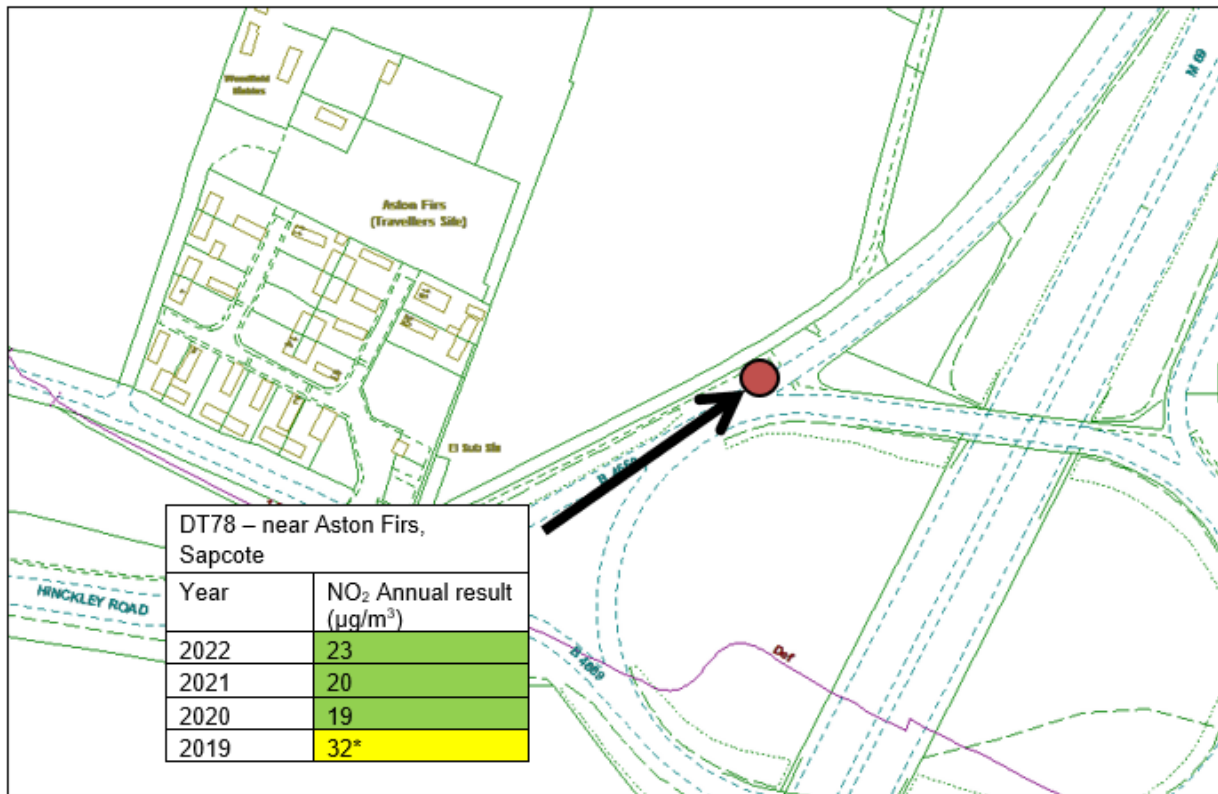
## Desford Road, Kirby Muxloe



**Figure 15:** Map showing the locations and results of diffusion tubes along Desford Road in Kirby Muxloe. Results have been rounded to nearest whole number. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

Desford Road monitoring has continued in 2022 due to local development and reports concentrations well below national air quality objectives. It is likely that monitoring will continue here due to the commencement of a development nearby.

