2025 Air Quality Annual Status Report (ASR)

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

Date: June, 2025

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Local Responsibilities and Commitment

This ASR was prepared by the Public Protection Department of Newark & Sherwood District Council with the support and agreement of the following officers and departments:

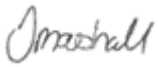
Planning at Newark & Sherwood District Council

Nottinghamshire County Council

UK Health Security Agency

Office for Health Improvement and Disparities

This ASR has been approved by:



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Executive Summary: Air Quality in Our Area

Air Quality in Newark & Sherwood

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

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

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

Table ES 1 - Description of Key Pollutants

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

In Newark & Sherwood, the Office for Health Improvement & Disparities have calculated that 5.5% of mortality is attributable to particulate air pollution (Indicator D01), which is lower than the East Midlands (5.6%) but slightly higher than England (5.2%) percentage figures (2023 period) and lower by 0.1% from the previous (2022) reported year.

In Newark & Sherwood the predominant sources of air pollution are from vehicle emissions, industrial processes and agriculture. The main pollutants of concern being nitrogen dioxide and particulate matter, a significant source of both coming from vehicle exhaust emissions. Ambient background levels are also affected by emissions from domestic heating: NO_x from domestic gas boilers and PM from wood, coal and oil fired burners and boilers.

Newark & Sherwood District Council only use NO_2 diffusion tubes for air quality monitoring and don't have any real time continuous monitoring stations. NO_2 levels in 2024 were slightly reduced from those of 2023 and reported in last year's ASR at all sites monitored. No sites levels increased during 2024 from 2023 which is very encouraging.

The trend over the last few years seems to have been a significant reduction in NO_2 levels from 2019-20 during COVID 19 pandemic restrictions. 2020 saw an increase as things started to get back to normal and businesses opened and commuting began again, however it was noticeable that levels during this period didn't return to pre pandemic levels. Since 2020 the levels of NO_2 observed have continued to reduce year on year and during 2024 this downward trend continued. As reported in previous years, these continuing reductions can be attributed to improving technology, gradual upgrade of vehicle fleets and continued uptake of flexible working arrangements. Going forward we expect this trend to continue. Generally speaking the NO_2 reduction pattern echoes the UK trend in recent years.

The three sites where results were most elevated were slightly different to those reported in last years ASR although the highest four sites were all very close to one another in terms of result and lower than they were last year. The top three were Big Fish Roundabout, Brunel Drive/Lincoln Road, and Bowbridge Road. The highest result was at Big Fish Roundabout, the tubes are located on the busy A614 just prior to the roundabout with the A616 and the A6075 in Ollerton. There is regularly queuing traffic (including a large proportion of HGV's) waiting to cross the roundabout right alongside the tube location, hence the elevated results in Ollerton. Bias adjusted annual mean for 2024 here was 22.9 µg/m^3.

The second highest in 2024 was the Brunel Drive and Lincoln Road junction which is a hotspot where traffic builds up particularly when private and business vehicles are exiting

the nearby industrial estate to access the nearby A1 or A46. Bias adjusted annual mean for 2024 was 22.7 µg/m^3.

Bowbridge Road was marginally below the Brunel Drive/LincolnRoad site. As mentioned in last years ASR the tubes are located on a predominantly residential street, but one end shares a junction with the busy London Road and the other end has a significant amount of development occurring as part of the large Middlebeck development site. Bias adjusted annual mean for 2024 was 22.1 µg/m^3.

We regularly review tube locations and consider these the current worst-case scenarios and representative of relevant exposure.

These areas have historically shown some of the most elevated monitored levels of nitrogen dioxide in the district, although the levels are significantly below Air Quality Objectives for England (Table E1) and below that required for declaring a new Air Quality Management Areas (AQMA) and any associated action plan or strategy.

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.

A summary of our core actions to target sources of air pollution are based on recommendations made in the Air Quality Strategy for Nottingham and Nottinghamshire 2020-2030 and include:

- To review and assess air quality in the district against national health-based standards and produce annual reports of our assessment and monitoring (aligning with strategic objective 1 of NAQS2020).
- We work with colleagues from Nottinghamshire County Council Highways to implement actions to ease congestion and maintain a flow of traffic (reducing the stop/start) and promote alternatives such as public transport and cycling/walking (aligning with strategic objectives 1 & 2 of NAQS2020).
- We work with colleagues in the Planning Unit to ensure air quality is a material consideration in the forward planning process and during consultation for new developments. We may consult with neighbours on proposed development with significant

impacts on air quality across our boundaries and can require modelling or monitoring to establish impact of developments on air quality. Air Quality also forms part of the Spatial Planning & Health Framework and Health Impact Checklist produced and used for Local Development Plans (aligning with strategic objective 1 of NAQS2020).

- We work with the UK Health Security Agency and other health professionals to raise awareness and promote measures to improve air quality whilst reducing emissions to air from our own activities (aligning with strategic objective 4 of NAQS2020).
- We rigorously enforce legislation to control industrial emissions and carry out risk-based enforcement and charging. We can also assist and advise businesses where required (aligning with strategic objective 3 of NAQS2020).
- We enforce legislation to control emissions from chimneys and bonfires and assess biomass burners for air quality using the DEFRA biomass screening tool (aligning with strategic objective 3 of NAQS2020).
- We promote clean air and good practise through our website and publish DEFRA guidance on Open Fires and Wood Burning Stoves and the Woodsure Ready to Burn initiative. We have produced a webpage which includes information aimed at educating wood burner owners to improve practices to increase efficiency and reduce particulate emissions. This has been promoted through our corporate social media accounts.

We try to encourage consumers to buy Eco Design stoves. This is a European-wide initiative designed to lower emissions from Stoves. In 2015 DEFRA stated Eco Design as the method it will use to improve efficiency and reduce emissions from solid fuel stoves.

In addition to the above, HETAS has introduced the Cleaner Choice Product Approval Scheme. Stoves approved by the scheme are independently proven to meet the most stringent emissions criteria, going further than any other industry scheme and exceeding Eco Design and Defra Exemption requirements. We would recommend that consumers consider these schemes when looking to purchase a new stove.

We have worked with Nottinghamshire County Council Trading Standards to ensure that solid fuel checks in the County are being carried out and include a check on the ‘Ready to Burn’ certification and that emission requirements are met. This is reported on the NCC website here. (aligning with strategic objectives 3 & 4 of NAQS2020)

- We advise householders to encourage reduction and recycling of household waste. NSDC has just introduced a kerbside glass recycling service which will reduce the need for residents journeys to recycle glass (aligning with strategic objectives 4 of NAQS2020).

- We carry out anti-vehicle idling interventions at schools across the district and focus on school pick up times when engines may be left running. (aligning with strategic objectives 2 & 4 of NAQS2020).
- We promote and welcome the use of electric vehicle charging points across the district (aligning with strategic objectives 1 of NAQS2020).
- We encourage developers and consultants go beyond basic air quality assessments and mitigation measures where we can. Often this is difficult due to low levels in NSDC already and due to the reliance on developers coming to us at the outset of a particular scheme, however we encourage and are open to developers and will assist in this where we can. (aligning with strategic objectives 1 & 2 of NAQS2020).

Conclusions and Priorities

This authority has never had to declare an AQMA and Nitrogen Dioxide levels during the last few years continue to reduce. Our priorities are therefore to ensure that the levels of air pollution continue to reduce or at least don't increase and that AQMA declaration is avoided. Levels observed in 2024 were reduced from to those of 2023 across all sites monitored

There were no exceedances of air quality objectives at any location across the district. There are some large residential developments proposed and ongoing across the district, however we ensure that air quality is considered as part of the planning application and require air quality assessments and construction management plans where appropriate. During 2024 the A46 widening project progressed to the planning stage and this included officers from Public Protection attending further meetings with National Highways and their consultants in relation to the air quality (and many other) impacts of the scheme. Nottinghamshire County Council employed AECOM consultants to act on their behalf for air quality purposes and Newark & Sherwood District Council management decided to also use them to assist with the more complex aspects of reviewing the assessment. Public Protection officers and AECOM attended the Planning Inspectorate Hearing in relation to the application and input into the process. In summary the assessment predicts that there will be an overall improvement in air quality as a result of the scheme due to greatly improved traffic flows and a reduction of congestion at hotspot junctions. The Development Consent Order (DCO) examination process was completed in April 2025 and the examiners now have three months to submit their recommendations and report to the Secretary of State (SoS). The SoS then has three months to consider and make the final decision. So we should know the outcome and whether or not the scheme goes ahead around October 2025.

Further details are available at the scheme website which is regularly updated https://nationalhighways.co.uk/our-roads/east-midlands/a46-newark-bypass/ The Planning Inspectorate website shows the current status of the application and is here A46 Newark Bypass - Project information

Below is a brief summary of our priorities in addressing air quality for the coming year:

- We will continue to monitor for Nitrogen Dioxide in the areas of concern. We review monitoring locations on a regular basis to ensure that worst case relevant exposure is represented.

