Oadby & Wigston
BOROUGH COUNCIL

2024 Air Quality Annual Status Report (ASR)

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

Date: 28 June 2024

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Executive Summary: Air Quality in Our Area

Air Quality in Oadby and Wigston Borough

Breathing in polluted air affects our health and costs the NHS and our society billions of pounds each year. Air pollution is recognised as a contributing factor in the onset of heart disease and cancer and can cause a range of health impacts, including effects on lung function, exacerbation of asthma, increases in hospital admissions and mortality. In the UK, it is estimated that the reduction in healthy life expectancy caused by air pollution is equivalent to 29,000 to 43,000 deaths a year[1].

Air pollution particularly affects the most vulnerable in society, children, the elderly, and those with existing heart and lung conditions. Additionally, people living in less affluent areas are most exposed to dangerous levels of air pollution[2].

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

Table ES 1 - Description of Key Pollutants

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

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

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

Oadby & Wigston Borough is situated within the County of Leicestershire and both the City and County place controls on transport and main transport routes through the area. This is having a positive effect on local air pollution and collaborative work benefits our residents. The main pollutants of concern are those associated with traffic, with several arterial routes in the borough heading towards Leicester City.

Joined up policies are particularly important for the transport sector, which is by far the most common cause for the declaration of air quality management areas and is the only sector where carbon dioxide emissions continue to increase.

The summary of transport options taken forward into the Leicester City 2021 - 2036 Local Transport Plan and the Leicestershire County Council 2011/2026 LTP3 Strategy represented a number of realistic, medium range measures. These are focused on improving public transport services, encouraging and promoting active travel, use of zero emission vehicles, and managing demand for travel by car, having the effect of reducing the potential pollution from vehicle emissions crossing into the borough.

The trend for 2023 showed all areas monitored were below the Air Quality Objectives Limits (AQOs). The two areas where NO_2 concentrations were highest were Blaby Road, Wigston (CS – 27299), and Canal St (DT16) which is located on a busy road. Overall, NO_2 levels are still generally below 2019 levels. There was an increase following the pandemic in 2021 and this has been followed by a reduction since.

Of note were comments about bonfire night and the increase in particulates noted during that time, particularly PM_{10}. The peaks were too brief to exceed the daily mean limit.

Oadby and Wigston Borough Council are continuing to work with many other partners and agencies across the area. Examples are schools and academies, public health, school sports partnerships, the highway authority, other local authorities (through the Air Quality and Health Partnership meetings), medical practitioners which includes the Leicester, Leicestershire and Rutland Children and Young People Respiratory Working Group (which is aimed at improving health outcomes for children who suffer with wheeze and asthma and other respiratory diseases).

The Council promote the key messages on Clean Air Day about active travel and encourage residents, visitors and businesses to be aware of the impact they make.

The emerging Leicestershire Health Needs Assessment, Air Quality and Health document is being developed by Public Health at Leicestershire County Council with input from

Oadby and Wigston Borough Council and this will play an important future role in improving health and wellbeing outcomes for local people. This is scheduled for completion during 2024.

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[3] sets out actions that will drive continued improvements to air quality and to meet the new national interim and long-term targets for fine particulate matter ($PM_{2.5}$), the pollutant of most harm to human health. The Air Quality Strategy[4] provides more information on local authorities' responsibilities to work towards these new targets and reduce fine particulate matter in their areas.

The Road to Zero[5] details the Government's approach to reduce exhaust emissions from road transport through a number of mechanisms, in balance with the needs of the local community. This is extremely important given that cars are the most popular mode of personal travel and the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

In common with many other local authorities there is significant housing growth within the borough. There are currently no Air Quality Management Areas (AQMAs) and as such no additional resources have been allocated to this area of work. The Council continues to measure air quality using a network of 23 diffusion tubes across the borough. In addition, a chemiluminescent air quality monitoring station was installed at the junction of Canal Street and Blaby Road in 2022, near to diffusion tube DT16, which has consistently displayed high NO_2 concentrations. Consultation continues with our planning team where we provide pre-application advice and give a subjective view on the effect any

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

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

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

development may have on the AQOs. In the last few years, the Council have successfully obtained contributions from two large developments towards air quality monitoring.

The Leicestershire 2019 Air Quality and Health Joint Strategic Needs Assessment (JSNA) chapter contained a 'next steps' recommendation around the need for the development and co-ordination of interventions that improve local air quality for everyone, not just based around pollution hotspots and AQMAs. This approach was identified as giving potential for the greatest impact on improving health, as air quality can affect the health of our population throughout the life course at any age, and disproportionately affect the most vulnerable contributing to health inequalities.

The JSNA recommended a partnership approach to create improvements in how we understand air pollution, reduce our contribution to it, and mitigate against its risks to health. We have made significant progress in our partnership approach this year with our Public Health colleagues at the Leicestershire County Council working with schools, academies, and colleges along Blaby Road, South Wigston leading into Wigston. Analysing data from University Hospitals of Leicester NHS Trust, the Oadby and Wigston Borough Council area is one identified by Public Health colleagues as having a large number of children presenting to the emergency department for asthma and viral wheeze. Data shows there were 1,303 admissions per 100,000 of population, the highest across the county for the period 2017-20. The main route from South Wigston, leading into Wigston (Blaby Road) was targeted for intervention over 2023-24 with a multi-agency targeted approach with a local primary school, looking at interventions and additional monitoring. More information is included in Appendix F.

A representative from Oadby and Wigston Borough Council also regularly attends the Leicestershire Air Quality and Health Partnership and links with the Children and Young People Respiratory Working Group, chaired by the Integrated Care Board for LLR.

During 2023 two additional Zephyr air quality monitors were purchased and installed in our town centres. They are principally used to measure footfall but provide indicative measurements of air quality. For the few months they were set up during 2023, no exceedances of air quality objectives were recorded.

Conclusions and Priorities

The Council in its Local Plan 2019 -2031 adopted in April 2019 (New Local Plan Adopted Version 05-04-19.pdf (oadby-wigston.gov.uk) makes provision for an additional 2960 Homes to be developed between 2011 – 2031. The main areas for growth are towards the

southeast of Wigston, between Newton Lane and Welford Road, the north of Oadby along Gartree Road, and the southwest of Oadby, along the A6. Of the 2960 new homes set out within the Local Plan, at least 2000 are to be provided within the main areas of growth mentioned. Larger scale directions for growth developments are vitally important as they allow the Council to require infrastructure needed by local communities and the sustainability agenda, for example locating new homes close to facilities and places of work. Brownfield land development and re-development continues to remain a Council priority in terms of new homes provision, right across the Borough area.

The Council's Local Plan, Policy 5 'Health and Wellbeing' further sets out that development proposals will be required to assess their impact upon existing services and facilities, specifically services and facilities relating to health, social wellbeing, culture and recreation. In addition Spatial Objective 10: 'High quality and Sustainable Design' requires all new development within the Borough, whether it is new build or conversion, to illustrate the highest standards of design and construction. Design will also be a key component in ensuring that streets are safe from crime and anti-social behaviour and promote social inclusion and community cohesion. All development will be required to respect local history, character and vernacular, whilst incorporating measures to conserve energy, achieve sustainable energy generation and minimise waste. All development will be required to contribute towards; reducing greenhouse gas emissions; reducing flood risk, both existing and future; and, achieving sustainable waste management.

The Council are preparing a new draft plan (oadby-wigston.gov.uk/files/documents/draft_local_plan_reg_18b_preferred_options_document/OWBC Reg 18B PO Draft Local Plan - Spring 2024.pdf) which includes Spatial Objective 10: 'Climate Change' to mitigate and adapt to climate change and support the Borough to transition to net zero carbon by 2050. This will be achieved by promoting a sustainable pattern of development, limiting carbon emissions, ensuring well designed developments incorporating low carbon technologies, renewable energy, and energy efficiency measures, and being resilient to the current and future climate threats.

Monitoring has been undertaken by passive diffusion tubes and the chemiluminescent air quality monitoring station. All monitoring indicates there is currently no requirement to award an AQMA as all recorded levels are below the air quality objectives.

The bias adjusted figures for the diffusion tubes show that since NO_2 levels have fallen in the last year and in all areas are still below 2019 levels.

