



South Derbyshire District 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: April 2024

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|--------------------------------|--|
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Executive Summary: Air Quality in Our Area

Air Quality in South Derbyshire

Breathing in polluted air affects our health and costs the NHS and our society billions of pounds each year. Air pollution is recognised as a contributing factor in the onset of heart disease and cancer and can cause a range of health impacts, including effects on lung function, exacerbation of asthma, increases in hospital admissions and mortality. In the UK, it is estimated that the reduction in healthy life expectancy caused by air pollution is equivalent to 29,000 to 43,000 deaths a year¹.

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

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

Table ES 1 - Description of Key Pollutants

| Pollutant | Description |
|--|--|
| Nitrogen Dioxide (NO ₂) | Nitrogen dioxide is a gas which is generally emitted from high-temperature combustion processes such as road transport or energy generation. |
| Sulphur Dioxide (SO ₂) | Sulphur dioxide (SO ₂) is a corrosive gas which is predominantly produced from the combustion of coal or crude oil. |
| Particulate Matter (PM ₁₀ and PM _{2.5}) | <p>Particulate matter is everything in the air that is not a gas.</p> <p>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.</p> <p>PM₁₀ refers to particles under 10 micrometres. Fine particulate matter or PM_{2.5} are particles under 2.5 micrometres.</p> |

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

In South Derbyshire, respirable particulates are estimated to contribute to 42 'attributable deaths' per year and to 439 associated life years lost for the population aged over 25.

Air quality across all of South Derbyshire has been continuously improving over the past decade.

The Council is satisfied that air quality across South Derbyshire meets all current health based statutory Objectives.

Air quality (as nitrogen dioxide) is currently monitored at 24 locations representative of the highest likely exposure to the main sources of air pollution.

Air quality has been monitored at 17 of these locations for 10 years or more. Measured results at all 17 of these monitoring locations have improved over this period.

All monitoring locations demonstrated that nitrogen dioxide (NO₂) levels in 2023 were below the annual average Air Quality Objective of 40 µg/m³.

There is no evidence to suggest that any other air pollutants are exceeding, or close to exceeding, the Air Quality Objectives.

Air quality in South Derbyshire was the cleanest in recent history in 2023.

South Derbyshire is one of the fastest growing Council areas in the country. None the less, evidence from monitoring locations across the District indicates that the various activities by South Derbyshire District Council and partner agencies described in this Annual Status Report are having a meaningful benefit on air quality and by extension on the health of residents and visitors.

The main pollutant of concern in South Derbyshire is nitrogen dioxide (NO₂). This is a product of combustion, its most dominant source being from road traffic.

Measured levels of nitrogen dioxide can vary quite significantly at each monitoring location from month to month and from year to year mainly due to fluctuations in weather, sunlight, traffic flows and compositions. Overall, the trends in measured levels of NO₂ in South Derbyshire are showing a reduction over the last decade.

- The High Street (A511) in Woodville has historically provided the most concern about a potential exceedance of the annual average Objective for NO₂. We have four monitoring locations near to the clock island junction (High Street / Moira Road) and one at the junction of High Street and Hepworth Way. Over the last ten years air quality has improved at all these.

- Prior to the construction of the Woodville – Swadlincote link road we also started monitoring air quality in locations predicted to experience changes in traffic flows as a result of this highway development. Data from these locations is presented in this report which provides comfort that measured NO₂ is well below the Objective.
- There are three monitoring locations in Repton. All three show an improving trend in air quality since the Council started monitoring in 2012.
- The two monitoring locations in Overseal show an improvement over the last decade.
- The two monitoring locations in Church Gresley both show an improvement in air quality over the last decade.
- Two monitoring locations were established in Stenson Fields in 2022 to monitor the impacts of new development in this area. Data shows that air quality at both of these monitoring locations is well within the Objective.
- Of the remaining monitoring locations, air quality has shown an improving trend in Hatton, Burnaston and Willington. At the two monitoring locations along the A444 there has been an improvement at both.

Table 1 summarises the long-term trends (10 years) in air quality across all monitoring locations.

Table 1 – Long Term Air Quality Monitoring Trends by Location

| Location | Long Term Air Quality Trend | Compliant with AQ Objectives? |
|------------------------|-----------------------------|-------------------------------|
| High Street, Woodville | Improving | Yes |
| Church Gresley | Improving | Yes |
| Hatton | Improving | Yes |
| Overseal | Improving | Yes |
| A444 | Improving | Yes |
| Repton | Improving | Yes |

| | | |
|------------|-----------|-----|
| A38 | Improving | Yes |
| Willington | Improving | Yes |

Actions to Improve Air Quality

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

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

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

Because air quality in South Derbyshire has never exceeded the Air Quality Objectives, the Council has never declared an AQMA.

Currently the main interventions to improve air quality are as follows;

- Delivering a range of air quality interventions in collaboration with public sector partners across Derbyshire to deliver the Derby and Derbyshire Air Quality Strategy and the associated Action Plan

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

- Developing and implementing a diverse range of actions through the Council's Climate and Environment Action Plan, which has been independently assessed as one of the best in the UK.
- Installing electric charge points in the Council's public car parks to encourage public transition to electric vehicles.
- Enabling homeowners to transition to low and non-fossil fuel heating systems through grant support.
- Exploring opportunities both locally and regionally to develop non-fossil fuel energy production to enable transport, homes and businesses to transition away from fossil fuel.

Conclusions and Priorities

- No exceedances of air quality standards were observed in South Derbyshire in 2023.
- There is no need for the Council to consider declaring an Air Quality Management Area.
- The trend across all monitoring locations in South Derbyshire is that air quality has been progressively improving.
- Improvements in air quality in South Derbyshire will be significantly influenced by the Council's Climate and Environment Action Plan.
- South Derbyshire District Council are actively supporting the delivery of a Derby and Derbyshire Air Quality Strategy along with a revised Action Plan approved in 2023.

Local Engagement and How to get Involved

The main contributions that the community can make to improving air quality are around taking personal and community action around minimising emissions from traffic and other sources and limiting exposure at times of poor air quality. Specifically, that means avoiding unnecessary car use for short journeys, utilising public transport where possible, buying and maintaining low emissions vehicles and being linked into the national alert system for predicted episodes of poor air quality. Full details are contained in the reference section.

Air quality in South Derbyshire improved by up to 30% in 2020 compared to 2019 as a direct result of the reduction in road traffic. This provided powerful evidence that moving away from

reliance on personal transport by car can lead to significant environmental and health improvements.

Local Responsibilities and Commitment

This ASR was prepared by the Environmental Health Service of South Derbyshire District Council.

This ASR has been endorsed by Eleanor Houlston, Derbyshire Director of Public Health.

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

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1 Local Air Quality Management

This report provides an overview of air quality in South Derbyshire 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 South Derbyshire District Council to improve air quality and any progress that has been made.

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

2 Actions to Improve Air Quality

2.1 Air Quality Management Areas

Air Quality Management Areas (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.

South Derbyshire currently does not have any declared AQMAs. Current monitoring data does not identify the need to consider declaring an AQMA.

Despite not having declared any AQMAs, South Derbyshire District Council has been an active participant in the Derby and Derbyshire Air Quality Working Group. This Group was set up and led by the Directors of Public Health for Derby and Derbyshire.

An Air Quality Strategy for Derby and Derbyshire has been approved and is available via the [JSNA Air Pollution webpage](#) at [air_quality_strategy_2020-2030_\(2023_refresh\).pdf \(derbyshire.gov.uk\)](#)

An [Air Quality Strategy for South Derbyshire](#) was approved in 2021.

During 2023 a revised Derby and Derbyshire Air Quality Action Plan was published and approved along with a comprehensive list of supporting KPIs.

South Derbyshire District Council is currently developing a new South Derbyshire Air Quality Strategy to align with the Derby and Derbyshire Strategy, Action Plan and KPIs. When approved in summer 2024 this will be published on our [Air Quality webpage](#).

2.2 Progress and Impact of Measures to address Air Quality in South Derbyshire

Defra’s appraisal of last year’s ASR was that the conclusions reached were **accepted** for all sources and pollutants. The observations contained in the appraisal and the Councils current position in response to these observations are summarised below:

| DEFRA Comments | SDDC Response |
|---|---|
| <p>The Council has detailed their Local Air Quality Strategy in the ASR. However, priorities and proposed future actions for the coming year have not been clearly identified.</p> | <p>Current priorities and plans are summarised in section 2.2 of this report.</p> |
| <p>From 2023 those authorities who have not had to designate AQMAs and produce AQAPs will be required to draw up a local Air Quality Strategy</p> | <p>A revised South Derbyshire Air Quality Strategy will be published in 2024 which will align with the Derby and Derbyshire Air Quality Strategy.</p> |

Despite the fact that there are no AQMAs in South Derbyshire, the Council has taken forward a number of 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 the following Table. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented. Some of the key completed measures are:

- We have used legal powers normally only given to upper tier county councils to make sure that energy efficiency standards in private rented houses meet legal standards in over 5,000 homes. This helped reduce NO₂ and PM emissions from domestic energy production.
- We successfully bid for government funding to enable us to make improvements to 130 houses in South Derbyshire which enabled them to decarbonise and to reduce NO₂ and PM emissions from domestic energy production.
- We have so far installed 42 electric recharge points in our car parks to help our residents transition from petrol /diesel cars to electric vehicles.

South Derbyshire District Council expects the following measures to be completed over the course of the next reporting year:

- We will decarbonise more homes through the delivery of the Homes Upgrades Grant (HUG2) and the Social Housing Decarbonisation Fund (SHDF2).
- We will install more electric recharge points in our own car parks, both funded by ourselves and funded from the governments Low Emissions Vehicle Infrastructure fund (LEVI).
- We will have completed a D2N2 funded innovation pilot project which involves fitting a hydrogen / diesel hybrid engine to two of our refuse collection vehicles. The pilot project will help understand the viability of using hydrogen as a fuel for public sector HGV fleet vehicles and is attracting national interest.
- We will have started a project to assess the potential capacity for the production of sustainable energy in South Derbyshire.

We worked to implement these measures in partnership with the following stakeholders during 2023:

- Derbyshire County Council Trading Standards,
- Department for Energy Security and Net Zero (DESNZ),
- Office for Zero Emission Vehicles (OZEV),
- D2N2 Innovation Fund.

The principal challenges and barriers to implementation that South Derbyshire District Council experienced during 2023 are summarised below. We anticipate that these challenges will continue through 2024;

- Various challenges with the delivery of housing decarbonisation funding including quality of delivery of contractors work to meet PAS2035, increasing materials costs and aligning homeowners expectations with the limitations of the grant funding availability.
- Costs of installation of three phase electrical supplies to enable EV installation in public car parks.
- Availability of green hydrogen and high cost of hydrogen storage and distribution.

The three highest priority items in terms of impact on air quality are highlighted in **yellow** in the Table below.

A number of these actions are already mentioned in other strategic plans. Where that is the case the measure number in the Table makes reference to these such as the South Derbyshire Climate & Environment Action Plan (C&EAP) and the Derby and Derbyshire Air Quality Strategy Action Plan (DAQS).

