

# South Derbyshire District Council

## 2022 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the  
Environment Act 1995  
Local Air Quality Management

May 2022

**South Derbyshire District Council**

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## Executive Summary: Air Quality in South Derbyshire

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 (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 time period.

All monitoring locations demonstrated that nitrogen dioxide (NO<sub>2</sub>) levels in 2021 were below the annual average Air Quality Objective of 40 µg/m<sup>3</sup>.

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

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.

## **Endorsement from the Derbyshire County Council Director of Public Health Dean Wallace**

*Air pollution has a significant effect on public health, and poor air quality is the largest environmental risk to public health in the UK.*

*The annual status report is fundamental to ensuring the monitoring of trends and identification of areas of local air pollution exposure, and I am pleased to endorse this report from South Derbyshire District Council.*

*Lower levels of air pollution is a priority outcome for the Derbyshire Health & Wellbeing Board. Air pollution is associated with a number of adverse effects across the life course, contributing towards asthma in children, worsening of respiratory and cardiovascular disease, and cases of lung and other cancers.*

*During the height of the COVID pandemic the population of Derbyshire changed the way they lived and travelled. These behaviours, if sustained, can have a positive effect on local air quality as well as our physical and mental health. It is crucial that we build on this and the decarbonisation plans to support further reductions in local air pollution.*

**Dean Wallace**

Director of Public Health, Derbyshire County Council

## Air Quality in South Derbyshire

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

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion<sup>3</sup>.

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<sup>4</sup>.

The main pollutant of concern in South Derbyshire is nitrogen dioxide (NO<sub>2</sub>). 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 NO<sub>2</sub> in South Derbyshire are showing a reduction over the last decade.

- The High Street (A511) in Woodville continues to provide the most concern about a potential exceedance of the annual average Objective for NO<sub>2</sub>. 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 five 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. Early data from these

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<sup>1</sup> Environmental equity, air quality, socioeconomic status and respiratory health, 2010

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

<sup>3</sup> Defra. Abatement cost guidance for valuing changes in air quality, May 2013

<sup>4</sup> [Public Health England. Estimating Local Mortality Burdens Associated with Local Air Pollution, April 2014](#)

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locations is presented in this report and no conclusions can be drawn at this point.

- 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 small reductions in air quality over the last decade.
- Two new monitoring locations have been established on Wragley Way, Stenson Fields to monitor the impacts of new development in this area.
- 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 one and no change at the other. Levels at both are well below the air quality objectives.

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
Station Road, Hatton	Improving	Yes
Overseal	Improving	Yes
A444	No significant change	Yes
Repton	Improving	Yes
A38	Improving	Yes
Willington	Improving	Yes

## Actions to Improve Air Quality

Air quality has improved significantly in recent decades and is expected to continue to improve due to national policy decisions and local action.

The 2019 Clean Air Strategy<sup>4</sup> sets out the case for action, with goals even more ambitious than EU requirements to reduce exposure to harmful pollutants. The Road to Zero<sup>5</sup> sets out the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

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;

- 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.
- Making a positive contribution through the planning and development control process by requiring air quality mitigation appropriate to the impact of the development.
- Making a positive contribution through the Council's regulation of industrial emissions.
- Reducing the Council's own emissions through a programme of continued environmental improvements to an accredited environmental management standard (ISO14001).
- Investigating and intervention in air pollution incidents.
- Utilising social media to promote predicted high air quality pollution episodes and enabling sensitive individuals to manage the impact on them.

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<sup>4</sup> Defra. Clean Air Strategy, 2019

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

## Local Responsibilities and Commitment

This ASR was prepared by the Head of Environmental Services for South Derbyshire District Council.

This ASR has been approved by the Council's Strategic Management Team.

This ASR has been approved by the Derbyshire County Council's Director of Public Health.