## Aston Firs, near Sapcote

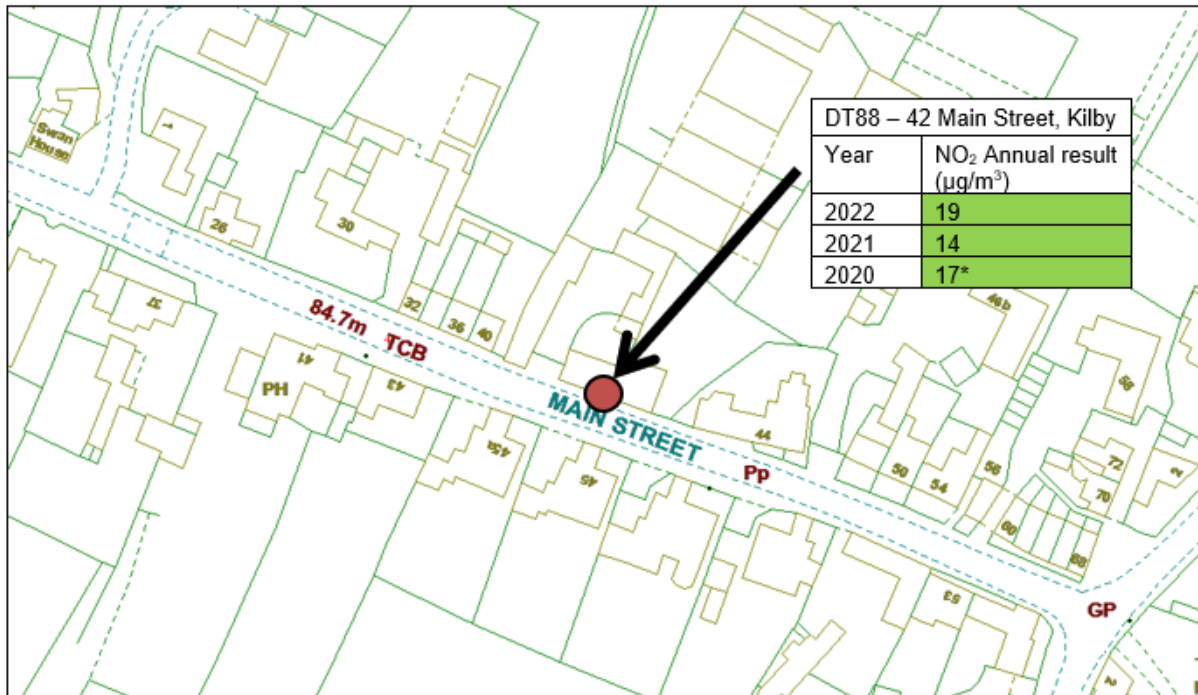


**Figure 16:** Map showing the locations and results of diffusion tubes near Aston Firs in Sapcote. The M69 can be seen to the east. Results have been rounded to nearest whole number. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

Monitoring near Aston Firs caravan site reported low concentrations of NO<sub>2</sub> in 2022, below national air quality objectives. This DT will be important in assessment of the proposed Hinckley National Rail Freight Interchange development due to its close proximity to the proposed site and M69 junction improvements. Previous years data have provided a good baseline for associated air quality assessments.



## Main Street, Kilby

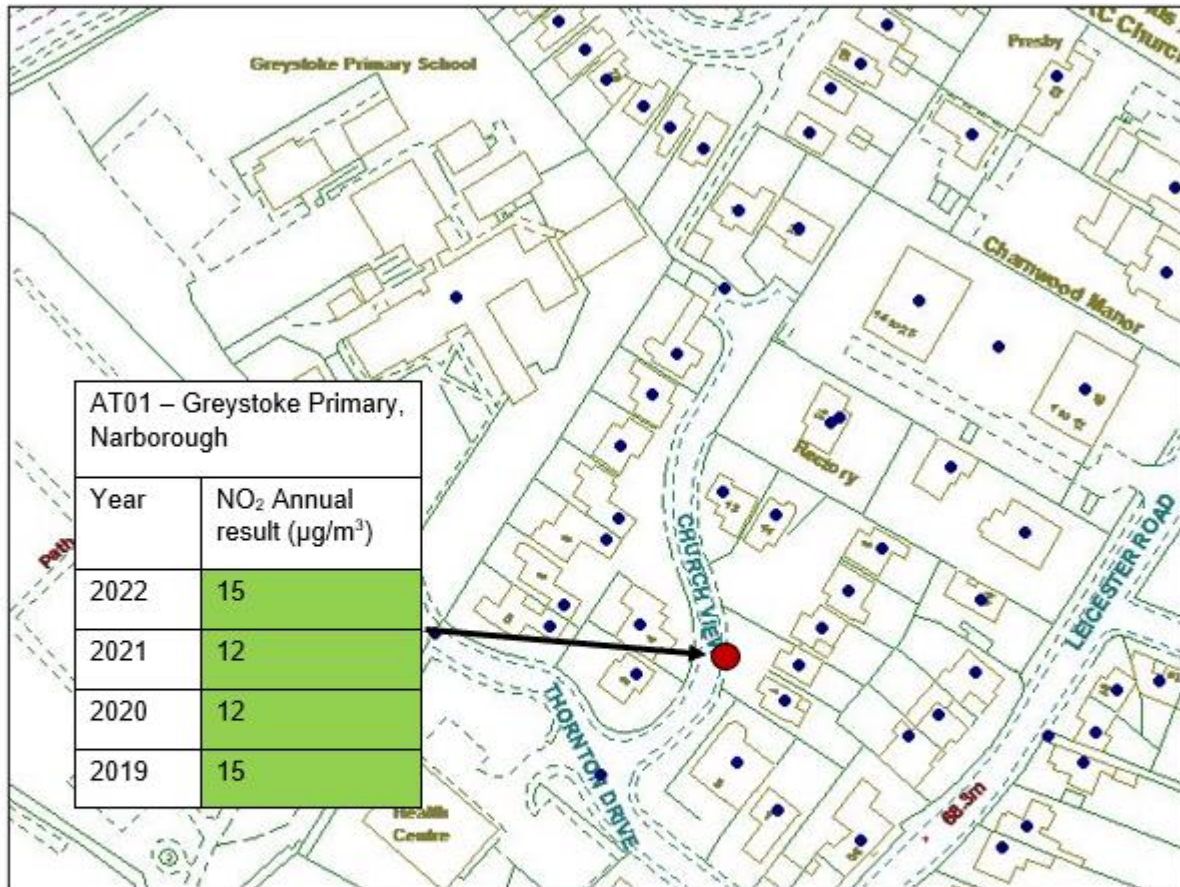


**Figure 17:** Map showing the locations and results of diffusion tubes in Kilby. Results have been rounded to nearest whole number. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

Monitoring in Kilby continued in 2022 and levels remain below the national air quality objective for the pollutant. Monitoring will continue to inform initial concerns.