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 | Air quality mitigation measures in the South Derbyshire Design Guide (Design SPD) | Policy Guidance and Development Control | Air Quality Planning and Policy Guidance | 2019 | 2024 | SDDC | SDDC | NO | Funded | < £10k | Implementation | Overall reduction in emissions per developed floorspace | 308 planning responses in 2023 | Design SPD approved. Model planning conditions produced. | Pressure for planning approval without air quality conditions |
| 2 | Woodville - Swadlincote Regeneration Route | Transport Planning and Infrastructure | Other | 2020 | 2022 | DCC | D2N2 Growth Fund | NO | Funded | £1 million - £10 million | Completed | Mass emission and exposure reduction to PM and NO2 | Reduced NO2 exposure in High Street Woodville | Road complete. See air quality data later in this report | Complete |
| 3 | Replacement of solid fuel heating appliances with Air Source Heat Pumps in South Derbyshire Council homes | Promoting Low Emission Plant | Shift to installations using low emission fuels for stationary and mobile sources | 2018 | 2019 | SDDC | ECO | NO | Funded | £500k - £1 million | Completed | 1.5 to 3 tonne reduction in PM emission | 54 Air Source Heat Pumps fitted | Overseal Project complete | Complete. |
| 6 | Free Trees initiative | Other | Other | 2010 | 2032 | SDDC | National Forest | NO | Funded | £10k - 50k | Implementation | CO2 and PM mitigation | Number of free trees distributed | Approx 1000 trees distributed in 2023 | |
| 7 | Derbyshire Low Emissions Strategy Action Plan | Promoting Low Emission Transport | Priority parking for LEV's | 2019 | 2024 | EST, BP Pulse, SDDC | OZEV | NO | Funded | £100k - £500k | Implementation | PM and NO2 | Various indicators around increase of low emission transport across Derbyshire | 50 EV points in Council owned car parks. Significant growth in demand observed. | Availability of three phase supplies to public car parks. Cost |
| 8 | Derby Park and Ride scheme at Boulton Moor | Transport Planning and Infrastructure | Public transport improvements- interchanges stations and services | 2019 | 2030 | DCC and private developers | Derbyshire County Council and private developers | NO | | | | Reduced passenger car emissions | Trip reductions | Currently at options appraisal | Dependant on s.106 contributions and possible Transforming Cities capital |
| 9 | A38 Derby Junction Improvements (Kingsway, Mark Eaton and Abbey Hill) | Traffic Management | Strategic highway improvements, Re-prioritising road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane | 2018 | 2024 | Highways England | Highways England | NO | Funded | £1 million - £10 million | Implementation | Reduced total vehicle emissions | None | Development Consent Order approved on 8 January 2021. Re-determination of DCO is currently pending | DCO may not be re-determined |
| 10 | South Derbyshire staff travel action plan targets | Promoting Travel Alternatives | Workplace Travel Planning | 2019 | 2024 | SDDC | SDDC | NO | Partially Funded | £100k - £500k | Implementation | Reduced PM & NO2 | 15% reduction in grey fleet mileage. 10% reduction in total fleet diesel consumption. 70% of staff using sustainable travel | Plan adopted in Nov 2019. KPIs for 2023 on target. 50% reduction in staff travel emissions (as CO2) achieved between 2019 and 2022. | Funding and staff engagement |
| 11 | Derby Clean Air Zone | Traffic Management | Road User Charging (RUC)/ Congestion charging | 2019 | 2024 | Derby City Council | | YES | | | | Reduced exposure of sensitive receptors | Compliance with EU Limit Value for NO2 | Ministerial approval in May 2019 | |

| 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 |
|-------------|---|---|--|---------------------------------|------------------------------------|-------------------------|----------------------------|------------------------|------------------|---------------------------|----------------|---|---|---|---------------------------------------|
| 12 | Derbyshire Air Quality Strategy | Other | Other | 2019 | 2030 | DCC | DCC | NO | Partially Funded | < £10k | Implementation | Reduced PM & NO2 | Various indicators around emissions and exposure reductions | Adopted Jan 2020. Review initiated in 2022. Revised Plan approved in Sept 2023. | |
| 13 | Derbyshire Cycle Plan | Promoting Travel Alternatives | Promotion of cycling | 2019 | 2030 | Active Derbyshire & DCC | DCC | NO | Partially Funded | | Implementation | Reduced vehicle (PM and NO2) emissions | Increase from 1% to 2% the % of commuters travelling to work by bike as main transport mode | Ongoing | |
| 14 | Key Cycle Network | Promoting Travel Alternatives | Promotion of cycling | 2019 | 2030 | DCC | DCC | NO | Partially Funded | | | Reduced vehicle (PM and NO2) emissions | Target of 770km of KCN routes | 396km complete, 127 proposed links remain | |
| 15 | Local Cycling and Walking Infrastructure Plan | Promoting Travel Alternatives | Promotion of walking | 2019 | 2030 | Sustrans | DCC | NO | Partially Funded | | | Reduced vehicle (PM and NO2) emissions | Monitored through the Active Lives survey. | Draft Plan submitted to DfT in Nov 2019 | |
| 16 | Sustainable modes of travel strategy | Promoting Travel Alternatives | School Travel Plans | 2019 | 2030 | DCC | DCC | NO | Partially Funded | | | Reduced vehicle (PM and NO2) emissions | Reduce the % of children who go to school in a car from 34% | Proposed KPIs in the Draft Derbyshire AQ Strategy | |
| 17 | Sustainable travel Smarter Choices | Promoting Travel Alternatives | Workplace Travel Planning | 2019 | 2030 | DCC | DCC | NO | Partially Funded | | | | | Proposed KPIs in the Draft Derbyshire AQ Strategy | |
| 18 | South Derbyshire Cycling Plan | Alternatives to private vehicle use | Other | 2019 | 2030 | SDDC | SDDC | NO | Partially Funded | | | Reduced vehicle (PM and NO2) emissions | Monitored through the Active Lives survey. | 28.9% have used cycling as a means for Active Travel | |
| 19 | Reduce emissions from industrial sources by EPR inspections | Environmental Permits | Measures to reduce pollution through IPPC Permits going beyond BAT | 2012 | 2032 | SDDC | SDDC | NO | Funded | £10k - 50k | Implementation | Reduced industrial emission of all AQS pollutants | 100% compliance with permits | 100% compliance in 2023 | |
| 20 | ISO14001 Accreditation | Promoting Low Emission Plant | Other measure for low emission fuels for stationary and mobile sources | 2012 | 2032 | SDDC | SDDC | NO | Partially Funded | £50k - £100k | Implementation | CO2, PM and NO2 | ISO14001 recertification | Recertification achieved in Nov 2023 | |
| 21 | Greenways Strategy including new greenways and cycle routes | Transport Planning and Infrastructure | Public transport improvements-interchanges stations and services | 2012 | 2032 | DCC | DCC | NO | | | | CO2, PM and NO3 | | No data | |
| 22 | Develop Supplementary Planning Guidance on Air Quality | Policy Guidance and Development Control | Air Quality Planning and Policy Guidance | 2016 | 2022 | Public Health England | Regional Local Authorities | NO | Funded | < £10k | Completed | Reduction in impacts of new development | Finalised document | Final version published in Nov 2018 | Adoption within the planning process |
| 24 | EMAQF Workplan | Policy Guidance and Development Control | Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduce emissions and improve air quality | 2018 | 2023 | Public Health England | Regional Local Authorities | NO | Funded | < £10k | Aborted | No direct impact | Delivery against workplan | No recent activity | |
| 25 | Annual report on air quality to Derbyshire Health Protection Board | Public Information | Via other mechanisms | 2018 | 2032 | DCC | District Las | NO | Funded | < £10k | Implementation | No direct impact | Report to Health Protection Board | Last report to the September 2023 meeting | |
| 26 | Derbyshire air quality heatmap | Public Information | Via other mechanisms | 2020 | 2020 | DCC | District Las | NO | Funded | < £10k | Completed | No direct impact | Finalise heat maps | Heatmaps produced from 2015 data | |
| 27 | Promotion of Clean Air Day | Public Information | Via the Internet | 2018 | 2032 | DCC | District Las | NO | Funded | < £10k | Implementation | No direct impact | Comm Plan | Comm Plan | |

| 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 |
|-------------|---|----------------------------------|---|---------------------------------|------------------------------------|------------------------|--|------------------------|------------------|---------------------------|----------------|---|---|---|---|
| 28 | improved communication to individuals with chronic health conditions | Public Information | Via other mechanisms | 2018 | 2032 | DCC | Derbyshire Ditsrict / Borough Councils | NO | Not Funded | £10k - 50k | Planning | Reduced exposure of sensitive receptors | Comm Plan | Environmental services Comm Plan delivered in full in 2023 | |
| 29 | Increase awareness of impacts of air quality on health across professional groups | Public Information | Via other mechanisms | 2018 | 2032 | DCC | NHS | NO | Not Funded | £10k - 50k | Planning | Reduced exposure of sensitive receptors | TBC | The Draft Derbyshire AQ Strategy has been produced following key stakeholder consultation | |
| 30 | Installation of a continuous PM monitor in South Derbyshire | Public Information | Via the Internet | 2018 | 2032 | SDDC | SDDC | NO | Funded | £10k - 50k | Aborted | No direct reductions | 90% capture of PM10 & PM2.5 data | Monitor installed at Civic Way in Sept 2021 | Technical problems with monitor led to poor data capture. Monitor is currently out of commission. |
| 31 | EPC compliance in private rented sector | Promoting Low Emission Plant | Emission control equipment for small and medium sized stationary combustion sources / replacement of combustion sources | 2019 | 2022 | SDDC | SDDC | NO | Funded | £10k - 50k | Implementation | Reduced fixed plant (PM and NO2) emissions | 100% to EPC E | 99.8% at EPC E | Lack of data about the location of private rented properties |
| C&EAP T1 | Civic Offices decarbonisation | Promoting Low Emission Plant | Low Emission Fuels for stationary and mobile sources in Public Procurement | 2021 | 2030 | SDDC | SDDC | NO | Not Funded | £1 million - £10 million | Planning | Reduced fixed plant (PM and NO2) emissions | 200 tonne carbon reduction | Adopted in 2024-28 Council Plan | No funding |
| C&EAP T2 | Greenbank leisure centre decarbonisation | Promoting Low Emission Plant | Low Emission Fuels for stationary and mobile sources in Public Procurement | 2021 | 2030 | SDDC | SDDC | NO | Not Funded | £500k - £1 million | Planning | Reduced fixed plant (PM and NO2) emissions | 589 tonne carbon reduction | Adopted in 2024-28 Council Plan | No funding |
| C&EAP T3 | Etwall leisure centre decarbonisation | Promoting Low Emission Plant | Low Emission Fuels for stationary and mobile sources in Public Procurement | 2021 | 2030 | SDDC | SDDC | NO | Not Funded | £100k - £500k | Planning | Reduced fixed plant (PM and NO2) emissions | 590 tonne carbon reduction | Agreed in principle. No current implementation plan | No funding |
| C&EAP T4 | Fleet decarbonisation | Promoting Low Emission Transport | Company Vehicle Procurement - Prioritising uptake of low emission vehicles | 2021 | 2030 | SDDC | SDDC | NO | Not Funded | £1 million - £10 million | Planning | Reduced vehicle (PM and NO2) emissions | 990 tonne carbon reduction | See Fleet Replacement Plan below | No funding |
| C&EAP T5 | Boardman Road depot decarbonisation | Promoting Low Emission Plant | Low Emission Fuels for stationary and mobile sources in Public Procurement | 2021 | 2030 | SDDC | SDDC | NO | Not Funded | £100k - £500k | Planning | Reduced fixed plant (PM and NO2) emissions | 42 tonne carbon reduction | Agreed in principle. No current implementation plan | No funding |
| C&EAP T6 | Rosliston Forestry Centre decarbonisation | Promoting Low Emission Plant | Low Emission Fuels for stationary and mobile sources in Public Procurement | 2021 | 2030 | SDDC | SDDC | NO | Not Funded | £100k - £500k | Planning | Reduced fixed plant (PM and NO2) emissions | 136 tonne carbon reduction | Agreed in principle. No current implementation plan | No funding |
| C&EAP T7&8 | Social housing decarbonisation | Promoting Low Emission Plant | Other measure for low emission fuels for stationary and mobile sources | 2021 | 2030 | SDDC | SDDC | NO | Not Funded | > £10 million | Planning | Reduced fixed plant (PM and NO2) emissions | >1000 tonne carbon reduction | Approved in principle. Funding subject to bids to DESNZ | No funding |
| C&EAP ISP2 | Public building maintenance programme for all public building estate | Promoting Low Emission Plant | Shift to installations using low emission fuels for stationary and mobile sources | 2021 | 2032 | SDDC | TBD | NO | Not Funded | £100k - £500k | Planning | Reduced fixed plant and vehicle (CO2, PM and NO2) emissions | 152 tonne reduction | Agreed in principle. No current implementation plan | No funding |
| C&EAP ISP5 | Review fleet procurement to transition to low/zero carbon vehicles | Promoting Low Emission Transport | Company Vehicle Procurement - Prioritising uptake of low emission vehicles | 2018 | 2030 | SDDC | South Derbyshire District Council | NO | Partially Funded | £1 million - £10 million | Implementation | Reduced PM and NO2 | 88% reduction in total fleet CO2 emissions (988 tonnes) | Strategy approved in Jan 2024 | Cost |
| C&EAP ISP8 | Transition to electric grounds maintenance machinery | Promoting Low Emission Plant | Emission control equipment for small and medium sized stationary combustion sources / replacement of combustion sources | 2021 | 2023 | SDDC | SDDC | NO | Funded | £100k - £500k | Implementation | Reduced mobile plant (PM and NO2) emissions | 10 tonne carbon reduction | On Target | |