This situation will be kept under review, and ongoing dialogue with our highway authority will continue to make them aware and help influence future decisions.

Local Engagement and How to get Involved

The Council has a Community Forum Panel and three Resident Forums (one each for South Wigston, Wigston and Oadby) which meet quarterly to share information, seek public view and to act as communication conduits.

Information is also made available through social media and shared with our outreach teams as part of our community engagement programme. Real time air quality monitoring data has been made accessible for all to view. The Licensing and Regulatory Committee members receive updates and influence key decisions.

Oadby & Wigston Borough Council, Leicestershire County Council, and Learning South Leicestershire School Sports Partnership (LSLSSP) are now working in collaboration, with aims of improving some of the associated health issues and concerns.

To encourage our communities to be more aware and start to think about their personal impact on local air quality we link promote the following links on active travel – https://www.activeoadbywigston.org.uk/get-active and https://www.choosehowyoumove.co.uk/.

The final ASR 2024 once submitted to DEFRA will be on the Council's website with all previous reports and DEFRA comments, for transparency and to inform residents, businesses, and developers at https://www.Oadby-Wigston.gov.uk/pages/air_quality.

Local Responsibilities and Commitment

This ASR was prepared by the Regulatory Services Department of Oadby and Wigston Borough Council with the support and agreement of the following officers and departments:

- Planning
- Health and Wellbeing
- Economic Generation
- Corporate Assets

This ASR has been approved by:

David Gill, Head of Law and Governance 

This ASR has been signed off Mike Sandys the Director of Public Health. 

If you have any comments on this ASR please send them to Jon Wells at:

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1 Local Air Quality Management

This report provides an overview of air quality in the Oadby and Wigston Borough Council area during 2023. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995), as amended by the Environment Act (2021), and the relevant Policy and Technical Guidance documents.

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

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

Oadby and Wigston Borough Council currently does not have any declared AQMAs.

For reference, maps of the Oadby and Wigston Borough Council monitoring locations are available at Appendix D.

A local Air Quality Strategy is currently under development to highlight the importance of air quality, provide information and provide clearly defined narrative and actions. The Local Air Quality Strategy will follow a period of consultation in 2024 to help inform local priorities.

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

Defra's appraisal of last year's ASR concluded the report was well structured and detailed and that the conclusions reached were accepted for all sources and pollutants.

The Council is aware that as the Oadby and Wigston Borough Council area does not have any designated AQMAs we are required to draw up a local Air Quality Strategy. This Strategy will need to address air quality assessments and responsibilities under the LAQM regime and be informed by public feedback and will be developed through 2024.

The following comments were also made to help inform future reports:

1. Justification and information about the bias factor applied to diffusion tube monitoring data and detail about diffusion tubes which is now provided in this report.
2. More information and detail of the QA/QC procedures for continuous monitoring and ratification. This is clarified and provided in this report.
3. Clarity on the use of zephyr results for the purpose of the ASR. This is addressed in this report and detail now provided in Appendix E as recommended.

Oadby and Wigston Borough Council has taken forward a number of direct measures during the current reporting year of 2023 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.1. Eight measures are included within Table 2.1, with the type of measure and the progress Oadby and Wigston Borough Council have made during the reporting year of 2023 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.1.

Oadby and Wigston Borough Council expects the following measures to be completed over the course of the next reporting year:

1. Fleet review and assessment.
2. Embedding Health Impact Assessment processes on major new developments going forward.
3. Blaby Road school air quality project.

Oadby and Wigston Borough Council's priorities for the coming year are highlighted within Table 2.1. These are achievable and deliverable within current staffing and financial constraints.

Oadby and Wigston Borough Council worked to implement these measures in partnership with the following stakeholders during 2023:

- Energy Savings Trust
- WRAP
- Neighbouring local authorities
- Earth Sense
- Highways Authority
- Enviro Technology Services Ltd
- Public Health and Health Partners

The principal challenges and barriers to implementation that Oadby and Wigston Borough Council anticipates facing are a reduction in staffing levels and ongoing financial pressures.

Table 2.1 – Progress on Measures to Improve Air Quality

Measure No.	Measure Title	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	Work with planning to ensure health screening assessments are completed for major new developments	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2022	2023 Completed	Local Authority	Developer	NO	Not Funded	£100k - £500k	Implementation	5µg/m3	Sustainable development	Involving Public Health Team to ensure credible approach and maximum benefit arises. Now implemented and will be incorporated in the new local plan which is under development	
2	Fleet review and assessment	Vehicle Fleet Efficiency	Vehicle Retrofitting programmes	2022	2027	Local Authority, Neighbouring Councils, Energy Savings Trust	Energy Savings Trust, Local Authority	NO	Not Funded	£100k - £500k	Implementation	Not yet known	Reduction in carbon emissions from fleet	Report will now inform future fleet replacement programme. Waste transformation project to commence 2024 to move from weekly to fortnightly collections	Cost of electric RCVs and necessary infrastructure
3	Taxi Licensing Policy	Promoting Low Emission Transport	Taxi emission incentives	2021	2025	Local Authority	Industry	NO	Not Funded	< £10k	Completed	1µg/m3	Number of licensed vehicles with euro 5 and 6 compliant engines. There are approx. 400 vehicles licensed.	Euro 6 requirement for first time licensed vehicles in place. Reduced fee for fully electric and low emission vehicles	Loss of licenced vehicles to other Local Authorities who operate less stringent criteria. Review completed during 2023.
4	Agile working	Promoting Travel Alternatives	Workplace Travel Planning	2020	2024	Local Authority	Internal	NO	Not Funded	£100k - £500k	Implementation	1 to 2µg/m3	Proportion of mobile workers	Implementation phase with office move now July 2023. Remote devices issued to facilitate agile and paperless working.	Lengthy timescale and a move away from ‘traditional ways of working’.
5	Cycle to work scheme	Promoting Travel Alternatives	Promotion of cycling	2017	On going	Local Authority	Internal	NO	Not Funded	< £10k	Completed	1µg/m3	Number of employee participants	2 electric bikes provided by the Council for use by staff. Cycle to work scheme available to purchase bikes for work use	Staff buy in and use which can be seasonal
6	Blaby Road Project	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2023	2024	Local Authority Environmental Health, Local Authority Transport Dept., Public Health, Health Partners, Bus Companies, Schools/Colleges	Internal	NO	Not Funded	< £10k	Implementation	up to 5µg/m3 NO2 and 1 to 2µg/m3 PM2.5	Measured NO2 and particulate concentrations along Blaby Road	Delivery commenced comprising the following 1. Modeshift STARS 2. Shed of Science 3. WOW tracker 4. Active travel programme 5. Learn to cycle 6. Anti-idling campaign 7. Gearing you up Programme set to continue through 23/24 academic year	Pupil engagement and school participation

Measure No.	Measure Title	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	Improving access to air quality data and information	Public Information	Via the Internet	2022	2023 Completed and ongoing	Local Authority	Developer	NO	Partially Funded	£10k - 50k	Completed	Not known	Raise awareness of local pollution levels	Now hosted on https://www.ukairquality.net/ and https://portal.earthsense.co.uk/	
8	Targeted campaigns	Public Information	Other	2022	Ongoing	Local Authority	Local Authority	NO	Not Funded	< £10k	Implementation	Not known	Raise awareness of local pollution levels	Link work in with national initiatives such as Clean Air Day and as part of the Blaby Road project	

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

As detailed in Policy Guidance LAQM.PG22 (Chapter 8) and the Air Quality Strategy[6], local authorities are expected to work towards reducing emissions and/or concentrations of fine particulate matter ($PM_{2.5}$)). There is clear evidence that $PM_{2.5}$ (particulate matter smaller 2.5 micrometres) has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

Oadby and Wigston Borough Council is taking the following measures to address $PM_{2.5}$:

1. Raised awareness of local air pollution levels by increasing the measurement and reporting of air pollution levels at a local level.
2. Availability of public access to air pollution levels will permit people to look up air pollution levels in a region (similar to weather forecast) and make choices and hopefully encourage different forms of travel such as on foot, cycling, park and ride/stride etc. The public health outcomes show there are still worsening activity levels in the over 19s in the Oadby and Wigston area.
3. Ensuring all industrial and domestic air pollution is correctly and fairly regulated and ensuring businesses are aware of their statutory requirements for example environmental permitting.
4. Sharing publicity around bonfire night to promote attendance at organised events rather than residents holding their own.
5. Assessment of $PM_{2.5}$ as part of an air quality assessment (where appropriate/relevant) in planning applications.
6. Active investigation into local pollution incidents whether that be bonfires or smoke control provisions relating to fireplaces.