If you have any comments on this ASR please send them to Environmental Services at Civic Way Offices, Civic Way, Swadlincote, Derbyshire,

[environmental.health@southderbyshire.gov.uk](mailto:environmental.health@southderbyshire.gov.uk)

## Local Priorities and Challenges

The main challenges over the next few years are to;

1. Implement the aspirations contained in the Council's Climate and Environment Action Plan to strive to make the Council's own activities carbon neutral by 2030 and to make the whole of South Derbyshire carbon neutral by 2050.
2. Implement the air quality requirements of the Environment Bill when it is enacted and in particular, the proposed new concentration target for respirable particulate (PM<sub>2.5</sub>).
3. Help to implement the Derbyshire Air Quality Strategy (2020-2030) and implement South Derbyshire's own Air Quality Policy.
4. Continue to ensure that the anticipated high level of development across the District does not result in any exceedance of the air quality objectives.

## 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.



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Air quality in South Derbyshire improved by up to 30% in 2020 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.

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## 1 Local Air Quality Management

This report provides an overview of air quality in South Derbyshire during the 2021 calendar year. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995) 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 pursuit of the objectives. 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 can be found in Table E.1 in Appendix E.

## 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 must prepare an Air Quality Action Plan (AQAP) within 12-18 months setting out measures it intends to put in place in pursuit of the objectives.

South Derbyshire District Council currently does not have any AQMAs.

The Council has previously completed Detailed Assessments of air quality in both Repton and Overseal to investigate whether traffic emissions were causing breaches of EU Limit Values. The outcome of both assessments was that air quality in both villages was meeting, and was predicted to continue to meet, all of the relevant standards. Copies of these Detailed Assessments along with other recent air quality reports are available on the [Councils website](#).

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

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 2021 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:

- A total of 318 planning applications have been assessed for their impact on air quality in 2021. Where appropriate, mitigation has been implemented through the imposition of planning conditions.
- The Woodville - Swadlincote Regeneration Route was completed in late 2021 and creates the opportunity to regenerate areas of Swadlincote and to move traffic away from existing areas of high traffic congestion such as High Street, Woodville.
- In summer 2021, the Council published its second Climate and Environment Action Plan committing to strive towards carbon neutrality of the Council's

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services by 2030 and districtwide carbon neutrality by 2050. The Plan contains 53 actions many of which will also directly contribute to improving local air quality. The Council is already well on the way with many of the actions.

- 42 electric car recharge points in public car parks have been installed
  - £4.2 million in funding has been secured to help improve thermal efficiency of homes across the District and therefore to reduce or remove fossil fuel combustion.
  - Smaller diesel fleet vehicles are being replaced with electric.
  - A pilot project to replace diesel refuse collection trucks with hydrogen / diesel hybrids has begun.
  - Petrol fuelled grounds maintenance equipment has been replaced with electric alternatives.
  - The free tree scheme enables hundreds of saplings to be planted across the District.
- The Council, in collaboration with colleagues working in Public Health, has committed to providing an annual report to the Derbyshire Health Protection Board. This fourth annual report was submitted in January 2021. The annual report highlights medium-term trends in air quality across Derbyshire, will highlight to the public health and medical community areas of air quality concern and will allow greater public accessibility and scrutiny of air quality.
  - The Council subscribes to the governments [Air Quality Bulletin](#) website in order to receive notification of predicted episodes of poor air quality. The Council utilises its Facebook account <https://www.facebook.com/southderbys> to advise local residents of any predicted high air pollution episodes.
  - The Council uses its regulatory powers to limit the amount of pollution being generated from industrial sites which have been issued with environmental permits.
  - In November 2018, the Council launched its Corporate Environmental Sustainability Group, a Director led working group tasked with improving the Council's own environmental performance and with a specific brief to deal with transport and transport emissions.

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- In November 2019, a Staff Travel Plan was published containing ambitious targets to reduce the Council’s own fleet diesel consumption by 10%, grey fleet mileage by 15%. Following the implementation of the Plan over 70% of staff now either travel to work by sustainable travel or are enabled to work flexibly.

Details of all measures completed, in progress or planned are set out in Table 2.2.

In April 2021, the Council approved its first Air Quality Strategy. This Strategy set air quality targets which were aligned to the Derbyshire Air Quality Strategy and which are much more ambitious than national targets.