| 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 |
|-------------|--|---------------------------------------|--|---------------------------------|------------------------------------|------------------------|---------------------------------------|------------------------|------------------|---------------------------|----------------|---|--|--|--|
| C&EAP ISP9 | Install Smart metering at all Council buildings | Promoting Low Emission Plant | Other measure for low emission fuels for stationary and mobile sources | 2020 | 2030 | SDDC | SDDC | NO | Not Funded | < £10k | Planning | Reduced mobile plant (PM and NO2) emissions | unknown | | |
| C&EAP ISP10 | Leisure Centre electricity reduction and review | Other | Other | 2020 | 2030 | SDDC | SDDC | NO | Not Funded | < £10k | Planning | Reduced mobile plant (PM and NO2) emissions | 48 tonne carbon reduction | | |
| C&EAP ISP11 | Ongoing Leisure Centre maintenance plan for emission reduction | Other | Other | 2020 | 2030 | SDDC | SDDC | NO | Not Funded | < £10k | Planning | Reduced mobile plant (PM and NO2) emissions | 22 tonne carbon reduction | | |
| C&EAP DSP1 | SDDC Healthy homes assistance funding programme for private domestic housing energy efficiency and supporting fuel poverty reduction | Promoting Low Emission Plant | Other measure for low emission fuels for stationary and mobile sources | 2015 | 2023 | DCC | Better Care Fund | NO | Funded | £50k - £100k | Implementation | Reduced PM and NO2 from domestic energy sources | Number of properties improved | 60 properties improved in 2023 | Main issue is finding and engaging eligible people |
| C&EAP DSP2 | Feasibility of developing a mine water district heating system in Swadlincote | Promoting Low Emission Plant | Other measure for low emission fuels for stationary and mobile sources | 2022 | 2030 | SDDC | Heat Network Distribution Fund & SDDC | NO | Not Funded | £10k - 50k | Planning | Reduced PM and NO2 from properties serviced by the heat network | Completed feasibility study | Funding bid submitted | Minimum 33% contribution by SDDC |
| C&EAP DSP4 | Green Home Grant/LAD/SHDF funding delivery of retrofit measures to private and tenanted houses | Promoting Low Emission Plant | Low Emission Fuels for stationary and mobile sources in Public Procurement | 2020 | 2030 | SDDC | DESNZ | NO | Funded | £100k - £500k | Implementation | Reduced PM and NO2 from domestic energy sources | Number of properties improved | 131 properties improved to Dec 2023 | significant challenges with project delivery - client engagement, contractor performance, delivery timescales, |
| C&EAP DSP19 | Creating and developing a forum for energy consumption reduction advice for South Derbyshire residents | Public Information | | 2020 | 2030 | SDDC, DCC | SDDC, DCC | NO | Partially Funded | £50k - £100k | Planning | Reduced PM and NO2 from domestic energy sources | Number of properties improved | Home Energy Action Team (HEAT) projects have started in pilot areas | To be determined based on pilot project experience |
| C&EAP DSP5 | EV funding and infrastructure programme for South Derbyshire | Promoting Low Emission Transport | Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging | 2020 | 2030 | SDDC, DCC | DCC, D2N2, OZEV, Levelling Up Fund | NO | Funded | £100k - £500k | Planning | Reduced PM and NO2 from cars | Number of EV charge points installed. Number of registered EV vehicles | 42 public charge points already installed in SDDC car parks. 12 more funded for 2024. LEVI bid submitted | Availability of three phase supplies to public car parks. Cost |
| C&EAP DSP6 | Feasibility study to support the transition of South Derbyshire private taxi service to low carbon emission vehicles | Promoting Low Emission Transport | Taxi emission incentives | 2022 | 2030 | SDDC | SDDC | NO | Not Funded | £10k - 50k | Planning | Reduced PM and NO2 from licensed taxis | Number of low emissions taxis | Internal discussions only | |
| C&EAP DSP7 | Investigate hydrogen fuel production and infrastructure across South Derbyshire | Transport Planning and Infrastructure | Other | 2022 | 2030 | SDDC, D2N2 | D2N2 | NO | Funded | £100k - £500k | Completed | Reduced PM and NO2 from SDDC refuse collection lorries | Reduction in tCO2e. Pilot project evaluation report to D2N2 | Hydrogen / diesel hybrid refuse collection vehicles in trial until March 2024 | Infrastructure costs for H2 are very high. Only grey H2 is currently available |

| 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 |
|--------------|---|---|--|---------------------------------|------------------------------------|------------------------|---------------------|------------------------|------------------|---------------------------|----------------|--|---|---|---------------------------------------|
| C&EAP DSP8 | Free Tree Schemes | Other | Other | 2010 | 2032 | SDDC | National Forest | NO | Funded | £10k - 50k | Implementation | CO2 and PM mitigation | Number of free trees distributed | Approx 1000 trees distributed in 2023 | |
| C&EAP DSP13 | Create and promote a Sustainable Travel to work Plan for job creation | Public Information | | 2022 | 2030 | SDDC | TBC | NO | Not Funded | £10k - 50k | Planning | Reduced PM and NO2 from cars | Delivery and implementation of Sustainable Travel Plan | Internal discussions only | |
| C&EAP DSP14 | Freeport Plan influencing, promoting, and partnering to deliver green innovation and technology | Policy Guidance and Development Control | Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduce emissions and improve air quality | 2022 | 2030 | SDDC | TBC | NO | Not Funded | < £10k | Planning | Reduced emissions from energy and transport associated with the Freeport | TBD | | |
| C&EAP DSP15 | Develop a business engagement programme to support decarbonisation projects | Public Information | | 2022 | 2030 | SDDC | SDDC | NO | Funded | < £10k | Implementation | Reduced tCO2e, NOx and PM from local business sector | Number of businesses engaged per year | Included as a KPI in the 2024-29 Council Plan | |
| C&EAP DSP16 | Create a community engagement programme around Climate Change | Public Information | | 2022 | 2030 | SDDC | SDDC, DCC | NO | Not Funded | < £10k | Planning | Reduced tCO2e, NOx and PM from residential sector | TBD | No specific plans. This will develop as part of the delivery of the Climate & Environment Action Plan | |
| C&EAP DSP17 | Embed Active Travel in Swadlincote town centre access plan | Public Information | | 2022 | 2030 | SDDC | SDDC | NO | Not Funded | £50k - £100k | Planning | Reduced vehicle (PM and NO2) emissions | TBD | No specific plans. This will develop as part of the delivery of the Climate & Environment Action Plan | |
| 34 | Beat the Streets | Promoting Travel Alternatives | Intensive active travel campaign & infrastructure | 2022 | 2023 | SDDC | SDDC | NO | Funded | £10k - 50k | Implementation | Reduced vehicle (PM and NO2) emissions | No metrics as yet | 5,264 players have signed up in the first two weeks | |
| 35 | Route Optimisation of waste collection service | Freight and Delivery Management | Route Management Plans/ Strategic routing strategy for HGV's | 2020 | 2025 | SDDC | SDDC | NO | Funded | £10k - 50k | Implementation | Reduced vehicle (PM and NO2) emissions | Kg reduction in CO2 | Implementation in Feb 2024 | |
| DAQSTable3 | Smoke Control Order review | Promoting Low Emission Plant | Other measure for low emission fuels for stationary and mobile sources | 2022 | 2025 | SDDC | SDDC | NO | Funded | < £10k | Planning | Reduced tCO2e, NOx and PM from residential sector | SCA review report | Development of the scope of the review | |
| DAQSTable7.1 | Source apportionment study of PM2.5 | Other | | 2023 | 2027 | Derbyshire Councils | Derbyshire Councils | NO | Not Funded | £10k - 50k | Planning | No direct reductions | Source apportionment data | Only discussed in principle | |
| DAQSTable7.2 | Improved understanding of geospatial distribution of PM2.5 | Other | | 2023 | 2027 | Derbyshire Councils | Derbyshire Councils | NO | Not Funded | £50k - £100k | Planning | No direct reductions | Increased number of PM2.5 monitoring sites | Only discussed in principle | |
| DAQSTable7.3 | Homes Fit for the Future Project | Promoting Low Emission Plant | Other measure for low emission fuels for stationary and mobile sources | 2023 | 2030 | Derbyshire Councils | DCC | NO | Partially Funded | £100k - £500k | Implementation | Reduced tCO2e, NOx and PM from residential sector | Number of 'able to pay' properties which have been improved | HEAT Pilot projects have started | |

| 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 |
|--------------|--|---------------------------------------|---|---------------------------------|------------------------------------|--|-------------------------------------|------------------------|------------------|---------------------------|----------------|--|--|--|---------------------------------------|
| DAQSTable7.4 | Development of a Local Area Energy Plan for D2N2 | Other | | 2023 | 2030 | Derbyshire Councils | D2N2 / EMCCM | NO | Partially Funded | £100k - £500k | Planning | No direct reductions | Identification of the capacity of D2N2 region to support sustainable energy production | | |
| 36 | Bus Service Improvement Plan (Swadlincote) | Transport Planning and Infrastructure | Bus route improvements | 2023 | 2026 | DCC, SDDC, Bus companies | DfT, County Council, Private sector | NO | Funded | > £10 million | Implementation | Reduced vehicle (PM and NO2) emissions | Various KPIs in the BSIP | Latest progress report published in Nov 2023 | |
| 37 | Business decarbonisation audits | Promoting Low Emission Plant | Shift to installations using low emission fuels for stationary and mobile sources | 2023 | 2026 | Derbyshire Councils, East Midlands Chamber | Shared Prosperity Fund | NO | Funded | | Planning | Reduced commercial sector (PM and NO2) emissions | In development | In development | |

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 Strategy⁶, 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.

The Public Health Outcomes Framework (PHOF) is a Department of Health data tool for England, intended to focus public health action on increasing healthy life expectancy and reducing differences in life expectancy between communities. The tool uses indicators to assess improvements. Recognising the significant impact that poor air quality can have on health, the PHOF includes an indicator relating to fine particulate matter (PM_{2.5}).

The indicator in the PHOF reports the estimates fraction of all-cause adult mortality attributable to anthropogenic particulate air pollution (measured as fine particulate matter). Based on the latest available figures the position in South Derbyshire can be compared to the situation across the rest of England. This comparison is summarised in Table 2.2.

Table 2.2 Fraction of mortality attributable to particulate air pollution

| England Average | England Lowest | England Highest | East Midlands Average | Derbyshire Average | South Derbyshire |
|-----------------|----------------|-----------------|-----------------------|--------------------|------------------|
| 5.3% | 3.5% | 7.9% | 5.6% | 5.4% | 5.4% |

The estimated sources of PM_{2.5} in South Derbyshire have been calculated from background air quality data published by DEFRA. The DEFRA data consists of estimated background concentrations of PM_{2.5} in each 1x1km grid square across all of South Derbyshire attributable to all of the main sources. The estimated average concentration

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

across all 340km² and the maximum estimated concentration (expressed in milligrams per cubic metre, µg/m³) from each of the main sources of are presented in Table 2.3.