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

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

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

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Oadby and Wigston Borough Council undertook automatic (continuous) monitoring at one site during 2023. Table A.1 in Appendix A shows the details of the automatic monitoring site. The https://www.oadby-wigston.gov.uk/pages/air_quality page presents automatic monitoring results for Oadby and Wigston Borough Council, with automatic monitoring results also available through the https://uk-air.defra.gov.uk/interactive-map.

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.

3.1.2 Non-Automatic Monitoring Sites

Oadby and Wigston Borough Council undertook non- automatic (i.e. passive) monitoring of NO_2 at 23 sites during 2023. 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 Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including bias adjustments and any other adjustments applied (e.g. annualisation and/or distance correction), are included in Appendix C.

3.2 Individual Pollutants

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

3.2.1 Nitrogen Dioxide (NO_2)

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

For diffusion tubes, the full 2023 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

There were no exceedances of the annual mean objective limit of 40µg/m^3 in the data from the diffusion tubes, which is consistent of the previous 5 years.

The chemiluminescent air quality monitoring station sensor located on Blaby Road reported data capture of 99.7% for the 2023 period, with an estimated accuracy of +/- 15% for NO_2. There were no hourly or 24-hour exceedances of the objective recorded in 2023 and the annual mean concentration was 31.5 µg/m^3 , a slight reduction from last year which was 33.6µg/m^3. This was the first full year of recorded data is this location.

Table A.5 in Appendix A compares the ratified continuous monitored NO_2 hourly mean concentrations for the past five years with the air quality objective of 200µg/m^3, not to be exceeded more than 18 times per year.

3.2.2 Particulate Matter (PM_{10})

The chemiluminescent air quality monitoring station sensor located on Blaby Road only monitors NO_2. However, indicative PM_{10} monitoring results from two Zephyr monitors are reported in Appendix E.

3.2.3 Particulate Matter ($PM_{2.5}$)

The chemiluminescent air quality monitoring station sensor located on Blaby Road only monitors NO_2. However, indicative $PM_{2.5}$ monitoring results from two Zephyr monitors are reported in Appendix E.

3.2.4 Sulphur Dioxide (SO_2)

Oadby & Wigston Borough Council do not monitor the air quality objectives for SO_2

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Inlet Height (m)
CS - 27299	Wigston, Blaby Road	Roadside	459012	298376	NO_2	NO	Chemiluminescent	3.5	3.5	1.5

Notes:

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

(2) N/A if not applicable

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

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT1	Glen Rd, A6	Kerbside	463208	299913	NO2	N	5.0	12.5	No	2.2
DT2	Upland Rd/Junction A6	Kerbside	462590	300513	NO2	N	7.1	12.7	No	2.3
DT3	Victoria Court	Kerbside	461856	301027	NO2	N	0.8	14.0	No	2.2
DT4	Church Nook/Bullhead St	Kerbside	460881	299075	NO2	N	8.8	25.0	No	2.2
DT5	Leicester Rd, Wigston	Kerbside	460541	299722	NO2	N	2.9	4.0	No	2.3
DT6	Shackerdale Rd/Aylestone Ln	Kerbside	459448	299747	NO2	N	3.9	13.4	No	2.2
DT7	259 Aylestone Ln	Kerbside	459329	299796	NO2	N	2.6	20.0	No	2.3
DT8	225 Aylestone Ln/West Ave	Kerbside	459566	299690	NO2	N	5.7	17.6	No	2.2
DT9	Dorset Avenue/Saffron Road	Kerbside	458297	299426	NO2	N	40.0	1.0	No	2.4
DT10	Tigers Lane/Saffron Road	Kerbside	458454	298789	NO2	N	30.0	0.5	No	2.4
DT11	Vicarage Blaby Road	Kerbside	458625	298308	NO2	N	1.6	8.3	No	2.2

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT12	45 Blaby Road	Kerbside	458778	298335	NO2	N	0.6	3.7	No	2.2
DT13	50A Blaby Road	Kerbside	458912	298371	NO2	N	0.7	5.6	No	2.3
DT14	4 Canal Street	Kerbside	458979	298314	NO2	N	1.0	0.5	No	2.5
DT15	11 Canal Street	Kerbside	458979	298314	NO2	N	0.7	1.6	No	2.2
DT16	Canal St/Station Street	Kerbside	459012	298376	NO2	N	0.7	3.8	No	2.2
DT17	4 Station Street	Kerbside	459015	298407	NO2	N	0.4	9.6	No	2.4
DT18	Health Centre Blaby Road	Kerbside	459065	298400	NO2	N	3.1	6.6	No	2.2
DT19	141 Blaby Road	Kerbside	459163	298414	NO2	N	12.9	16.8	No	2.2
DT20	2 Landsdowne Grove	Kerbside	459248	298438	NO2	N	2.1	9.8	No	2.3
DT21	Magna Rd/Station Rd	Kerbside	459337	298464	NO2	N	1.7	7.4	No	2.4
DT22	Harborough Road/Regent Street	Kerbside	462091	300830	NO2	N	5.5	5.5	No	2.2
DT23	Welford Road/Newton Lane	Kerbside	460895	298560	NO2	N	11.6	11.6	No	2.2

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_2 Monitoring Results: Automatic Monitoring (µg/m^3)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023
CS - 27299	459012	298376	Roadside		99.7%	-	-	-	33.6	31.5

☒ **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^3.

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

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

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

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

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

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

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023
DT1	463208	299913	Kerbside	100.0	100.0	26.0	19.8	22.7	23.2	22.5
DT2	462590	300513	Kerbside	100.0	100.0	27.6	21.9	23.7	23.6	21.3
DT3	461856	301027	Kerbside	100.0	100.0	34.0	27.5	30.3	32.1	25.5
DT4	460881	299075	Kerbside	100.0	91.6	23.4	19.8	21.0	22.0	20.9
DT5	460541	299722	Kerbside	100.0	100.0	25.5	19.3	21.2	21.6	19.9
DT6	459448	299747	Kerbside	100.0	100.0	31.0	23.8	25.4	27.2	25.9
DT7	459329	299796	Kerbside	100.0	100.0	27.1	21.8	22.7	23.0	19.8
DT8	459566	299690	Kerbside	100.0	100.0	28.4	22.9	23.4	25.1	22.8
DT9	458500	298500	Kerbside	100.0	100.0	24.0	19.1	22.5	23.1	20.1
DT10	458500	298500	Kerbside	100.0	100.0	21.4	15.9	20.4	19.4	17.7
DT11	458625	298308	Kerbside	92.3	100.0	31.2	23.3	27.7	26.6	25.4
DT12	458778	298335	Kerbside	100.0	100.0	31.5	24.8	28.8	28.7	27.0
DT13	458912	298371	Kerbside	100.0	100.0	28.5	21.4	24.8	24.4	23.4
DT14	458979	298314	Kerbside	100.0	100.0	29.7	21.4	26.6	25.8	25.2
DT15	458979	298314	Kerbside	100.0	100.0	22.8	18.7	20.7	19.0	16.9
DT16	459012	298376	Kerbside	100.0	100.0	35.2	29.5	37.5	33.7	31.5
DT17	459015	298407	Kerbside	100.0	100.0	24.6	20.3	21.6	17.4	17.7

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023
DT18	459065	298400	Kerbside	82.7	91.6	27.3	23.7	27.9	26.2	21.0
DT19	459163	298414	Kerbside	100.0	100.0	20.2	17.3	18.1	16.8	15.7
DT20	459248	298438	Kerbside	100.0	100.0	22.4	21.7	24.3	23.7	23.1
DT21	459337	298464	Kerbside	90.4	100.0	22.9	18.3	20.4	20.3	18.4
DT22	462091	300830	Kerbside	9.6	100.0	-	-	-	-	24.1
DT23	460895	298560	Kerbside	9.6	100.0	-	-	-	-	20.8