- We are a member of the Nottinghamshire Environmental Protection Working Group (NEPWG) and the newly formed Nottingham and Nottinghamshire Air Quality Oversight Group (NNAQOG) which has forged strong links with colleagues in Public Health. Air Quality forms a key part of the Nottinghamshire Joint Health and Wellbeing Strategy for 2022-2026. The key aims of this being to promote recommendations for action to improve health and wellbeing and reduce health inequalities. We will use the planning and transport system, along with economic planning, licensing and policy decisions, to create places that do this. This will also help to reduce health inequalities and benefit the environment, for a better quality of life. Clean air is essential for good health and for the environment and climate. We will work to make positive changes which can also have a positive impact on air quality and to ensure that outdoor air quality supports healthier lives in all communities.

- Air Quality Strategy for Nottingham and Nottinghamshire 2020-2030 was rewritten in 2020 with an anticipated ten year review period but the Countywide strategic group plan is to reduce this to a possible review every five years to ensure it continues to meet the aims of the group. We take into consideration the recommendations made within and align our actions accordingly with them going forward.

- More recently the Nottingham and Nottinghamshire Air Quality Oversight Group has been set up by Nottinghamshire County Council to review the delivery of the Nottinghamshire Air Quality Strategy aims and to ensure that they are acted upon and that the strategy remains current with more regular reviews. This group is separate from the regional pollution group and meets quarterly and consists of members including Public Health, Environmental Health, Transport Planning, National Highways, Environment Agency, UKHSA, NHS among others.

Please see table 2.2 below for specific measures and targets.

How to get Involved

As a resident of Newark and Sherwood District you can help to make a difference:

- Why not try cycling to work instead of driving if it is a viable option for you and work is not too far away for you to do this. Even if for only for one day a week, you will be having a beneficial effect on air quality by reducing vehicle emissions and also improving your own health by exercising. If cycling to work is not possible, could you use public transport instead?

- When you look to buy a new car do some research and look for one that has low emissions such as modern petrol, hybrid or electric.

- If you are thinking of installing a biomass burner (i.e. a wood or pellet or briquette burner) either for domestic or industrial use, make sure that it is a DEFRA approved appliance (which is exempt from certain parts of the Clean Air Act 1993) or use an authorised fuel if you are going to use it in a smoke control zone. Also make sure that it is correctly installed (with HETAS or Building Regulation approval for domestic) and correctly maintained including regular services and the chimney swept at least twice per year. The fuel used should be appropriate for the burner; this should be provided in the manufacturer's instructions. Guidance on wood burners and the Woodsure scheme is available from the Smoke Control Area section of our website.

- During the COVID 19 pandemic you may have had to work at home for some of the time. Evidence in this report and elsewhere nationally has shown that there was a large reduction in emissions during the pandemic and working at home more often was one of the factors which contributed to this reduction. Is working at home something that you could try and continue to do in the future if your employer allows? Even if you can only manage one day every few weeks you will be reducing your commuter emissions and collectively this can have a huge impact as the COVID 19 pandemic has shown. Do you really need to travel to that meeting, can it be attended virtually instead?

Changing your behaviour can reduce your exposure to pollution:

- Pollution levels vary over very short distances: in general, the closer you are to the sources, the more you breathe in.

- If you're walking or cycling, you can easily avoid the worst pollution by travelling along quieter streets. Even walking on the side of the pavement furthest from the road can help.

- One of the worst places for pollution is inside vehicles on busy roads where levels inside the car are typically as high as just outside.

- The health benefits of physical activity (walking or cycling) outweigh the risks from air pollution. If you're in a vehicle, you just get the risks with none of the benefits.
- Try to turn your vehicle engine off if you are stationary for a significant amount of time or enable stop/start if your vehicle has it fitted. An idling engine can produce up to twice as much exhaust emissions as an engine from a vehicle in motion.

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1 Local Air Quality Management

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

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

Newark & Sherwood currently does not have and never has had to declare any AQMAs within the District. Levels seem to be reducing year on year so it would seem unlikely at this stage that any AQMA will be declared anytime soon.

The Air Quality Strategy for Nottingham and Nottinghamshire 2020-2030 is in place to prevent and reduce polluting activities. We shall have regard for recommendations made within it across the district going forward.

We are a member of the Nottinghamshire Environmental Protection Working Group (NEPWG) and the newly formed Nottingham and Nottinghamshire Air Quality Oversight Group (NNAQOG) which has forged strong links with colleagues in Public Health. Air Quality forms a key part of the Nottinghamshire Joint Health and Wellbeing Strategy for 2022-2026. The key aims of this being to promote recommendations for action to improve health and wellbeing and reduce health inequalities. We will use the planning and transport system, along with economic planning, licensing and policy decisions, to create places that do this. This will also help to reduce health inequalities and benefit the environment, for a better quality of life. Clean air is essential for good health and for the environment and climate. We will work to make positive changes which can also have a positive impact on air quality and to ensure that outdoor air quality supports healthier lives in all communities.

For reference, a map of Newark & Sherwood District Council's monitoring locations is available in Appendix D.

2.2 Progress and Impact of Measures to address Air Quality in Newark & Sherwood

Defra's appraisal of last year's ASR concluded that Newark & Sherwood District Council's ASR for 2024 reporting year was well structured, detailed and provided information specified in the Guidance with the following comments.

1. The Council provide a good discussion of NO_2 trends within the district. As well as discussing the impacts of COVID-19 restrictions on air quality, and effects of busy roads on monitoring locations in the district.

2. The map of the locations of the diffusion tubes is very good. The diffusion tube locations are clearly labelled and a second map zoomed into Newark-on-Trent shows the diffusion tubes in the city centre.

3. From 2023 those authorities who have not had to designate AQMAs and produce AQAPs should draw up a local Air Quality Strategy. Defra will monitor whether Local Authorities have or are developing a local Air Quality Strategy through the ASR appraisal process. Whilst reference is made to the Nottinghamshire Strategy, it should be clarified how this directly affects Newark and Sherwood.

4. Air quality is in general good in the district – this is encouraging. Additionally, it appears that concentrations have continued to reduce from 2022 to 2023.

5. In Table 2.2, the council has made it clear what funding sources are available for each action plan measure. However, the status of the funding source has not been elaborated on for every measure. This would be useful for the reader considering this is a public document.

6. While the council does not currently monitor $PM_{2.5}$, it is highly encouraging that the council has developed strategies to reduce $PM_{2.5}$ levels in the council. This includes initiatives on usage of the corrects stoves, an anti-idling education programme and a clean air day.

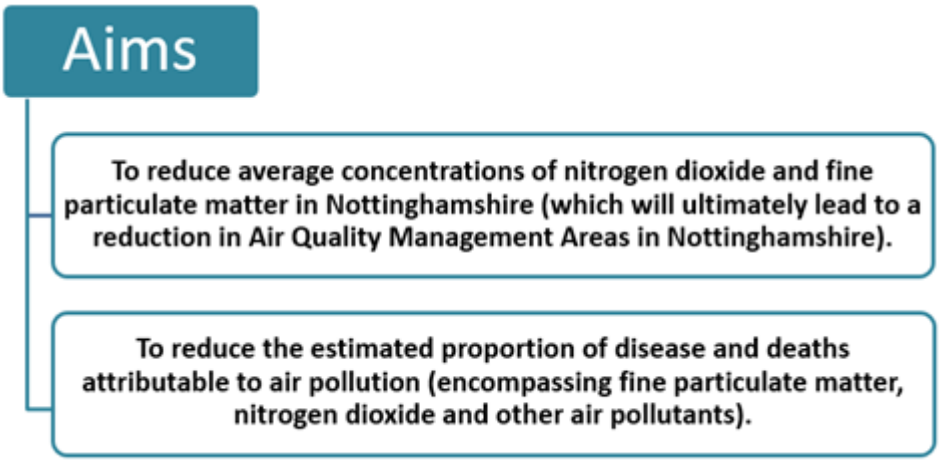
Newark and Sherwood has never had to declare an AQMA and given current levels, it seems unlikely that an AQMA is going to be declared in the near future. This rural authority has less significant issues than the neighbouring Nottingham conurbation.

This can give the perception that there isn't an air quality problem in the district; however it is important to continue with the measures to ensure this situation doesn't deteriorate.

Newark and Sherwood District Council does not have an air quality strategy solely for this District, however this ASR is written in alignment with the aims and objectives of the Air Quality Strategy for Nottingham and Nottinghamshire 2020-2030.

The Joint Air Quality Strategy has been developed collaboratively across Nottinghamshire authorities (taking into account the DEFRA Air Quality Strategy factsheet in relation to joint Air Quality Strategies, which is available from the DEFRA Air Quality Hub, https://www.airqualityhub.co.uk/) and sets out the steps the local authorities will take to improve local air quality. This joint approach ensures that local authorities—including Newark & Sherwood District Council—are collectively addressing air quality concerns while still considering local-level priorities.