Table 2.3 Summary of the Average and Maximum Concentrations of PM_{2.5} in South Derbyshire by 1x1km squares (2022 predictions)

| Source | Average Concentration µgm ³ | Proportion of the total PM _{2.5} | Maximum Concentration µgm ³ |
|-------------------|--|---|--|
| Motorway | 0.000 | 0.00% | 0.010 |
| Trunk A | 0.004 | 0.06% | 0.041 |
| Primary A | 0.001 | 0.02% | 0.009 |
| Minor | 0.003 | 0.04% | 0.012 |
| Brake and Tyre | 0.025 | 0.34% | 0.102 |
| Road Abrasion | 0.013 | 0.18% | 0.061 |
| Industry | 0.124 | 1.72% | 1.472 |
| Domestic | 0.152 | 2.11% | 0.731 |
| Rail | 0.010 | 0.14% | 0.078 |
| Other | 0.038 | 0.52% | 0.424 |
| Secondary | 4.305 | 59.72% | 4.517 |
| Residual and salt | 2.393 | 33.20% | 3.492 |
| Point sources | 0.140 | 1.95% | 2.017 |

South Derbyshire is not currently taking any additional specific measures to address PM_{2.5} beyond those already described in this report.

Smoke Control Area Enforcement

South Derbyshire has two Smoke Control Areas (SCAs) which were declared in the 1980s in order to help domestic houses transition from solid fuel heating (primarily coal) to

cleaner fossil fuels. The locations of these SCAs are shown on the [Smoke Control Area webpage](#) of our website.

Current evidence suggests that despite recent trends in homeowners choosing to install solid fuel appliances, there is a high level of local compliance with the Smoke Control Orders.

During 2023 the Council received just 13 complaints about smoke emissions from the chimneys of domestic properties. Three of these complaints related to properties within the Smoke Control Areas.

Investigations into these complaints did not result in any identified breaches of the Smoke Control Orders and no further interventions were required by Council enforcement officers.

During 2024 South Derbyshire District Council will be exploring the evidence to support a possible revision of the existing Smoke Control Areas.

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

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

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

South Derbyshire District Council does not undertake any continuous air quality monitoring.

3.1.2 Non-Automatic Monitoring Sites

South Derbyshire District Council undertook non- automatic (i.e. passive) monitoring of NO₂ at 24 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 (NO₂)

Table A.3 and Table A.4 in Appendix A compare the ratified and adjusted monitored NO₂ annual mean concentrations for the past five years with the air quality objective of

40µg/m³. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

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

3.2.2 Particulate Matter (PM₁₀)

No monitoring of PM₁₀ was carried out by South Derbyshire District Council during 2023.

3.2.3 Particulate Matter (PM_{2.5})

No monitoring of PM_{2.5} was carried out by South Derbyshire District Council during 2023.

3.2.4 Sulphur Dioxide (SO₂)

No monitoring of SO₂ was carried out by South Derbyshire District Council during 2023.

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

South Derbyshire District Council does not currently carry out automatic monitoring of air quality.

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) |
|-------------------|---|------------------|-------------------------|--------------------------|----------------------|----------------------|--|---|---|-----------------|
| SDDC1 | Findern Lane, Burnaston | Roadside | 430040 | 331110 | NO ₂ | No | 30.0 | 2.0 | No | 2.0 |
| SDDC2 | 27 High Street, Woodville | Roadside | 431570 | 319130 | NO ₂ | No | 0.0 | 4.0 | No | 2.0 |
| SDDC3 | Community Centre, Church Gresley | Urban Background | 429300 | 318620 | NO ₂ | No | 0.0 | 20.0 | No | 2.0 |
| SDDC4 | Castle Apartments, Station Road, Hatton | Roadside | 421480 | 329630 | NO ₂ | No | 10.0 | 1.5 | No | 2.0 |
| SDDC5 | 24 High Street, Woodville | Roadside | 431572 | 319106 | NO ₂ | No | 0.0 | 1.0 | No | 2.0 |
| SDDC6 | Woody's, 8 High Street, Woodville | Roadside | 431540 | 319143 | NO ₂ | No | 0.0 | 4.0 | No | 2.0 |
| SDDC7 | The Robin Hood Inn, Lullington Road, Overseal | Roadside | 429460 | 315420 | NO ₂ | No | 0.0 | 2.0 | No | 2.0 |
| SDDC8 | 1 Lullington Road, Overseal | Roadside | 429467 | 315395 | NO ₂ | No | 0.0 | 3.0 | No | 2.0 |
| SDDC9 | 99 Woodland Road, Stanton | Roadside | 427000 | 319840 | NO ₂ | No | 0.0 | 3.0 | No | 2.0 |
| SDDC10 | Lamp post, 160 Burton Road, Castle Gresley | Kerbside | 427622 | 318878 | NO ₂ | No | 5.0 | 1.0 | No | 2.0 |
| SDDC11 | Library, Hartshorne Road, Woodville | Roadside | 431500 | 319250 | NO ₂ | No | 0.0 | 15.0 | No | 2.0 |
| SDDC12 | Lamp post, 32 High Street Repton | Roadside | 430494 | 326810 | NO ₂ | No | 0.0 | 3.0 | No | 2.0 |
| SDDC13 | Lamp post, 35/37 High Street Repton | Kerbside | 430508 | 326810 | NO ₂ | No | 0.0 | 1.5 | No | 2.0 |

| 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) |
|-------------------|---|-----------|-------------------------|--------------------------|----------------------|----------------------|--|---|---|-----------------|
| SDDC14 | Roadsign, The Priory, High St, Repton | Roadside | 430444 | 326888 | NO ₂ | No | 0.0 | 1.0 | No | 2.0 |
| SDDC15 | Roadsign, 2 Woods Meadow, Chellaston Lane | Roadside | 439886 | 332070 | NO ₂ | No | 0.0 | 1.5 | No | 2.0 |
| SDDC16 | Lampost, 25-39 Hepworth Road | Roadside | 431154 | 318450 | NO ₂ | No | 0.0 | 1.5 | No | 2.0 |
| SDDC17 | Roadsign, 165 High Street, Woodville | Roadside | 432100 | 318752 | NO ₂ | No | 0.0 | 2.0 | No | 2.0 |
| SDDC18 | Sign post outside 2a Repton Road, Willington | Roadside | 430693 | 331831 | NO ₂ | No | 0.0 | 1.5 | No | 2.0 |
| SDDC19 | Road sign, 9 Church Street, Church Gresley | Roadside | 429704 | 318343 | NO ₂ | No | 0.0 | 2.0 | No | 2.0 |
| SDDC20 | Lampost, 15 Swadlincote Road, Woodville | Roadside | 431294 | 319204 | NO ₂ | No | 0.0 | 1.5 | No | 2.0 |
| SDDC21 | Lampost - 39 Moira Road, Woodville | Roadside | 431487 | 319003 | NO ₂ | No | 0.0 | 1.5 | No | 2.0 |
| SDDC22 | Lampost on Wragley Way, adj 12 Silverton Drive | Roadside | 433236 | 330729 | NO ₂ | No | 0.0 | 2.0 | No | 2.0 |
| SDDC23 | Lampost on Wragley Way, adj to 46 Deepdale Lane | Kerbside | 434558 | 330471 | NO ₂ | No | 0.0 | 2.0 | No | 2.0 |
| SDDC24 | Roadsign, 59 Station Road, Hatton | Kerbside | 421591 | 330015 | NO ₂ | No | 0.0 | 1.5 | 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.3 – Annual Mean NO₂ Monitoring Results: Automatic Monitoring (µg/m³)

South Derbyshire District Council does not currently carry out automatic monitoring of air quality.

Table A.4 – Annual Mean NO₂ Monitoring Results: Non-Automatic Monitoring (µg/m³)

| Site ID | X OS Grid Ref (Easting) | Y OS Grid Ref (Northing) | Site Type | Valid Data Capture for Monitoring Period (%) ⁽¹⁾ | Valid Data Capture 2023 (%) ⁽²⁾ | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------|-------------------------|--------------------------|------------------|---|--|------|------|------|------|------|
| SDDC1 | 430040 | 331110 | Roadside | N/A | 100.0 | 20.7 | 16.5 | 17.5 | 17.5 | 15.9 |
| SDDC2 | 431570 | 319130 | Roadside | N/A | 92.3 | 25.6 | 22.6 | 24.8 | 21.7 | 20.2 |
| SDDC3 | 429300 | 318620 | Urban Background | N/A | 100.0 | 11.3 | 9.2 | 9.6 | 9.8 | 8.6 |
| SDDC4 | 421480 | 329630 | Roadside | N/A | 84.6 | 19.5 | 19.1 | 20.4 | 20.5 | 17.3 |
| SDDC5 | 431572 | 319106 | Roadside | N/A | 100.0 | 24.3 | 19.6 | 19.9 | 19.8 | 18.6 |
| SDDC6 | 431540 | 319143 | Roadside | N/A | 92.3 | 32.7 | 23.5 | 23.4 | 24.1 | 21.6 |
| SDDC7 | 429460 | 315420 | Roadside | N/A | 100.0 | 23.3 | 19.8 | 19.9 | 21.7 | 18.6 |
| SDDC8 | 429467 | 315395 | Roadside | N/A | 92.3 | 23.5 | 19.8 | 22.1 | 22.8 | 21.9 |
| SDDC9 | 427000 | 319840 | Roadside | N/A | 100.0 | 32.3 | 24.8 | 26.1 | 24.5 | 24.9 |
| SDDC10 | 427622 | 318878 | Kerbside | N/A | 100.0 | 29.0 | 24.8 | 27.7 | 26.9 | 26.9 |
| SDDC11 | 431500 | 319250 | Roadside | N/A | 100.0 | 26.8 | 22.5 | 21.6 | 25.2 | 21.5 |
| SDDC12 | 430494 | 326810 | Roadside | N/A | 100.0 | 18.1 | 13.9 | 14.8 | 15.2 | 13.9 |
| SDDC13 | 430508 | 326810 | Kerbside | N/A | 100.0 | 17.2 | 14.4 | 15.0 | 15.1 | 15.7 |
| SDDC14 | 430444 | 326888 | Roadside | N/A | 100.0 | 27.7 | 21.1 | 24.0 | 24.5 | 21.1 |
| SDDC15 | 439886 | 332070 | Roadside | N/A | 100.0 | | | 16.3 | 16.2 | 15.8 |
| SDDC16 | 431154 | 318450 | Roadside | N/A | 92.3 | | | 14.0 | 14.8 | 14.7 |
| SDDC17 | 432100 | 318752 | Roadside | N/A | 100.0 | 27.8 | 24.7 | 28.0 | 25.1 | 22.8 |
| SDDC18 | 430693 | 331831 | Roadside | N/A | 92.3 | 24.8 | 22.3 | 25.6 | 24.9 | 22.2 |
| SDDC19 | 429704 | 318343 | Roadside | N/A | 100.0 | 24.8 | 17.0 | 17.4 | 17.4 | 17.4 |
| SDDC20 | 431294 | 319204 | Roadside | N/A | 100.0 | | | 20.4 | 21.5 | 19.2 |
| SDDC21 | 431487 | 319003 | Roadside | N/A | 92.3 | | | 17.1 | 17.7 | 16.7 |
| SDDC22 | 433236 | 330729 | Roadside | N/A | 92.3 | | | | 19.1 | 17.2 |
| SDDC23 | 434558 | 330471 | Kerbside | N/A | 100.0 | | | | 15.9 | 14.9 |
| SDDC24 | 421591 | 330015 | Kerbside | N/A | 75.0 | | | | 18.8 | 15.9 |

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

☒ Diffusion tube data has been bias adjusted.

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

Notes:

The annual mean concentrations are presented as $\mu\text{g}/\text{m}^3$.

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

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

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

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

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

(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%).