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

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

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

Notes:

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

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

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

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

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

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

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

Figure A.1 – Trends in Annual Mean NO_2 Concentrations

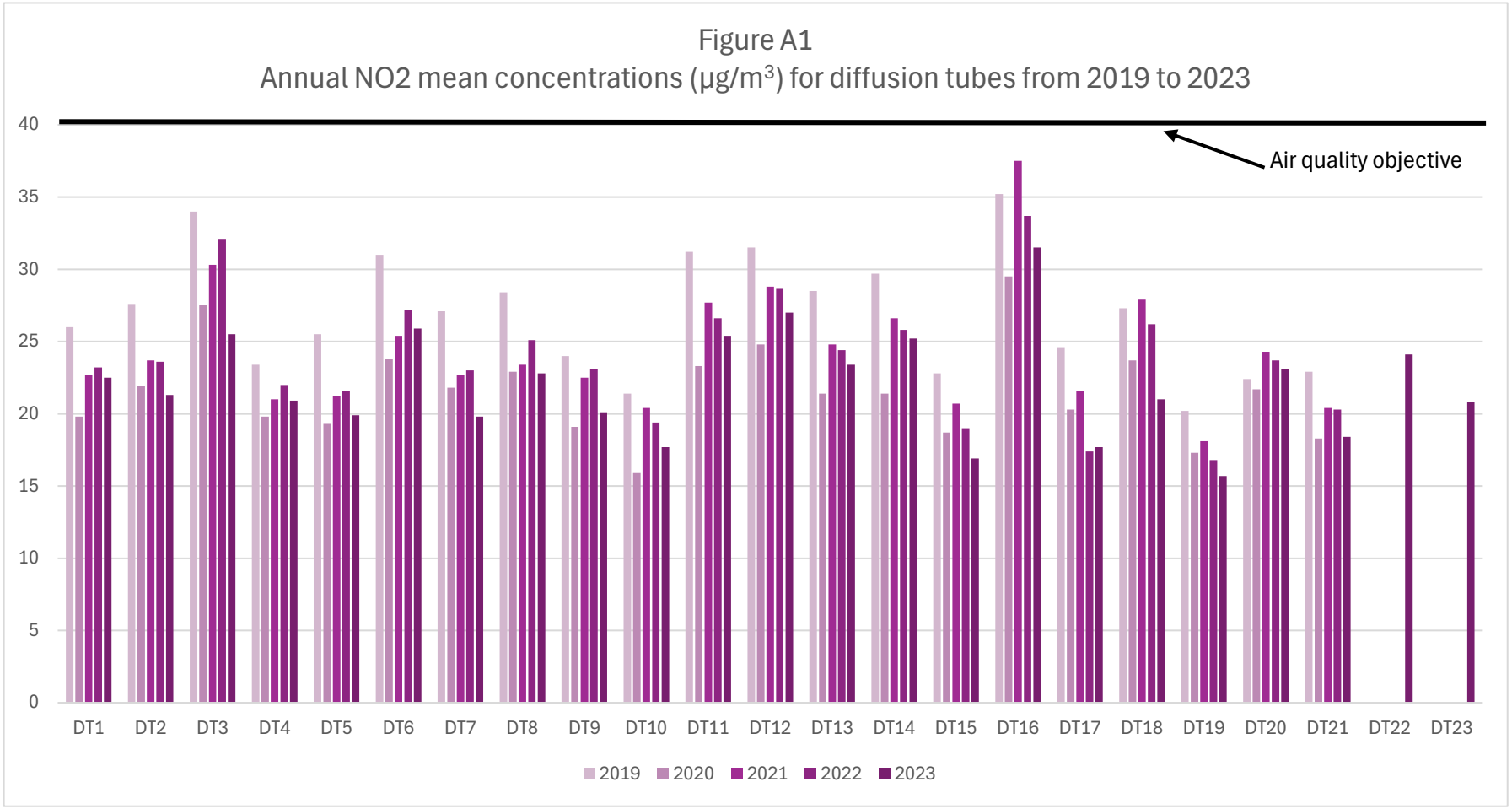


Table A.5 – 1-Hour Mean NO_2 Monitoring Results, Number of 1-Hour Means > 200µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023
CS - 27299	459012	298376	Roadside		99.7%	-	-	-	0	0

Notes:

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

Exceedances of the NO_2 1-hour mean objective (200µg/m^3 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%

Appendix B: Full Monthly Diffusion Tube Results for 2023

Table B.1 – NO_2 2023 Diffusion Tube Results ($\mu g/m^3$)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.77)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT1	463208	299913	33.2	34.5	27.4	30.0	24.4	29.8	25.0	24.8	32.6	31.3	31.9	26.0	29.2	22.5		
DT2	462590	300513	40.1	34.6	26.0	26.4	17.4	27.2	19.4	23.6	25.4	31.9	33.1	26.3	27.6	21.3		
DT3	461856	301027	50.4	42.2	35.5	31.3	32.0	24.1	27.2	32.2	40.0	43.2	3.1	36.7	33.2	25.5		
DT4	460881	299075	40.1	38.4	26.9	21.2	15.6	32.2	24.6	19.8		26.2	31.3	21.6	27.1	20.9		Tube missing Sep
DT5	460541	299722	34.7	29.1	25.1	26.6	21.9	19.9	20.6	22.8	27.4	27.0	28.4	26.5	25.8	19.9		
DT6	459448	299747	39.9	40.8	31.0	29.3	25.3	44.6	25.0	29.8	34.4	36.7	35.3	31.2	33.6	25.9		
DT7	459329	299796	28.7	31.5	29.3	18.6	20.8	17.4	22.9	23.8	30.1	31.3	29.0	24.7	25.7	19.8		
DT8	459566	299690	36.8	37.0	30.0	26.5	19.7	25.1	20.9	25.4	33.3	34.4	36.9	28.9	29.6	22.8		
DT9	458500	298500	35.2	32.3	26.3	22.4	22.6	18.9	19.8	20.8	29.4	27.7	31.1	26.8	26.1	20.1		
DT10	458500	298500	30.2	29.2	23.1	24.0	23.4	32.4	11.8	16.7	24.3	24.6	25.3	10.6	23.0	17.7		
DT11	458625	298308	40.3	42.8	37.3	37.0	35.8	20.0	22.5	26.3	38.2	35.8	41.6	18.3	33.0	25.4		
DT12	458778	298335	48.5	22.0	35.6	33.1	28.5	31.7	30.7	29.7	43.2	42.1	41.2	34.5	35.1	27.0		
DT13	458912	298371	36.9	28.2	27.0	29.3	25.9	21.7	26.1	29.7	39.8	39.9	33.0	27.0	30.4	23.4		
DT14	458979	298314	34.3	30.8	34.4	33.9	30.8	31.8	18.2	25.2	35.9	39.4	49.4	28.6	32.7	25.2		
DT15	458979	298314	31.7	20.5	25.2	22.1	22.1	18.7	13.6	18.5	26.1	23.1	33.8	8.0	22.0	16.9		Low result for Dec
DT16	459012	298276	38.7	45.3	41.6	40.6	46.9	44.1	28.2	40.3	46.7	42.3	39.8	35.7	40.9	31.5		
DT17	459015	298407	29.1	29.6	22.4	20.0	17.1	17.1	17.7	18.6	25.5	27.3	29.8	21.8	23.0	17.7		
DT18	459065	298400		24.9	29.6	27.8	24.9	16.9	25.3	27.1	33.2	33.0	31.0	26.2	27.3	21.0		Tube missing Jan
DT19	459163	298414	28.9	25.0	20.1	21.8	19.6	10.8	11.2	14.9	22.1	24.0	29.3	17.6	20.4	15.7		
DT20	459248	298438	34.2	32.4	29.6	28.4	33.5	36.9	16.7	23.5	32.4	32.3	39.6	20.8	30.0	23.1		
DT21	459337	298464	32.4	34.3	21.6	25.8	26.5	13.4	18.1	20.1	27.0	27.5	19.1	20.6	23.9	18.4		

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

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

☐ **Local bias adjustment factor used.**

☒ **National bias adjustment factor used.**

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

☒ **Oadby and Wigston Borough Council confirm that all 2023 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System .**

Notes:

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

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

See Appendix C for details on bias adjustment and annualisation.