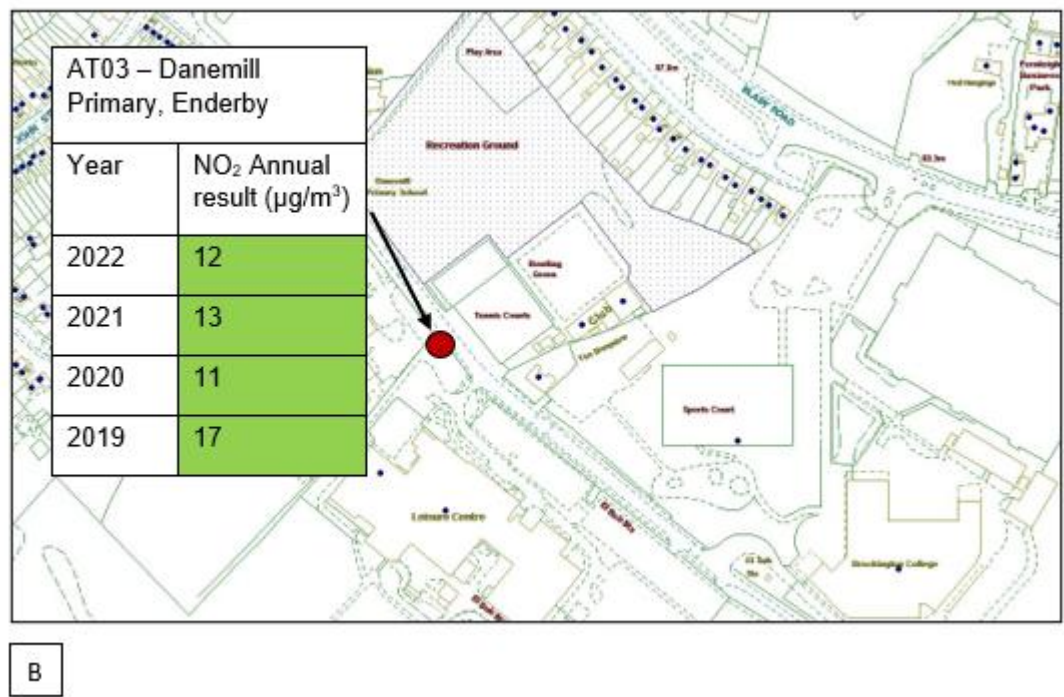
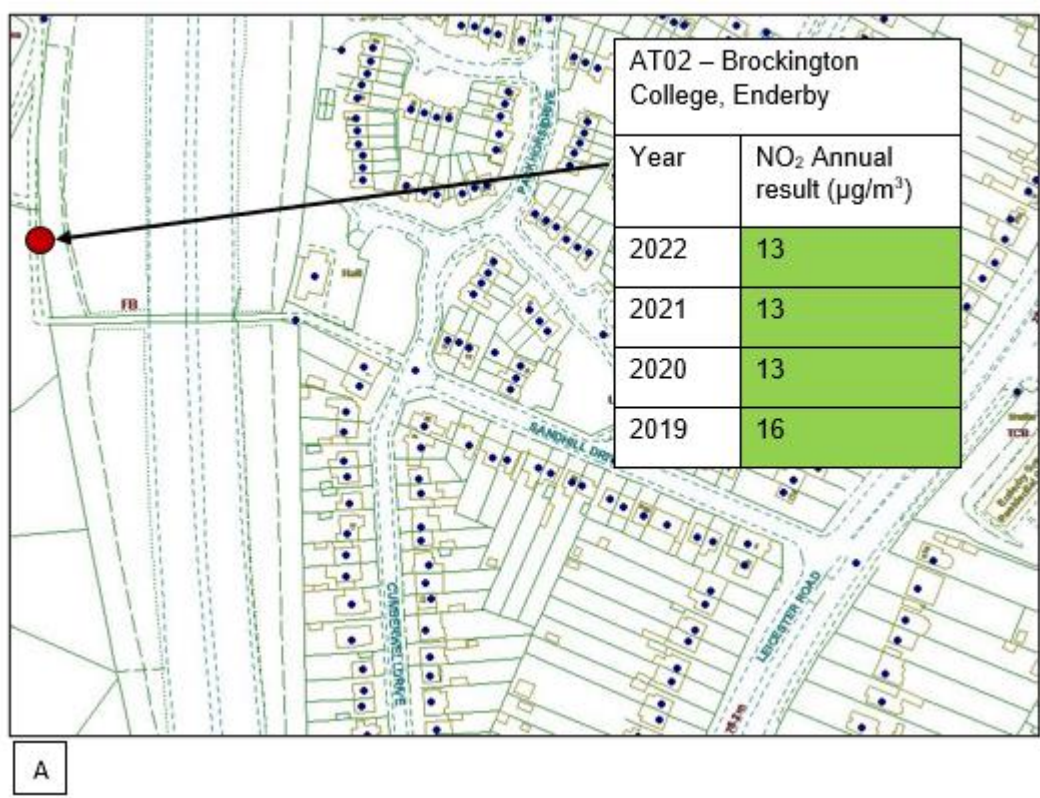
## Active Travel Tubes:

### Narborough:

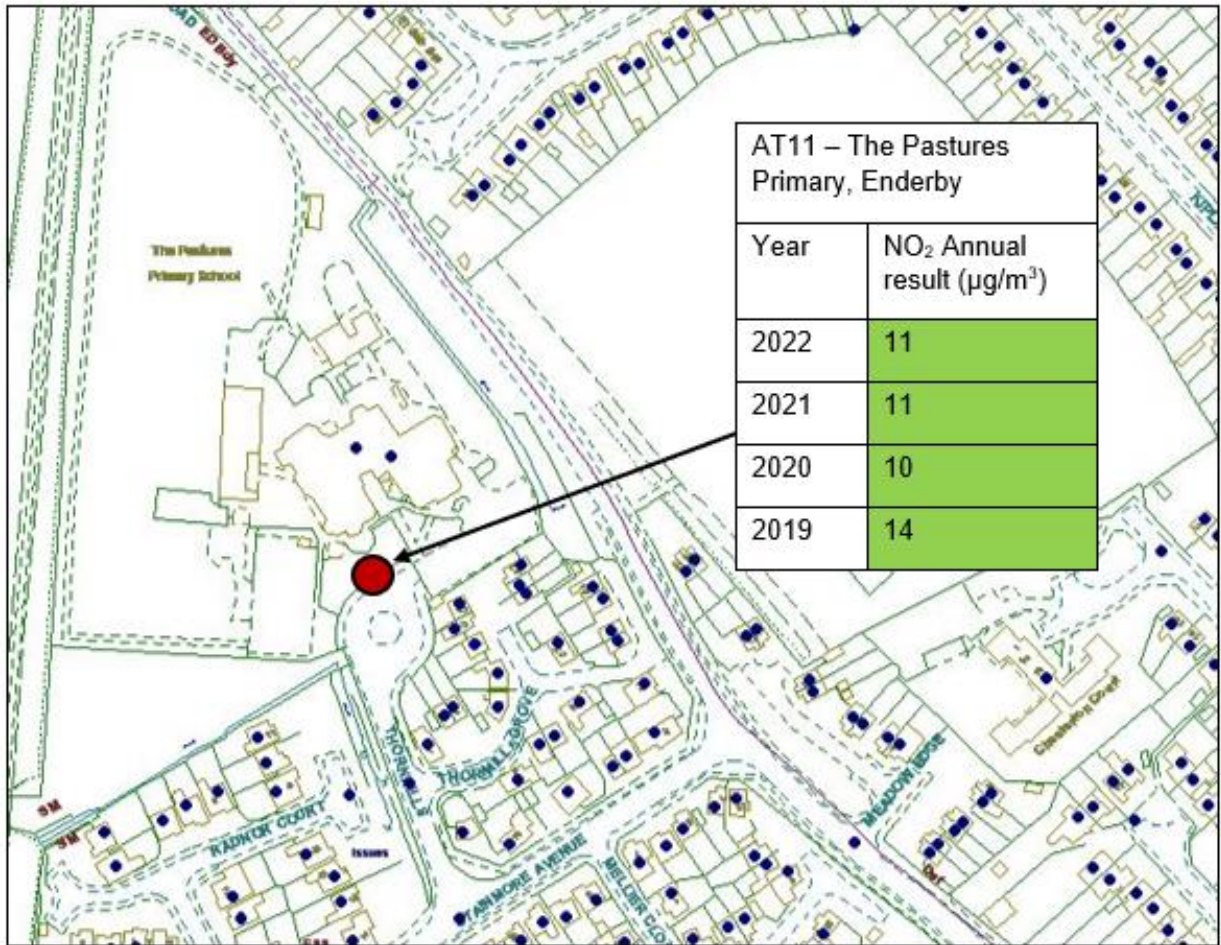


**Figure 1:** Map showing the locations and results of active travel (AT) diffusion tubes in Narborough, including a nearby primary school. Results have been rounded to nearest whole number. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

Enderby:



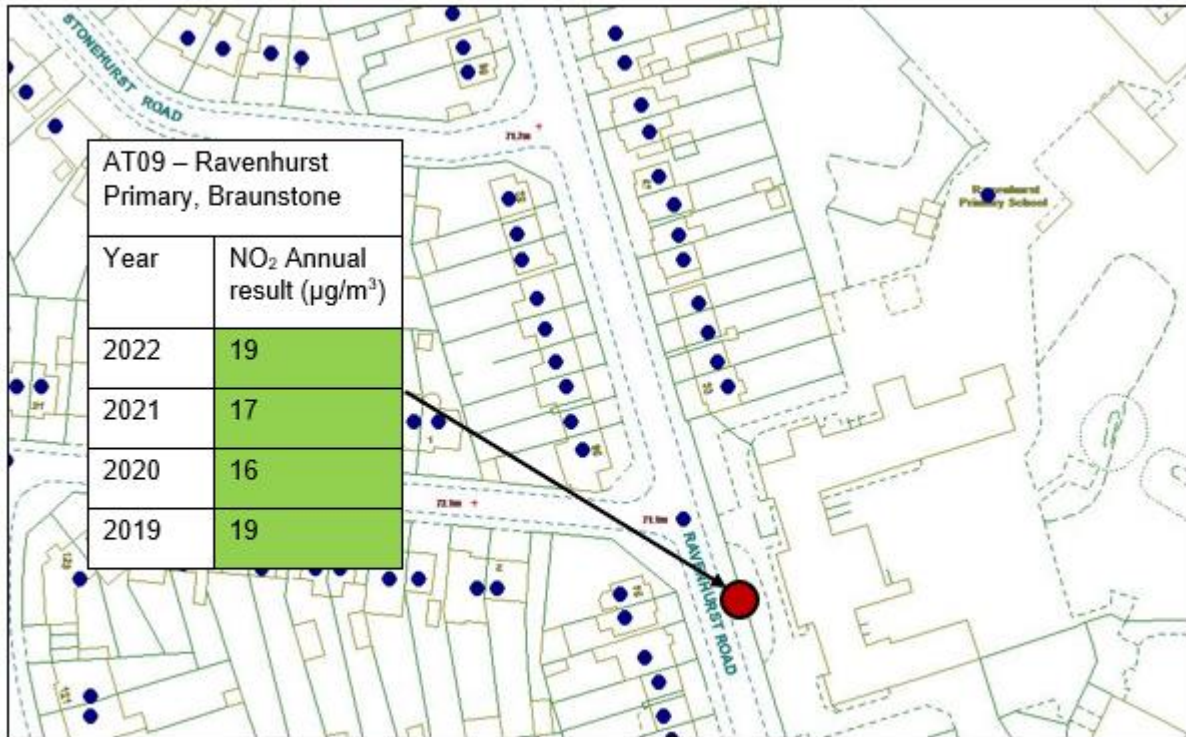




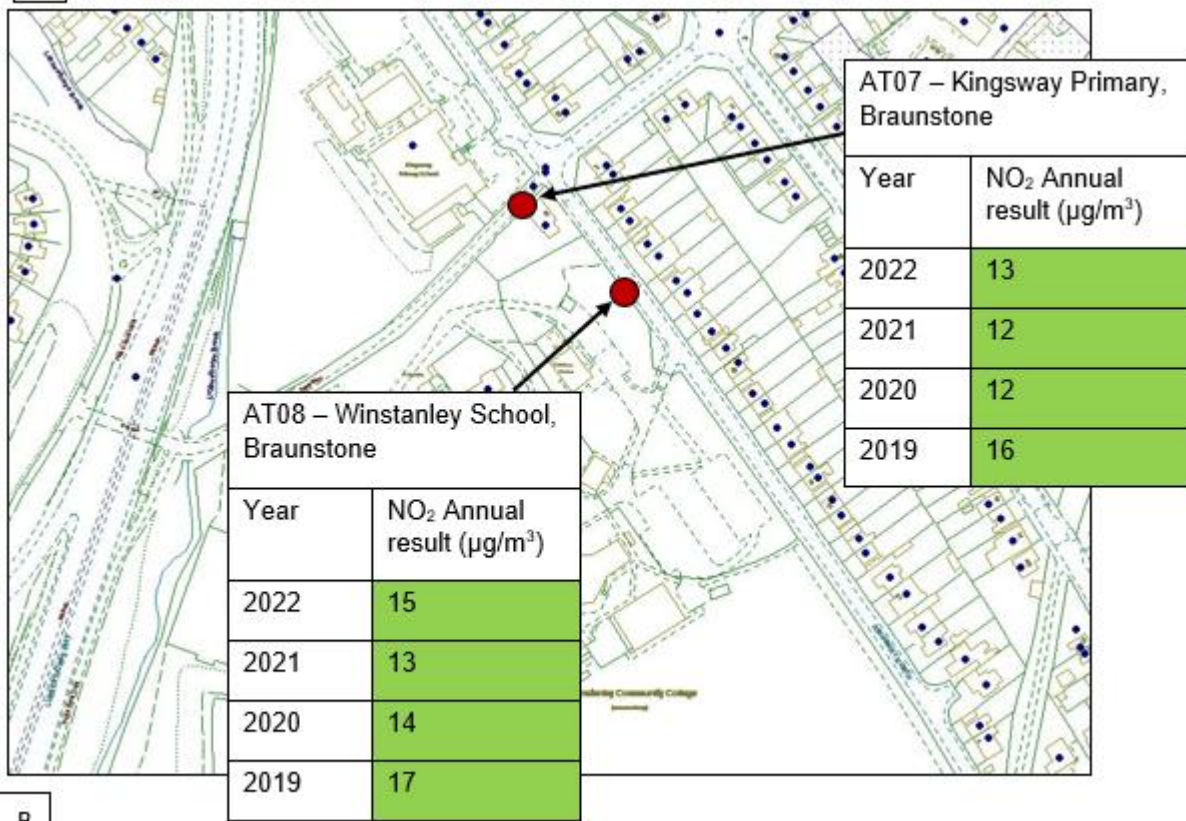
C

**Figure 2a, b and c:** Maps showing the locations and results of active travel (AT) diffusion tubes in Enderby, including nearby college (top) and primary schools (middle, bottom). Results have been rounded to nearest whole number. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