Trends in Annual Mean NO_2 Concentrations

This section of the report provides data and commentary on air quality trends over recent years.

Eleven sites have been monitored using diffusion tubes since 2011 (i.e. 13 years of data). Based on a linear regression calculation, all of these sites are shown to have improved over this time period.

A further six sites have been monitored using diffusion tubes since 2012 (i.e. 12 years of data). Based on a linear regression calculation, all of these sites are also shown to have improved over this time period.

To illustrate the long-term reduction in measured NO_2 at these seventeen consistent monitoring locations, the average (mean) of all of the annual NO_2 measurements across all of these sites is illustrated in Figure A.1

Figure A.1 – Trends in Annual Mean NO₂ Concentrations

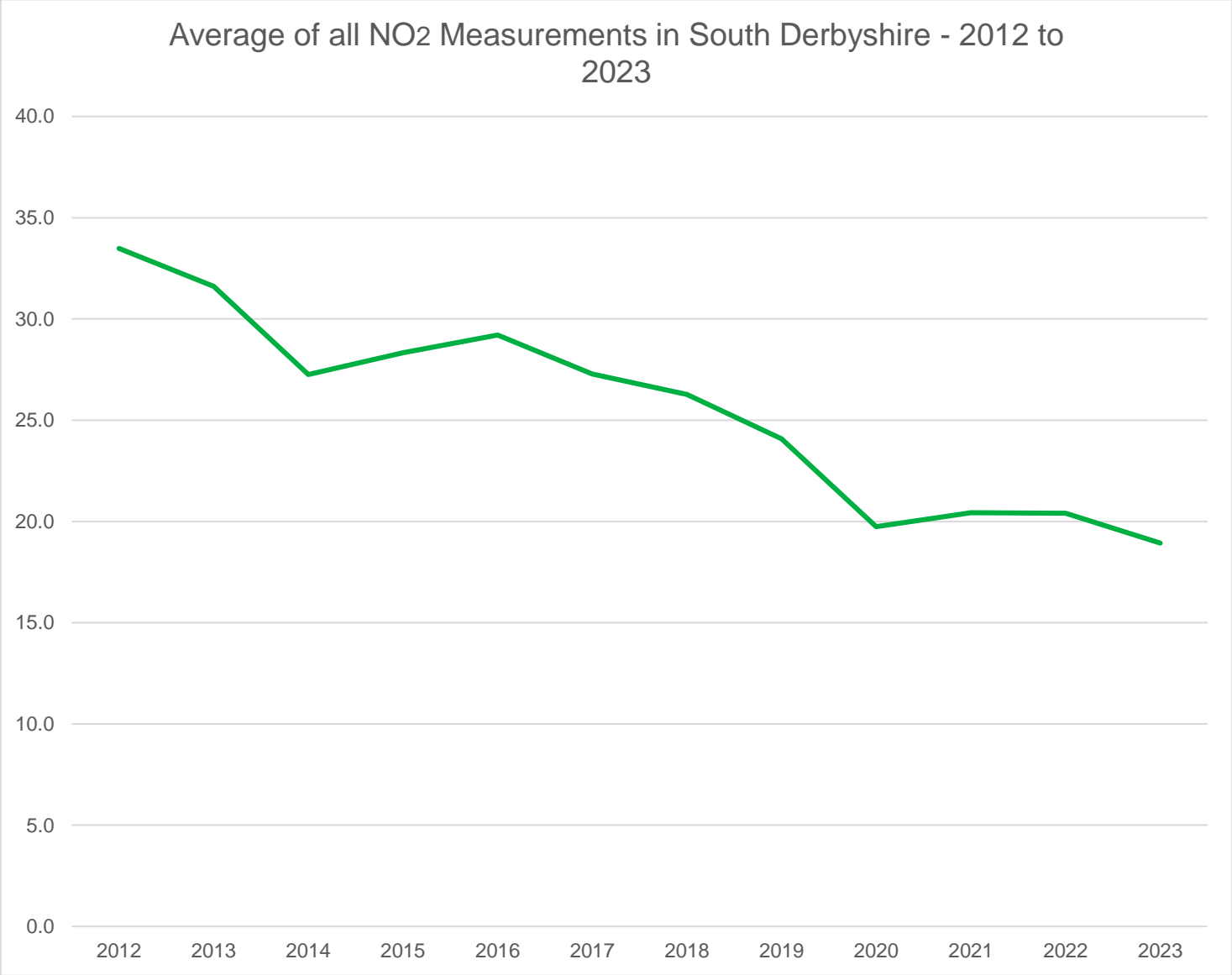


Figure A.1 shows that there has been a consistent downward trend in the overall annual average NO₂ measurements across South Derbyshire since 2012.

Until last year, the lowest averaged measurement was in 2020, which was when traffic movement on the local road network was significantly reduced due to the Covid-19 pandemic and the implications of lock-down restrictions.

The data from 2023 is significant in that it shows that the average annual mean measurement across South Derbyshire was lower than in 2020. Air quality with reference to NO₂ in South Derbyshire can therefore be described as being the best in recorded history.

The maximum and minimum measured NO₂ at each of these seventeen sites along with the year in which the maximum and minimum measured NO₂ were observed are shown in Table A.5.

Table A.5 Maximum and Minimum Measured NO₂ Recorded Between 2011 to 2023

| Monitoring Site | Maximum Measured NO ₂ | Year | Minimum Measured NO ₂ | Year |
|-----------------|----------------------------------|------|----------------------------------|------|
| SDDC1 | 30.6 | 2013 | 15.9 | 2023 |
| SDDC2 | 37.3 | 2014 | 20.2 | 2023 |
| SDDC3 | 20.0 | 2013 | 8.6 | 2023 |
| SDDC4 | 27.5 | 2012 | 17.3 | 2023 |
| SDDC5 | 38.3 | 2012 | 18.6 | 2023 |
| SDDC6 | 43.5 | 2012 | 21.6 | 2023 |

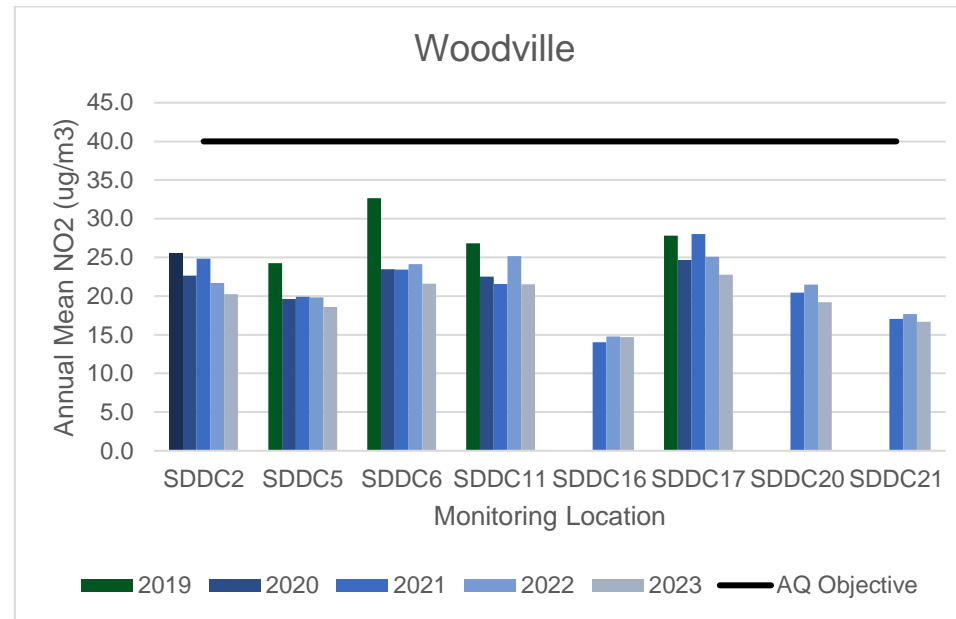
| | | | | |
|--------|------|------|------|------|
| SDDC7 | 29.4 | 2013 | 18.6 | 2023 |
| SDDC8 | 32.2 | 2011 | 19.8 | 2020 |
| SDDC9 | 32.9 | 2013 | 24.5 | 2022 |
| SDDC10 | 35.4 | 2017 | 24.8 | 2020 |
| SDDC11 | 33.7 | 2016 | 21.5 | 2023 |
| SDDC12 | 31.2 | 2012 | 13.9 | 2023 |
| SDDC13 | 30.9 | 2012 | 14.4 | 2020 |
| SDDC14 | 46.4 | 2012 | 21.1 | 2023 |
| SDDC17 | 51.9 | 2012 | 22.8 | 2023 |
| SDDC18 | 40.0 | 2012 | 22.2 | 2023 |
| SDDC19 | 31.9 | 2012 | 17.0 | 2023 |

Table A.5 shows that the highest measured levels of NO₂ in South Derbyshire were predominantly in the period 2012 to 2013. It also shows that all of the lowest measured levels of NO₂ in South Derbyshire were in the period 2020 to 2023.

Woodville

Historically, the highest measured levels of NO₂ have been observed in Woodville, and in particular along A511, Woodville High Street. Air quality data for the last five years in Woodville are shown in Figure A.2.

Figure A.2



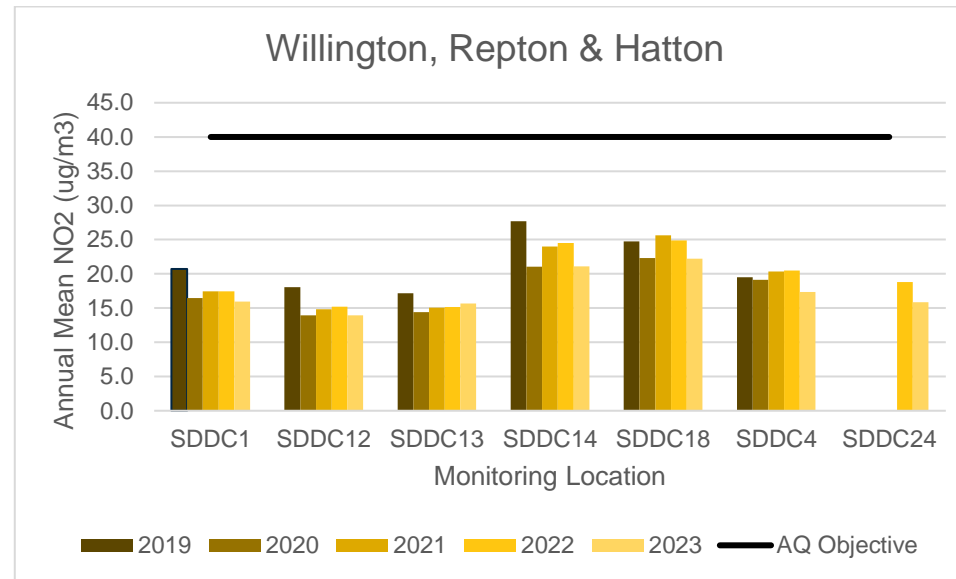
All long-term monitoring locations along the A512 in Woodville show a pronounced downward trend in the last five years.

Recently commissioned monitoring locations in Woodville were selected to monitor the impact of the opening of the Woodville – Swadlincote Regeneration route. Data from all three of these locations (SDDC16, SDDC 20 and SDDC 21) show that air quality at locations most likely to be adversely affected by the route were well below the AQ Objective.

Willington, Repton and Hatton

Air quality data for the last five years in Willington, Repton and Hatton are shown in Figure A.3.

Figure A.3



Historically, air quality in Repton, and in particular along the narrow Main Street (B5008) has been of concern and resulted in a detailed assessment in 2015. Monitoring data from the three retained monitoring sites in Repton (SDDC12, SDDC13 and SDDC14) all show that the Air Quality Objective has been consistently achieved and all show a downward five year trend in the measured annual average.