Its aims are to encourage prevention and reduction of polluting activities across a range of diverse sectors.



The Strategy establishes the regional steps authorities will take to improve air quality while maintaining flexibility for local implementation. It is reviewed regularly by the Nottingham and Nottinghamshire Air Quality Oversight Group (NNAQOG) to remain up to date and to provide progress updates to the County and City Health and Well-Being Boards.

The NNAQOG includes colleagues from City and County Local Authorities and consists of Public Health, Environmental Health, Transport Planning and the local NHS; with input also from National Highways, Environment Agency, UKHSA, among others.

Additionally engagement with the Mayor's office for the East Midlands Combined County Authority (EMCCA) will be sought at the earliest opportunity.

NSDC core actions to target sources of air pollution are based around the objectives described in the county wide Air Quality Strategy for Nottingham and Nottinghamshire 2020-2030 and include:

- To review and assess air quality in the district against national health-based standards and produce annual reports of our assessment and monitoring (aligning with strategic objective 1 of NAQS2020).
- We work with colleagues from Nottinghamshire County Council Highways to implement actions to ease congestion and maintain a flow of traffic (reducing the stop/start) and promote alternatives such as public transport and cycling/walking (aligning with strategic objectives 1 & 2 of NAQS2020).
- We work with colleagues in the Planning Unit to ensure air quality is a material consideration in the forward planning process and during consultation for new developments. We may consult with neighbours on proposed development with significant impacts on air quality across our boundaries and can require modelling or monitoring to establish impact of developments on air quality. Air Quality forms part of the Spatial Planning & Health Framework and Health Impact Checklist produced and used for Local Development Plans (aligning with strategic objective 1 of NAQS2020).
- We work with UK Health Security Agency and other health professionals to raise awareness and promote measures to improve air quality whilst reducing emissions to air from our own activities (aligning with strategic objective 4 of NAQS2020).
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- We enforce legislation to control emissions from chimneys and bonfires and advise householders to encourage reduction and recycling of household waste. NSDC has introduced a kerbside glass recycling service which will reduce the need for residents journeys to recycle glass (aligning with strategic objective 4 of NAQS2020).

- We carry out anti-vehicle idling interventions at schools across the district and focus on school pick up times when engines may be left running. (aligning with strategic objectives 2 & 4 of NAQS2020).

- We promote and welcome the use of electric vehicle charging points across the district aligning with (strategic objectives 1 of NAQS2020).

- We encourage developers and consultants go beyond basic air quality assessments and mitigation measures where we can. Often this is difficult due to low levels in NSDC already and due to the reliance on developers coming to us at the outset of a particular scheme, however we encourage and are open to developers and will assist in this where we can. (aligning with strategic objectives 1 & 2 of NAQS2020).

Please see table 2.2 below for specific measures and targets. Newark & Sherwood District Council has taken forward a number of direct measures during the current reporting year of 2024 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.1. 10 measures are included within Table 2.1, with the type of measure and the progress Newark & Sherwood have made during the reporting year of 2024 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.1. Please note that the measures have been listed in 2.2 are split into the appropriate Nottinghamshire Air Quality Strategy objective category. In some cases the measure listed

applies in more than one strategy objective and so appears in both. The top three measures are listed at the top of table 2.2.

Some of these measures are Nottinghamshire wide and are managed by NCC. These include promotion of cycling through the Bikeability scheme which is managed in the county by VIA East Midlands who are part of NCC. Grant funding for Bikeability was doubled last year and providers are scaling up their delivery programs. The Nottingham Go Ultra-Low program saw over £6 million of funding secured to promote uptake of ultra-low emission vehicles by providing EV charge points across the county. Eleven sites were identified for consideration in NSDC area and two of these were considered feasible providing one rapid and four fast charge points within two car parks in the district. Further detail on the Nottinghamshire County Council measures are listed in table 2.2 below with links to relevant documents and websites the References section at the end of this report.

Table 2.1 – Progress on Measures to Improve Air Quality

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQ Strategy	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
Top Three Measures taken from below.														
1	Robust PPC inspection and enforcement regime	Environmental Permits	Other measure through permit systems and economic instruments	N/A	Ongoing	Local Authority Public Protection	Permitting Fees (£25-30k)	Funded by permit fees	£40-50k	Implementation	Process dependant	Compliance with permit conditions and emissions limits.	Ongoing	Business reluctant to go beyond BAT due to financial outlay required.
2	Ensuring Air Quality is Material Consideration for Planning Development	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	N/A	Ongoing	Local Authority Public Protection, Planning and Planning Policy Departments	LA	Ongoing staffing costs	Covered in staffing costs	Consultation with internal departments	Reduction in particulates and NO2 during construction and operational phases of developments	NO2 tube monitoring, compliance with CEMP and reduced complaints.	Ongoing	Unless complaints are received often difficult to know if CEMP is complied with.
3	Attendance at Regional Pollution and Air Quality Oversight Group Meetings	Policy Guidance and Development Control	Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduce emissions and improve air quality	N/A	Ongoing	Local Authority Public Protection, Public Health, Environmental Health, Transport Planning, National Highways, Environment Agency, UKHSA, NHS among others.	Regional	Ongoing staffing costs	Covered in staffing costs	Implementation	Long term reduction in NO2 and PM emissions.	Good attendance and engagement. Countywide Strategy remains relevant and actions implemented.	Ongoing	Difficult to get all stakeholders to attend. Regional priorities & funding may differ.
Objective 1: Place Making and Development for Good Air Quality														
2	Ensuring Air Quality is Material Consideration for Planning Development	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	N/A	2025	Local Authority Public Protection, Planning and Planning Policy Departments	LA	Ongoing staffing costs	Covered in staffing costs	Consultation with internal departments	Reduction in particulates and NO2 during construction and operational phases of developments	NO2 tube monitoring, compliance with CEMP and reduced complaints.	Ongoing	Unless complaints are received often difficult to know if CEMP is complied with.
3	Attendance at Regional Pollution and Air Quality Oversight Group Meetings	Policy Guidance and Development Control	Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduce emissions and improve air quality	N/A	Ongoing	Local Authority Public Protection, Public Health, Environmental Health, Transport Planning, National Highways, Environment Agency, UKHSA, NHS among others.	Regional	Ongoing staffing costs	Covered in staffing costs	Implementation	Long term reduction in NO2 and PM emissions.	Good attendance and engagement. Countywide Strategy remains relevant and actions implemented.	Ongoing	Difficult to get all stakeholders to attend. Regional priorities & funding may differ.
5	A46 Newark Widening Scheme	Traffic Management	Strategic highway improvements, Re-prioritising road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	N/A	2028	Local Authority Public Protection, Local Authority Planning, Local Authority Conservation, Skanska Mott MacDonald, National Highways, Environment Agency, Historic England, Natural England, Nottinghamshire County Council.	Department for Transport	Approved	£500m	Planning	Reduction in congestion around major junctions along route.	Reduction in NO2 tube results at locations in close proximity.	Awaiting outcome of DCO examination.	Multi agency, government funded, ing. Environmental Health is consultee only.

8	Electric Vehical Charging Infrastructure	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2021	Ongoing	Local Authority Public Protection, Planning and Planning Policy Departments	Regional	Ongoing staffing costs	Covered in staffing costs	Implementation	Long term reduction in NO2 and PM emissions.		Ongoing	Planning SPD recommendation not mandatory requirement.
Objective 2: Enable the Shift to Zero and Low Emission Transport to Reduce Emissions														
3	Attendance at Regional Pollution and Air Quality Oversight Group Meetings	Policy Guidance and Development Control	Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduce emissions and improve air quality	N/A	Ongoing	Local Authority Public Protection, Public Health, Environmental Health, Transport Planning, National Highways, Environment Agency, UKHSA, NHS among others.	Regional	Ongoing staffing costs	Covered in staffing costs	Implementation	Long term reduction in NO2 and PM emissions.	Good attendance and engagement. Countywide Strategy remains relevant and actions implemented.	Ongoing	Staffing resources
8	Electric Vehical Charging Infrastructure	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2021	Ongoing	Local Authority Public Protection, Planning and Planning Policy Departments	Regional	Ongoing staffing costs	Covered in staffing costs	Implementation	Reduced emissions of N02 and PM due to increased use of low emission vehicles	Reduced emissions and ongoing take-up of cleaner vehicles	Ongoing	Planning SPD recommendation not mandatory requirement.
10	Nottingham Go-Ultra Low programme - promoting uptake of LEVs	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2016	2020	Nottingham City Council / NCC	OLEV funding	Funded	£1m - £10m	Completed	Reduced emissions of N02 and PM due to increased use of low emission vehicles	Reduced emissions and ongoing take-up of cleaner vehicles	£6.1m of funding was secured for 2016-2020 through the Go Ultra Low (GUL) programme. 123 locations in the county have been investigated for the potential provision of EV charge points as part of GUL project, with total of 68 chargers installed across 22 sites in Nottinghamshire between 2019-20. In Newark & Sherwood, 11 sites were investigated; of which 2 were feasible; providing 1 rapid and 4 fast charge points within two car parks in district.Promotion events were held for public, businesses and fleet operators including loans of LEVs for trial use in 2018 and 2019.	Complete
Objective 3: Reduce, Minimise and Prevent Emissions from Industrial, Commercial, Agricultural and Domestic Sources and Activity														
1	Robust PPC inspection and enforcement regime	Environmental Permits	Other measure through permit systems and economic instruments	N/A	Ongoing	Local Authority Public Protection	Permitting Fees (£25-30k)	Funded by permit fees	£40-50k	Implementation	Process dependant	Compliance with permit conditions and emissions limits.	Ongoing	Staffing resources