Braunstone Town:

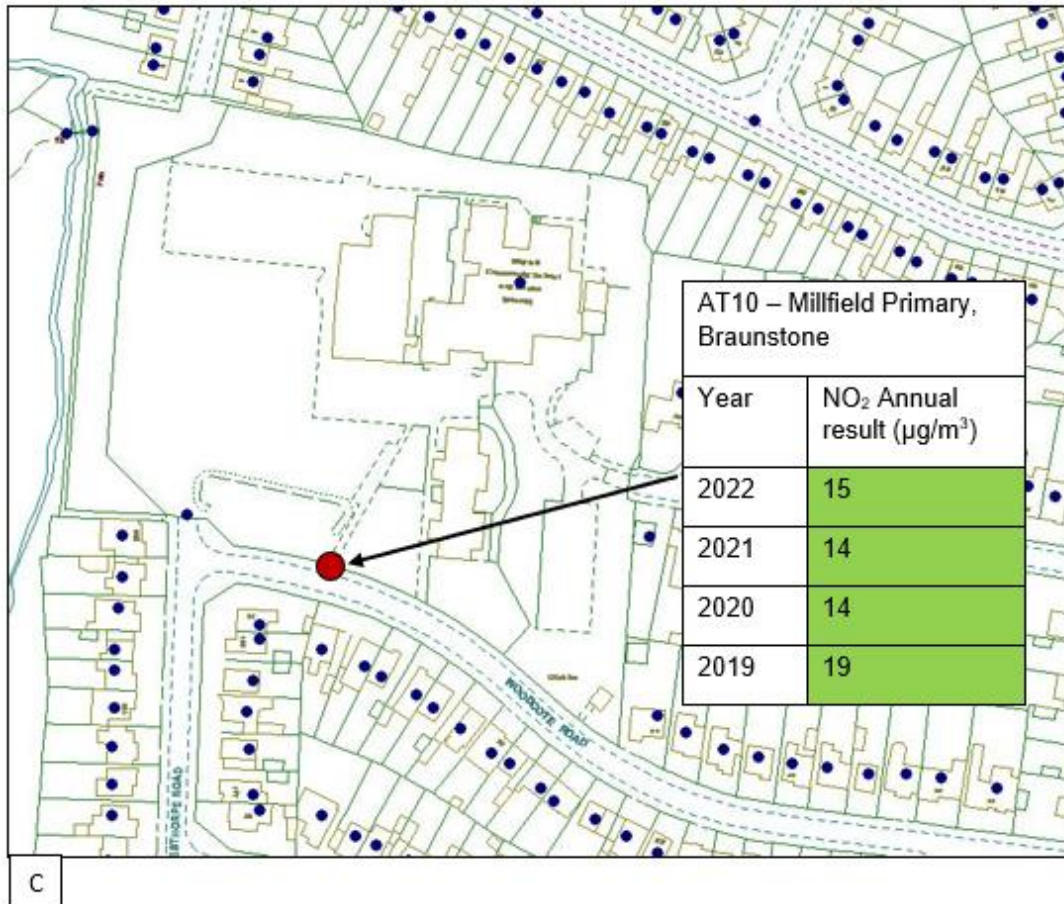


A



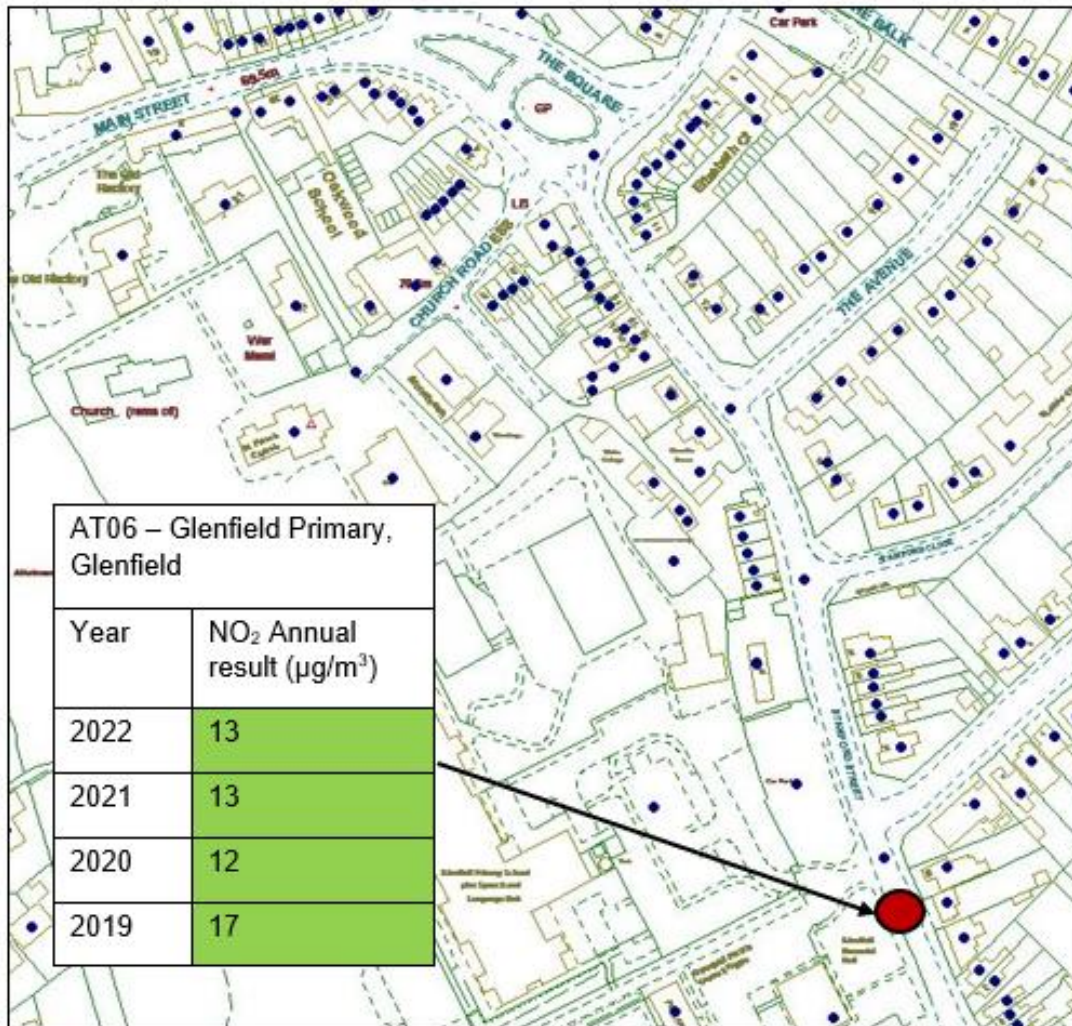
B





**Figure 3a, b and c:** Maps showing the locations and results of active travel (AT) diffusion tubes in Braunstone Town, including nearby primary and secondary schools. Results have been rounded to nearest whole number. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

## Glenfield:



**Figure 4:** Map showing the location and results of active travel (AT) diffusion tubes in Glenfield, including a nearby primary school. Results have been rounded to nearest whole number. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