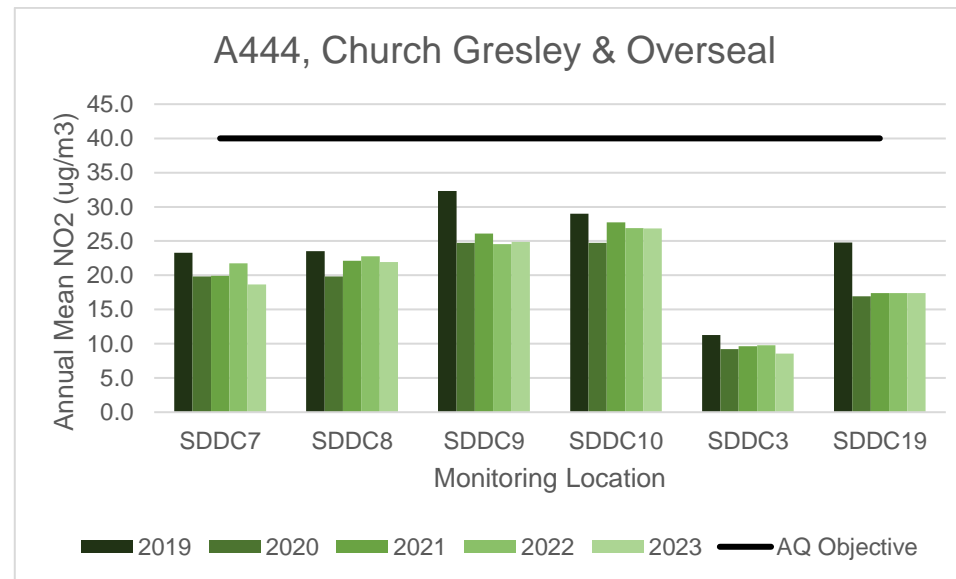
Air quality at one monitoring location at Station Road in Hatton (A511) has consistently been below the Air Quality Objective (SDDC4). Following the addition of another monitoring location further to the north of Station Road, early data shows that this is also well below the AQO. There appears to be a long-term downward trend in NO₂ in Hatton, although this is weaker downward trend than that observed at most of the other monitoring locations in the District.

Air quality in the centre of Willington (SDDC18) and along the A38, north of its junction with the A50 (SDDC1) has consistently been below the AQO.

A444, Church Gresley and Overseal

Air quality data for the last five years along the A444 and in Church Gresley and Overseal are shown in Figure A.4.

Figure A.4



Historically, air quality in Overseal, and in particular at the crossroads with the A444 in the centre of the village has been of concern and resulted in a detailed air quality assessment in 2010. Monitoring data from the two retained monitoring sites in Overseal (SDDC7 and SDDC8) show that the Air Quality Objective has been consistently achieved and all show a small downward trend in the measured annual average over the last five years.

Air quality at two locations along the A444 (SDDC9 and SDDC10) have consistently been below the Air Quality Objective and show a small downward trend.

Similarly, air quality at two locations in Church Gresley (SDDC3 and SDDC19) have consistently been below the Air Quality Objective and show a small downward trend.

Stenson and Boulton Moor

New air quality monitoring locations have recently been established in Boulton Moor (SDDC15) and Stenson (SDDC23 and SDDC24) in response to the potential impacts from significant new areas of residential development and therefore potential extra traffic emissions. It is too early to produce any trend data from these three sites, however initial data shows that air quality at all three locations are well below the AQO.

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

No real-time continuous monitoring of NO₂ was carried out in 2023.

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

No monitoring of PM₁₀ was carried out in 2023.

Table A.7 – Annual Mean PM_{2.5} Monitoring Results (µg/m³)

No monitoring of PM_{2.5} was carried out in 2023.

Table A.8 – SO₂ 2023 Monitoring Results, Number of Relevant Instances

No monitoring of SO₂ was carried out in 2023.

Appendix B: Full Monthly Diffusion Tube Results for 2023

Table B.1 – NO₂ 2023 Diffusion Tube Results (µg/m³)

| DT ID | X OS Grid Ref (Easting) | Y OS Grid Ref (Northing) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual Mean: Raw Data | Annual Mean: Annualised and Bias Adjusted <(0.77)> | Annual Mean: Distance Corrected to Nearest Exposure | Comment |
|--------|-------------------------|--------------------------|---------|---------|------|------|------|---------|------|------|---------|---------|------|---------|-----------------------|--|---|---------|
| SDDC1 | 430040 | 331110 | 21.9 | 22.2 | 23.9 | 20.3 | 23.2 | 16.3 | 16.1 | 13.4 | 21.6 | 24.6 | 25.9 | 18.9 | 20.7 | 15.9 | | |
| SDDC2 | 431570 | 319130 | 29.5 | 21.3 | 26.1 | 27.4 | 23.1 | 23.8 | low | 21.0 | 21.8 | 28.6 | 37.7 | 28.7 | 26.3 | 20.2 | | |
| SDDC3 | 429300 | 318620 | 16.9 | 16.7 | 11.4 | 7.9 | 8.0 | 7.1 | 8.6 | 9.1 | 9.8 | 13.0 | 20.5 | 4.7 | 11.1 | 8.6 | | |
| SDDC4 | 421480 | 329630 | 26.4 | 14.0 | 25.8 | 22.4 | 22.8 | 21.1 | 18.2 | 19.5 | 21.5 | missing | 33.5 | missing | 22.5 | 17.3 | | |
| SDDC5 | 431572 | 319106 | 33.4 | 29.0 | 24.5 | 21.9 | 19.7 | 18.9 | 21.5 | 21.8 | 20.9 | 24.0 | 32.8 | 21.4 | 24.2 | 18.6 | | |
| SDDC6 | 431540 | 319143 | 43.3 | low | 30.2 | 25.4 | 21.5 | 19.8 | 27.4 | 26.2 | 28.0 | 31.0 | 28.7 | 27.0 | 28.0 | 21.6 | | |
| SDDC7 | 429460 | 315420 | 34.3 | 26.1 | 28.9 | 20.8 | 25.9 | 21.0 | 19.0 | 22.7 | 28.2 | 3.3 | 34.7 | 25.6 | 24.2 | 18.6 | | |
| SDDC8 | 429467 | 315395 | 33.9 | 33.8 | 34.0 | low | 23.3 | 24.8 | 22.2 | 23.7 | 28.2 | 31.7 | 32.8 | 25.0 | 28.5 | 21.9 | | |
| SDDC9 | 427000 | 319840 | 45.4 | 40.4 | 35.6 | 18.3 | 22.3 | 27.8 | 32.9 | 27.5 | 31.9 | 36.6 | 40.3 | 28.7 | 32.3 | 24.9 | | |
| SDDC10 | 427622 | 318878 | 37.2 | 44.7 | 34.1 | 35.8 | 33.9 | 35.7 | 29.5 | 24.8 | 36.1 | 35.1 | 43.2 | 28.6 | 34.9 | 26.9 | | |
| SDDC11 | 431500 | 319250 | 26.8 | 37.1 | 31.2 | 11.1 | 25.5 | 24.3 | 26.3 | 26.2 | 30.0 | 34.6 | 34.2 | 27.9 | 27.9 | 21.5 | | |
| SDDC12 | 430494 | 326810 | 36.8 | 11.8 | 21.2 | 14.6 | 13.0 | 12.7 | 14.1 | 15.3 | 18.5 | 19.2 | 23.9 | 15.8 | 18.1 | 13.9 | | |
| SDDC13 | 430508 | 326810 | 39.5 | 23.2 | 19.5 | 16.1 | 17.4 | 12.4 | 12.7 | 17.1 | 16.6 | 25.5 | 26.5 | 17.8 | 20.4 | 15.7 | | |
| SDDC14 | 430444 | 326888 | 25.2 | 35.0 | 30.4 | 28.5 | 21.8 | 22.5 | 23.9 | 27.6 | 27.8 | 28.7 | 35.5 | 22.2 | 27.4 | 21.1 | | |
| SDDC15 | 439886 | 332070 | 27.9 | 25.4 | 20.7 | 18.5 | 20.0 | 18.3 | 12.4 | 16.9 | 20.8 | 23.7 | 23.6 | 18.7 | 20.6 | 15.8 | | |
| SDDC16 | 431154 | 318450 | 42.9 | 24.3 | 19.9 | 15.3 | 13.0 | 10.5 | 14.9 | 15.6 | 17.8 | missing | 19.8 | 15.7 | 19.1 | 14.7 | | |
| SDDC17 | 432100 | 318752 | 39.9 | 28.1 | 34.5 | 16.3 | 35.0 | 35.0 | 21.8 | 24.6 | 28.7 | 30.2 | 33.3 | 27.6 | 29.6 | 22.8 | | |
| SDDC18 | 430693 | 331831 | 29.7 | missing | 32.5 | 31.3 | 26.5 | 26.2 | 24.1 | 28.2 | 26.1 | 28.0 | 39.9 | 24.9 | 28.9 | 22.2 | | |
| SDDC19 | 429704 | 318343 | 34.0 | 31.6 | 22.2 | 17.0 | 21.4 | 17.6 | 18.5 | 12.2 | 18.4 | 23.0 | 33.1 | 21.8 | 22.6 | 17.4 | | |
| SDDC20 | 431294 | 319204 | 20.4 | 35.0 | 27.8 | 23.0 | 17.3 | 20.8 | 21.5 | 21.7 | 24.8 | 29.9 | 29.6 | 27.4 | 24.9 | 19.2 | | |
| SDDC21 | 431487 | 319003 | 32.5 | 28.1 | 23.6 | 20.0 | 16.8 | 15.7 | 13.9 | 15.3 | 18.9 | 20.0 | 33.5 | low | 21.7 | 16.7 | | |
| SDDC22 | 433236 | 330729 | 27.1 | 22.1 | 23.1 | 22.1 | 16.9 | 17.4 | 18.7 | 20.6 | missing | 25.9 | 27.0 | 25.2 | 22.4 | 17.2 | | |
| SDDC23 | 434558 | 330471 | 23.0 | 25.1 | 18.8 | 15.7 | 14.5 | 14.7 | 13.9 | 15.8 | 17.8 | 23.5 | 29.1 | 19.8 | 19.3 | 14.9 | | |
| SDDC24 | 421591 | 330015 | Missing | 14.2 | 20.6 | 22.2 | 17.0 | Missing | 17.4 | 17.0 | 24.7 | missing | 30.2 | 22.2 | 20.6 | 15.9 | | |

- ☒ All erroneous data has been removed from the NO₂ diffusion tube dataset presented in Table B.1.
- ☒ Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.
- ☒ National bias adjustment factor used (0.77).
- ☒ Where applicable, data has been distance corrected for relevant exposure in the final column.

South Derbyshire DC confirm that all 2023 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.

Notes:

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

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

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 South Derbyshire During 2023

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

Additional Air Quality Works Undertaken by South Derbyshire During 2023

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

QA/QC of Diffusion Tube Monitoring

Diffusion tubes used for non-automatic monitoring of NO₂ are supplied by Environmental Science, Unit 12, Moorbrook, South Mead Industrial Estate, Didcot, Oxfordshire, OX11 7HP (formerly known as Socotec).

The samples were 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.

This analysis of diffusion tube samples to determine the amount of nitrogen dioxide present on the tube is within the scope of Socotec UKAS schedule. In the AIR PT intercomparison scheme for comparing spiked Nitrogen Dioxide diffusion tubes, SOCOTEC currently holds the highest rank of a **Satisfactory** laboratory.

The monitoring was completed in adherence with the DEFRA 2023 Diffusion Tube Monitoring Calendar.

Diffusion Tube Annualisation

All diffusion tube monitoring locations within South Derbyshire recorded data capture of $\geq 75\%$ therefore it was not required to annualise any monitoring data.

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2024 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.

South Derbyshire have applied a national bias adjustment factor of 0.77 to the 2023 monitoring data. A summary of bias adjustment factors used by South Derbyshire DC over the past five years is presented in

Table C.1.

The national bias correction factors used have been taken from spreadsheet version 03/24.

The overall bias correction factor in 2023 is based on data from 28 studies.