The aim of this Policy **is to reduce the health impact of poor air quality for the people of South Derbyshire.**

The priorities of the Policy are:

- **To seek to reduce the sources of pollution within and outside South Derbyshire which contribute to poor air quality,**
- **To prioritise and support those interventions which offer additional health benefits**
- **To mitigate the impacts of poor air quality on health.**
- **To strike a balance between the occasional tensions between climate change interventions and local air quality interventions.**

The targets contained in the Policy are summarised in Table 2.1 along with current performance outcomes.

Outcome	2017 Derbyshire Baseline	South Derbyshire		2022
		2019 Baseline	2024 Target	
Fraction of mortality attributed to particulate matter air pollution	5.1% (2019)	5.3%	5.1%	5.3% (Latest data 2019)
Average annual measured concentration of nitrogen dioxide	28.8 µg/m <sup>3</sup>	23.8 µg/m <sup>3</sup>	23.0 µg/m <sup>3</sup>	20.3 µg/m <sup>3</sup>
Maximum annual average measured concentration of nitrogen dioxide	49.9 µg/m <sup>3</sup> (County) 61.9 µg/m <sup>3</sup> (City)	32.7 µg/m <sup>3</sup>	36.0 µg/m <sup>3</sup>	28.0 µg/m <sup>3</sup>
Number of air quality monitoring sites	272	16	19	24

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Number of monitoring sites where the annual average measured concentration of nitrogen dioxide exceeds 40µ/m <sup>3</sup>	13	0	0	0
Number of Air Quality Management Areas	8	0	0	0
Predicted annual average and maximum background PM <sub>10</sub>	No data	Mean 12.7 µg/m <sup>3</sup> Max 16.1 µg/m <sup>3</sup>	Mean 12.2 µg/m <sup>3</sup> Max 15.6 µg/m <sup>3</sup>	Mean 12.5 µg/m <sup>3</sup> Max 15.9 µg/m <sup>3</sup>
Predicted annual average and maximum background PM <sub>2.5</sub>	No data	Mean 7.8 µg/m <sup>3</sup> Max 9.7 µg/m <sup>3</sup>	Mean 7.4 µg/m <sup>3</sup> Max 9.3 µg/m <sup>3</sup>	Mean 7.6 µg/m <sup>3</sup> Max 9.5 µg/m <sup>3</sup>



## South Derbyshire District Council

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	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	<a href="#">Air quality mitigation measures in the South Derbyshire Design Guide (Design SPD)</a>	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2019	2024	South Derbyshire District Council	South Derbyshire District Council	NO	Funded	< £10k	Implementation	Overall reduction in emission per developed floorspace	318 planning responses in 2021	Design SPD approved. Model planning conditions produced.	Pressure for planning consents without air quality conditions
2	Woodville - Swadlincote Regeneration Route	Transport Planning and Infrastructure	Other	2020	2022	Derbyshire County Council	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	
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	South Derbyshire District Council	ECO	NO	Funded	£500k - £1 million	Completed	1.5 to 3 tonne reduction in PM emission	54 Air Source Heat Pumps fitted	Overseas Project complete	Maintenance costs
4	Derbyshire Healthy Home Programme	Other	Other	2015	2023	Derbyshire County Council	Better Care Fund	NO	Funded	£50k - £100k	Implementation	Reduced PM and NO2 from domestic energy sources	Number of properties improved	12 properties improved in 2021/22	£80k limit to the fund. Main issue is finding and engaging eligible people
5	Healthy Homes	Other	Other	2020	2023	Derbyshire County	Better Care	NO	Funded	£100k - £500k	Implementation	Reduced PM and	Number of properties	Circa 50 properties	£200k limit to the fund.