3	Attendance at Regional Pollution and Air Quality Oversight Group Meetings	Policy Guidance and Development Control	Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduce emissions and improve air quality	N/A	Ongoing	Local Authority Public Protection, Public Health, Environmental Health, Transport Planning, National Highways, Environment Agency, UKHSA, NHS among others.	Regional	Ongoing staffing costs	Covered in staffing costs	Implementation	Long term reduction in NO2 and PM emissions.	Good attendance and engagement. Countywide Strategy remains relevant and actions implemented.	Ongoing	Staffing resources
4	Vehicle Anti-idling Education	Traffic Management	Anti-idling enforcement	N/A	Ongoing	Local Authority Public Protection	LA	Ongoing staffing costs	Covered in staffing costs	Implementation	NO2 & PM reduction at sensitive sources i.e. primary schools	Reduction in vehicle idling complaints, observed compliance during interventions.	Ongoing	Enforcement in LA area that has an AQMA which NSDC does not have (DEFRA query ref #9470). Penalty fines are small and the admin cost is greater than pursuing non payment.
6	Wood Burner and Smoke Control Area Enforcement and Education	Promoting Low Emission Plant	Other Policy	N/A	Ongoing	Local Authority Public Protection.	LA	Ongoing staffing costs	Covered in staffing costs	Implementation	Reduction in PM and smoke/odour.	Fewer wood burner smoke complaints, increased compliance with CAA & SCA.	Ongoing	Staffing resources
7	Clean Air Day 2025 Promotion	Public Information	Via other mechanisms	N/A	2025	Global Action Plan, Local Authority Public Protection & Communications, NCC & Countywide EH departments.	Global Action Plan & LA	N/A	Covered in staffing costs	Planned		N/A	Planned for 2024	Staffing resources
Objective 4: Engagement and Communication for Behaviour Change													
3	Attendance at Regional Pollution and Air Quality Oversight Group Meetings	Policy Guidance and Development Control	Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduce emissions and improve air quality	N/A	Ongoing	Local Authority Public Protection, Public Health, Environmental Health, Transport Planning, National Highways, Environment Agency, UKHSA, NHS among others.	Regional	Ongoing staffing costs	Covered in staffing costs	Implementation	Long term reduction in NO2 and PM emissions.	Good attendance and engagement. Countywide Strategy remains relevant and actions implemented.	Ongoing	Staffing resources
4	Vehicle Anti-idling Education	Traffic Management	Anti-idling enforcement	N/A	Ongoing	Local Authority Public Protection	LA	Ongoing staffing costs	Covered in staffing costs	Implementation	NO2 & PM reduction at sensitive sources i.e. primary schools	Reduction in vehicle idling complaints, observed compliance during interventions.	Ongoing	Enforcement in LA area that has an AQMA which NSDC does not have (DEFRA query ref #9470). Penalty fines are small and the admin cost is greater than pursuing non payment.
6	Wood Burner and Smoke Control Area Enforcement and Education	Promoting Low Emission Plant	Other Policy	N/A	Ongoing	Local Authority Public Protection.	LA	Ongoing staffing costs	Covered in staffing costs	Implementation	Reduction in PM and smoke/odour.	Fewer wood burner smoke complaints, increased compliance with CAA & SCA.	Ongoing	Staffing resources
7	Clean Air Day 2025 Promotion	Public Information	Via other mechanisms	N/A	2025	Global Action Plan, Local Authority Public Protection & Communications,	Global Action Plan & LA	Ongoing staffing costs	Covered in staffing costs	Planned		N/A	Planned for 2025	Staffing resources

						NCC & Countywide EH departments.								
9	Cycle Training	Promoting Travel Alternatives	Promotion of Cycling	Circa 1970's	Ongoing	NCC	DfT funding / PH funding	Funded	Various	Implementation	Reduced emissions of N02 and PM	Increased cycling trips	Across the county, 12,618 people recieved cycle training during 2024/25 and in Newark & Sherwood specifically, training was delivered to 1,960 people. Implementation is ongoing.	The Bikeability Grant was doubled last year and all providers are still scaling up their delivery over the coming years.

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

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

In Newark & Sherwood, the Office for Health Improvement & Disparities have calculated that 5.5% of mortality is attributable to particulate air pollution (Indicator D01), which is lower than the East Midlands (5.6%) but slightly higher than England (5.2%) percentage figures (2023 period) and lower by 0.1% from the previous (2022) reported year.

This authority does not monitor for $PM_{2.5}$ and so to consider the probable levels across the district, reference can be made to the following information sources:

The Nottingham Centre AURN site has been considered as a regional reference in previous reports, however for 2024, $PM_{2.5}$ data was only available for January. We have therefore selected the urban background site of Kenmore Gardens (UKA01048) which is located in a park in the St Anns area of Nottingham, to the North East of the city centre, surrounded mostly by residential areas. The monitored annual mean concentration for 2024 for this site was 8.37 µg/m^3.

DEFRA Background Levels – Background maps are available from the DEFRA webpages, 2024 levels for Newark Sherwood are predicted as an average of 6.27 µg/m^3. Whilst only modelled, this is appreciably lower than 2023 (8.08 µg/m^3), which in turn is lower than 2022 (8.18 µg/m^3) which indicate that the trend of modelled data is promising and in a downward direction.

The World Health Organisation guideline value for annual average is now 5µg/m^3 which has been halved from pre 2021. The UK objective brought about by Environment Act 2021 and The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 is for the annual mean level in ambient air to be equal or less than 10µg/m^3 by 31st

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

December 2040. Given this proposed future UK target limit, the modelled average level shows that Newark and Sherwood is compliant.

In order to maintain compliance with $PM_{2.5}$ limits, Environmental Health implements a number of actions listed in table 2.2 above. As part of the planning process we request Construction Management Plans and Dust Management Plans to accompany planning applications of large-scale development. We are in the process of seeking adoption of a planning policy guidance document which is based in the East Midlands version (table 2.2 action 2).

We educate and enforce the relevant provisions of the Clean Air Act such as Smoke Control Areas and Chimney Heights. More recently DEFRA and the National Clean Air Strategy has seen focus placed on wood burning stoves as a significant source of $PM_{2.5}$ emissions. Newark & Sherwood District Council has taken this on board and has produced a web page to promote the correct use of stoves and initiatives such as Woodsure and Burnrite in order to try to tackle this source of $PM_{2.5.}$ This has been published throughout corporate social media accounts (table 2.2 action 6).

We regulate 53 permitted sites under the Environmental Permitting Regulations 2016 (as amended) and carry out risk-based enforcement and charging (table 2.2 action 1).

Environmental Health promotes anti-vehicle idling at school pick up locations. Currently this is just being done as an education program for drivers and is not being formally enforced.

Whilst these four actions from table 2.2 can directly impact on $PM_{2.5,}$ the other actions in the table also can the potential to provide a positive impact, such as clean air day which in the past has focussed on vehicle idling and wood burning stoves.

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

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

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Newark & Sherwood District Council doesn't carry out any automatic monitoring.

3.1.2 Non-Automatic Monitoring Sites

Newark & Sherwood District Council undertook non- automatic (i.e. passive) monitoring of NO_2 at 13 sites during 2024. Table A.1 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.1 and Table A.2 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 2024 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.

NO2 levels in 2024 were reduced from 2023 at all monitoring sites reported in last year's ASR.

The trend over the last few years seems to have been a significant reduction in NO_2 levels from 2019-20 during COVID 19 pandemic restrictions. Since 2020 the levels of NO_2 observed have continued to reduce year on year and during 2024 were lower than those recorded during the height of the pandemic restrictions in 2019. As reported in previous years, these continuing reductions can be attributed to improving technology, gradual upgrade of vehicle fleets and continued uptake of flexible working arrangements. Going forward we expect this trend to continue. Generally speaking the NO_2 reduction pattern echoes the UK trend in recent years.

The three sites where results were most elevated were slightly different to those reported in last years ASR although the highest four sites were all very close to one another in terms of result and lower than they were last year. The top three were Big Fish Roundabout, Brunel Drive/Lincoln Road, and FADs Cartergate. The highest result was at Big Fish Roundabout, the tubes are located on the busy A614 just prior to the roundabout with the A616 and the A6075 in Ollerton. There is regularly queuing traffic (including a large proportion of HGV's) waiting to cross the roundabout right alongside the tube location, hence the elevated results in Ollerton. Bias adjusted annual mean for 2024 here was 22.9 µg/m^3.