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

New or Changed Sources Identified Within Oadby and Wigston Borough Council During 2023

Oadby & Wigston Borough Council, in its Local Plan, makes provision for housing growth across the borough. The main areas for growth are towards the southeast of Wigston, between Newton Lane and Welford Road, the north of Oadby along Gartree Road, and the south west of Oadby, along the A6. Of the 2960 new homes set out within the Local Plan, at least 2000 are to be provided within the main areas of growth mentioned.

Areas of brownfield development continue off the Blaby Road in South Wigston. There have been no major road network changes during 2023.

Additional Air Quality Works Undertaken by Oadby and Wigston Borough Council During 2023

An additional Zephyr sensor was set up on 21 June 2023 as part of the Blaby Road school project. This identified that none of the air quality objectives for Nitrogen Dioxide (NO_2), Ozone (O_3), Nitrogen Oxide (NO), Particulate Matter (PM_1, $PM_{2.5}$ and PM_{10}) were breached (more detail can be found in Appendix E).

Real time data from the chemiluminescent and Zephyr sensor have been made available on a publicly accessible website during 2022.

QA/QC of Diffusion Tube Monitoring

Oadby & Wigston Borough Council's diffusion tube supplier, SOCOTEC, have supplied the following information regarding QA/QC:

- The samples have been analysed in accordance with SOCOTEC's standard operating procedure ANU/SOP/1015. This method meets the guidelines set out in DEFRA's 'Diffusion Tubes for Ambient NO2 Monitoring: Practical Guidance'.
- The tubes were prepared by spiking acetone:triethanolamine (50:50) onto the grids prior to the tubes being assembled. The tubes were desorbed with distilled water

and the extract analysed using a segmented flow auto analyser with ultraviolet detection.

- SOCOTEC currently holds the highest rank of a satisfactory laboratory in the AIR-PT intercomparison scheme for comparing spiked nitrogen dioxide diffusion tubes. In 2023 SOCOTEC had an average z-score of 0.20.
- The manufacture and analysis of the NO2 diffusion tubes is covered by SOCOTEC's UKAS accreditation.
- The monitoring has been completed in adherence with the 2023 diffusion tube monitoring calendar.

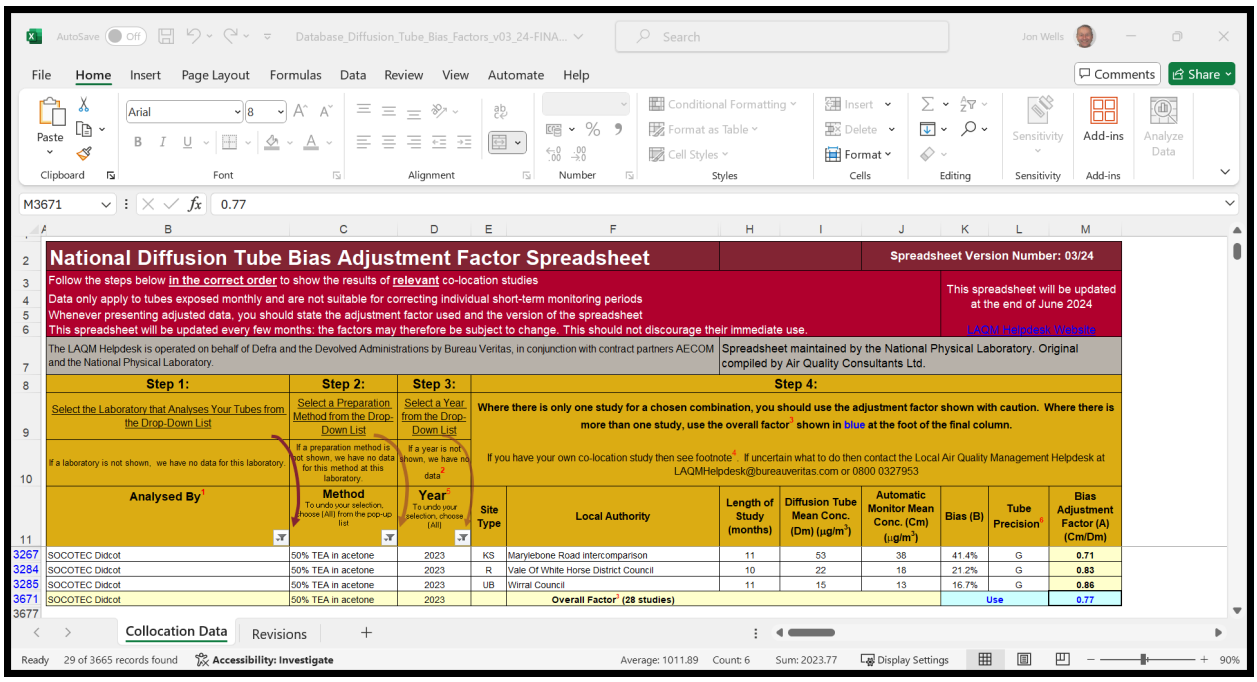
Diffusion Tube Annualisation

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

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2023 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG22 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO_2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Oadby & Wigston Borough Council have applied a national bias adjustment factor of 0.77 to the 2023 monitoring data as there is no local adjustment factor provided for our Council area (see screenshot below). This is taken from version (03/24) which was released in March 2024 based on 28 studies.



A summary of bias adjustment factors used by Oadby & Wigston Borough Council over the past five years is presented in Table C.1.

Table C.1 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2023	National	03/24	0.77
2022	National	03/23	0.76
2021	National	06/22	0.78
2020	National	05/21	0.77
2019	National	09/20	0.76

NO_2 Fall-off with Distance from the Road

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

No diffusion tube monitoring locations within the Oadby and Wigston Borough Council area required distance correction during 2023.

QA/QC of Automatic Monitoring

The chemiluminescent air quality monitoring station provided on Blaby Road, South

Wigston is run by Oadby and Wigston Borough Council with data analysis supported by ET Enviro Technology Services Ltd.

The data is publicly available through https://www.ukairquality.net.

Air quality measurements from the automatic instruments are validated and ratified by Air Quality Data Management (AQDM) http://www.aqdm.co.uk to the standards described in the Local Air Quality Management – Technical Guidance LAQM (TG22). The 2023 data ratification for air quality monitoring site has been completed to the LAQM TG22 standards using he AURN methodology (https://laqm.defra.gov.uk/technical-guidance).

The data error when presented is +/- 15% on comparisons with AURN NO_2 measurements and calibration for the CS-27299 monitor at Blaby Road, South Wigston, Leicestershire is carried out monthly by Officers from the team following a prescribed process, and servicing of monitor is completed every 6 Months by ET enviro engineers.

The data from the CS-27299 monitor is ratified through a process of applying data from the Automatic Urban and Rural Network (AURN) at Leicester University.

PM_{10} and $PM_{2.5}$ Monitoring Adjustment

The type of PM_{10}/$PM_{2.5}$ monitor(s) utilised within Oadby & Wigston Borough Council do not require the application of a correction factor.

Automatic Monitoring Annualisation

All automatic monitoring locations within Oadby And Wigston recorded data capture of greater than 75% therefore it was not required to annualise any monitoring data. In addition, any sites with a data capture below 25% do not require annualisation.

NO_2 Fall-off with Distance from the Road

No automatic NO_2 monitoring locations within Oadby and Wigston required distance correction during 2023.