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 | 03/22 | 0.78 |
| 2020 | National | 03/21 | 0.77 |
| 2019 | National | 03/20 | 0.75 |

NO₂ Fall-off with Distance from the Road

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

DEFRA guidance recommends that distance correction should be considered at any monitoring site where the annual mean concentration is greater than 36µg/m³ and the monitoring site is not located at a point of relevant exposure.

No diffusion tube NO₂ monitoring locations within South Derbyshire required distance correction during 2023.

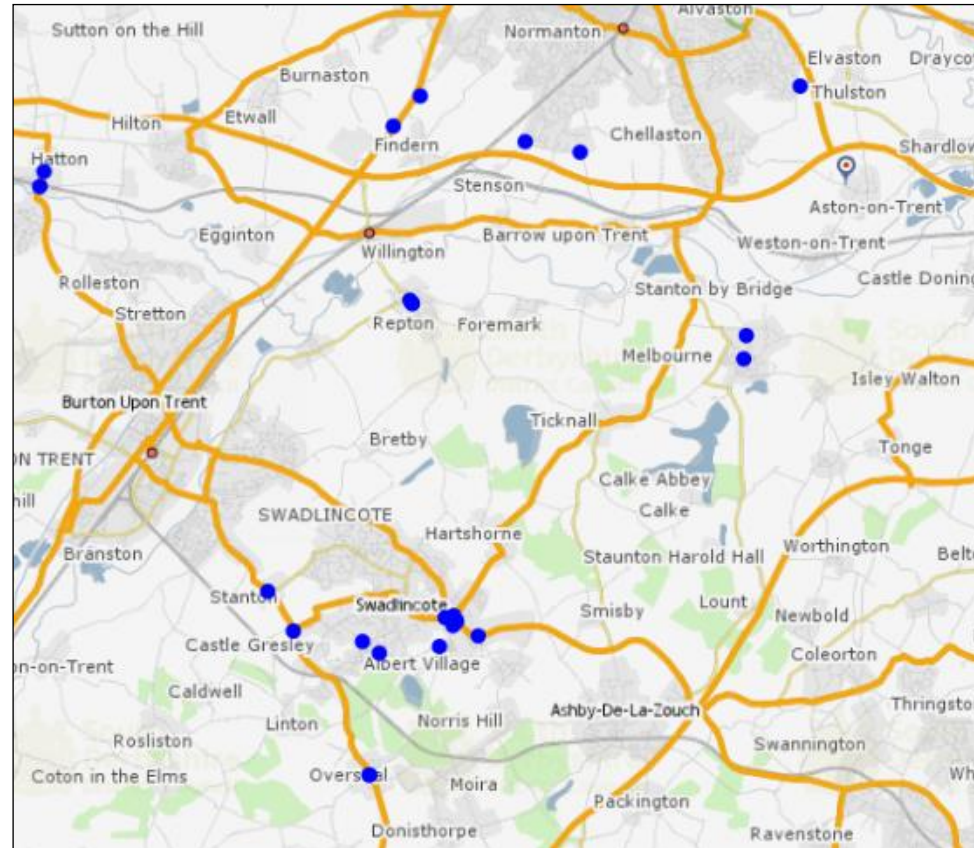
QA/QC of Automatic Monitoring

No automatic monitoring carried out in 2023.

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

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

Figure D.1a District Map of All Non-Automatic Monitoring Sites in South Derbyshire



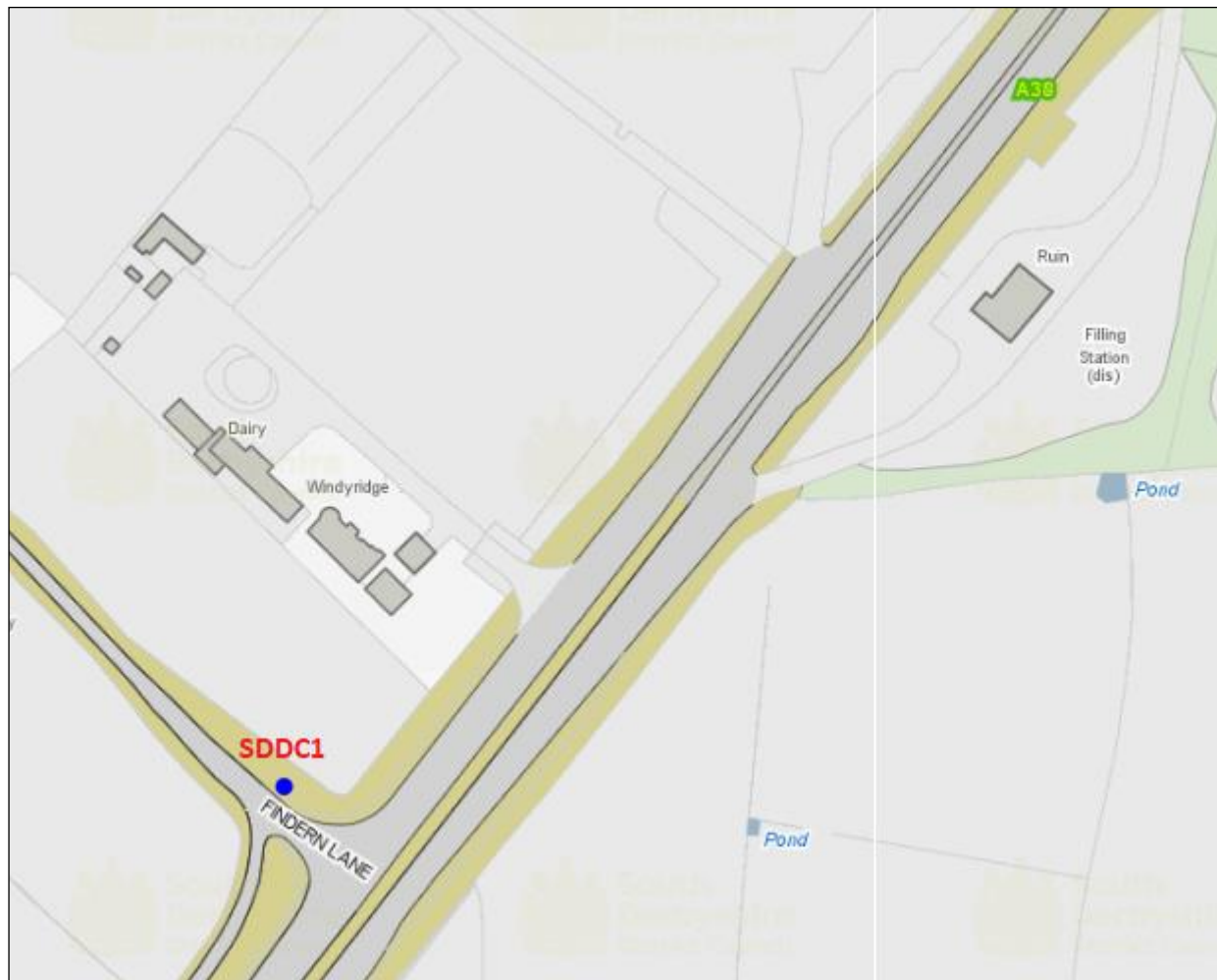
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Figure D.1b Map of Non-Automatic Monitoring Sites in Woodville



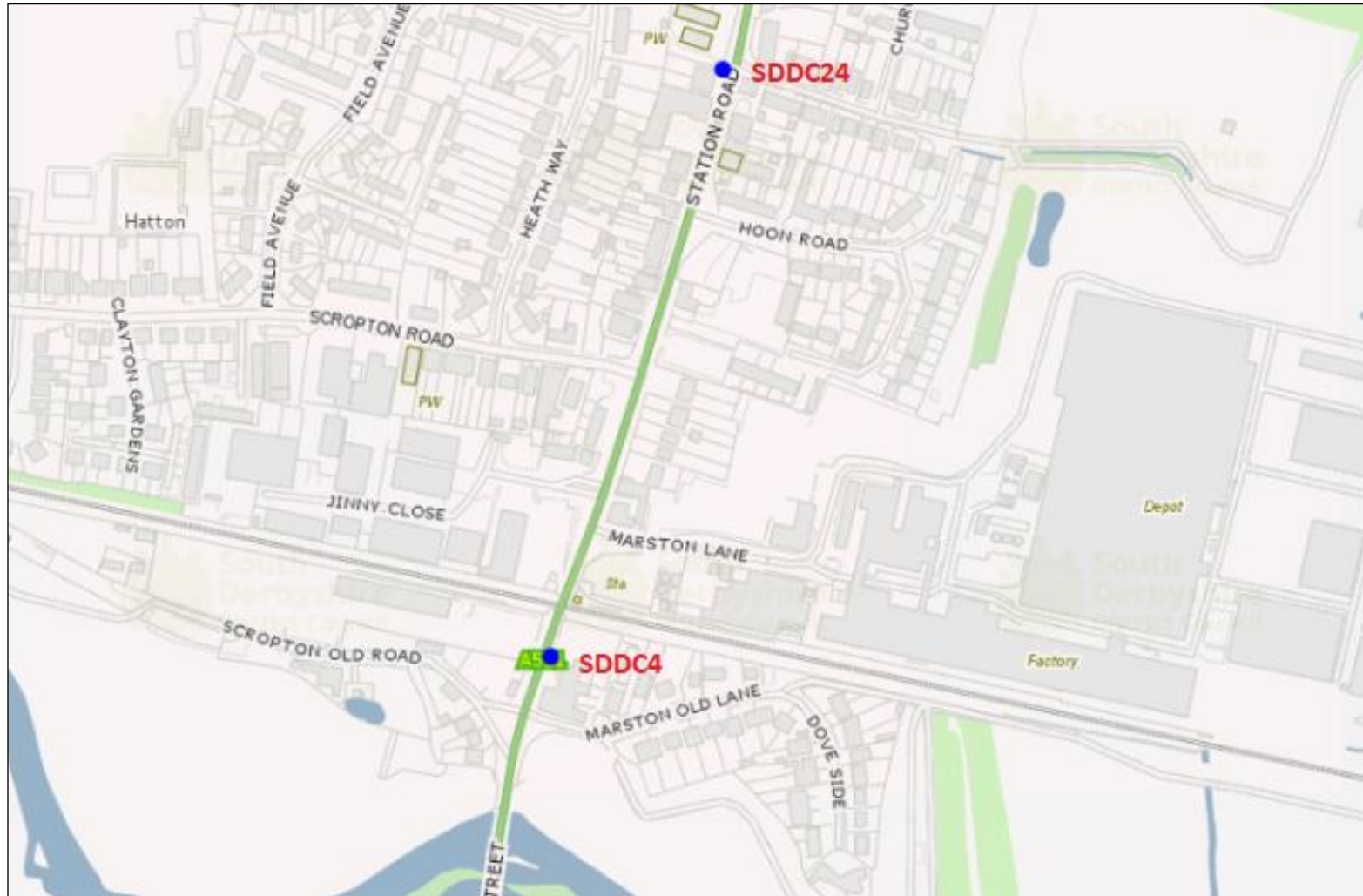
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Figure D.1c Map of Non-Automatic Monitoring Site in Burnaston (SDDC1)