The second highest in 2024 was the Brunel Drive and Lincoln Road junction which is a hotspot where traffic builds up particularly when private and business vehicles are exiting the nearby industrial estate to access the nearby A1 or A46. Bias adjusted annual mean for 2024 was 22.7 µg/m^3.

Bowbridge Road was marginally below the Brunel Drive/LincolnRoad site. As mentioned in last years ASR the tubes are located on a predominantly residential street, but one end shares a junction with the busy London Road and the other end has a significant amount

of development occurring as part of the large Middlebeck development site. Bias adjusted annual mean for 2024 was 22.1 µg/m^3.

The laboratory bias adjustment factor for 2024 for the method and laboratory used was 0.84 which was calculated using the National Diffusion Tube Bias Factor Adjustment Spreadsheet (03/25, see appendix C). The laboratory used was Gradko and the method was 20% TEA in water.

The NO_2 tubes monitoring sites are regularly reviewed and are located where the public could be regularly present for a considerable period of time and are therefore considered to be representative of relevant public exposure. We are looking at additional sites to locate diffusion tubes and continue discussions with Councillors and management regarding funding for this.

These areas have historically shown some of the most elevated monitored levels of nitrogen dioxide in the district, although the levels are significantly below Air Quality Objectives for England (Table E1) and below that required for declaring a new Air Quality Management Areas (AQMA) and any associated action plan or strategy.

3.2.2 Particulate Matter (PM_{10})

No PM_{10} monitoring has been carried out during 2024 by Newark & Sherwood District Council.

3.2.3 Particulate Matter ($PM_{2.5}$)

No $PM_{2.5}$ monitoring has been carried out during 2024 by Newark & Sherwood District Council.

3.2.4 Sulphur Dioxide (SO_2)

No SO_2 monitoring has been carried out during 2024 by Newark & Sherwood District Council

Appendix A: Monitoring Results

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

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
3N_a, 3N_b	Balderton 3N	Suburban	481681	351500	NO_2	Not in AQMA	5.0	1.0	No	2.0
5N_a, 5N_b	Northern Rd 5N	Roadside	480400	355000	NO_2	Not in AQMA	5.0	1.0	No	2.0
7N_a, 7N_b	Bowbridge Rd 7N	Kerbside	480153	353320	NO_2	Not in AQMA	5.0	1.0	No	2.0
1N_a, 1N_b	FADS Cartergate 1N	Roadside	479851	353692	NO_2	Not in AQMA	1.0	2.0	No	2.0
4N_a, 4N_b	Farndon 4N	Suburban	477200	351900	NO_2	Not in AQMA	5.0	2.0	No	2.0
6N_a, 6N_b	War Memorial Appleton Gate 6N	Urban Centre	480006	353892	NO_2	Not in AQMA	1.0	2.0	No	2.0
9N_a, 9N_b	Albert St 9N	Roadside	479778	353621	NO_2	Not in AQMA	1.0	1.0	No	2.0
10N_a, 10N_b	Handley Court 10N	Urban Background	479859	354223	NO_2	Not in AQMA	1.0	1.0	No	2.0
11N_a, 11N_b	The Lodge 11N	Urban Background	481460	355900	NO_2	Not in AQMA	2.0	N/A	No	2.0
12N_a, 12N_b	Newark Castle 12N	Urban Centre	479676	354016	NO_2	Not in AQMA	3.0	5.0	No	2.0
16N_a, 16N_b	Brunel Dr/Lincoln Rd 16N	Roadside	481152	355589	NO_2	Not in AQMA	3.0	2.0	No	2.0

Notes:

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

(2) N/A if not applicable.

Table A.2 – Annual Mean 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 2024 (%) (2)	2020	2021	2022	2023	2024
3N_a, 3N_b	481681	351500	Suburban	82.9	81.1	12.3	12.9	12.8	11.2	10.7
5N_a, 5N_b	480400	355000	Roadside	100.0	97.8	21.0	22.9	22.2	21.6	20.1
7N_a, 7N_b	480153	353320	Kerbside	100.0	97.8	21.8	25.9	25.1	23.8	22.1
1N_a, 1N_b	479851	353692	Roadside	100.0	97.8	24.3	24.5	25.4	24.4	21.9
4N_a, 4N_b	477200	351900	Suburban	90.6	88.7	10.8	10.8	10.4	9.2	8.5
6N_a, 6N_b	480006	353892	Urban Centre	100.0	97.8	16.0	16.9	16.5	15.6	13.9
9N_a, 9N_b	479778	353621	Roadside	100.0	97.8	19.7	22.7	21.9	21.0	19.7
10N_a, 10N_b	479859	354223	Urban Background	100.0	97.8	14.7	16.6	16.0	14.0	13.1
11N_a, 11N_b	481460	355900	Urban Background	100.0	97.8	21.0	24.3	22.5	21.1	19.9
12N_a, 12N_b	479676	354016	Urban Centre	100.0	97.8	12.0	13.0	13.9	12.0	10.9
16N_a, 16N_b	481152	355589	Roadside	100.0	97.8	23.3	27.9	26.6	23.9	22.7
18N_a, 18N_b	465090	367595	Kerbside	100.0	97.8	22.8	24.6	25.1	23.2	22.9
21N_a, 21N_b	480276	354029	Roadside	100.0	97.8	18.7	21.1	21.3	19.0	17.0

☒ **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**.

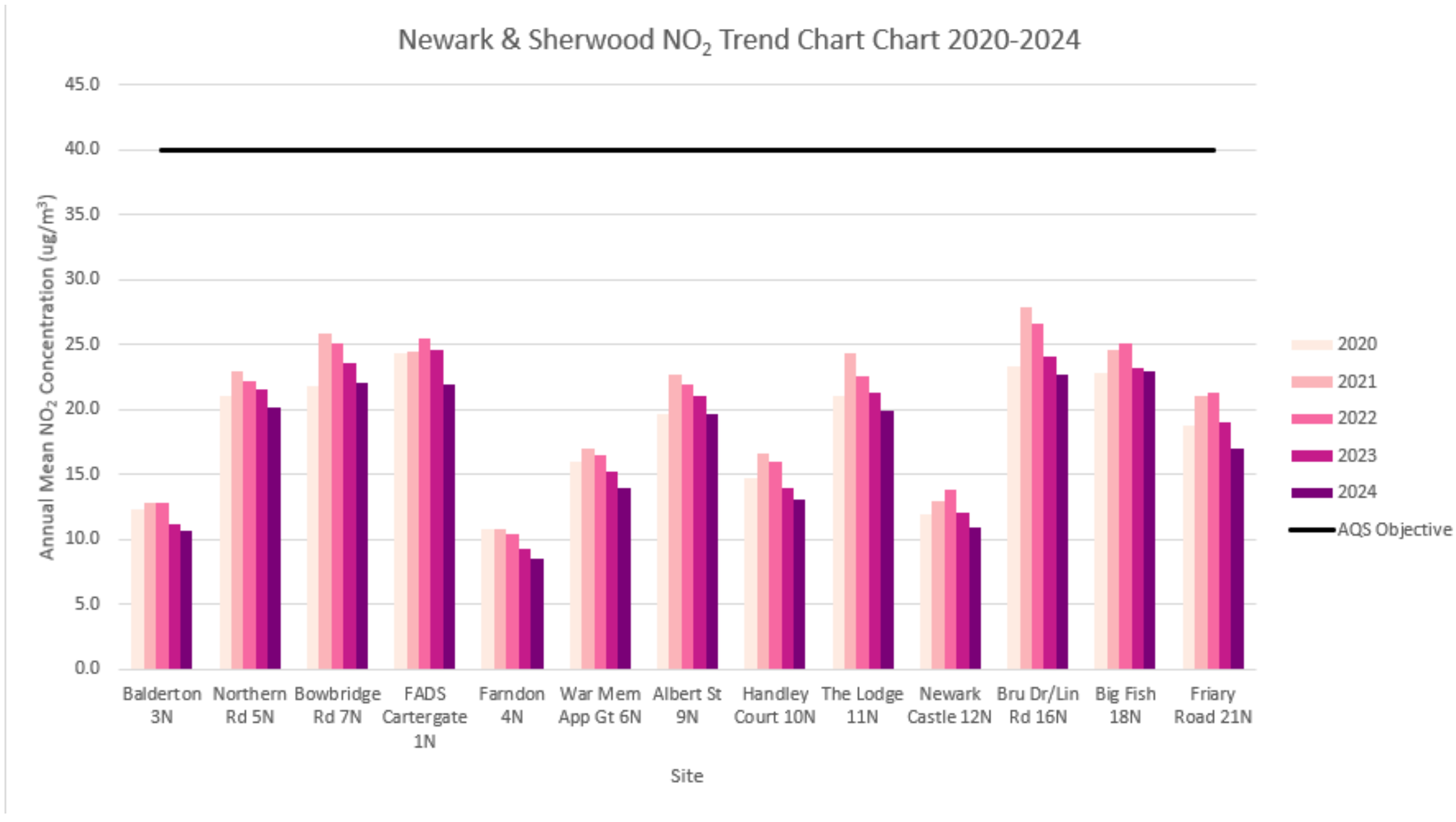
Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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