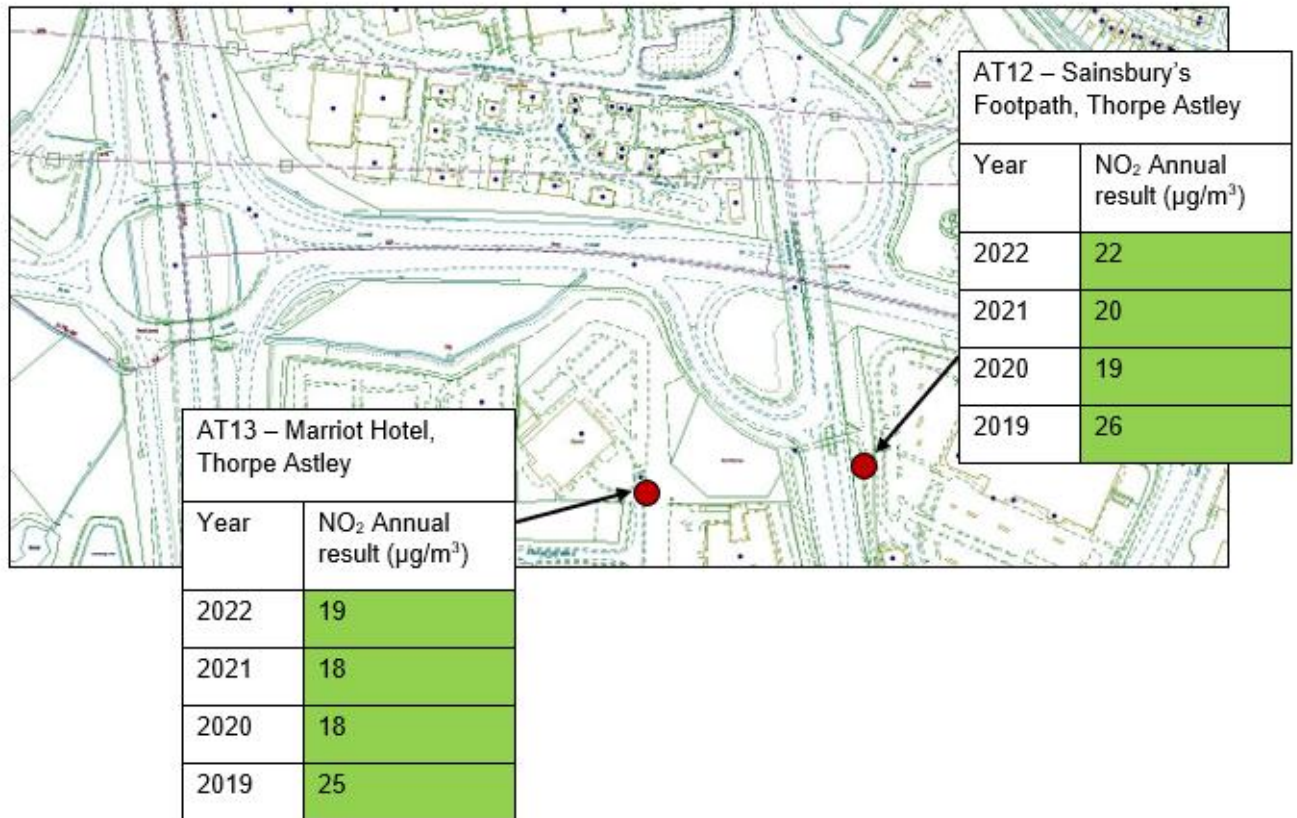


**Leicester Forest East:**



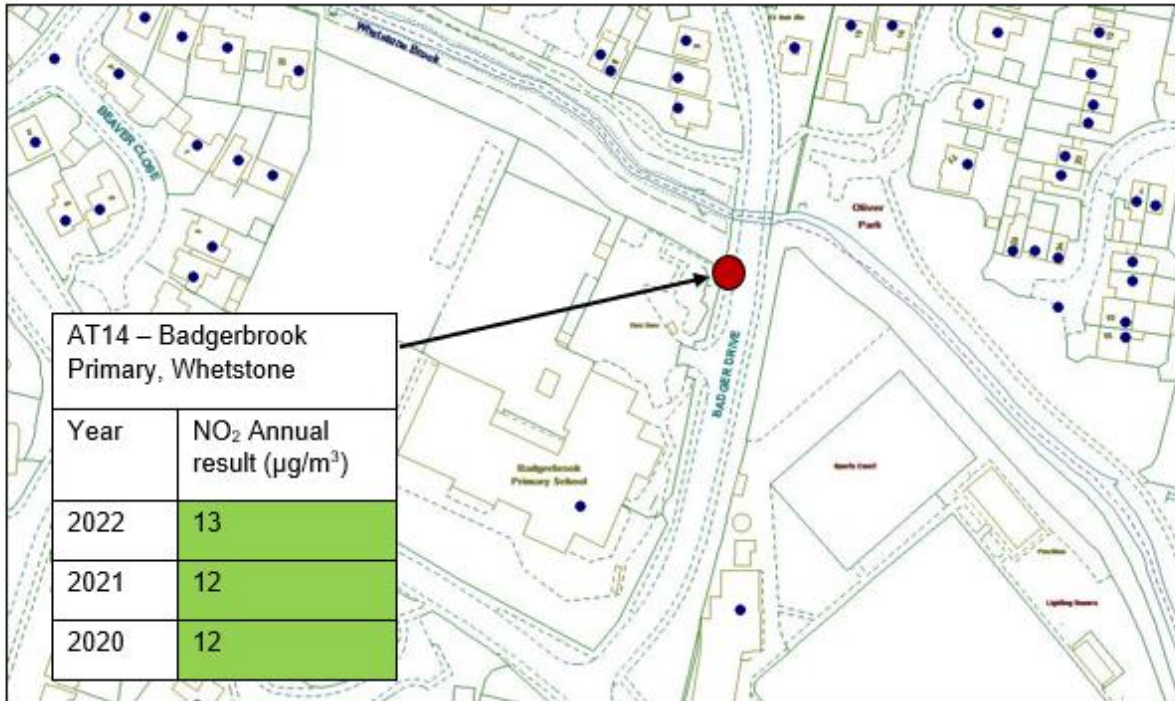
**Figure 5:** Map showing the locations and results of active travel (AT) diffusion tubes in Leicester Forest East, including nearby primary schools. Results have been rounded to nearest whole number. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

## Thorpe Astley:



**Figure 6:** Map showing the locations and results of active travel (AT) diffusion tubes in Thorpe Astley, including a hotel and a footpath used by local workers. Results have been rounded to nearest whole number. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.

**Whetstone:**



**Figure 7:** Map showing the location and results of active travel (AT) diffusion tubes in Whetstone, including a nearby primary school. Results have been rounded to nearest whole number. 40 µg/m<sup>3</sup> is the national air quality objective for this pollutant. © Crown copyright. All rights reserved.



## Appendix E: Summary of Air Quality Objectives in England

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

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

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

## Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
AURN	Automatic Urban and Rural Network
BDC	Blaby District Council
CDTCA	Count Down To Clean Air
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
DT	Diffusion Tube
DTDPT	Diffusion Tube Data Processing Tool
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
LSO	Local Site Operator
NAQO	National Air Quality Objective
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
PM	Particulate Matter
PM <sub>10</sub>	Airborne particulate matter with an aerodynamic diameter of 10µm or less
PM <sub>2.5</sub>	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO <sub>2</sub>	Sulphur Dioxide

## 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.