Appendix D: Maps of Monitoring Locations

Figure D.1 – Overview Map of all Monitoring Sites (non-automatic D2, D3, D4, D5 and D6) and automatic (D7)

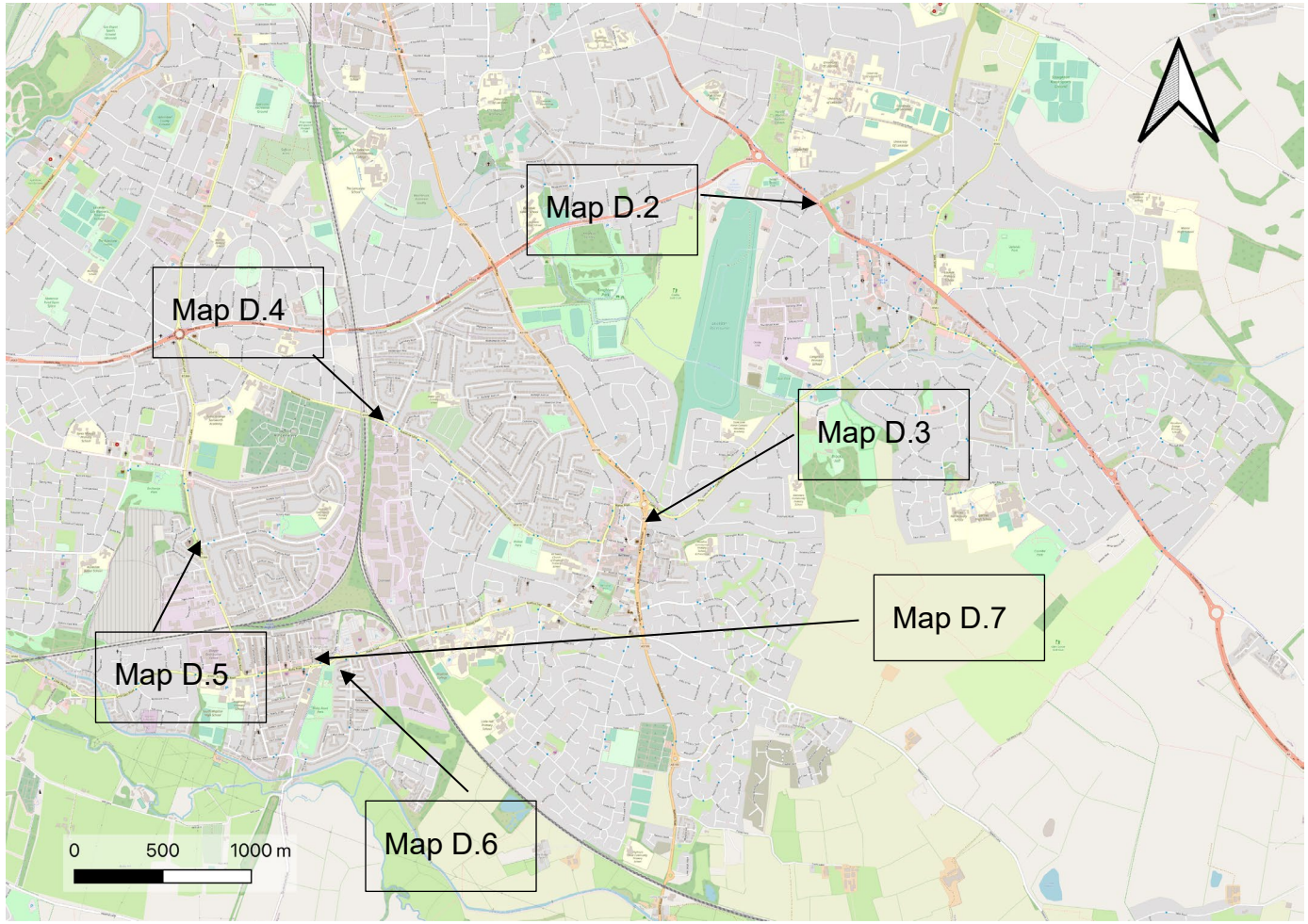


Figure D.2 – Map of Non-Automatic Monitoring Sites

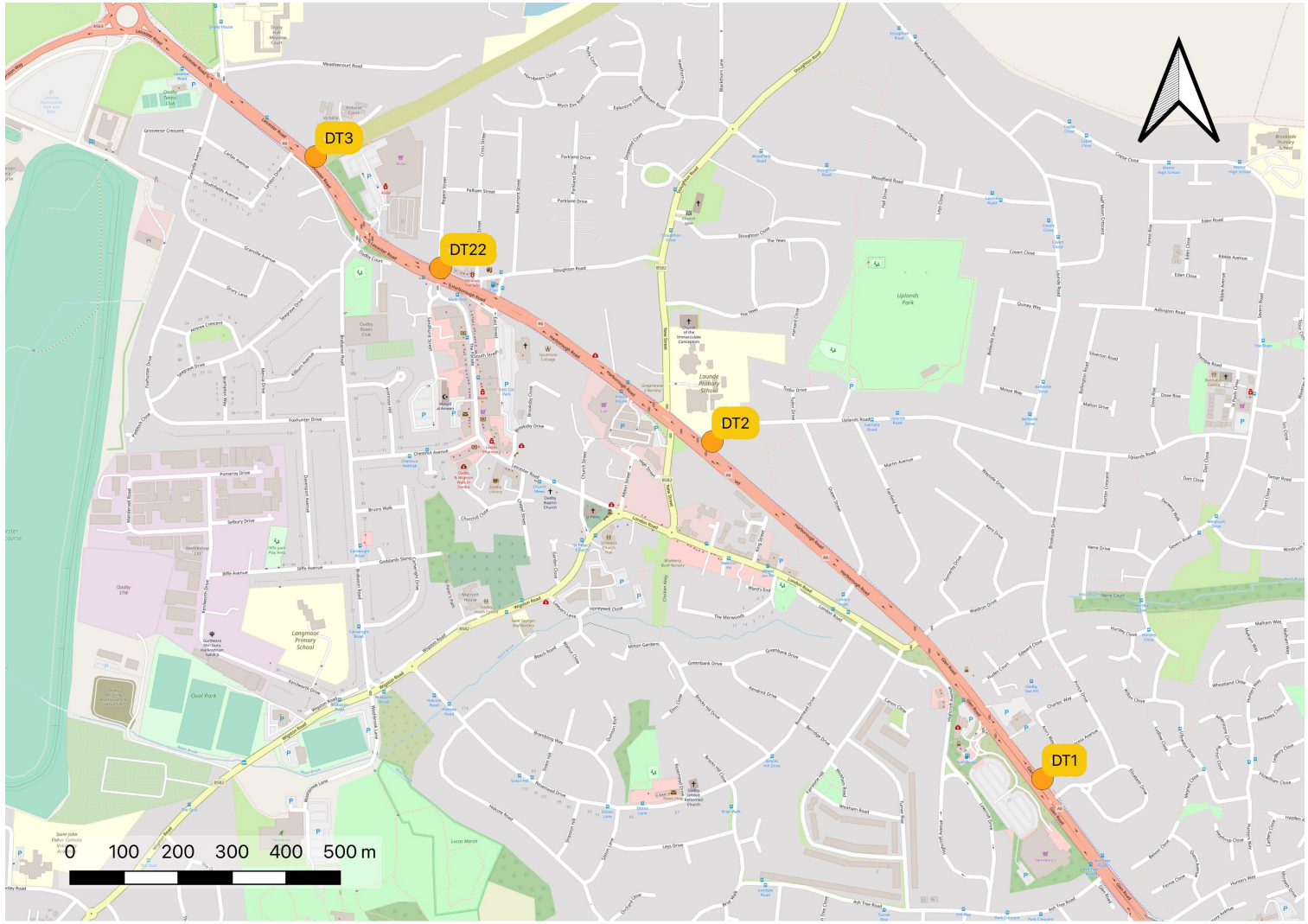


Figure D.3 – Map of Non-Automatic Monitoring Sites

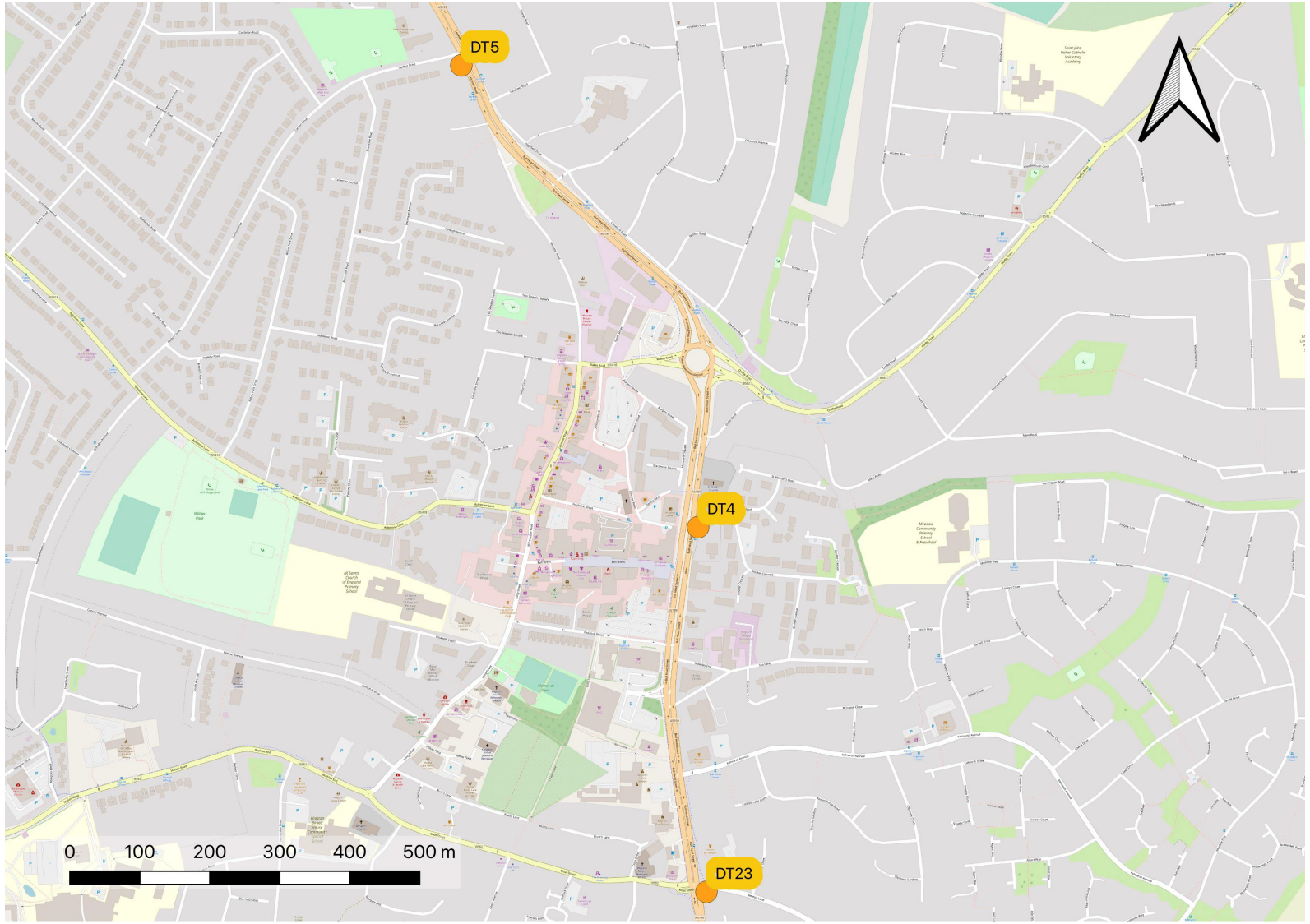


Figure D.3 – Map of Non-Automatic Monitoring Sites

Figure D.4 – Map of Non-Automatic Monitoring Sites

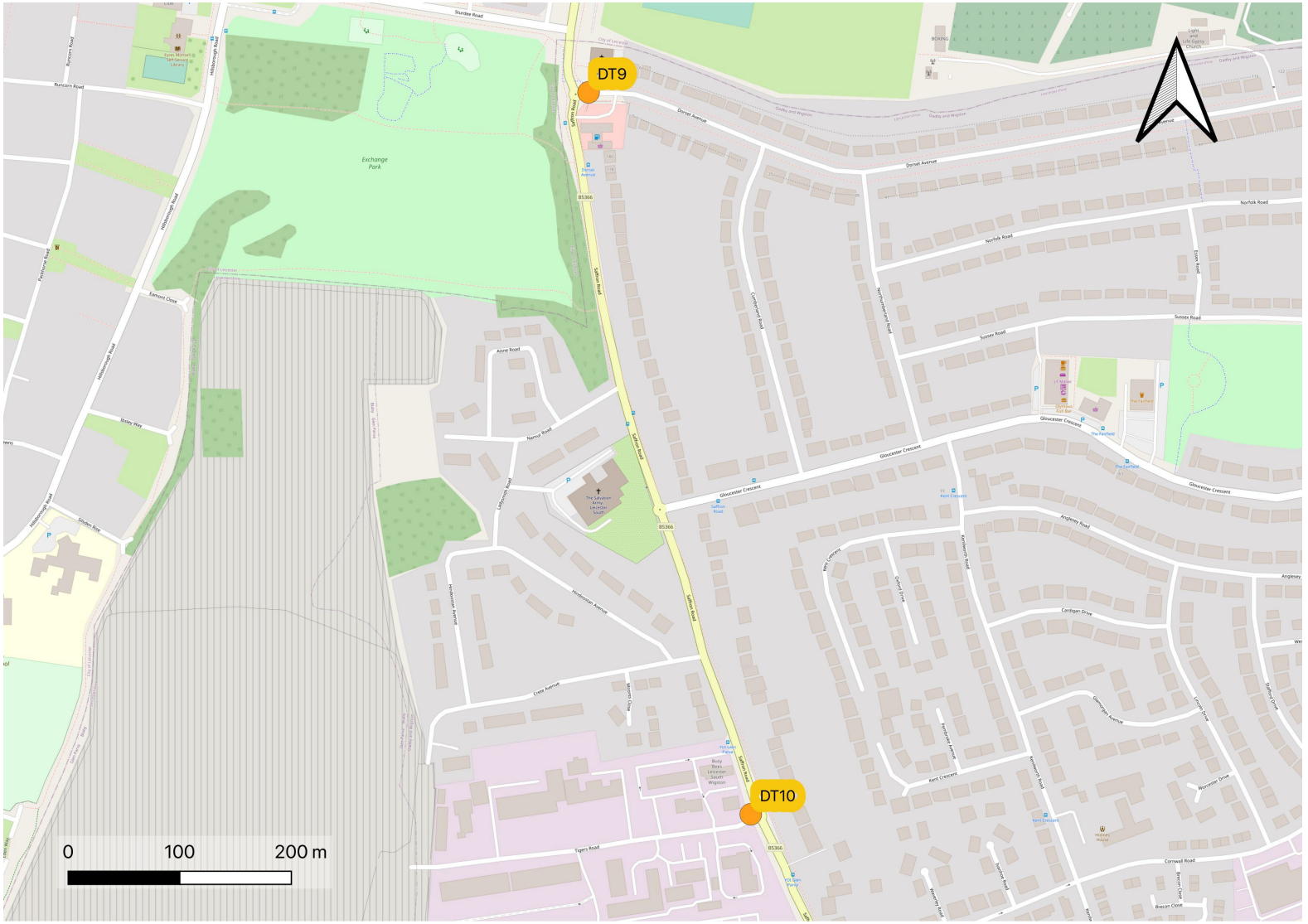


Figure D.5 – Map of Non-Automatic Monitoring Sites

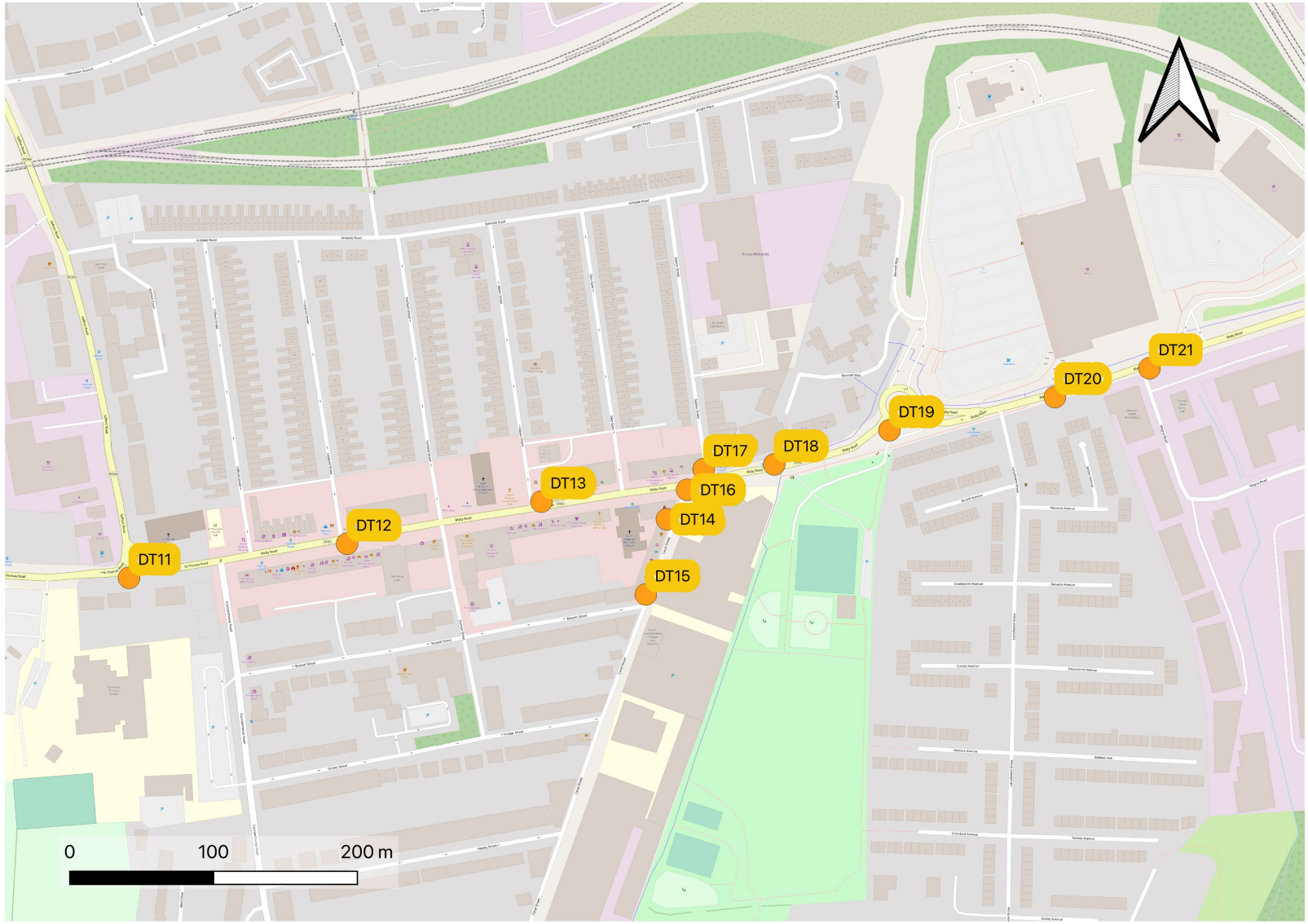


Figure D.7 – Map and photograph of the Automatic Monitoring Site

Appendix E: Summary of Zephyr air quality data for 2023

Oadby and Wigston Borough Council operate two Zephyr air quality monitors across the area.

1. A6 outside 158 Leicester Road, Oadby (437)

The data are not ratified like the reference instruments because there are no calibrations. The obvious glitches have been removed although there may be some suspect periods remaining. Zephyr measurements are not normally reported in the ASR and should be treated as indicative and this is why this information is included in an appendix.

The Zephyr PM_{10}, $PM_{2.5}$ and NO_2 results compare well with the nearby reference stations. The baseline for the Nitric Oxide (NO) concentrations was too high throughout the year, although the NO pollutant is of minor importance. The Ozone concentrations were far too low between January and May. The Ozone was corrected by EarthSense but the June to December concentrations were low.

Summary below of the results for 2023:

a. The NO_2 AQS Objectives were not exceeded.

b. The NO_2 annual mean was 21.0 µg m^{-3} at Oadby Zephyr which did not exceed the AQS Objective of 40 µg m^{-3}. The data capture was 93.2 % which is greater than the 75% requirement.
c. The NO_2 1-hour AQS Objective was not exceeded. There is an annual allowance of 18 hours.
d. The PM_{10} AQS Objectives were not exceeded.
e. The PM_{10} annual mean was 10.8 µg m^{-3} at Oadby Zephyr which did not exceed the AQS Objective of 40 µg m^{-3}. The data capture was 93.4 % which is greater than the 75% requirement.