Appendix B: Full Monthly Diffusion Tube Results for 2024

Table B.1 – NO_2 2024 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 (0.84)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
3N_a	481681	351500	18.8	17.3	13.9	9.8		8.7	11.6	9.6	12.4	15.5		15.1	-	-	-	Duplicate Site with 3N_a and 3N_b - Annual data provided for 3N_b only
3N_b	481681	351500	19.1	16.9	12.2	6.0		8.7	9.8	9.4	12.2	14.3		14.7	12.7	10.7	-	Duplicate Site with 3N_a and 3N_b - Annual data provided for 3N_b only
5N_a	480400	355000	34.8	30.9	24.1	19.0	22.5	21.3	20.7	18.4	22.7	25.6	32.4	27.1	-	-	-	Duplicate Site with 5N_a and 5N_b - Annual data provided for 5N_b only
5N_b	480400	355000	25.0	27.5	22.5	18.2	22.1	20.5	16.0	20.3	21.8	26.7	30.9	24.6	23.9	20.1	-	Duplicate Site with 5N_a and 5N_b - Annual data provided for 5N_b only
7N_a	480153	353320	36.5	31.0	26.5	23.6	26.1	23.9	12.7	22.7	27.3	28.0	33.1	29.7	-	-	-	Duplicate Site with 7N_a and 7N_b - Annual data provided for 7N_b only
7N_b	480153	353320	37.4	32.8	24.2	24.3	26.1	24.2	11.9	22.4	29.3	23.0		24.0	26.3	22.1	-	Duplicate Site with 7N_a and 7N_b - Annual data provided for 7N_b only
1N_a	479851	353692	34.6	33.8	25.3	21.3	21.2	24.8	12.5	21.0	23.5	30.6	35.7	27.3	-	-	-	Duplicate Site with 1N_a and 1N_b - Annual data provided for 1N_b only
1N_b	479851	353692	34.7	32.2	27.2	21.9	22.5	24.3	12.4	24.6	23.1	31.5	31.9	29.7	26.1	21.9	-	Duplicate Site with 1N_a and 1N_b - Annual data provided for 1N_b only
4N_a	477200	351900	14.4	13.5	10.0	6.8		5.4	3.8	7.5	9.3	12.7	15.5	12.1	-	-	-	Duplicate Site with 4N_a and 4N_b - Annual data provided for 4N_b only
4N_b	477200	351900	14.0	13.2	9.5	6.5		6.3	3.8	7.9	9.1	13.3	16.9	11.9	10.1	8.5	-	Duplicate Site with 4N_a and 4N_b - Annual data provided for 4N_b only
6N_a	480006	353892	22.7	22.3	16.4	14.0	13.5	11.7	6.7	16.0	18.1	19.6	25.2	15.9	-	-	-	Duplicate Site with 6N_a and 6N_b - Annual data provided for 6N_b only
6N_b	480006	353892	22.0	20.3	15.7	12.1	15.7	11.8	6.8	15.7	16.5	18.7	22.7	18.8	16.6	13.9	-	Duplicate Site with 6N_a and 6N_b - Annual data provided for 6N_b 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 (0.84)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
9N_a	479778	353621	28.5	28.8	23.9	20.1	21.9	20.7	10.2	22.0	22.6	26.6	29.5	25.7	-	-	-	Duplicate Site with 9N_a and 9N_b - Annual data provided for 9N_b only
9N_b	479778	353621	29.1	29.3	22.4	18.6	20.4	21.0	10.6	22.2	23.1	27.9	31.3	26.2	23.5	19.7	-	Duplicate Site with 9N_a and 9N_b - Annual data provided for 9N_b only
10N_a	479859	354223	21.2	19.5	17.5	12.2	14.5	10.5	5.6	12.5	16.2	16.7	21.1	17.5	-	-	-	Duplicate Site with 10N_a and 10N_b - Annual data provided for 10N_b only
10N_b	479859	354223	19.5	19.8	17.0	13.1	15.3	10.1	6.1	12.0	15.7	20.1	23.2	17.6	15.6	13.1	-	Duplicate Site with 10N_a and 10N_b - Annual data provided for 10N_b only
11N_a	481460	355900	30.3	26.9	23.0	21.5	22.9	24.3	11.3	21.1	26.3	22.9	28.0	26.7	-	-	-	Duplicate Site with 11N_a and 11N_b - Annual data provided for 11N_b only
11N_b	481460	355900	27.8	28.6	20.3	21.8	22.7	23.4	12.2	22.5	25.4	24.2	27.8	25.1	23.6	19.9	-	Duplicate Site with 11N_a and 11N_b - Annual data provided for 11N_b only
12N_a	479676	354016	18.9	17.3	13.9	9.7	12.2	8.1	5.0	10.5	11.6	16.8	18.9	15.1	-	-	-	Duplicate Site with 12N_a and 12N_b - Annual data provided for 12N_b only
12N_b	479676	354016	16.8	16.7	13.3	9.1	11.2	8.1	5.2	10.5	12.8	14.9	19.6	15.6	13.0	10.9	-	Duplicate Site with 12N_a and 12N_b - Annual data provided for 12N_b only
16N_a	481152	355589	31.1	29.8	26.5	21.4	30.1	22.7	12.6	21.2	31.1	23.5	30.2	24.9	-	-	-	Duplicate Site with 16N_a and 16N_b - Annual data provided for 16N_b only
16N_b	481152	355589	30.8		57.2	23.0	30.9	21.7	9.9	20.1	31.6	29.6	34.6	25.2	27.0	22.7	-	Duplicate Site with 16N_a and 16N_b - Annual data provided for 16N_b only
18N_a	465090	367595	32.9	30.5	30.3	21.5	26.9	26.8	14.2	26.9	26.3	31.2	33.1	28.2	-	-	-	Duplicate Site with 18N_a and 18N_b - Annual data provided for 18N_b only
18N_b	465090	367595	33.0	30.3	29.5	21.7	26.3	27.1	14.5	25.4	26.8	31.2	31.8	27.9	27.2	22.9	-	Duplicate Site with 18N_a and 18N_b - Annual data provided for 18N_b only
21N_a	480276	354029	25.6	27.0	22.3	17.9	21.1	15.1	8.3	16.0	21.0	20.7	27.7	20.7	-	-	-	Duplicate Site with 21N_a and 21N_b - Annual data provided for 21N_b only
21N_b	480276	354029	26.2	27.3	22.4	17.9	21.2	15.1	8.1	15.7	21.2	19.1	26.3		20.2	17.0	-	Duplicate Site with 21N_a and 21N_b - Annual data provided for 21N_b only

☒ **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.**

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

Notes:

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

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

See Appendix C for details on bias adjustment and annualisation.

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

New or Changed Sources Identified Within Newark & Sherwood During 2024

Newark & Sherwood District Council has not identified any new or changed sources relating to air quality within the reporting year of 2024. As discussed earlier in the report the Development Consent Order (DCO) submission for the proposed A46 Newark Bypass Widening Scheme has been submitted and the examination by the Planning Inspectorate was completed on 8th April 2025. The Inspectorate will now have three months to make their recommendation to the Secretary of State (SoS). Following this the SoS then has three months to make their decision and so we should know the outcome around October 2025. Air quality assessments have been completed and have screened out $PM_{2.5}$ and generally predicts a reduction in NO_2 levels due to improved traffic flows during operational phase. There are some locations where marginal increases of NO_2 are predicted but these are outside of the scheme and in some cases outside of the district and all are considered negligible in terms of impact. The modelled increases are significantly below air quality objectives and are predicted to increase only for the opening and early years of the scheme and will decrease back to below current levels in a short time period. Construction phase traffic emissions have been scoped out using DMRB and a suite of mitigation measures has proposed for control of construction dust. These mitigation measures have been discussed with National Highways, AECOM and ourselves and have been refined on several occasions. At the time of writing, the deadline 6 version of the First Iteration Environmental Management Plan (FIEMP) has been updated to include measures requested by AECOM and NSDC such as improved complaint reporting procedure, some real time particulate monitoring, regular feedback reporting etc. The second iteration EMP will be produced post approval and prior to construction and will include further details such as location and type of monitoring stations etc.

The A46 DCO examination document library can be found here **Documents | A46 Newark Bypass**

Additional Air Quality Works Undertaken by Newark & Sherwood District Council During 2024

Newark & Sherwood District Council has not completed any additional works within the reporting year of 2024.