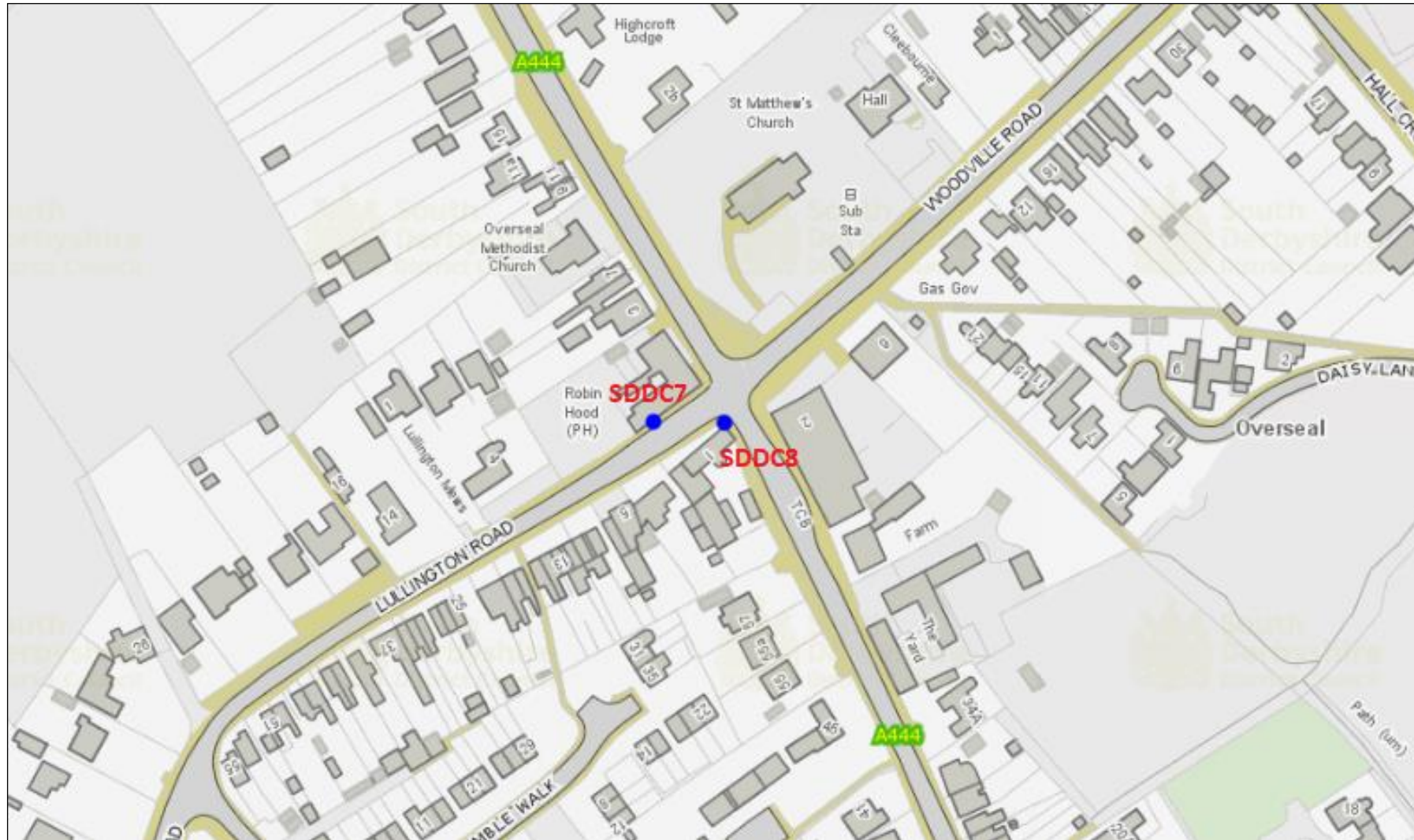
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Figure D.1d Map of Non-Automatic Monitoring Site in Hatton



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Figure D.1e Map of Non-Automatic Monitoring Sites in Overseal



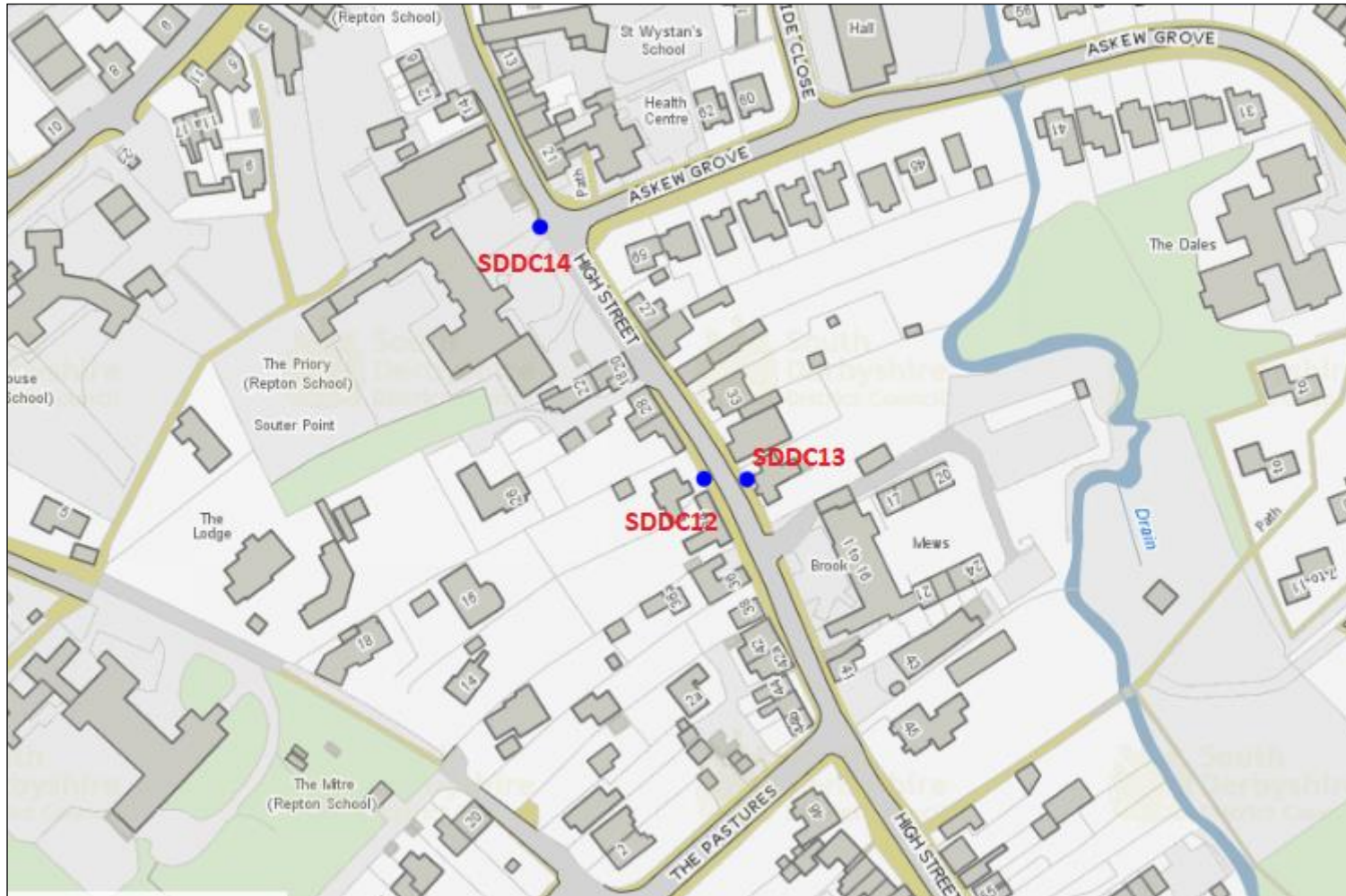
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Figure D.1f Map of Non-Automatic Monitoring Sites in Stanton (A444)



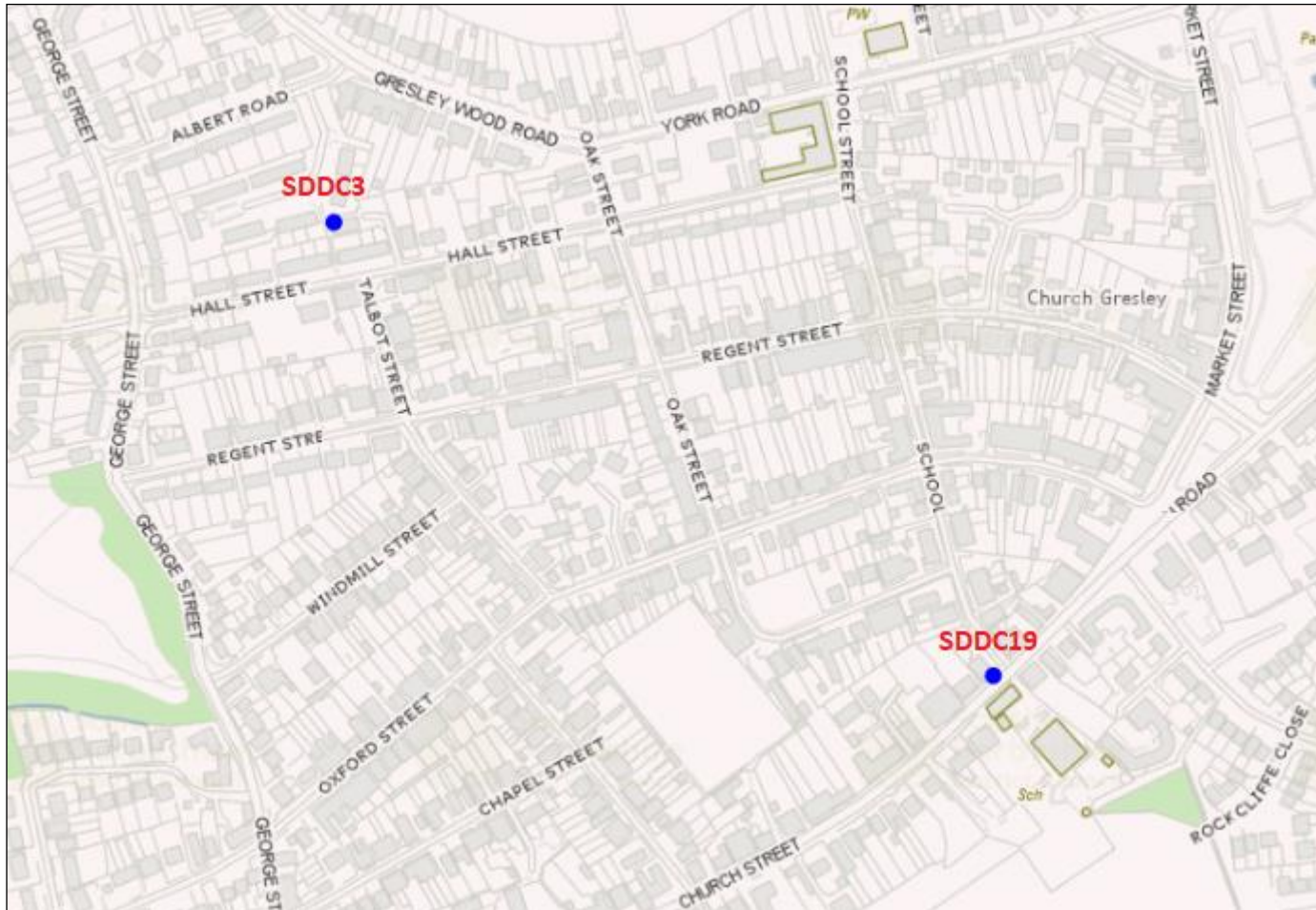
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Figure D.1g Map of Non-Automatic Monitoring Sites in Repton



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Figure D.1h Map of Non-Automatic Monitoring Sites in Church Gresley



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Figure D.1i Map of Non-Automatic Monitoring Site in Willington



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Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England⁷

| 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/m³).

Glossary of Terms

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

References

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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.
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- Air Quality Strategy – Framework for Local Authority Delivery. August 2023. Published by Defra.
- Sustrans – [Change your Travel](#)
- Carbon Fund – [Reducing the Carbon Footprint of Your Car](#)
- Derbyshire’s [Car Sharing Scheme](#)
- [Community Transport](#) in Derbyshire
- [Bike Back Derby](#) – a local bike refurbishment scheme
- [Cycling map of Derbyshire](#)
- [Calculate and compensate](#) for your vehicle emissions
- Next Green Car – [Best low emissions vehicles of 2016](#)
- Go Ultra Low – Choose your electric car <https://www.goultralow.com/choose-your-electric-car/>
- [UK AIR](#) – five-day Pollution Forecast