f. The PM_{10} 24-hour AQS Objective was not exceeded. There is an annual allowance of 35 days.
g. There were small PM_{10} peaks around the November bonfire night celebrations. The peaks were too brief to exceed the daily mean limit.
h. The $PM_{2.5}$ AQS Objectives were not exceeded.
i. The $PM_{2.5}$ annual mean was 6.9 µg m^{-3} at Oadby Zephyr which did not exceed the AQS Objective of 20 µg m^{-3}. The data capture was 93.4 % which is greater than the 75% requirement.
j. The $PM_{2.5}$ was in the Low DAQI category during this period.
k. There were $PM_{2.5}$ peaks around the November bonfire night celebrations.
l. The O_3 Running 8-hour AQS Objective was not exceeded (because the Zephyr was underreading). There is an annual allowance of 10 days.

2. St Thomas Road, South Wigston (1298)

The measurements from the Wigston Zephyr monitoring site have been processed for 2023. The data are not ratified like the reference instruments because there are no calibrations. The PAS 4023, LAQM TG22 and AURN methodologies have been used. The obvious anomalies have been removed although there may be some suspect periods remaining.

The measurements commenced on 21st June 2023. There were no significant operational problems.

The Zephyr NO_2 concentrations appear to be low for a roadside location. These were the lowest recorded by the instruments in the area including the Zephyr in Oadby and the AQMS in Wigston.

The baseline for the Zephyr NO concentration was far too high. This is a common problem. EarthSense performs checks but these are checks that data are being recorded not that the measurements are sensible.

The Zephyr PM_{10} and $PM_{2.5}$ concentrations compare well with the nearby stations.

The Ozone concentrations from the two Zephyrs were too low. This is related to checks performed by EarthSense.

The results below are based on the measurements during 2023.

a. The NO_2 AQS Objectives were not exceeded.
b. The NO_2 annual mean was 10.5 µg m^{-3} at Wigston Zephyr which did not exceed the AQS Objective of 40 µg m^{-3}. The data capture was 52.9 % which is less than the 75% requirement.