QA/QC of Diffusion Tube Monitoring

Diffusion tube data for Newark and Sherwood District Council is supplied and analysed by Gradko International Ltd, the tubes were prepared using the 20% TEA in water preparation method. The exposure period corresponded with the exposure calendar where possible. On occasion the 'changeover day' was moved to fit in with workload and staff availability. As reported in last years ASR, January 2024 changeover day had to be delayed by one week due to the impact of Storm Henk when all Environmental Health staff were redeployed to assist with the emergency response. This meant January 2024 tubes began exposure the 10th January 2024 instead of the 3rd January 2024, which resulted in exposure period that was below the scheduled four weeks for January. We used the Diffusion Tube Data Processing Tool v5.0 for managing our tube results. The tool indicated that there was no requirement for annualisation or to calculate fall off with distance.

Precision summary data for Gradko is presented below:

Precision Summary Table

Diffusion Tube Preparation Method	2022 Good	2022 Bad	2023 Good	2023 Bad	2024 Good	2024 Bad
Gradko, 20% TEA in Water	33	0	25	0	26	0

Participation in Laboratory Proficiency Testing Scheme

Gradko International Ltd take part in the AIR PT scheme which is operated by LGC Standards and supported by the Health and Safety Executive (HSE). The scheme provides a means for assessing the analytical performance of those laboratories supplying diffusion tubes to Local Authorities for use in the context of Local Air Quality Management (LAQM). An edited summary of the AIR PT results showing only Gradko results is provided below:

The following table lists those UK laboratories undertaking LAQM activities that have participated in recent AIR NO_2 PT rounds and the percentage (%) of results submitted which were subsequently determined to be **satisfactory** based upon a z-score of ≤ ± 2 as defined above.

AIR PT Round	AIR PT AR050	AIR PT AR052	AIR PT AR053	AIR PT AR055	AIR PT AR056	AIR PT AR058	AIR PT AR059	AIR PT AR062	AIR PT AR063
Round conducted in the period	May – June 2022	July – August 2022	September – October 2022	January – February 2023	May – June 2023	July – August 2023	September – October 2023	January – February 2024	April – June 2024
Gradko International	100 % [1]	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %

[1] Participant subscribed to two sets of test results (2 x 4 test samples) in each AIR PT round.
[2] NR, No results reported.
[3] Cardiff Scientific Services, Exova (formerly Clyde Analytical), Kent Scientific Services, Kirklees MBC, Northampton Borough Council and West Yorkshire Analytical Services; no longer carry out NO2 diffusion tube monitoring and therefore did not submit results.

NO2 PT Summary – AIR PT Rounds AR050, 52, 53, 55, 56, 58, 59, 62 & 63

Diffusion Tube Annualisation

All diffusion tube monitoring locations within Newark & Sherwood recorded data capture of 75% therefore it was not required to annualise any monitoring data.

Diffusion Tube Bias Adjustment Factors

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

Newark & Sherwood District Council have applied a national bias adjustment factor of 0.84 to the 2024 monitoring data using spreadsheet version 03/25. It was noted that LAQM helpdesk released an updated version of the sheet in April 04/25 however NSDC had already completed data processing and submitted the data sheet via the portal when this update was released. This later April factor had not been produced in previous years so Environmental Health was not aware that an update was scheduled and had already proceeded using 03/25. The LAQM Helpdesk was contacted to raise this but no response was received. As it turned out the factor for 04/25 was also 0.84 and a copy of both is presented below. A summary of bias adjustment factors used by Newark & Sherwood District Council over the past five years is presented in Table C.1.

Table C.1 – Bias Adjustment Factor

National Diffusion Tube Bias Adjustment Factor Spreadsheet — Spreadsheet Version Number: 03/25

Follow the steps below **in the correct order** to show the results of **relevant** co-location studies
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods
Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet
This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.

This spreadsheet will be updated at the end of June 2025
LAQM Helpdesk Website

The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.

Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.

Step 1:	Step 2:	Step 3:	Step 4:
Select the Laboratory that Analyses Your Tubes from the Drop-Down List	Select a Preparation Method from the Drop-Down List	Select a Year from the Drop-Down List	Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor[3] shown in blue at the foot of the final column.
If a laboratory is not shown, we have no data for this laboratory.	If a preparation method is not shown, we have no data for this method at this laboratory.	If a year is not shown, we have no data[2]	If you have your own co-location study then see footnote[4]. If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953

Analysed By[1]	Method (To undo your selection, choose (All) from the pop-up list)	Year[5] (To undo your selection, choose (All))	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m³)	Automatic Monitor Mean Conc. (Cm) (µg/m³)	Bias (B)	Tube Precision[6]	Bias Adjustment Factor (A) (Cm/Dm)
Gradko	20% TEA in water	2024		Overall Factor[3] (27 studies)				Use		0.84

National Diffusion Tube Bias Adjustment Factor Spreadsheet — Spreadsheet Version Number: 04/25

Follow the steps below **in the correct order** to show the results of **relevant** co-location studies
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods
Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet
This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.

This spreadsheet will be updated at the end of June 2025
LAQM Helpdesk Website

The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.

Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.

Step 1: Select the Laboratory that Analyses Your Tubes from the Drop-Down List
If a laboratory is not shown, we have no data for this laboratory.

Step 2: Select a Preparation Method from the Drop-Down List
If a preparation method is not shown, we have no data for this method at this laboratory.

Step 3: Select a Year from the Drop-Down List
If a year is not shown, we have no data[2]

Step 4: Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor[3] shown in blue at the foot of the final column.
If you have your own co-location study then see footnote[4]. If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953

Analysed By[1]	Method	Year[5]	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m³)	Automatic Monitor Mean Conc. (Cm) (µg/m³)	Bias (B)	Tube Precision[6]	Bias Adjustment Factor (A) (Cm/Dm)
Gradko	20% TEA in water	2024		Overall Factor[3] (27 studies)				Use		0.84

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2024	National	03/25	0.84
2023	National	03/24	0.81
2022	National	03/23	0.83
2021	National	03/22	0.84
2020	National	03/21	0.81

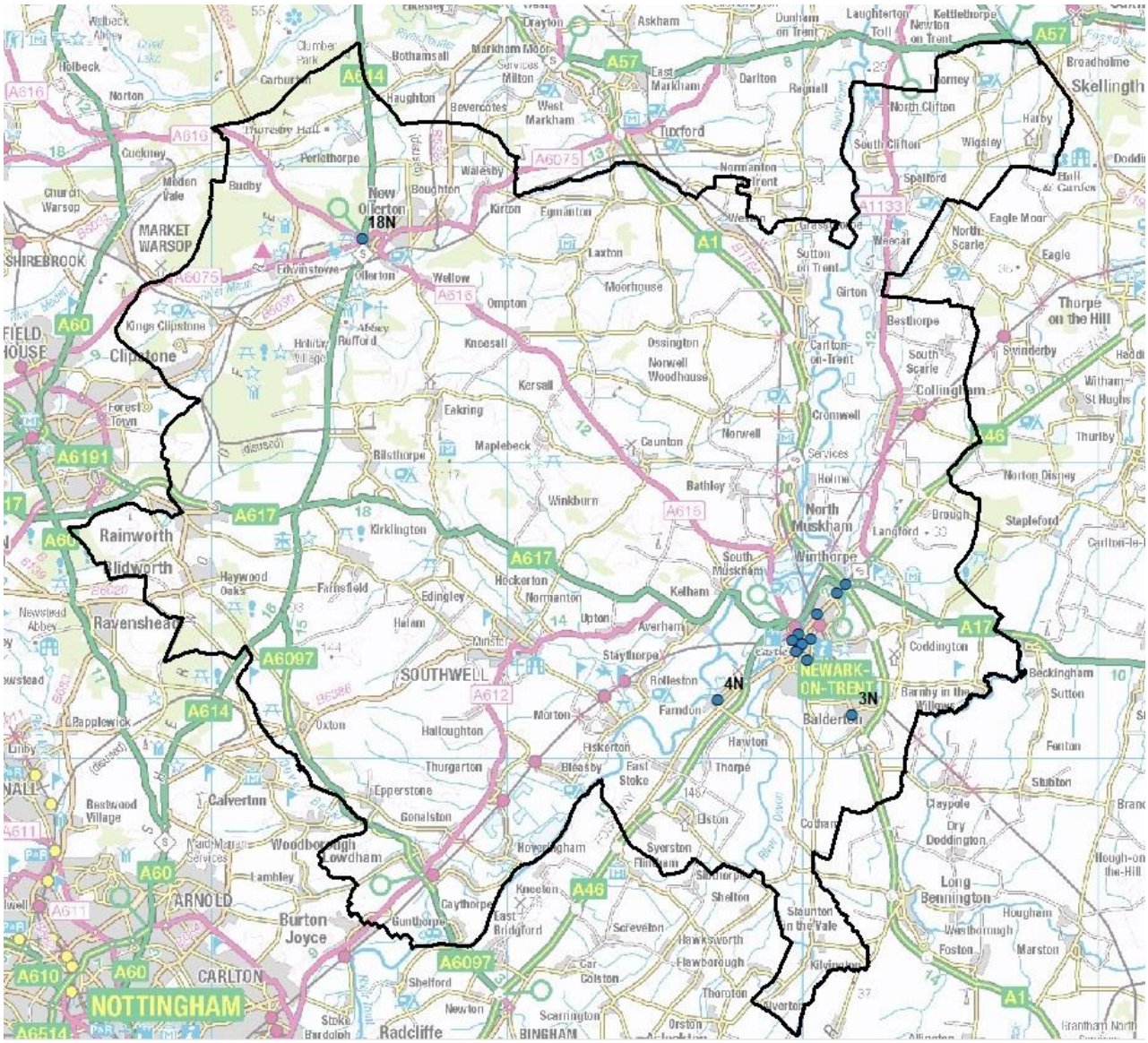
NO_2 Fall-off with Distance from the Road

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. There was no requirement for calculation of fall off with distance as indicated by Diffusion Tube Data Processing Tool v5.0.

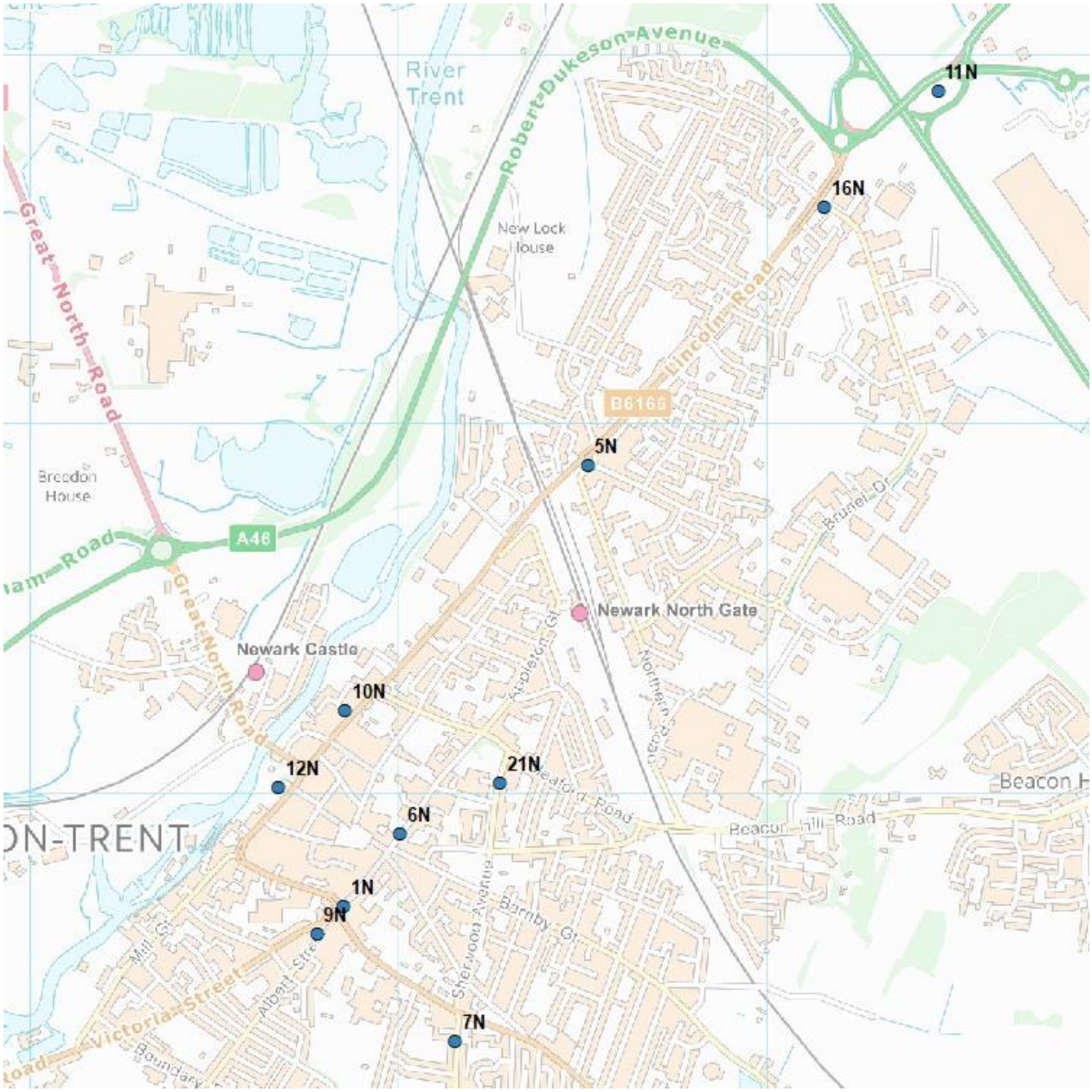
Appendix D: Map(s) of Monitoring Locations and AQMAs

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

NSDC NO_2 Diffusion Tube Locations Full Map



NSDC NO_2 Diffusion Tube Locations Newark Detail Map



Appendix E: Summary of Air Quality Objectives in England

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

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

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

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
LAQM	Local Air Quality Management
NAQS2020	Air Quality Strategy for Nottingham and Nottinghamshire 2020-2030
NCC	Nottinghamshire County Council
NNAQOG	Nottingham and Nottinghamshire Air Quality Oversight Group
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
NSDC	Newark & Sherwood District Council
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO_2	Sulphur Dioxide

References

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- Local Air Quality Management Policy Guidance LAQM.PG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Chemical hazards and poisons report: Issue 28. June 2022. Published by UK Health Security Agency
- Air Quality Strategy – Framework for Local Authority Delivery. August 2023. Published by Defra.
- National Clean Air Strategy 2019 https://www.gov.uk/government/publications/clean-air-strategy-2019
- Nottinghamshire Joint Strategic Needs Assessment (JSNA) Chapter on Air Quality http://jsna.nottinghamcity.gov.uk/insight/Strategic-Framework/Nottinghamshire-JSNA/Cross-cutting-themes/Air-Quality.aspx
- Nottinghamshire Joint Health and Wellbeing Strategy for 2022-2026 https://www.nottinghamshire.gov.uk/media/4350014/nottinghamshirejointhealthwellbeingstrategy2022-2026.pdf
- Office for Health Improvement & Disparities Public Health Outcomes Framework https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/1/gid/1000043/pat/6/par/E12000004/ati/401/are/E07000175/yrr/3/cid/4/tbm/1
- Air Quality Strategy for Nottingham and Nottinghamshire 2020-2030 https://storymaps.arcgis.com/collections/d92774a41ed540cd9ef8f80167ad1574 Newark & Sherwood District Council Guidance on Wood Burning Stoves https://www.newark-sherwooddc.gov.uk/smokecontrol/
- HETAS Cleaner Choice Product Approval https://www.hetas.co.uk/trade/scheme/product-approval-scheme/#:~:text=HETAS%20is%20introducing%20the%20new,on%20air%20quality%20and%20the

- Eco Design
  https://www.hetas.co.uk/consumer/advice-hub/advice-articles/ecodesign-explained/
- WHO Air Quality Guidelines report 2021
  https://www.who.int/publications/i/item/9789240034228
- Woodsure Ready to Burn
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- Defra practical guidance on open fires and wood burning stoves
- https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2312131121_Ready_to_Burn_web_12-10-2023.pdf
- DEFRA National Statistics for NO_2
  https://www.gov.uk/government/statistics/air-quality-statistics/ntrogen-dioxide#:~:text=The%20annual%20mean%20concentration%20of%20NO2%20at%20urban%20background%20sites,%C2%B5g%2Fm3%20each%20year.
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  https://www.nottinghamshire.gov.uk/newsroom/news/one-in-10-bags-of-solid-fuel-sold-in-nottinghamshire-found-to-be-underweight#:~:text=Under%20current%20legislation%2C%20manufactured%20solid,'Ready%20to%20Burn'%20logo

- The Nottinghamshire Plan: Our plan for a healthy, prosperous and greener Nottinghamshire – Sets out the Council's key ambitions/delivery plan priorities.

- Nottinghamshire Local Transport Plan 2011-2026 | Nottinghamshire County Council – The Local transport Plan (LTP) sets out Nottinghamshire's transport strategy and outlines a programme of measures to be delivered in the short, medium and long term. The document covers all types of transport (including walking, cycling and public transport). Note, EMCCA are currently in the process of developing a LTP which will cover the entire combined authority area (i.e. Nottingham, Nottinghamshire, Derby and Derbyshire).

- D2N2 Local Cycling and Walking Infrastructure Plan (LCWIP) | Nottinghamshire County Council – The D2N2 LCWIP identifies a prioritised list of cycling and walking improvements for future delivery in the short, medium and long term (up to 15 years)

- 2024-25 Highways Capital and Revenue Programmes Update – Highways capital and revenue programmes approved for delivery during 2024/25.
- Electric vehicle charging frameworks and strategies | Nottinghamshire County Council
- Bikeability Cycle Training for Everyone - Deliver Safer Training | Bikeability
- Via East Midlands Bikeability Bikeability Cycle Programme – Via East Midlands