c. The NO_2 1-hour AQS Objective was not exceeded. There is an annual allowance of 18 hours.
d. The PM_{10} AQS Objectives were not exceeded.
e. The PM_{10} annual mean was 9.9 µg m^{-3} at Wigston Zephyr which did not exceed the AQS Objective of 40 µg m^{-3}. The data capture was 52.8 % which is less than the 75% requirement.
f. The PM_{10} 24-hour AQS Objective was not exceeded. There is an annual allowance of 35 days.
g. There were PM_{10} peaks around the November bonfire night celebrations. The peaks were too brief to exceed the daily mean limit.
h. The $PM_{2.5}$ AQS Objectives were not exceeded.
i. The $PM_{2.5}$ annual mean was 6.1 µg m^{-3} at Wigston Zephyr which did not exceed the AQS Objective of 20 µg m^{-3}. The data capture was 52.8 % which is less than the 75% requirement.
j. The $PM_{2.5}$ was in the Low DAQI category during this period.
k. There were $PM_{2.5}$ peaks around the November bonfire night celebrations.
l. The O_3 Running 8-hour AQS Objective was not exceeded. There is an annual allowance of 10 days.

Appendix F: Parklands Primary School air quality project 2023/24

The project commenced at the start of the 2023 school year and will be completed summer 2024. The key aims of this project are provided below:

1. Increased measurement and reporting of different forms of air pollution notably particulates

2. Development of active travel programmes

3. Educational 'healthy schools' programmes all with the aim of improving understanding, raising awareness, and contributing towards and influencing outcomes

4. Evaluation of impact of the above interventions on behaviour and local air quality

Some of the interventions are detailed below.

Monitoring and evaluation will continue through 2024 and more detail provided in the next ASR.

Appendix G: Summary of Air Quality Objectives in England

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

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

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

Glossary of Terms

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

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