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	Assistance Fund					Council	Fund					NO2	improved	s improved in 2021/22	Capacity constraint of contractors
6	Free Trees initiative	Other	Other	2010	2032	South Derbyshire District Council	National Forest	NO	Funded	£10k - 50k	Implementation	CO2 and PM mitigation	Number of free trees distributed	Approx 1000 trees distributed in 2021	
7	<a href="#">Derbyshire Low Emissions Strategy Action Plan</a>	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	42 EV points in Council owned car parks	
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	DCC and private developers	NO				Reduced car emission	Trip reductions	Currently at options appraisal	Dependant on s.106 contributions and possible Transforming Cities capital
9	<a href="#">A38 Derby Junction Improvements (Kingsway, Mark Eaton and Abbey Hill)</a>	Traffic Management	Strategic highway improvements	2018	2024	Highways England	HE	NO	Funded	£1 million - £10 million	Implementation	Reduced total vehicle emission	None	DCO approved on 8 January 2021	
10	<a href="#">South Derbyshire staff travel action plan targets</a>	Promoting Travel Alternatives	Workplace Travel Planning	2019	2024	South Derbyshire District Council	SDDC	NO	Partially Funded	£100k - £500k	Implementation	Reduced PM & NO2	Fleet mileage reductions % staff	Plan adopted in Nov 2019. KPIs on	Funding and staff engagement

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														target	
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	
12	Derbyshire Air Quality Strategy	Other	Other	2019	2030	Derbyshire County Council	DCC	NO	Partial	< £10k	Implementation	Reduced PM & NO2	Various indicators around emissions and exposure reductions	Adopted Jan 2020	
13	<a href="#">Derbyshire Cycle Plan</a>	Promoting Travel Alternatives	Promotion of cycling	2019	2030	Active Derbyshire & DCC		NO	Partial	No Data	Implementation	Reduced vehicle (PM and NO2) emissions	2% of commuters travelling to work by bike	Ongoing	
14	Key Cycle Network	Promoting Travel Alternatives	Promotion of cycling	2019	2030	DCC		NO	Partial	No Data	Implementation	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		NO	Partial	No Data	Implementation	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		NO	Partial	No Data	Implementation	Reduced vehicle (PM and NO2) emissions	Reduce the % of children who go to school in a car from 34%	No data	
17	Sustainable travel Smarter	Promoting Travel Alternative	Workplace Travel Planning	2019	2030	DCC		NO	Partial	No Data	Implementation		No data	No data	

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	Choices	s													
18	South Derbyshire Cycling Plan	Alternatives to private vehicle use	Other	2019	2030	DCC		NO		No Data	Implementation	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	Reduce pollution through IPPC Permits going beyond BAT	2012	2032	South Derbyshire District Council	South Derbyshire District Council	NO	Funded	£10k - 50k	Implementation	Reduced industrial emission of all AQS pollutants	100% compliance	100% compliance	
20	ISO14001 Accreditation	Promoting Low Emission Plant	Other measure for low emission fuels for stationary and mobile sources	2012	2032	South Derbyshire District Council		NO	Partial	£50k - £100k	Implementation	CO2, PM and NO2	ISO14001 recert	Recert in Dec 2021	
21	<a href="#">Greenways Strategy including new greenways and cycle routes</a>	Transport Planning and Infrastructure	Public transport improvements - interchanges stations and services	2012	2032	Derbyshire County Council		NO	Partial	No data	No data	CO2, PM and NO3	No data	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	Complete	Reduction in impacts of new development	Finalised document	Final version published in Nov 2018	Adoption within the planning process

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23	Vehicle Management Strategy and Vehicle Replacement Plan 2016	Vehicle Fleet Efficiency	Other	2018	2023	South Derbyshire District Council	South Derbyshire District Council	NO	Partial	£1 million - £10 million	Implementation	Reduced PM and NO2	No data	No data	
24	EMAQF Workplan	Policy Guidance and Development Control	Regional Groups Coordinating 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	twice yearly meetings	
25	Annual report on air quality to Derbyshire Health Protection Board	Public Information	Via other mechanisms	2018	2032	Derbyshire County Council	District LAs	NO	Funded	< £10k	Implementation	No direct impact	Report to Health Protection Board	Last report to the Jan 2020 meeting	
26	Derbyshire Air Quality heatmap	Public Information	Via other mechanisms	2020	2020	Derbyshire County Council	District LAs	NO	Funded	< £10k	Completed	No direct impact	Finalise heat maps	Maps produced from 2015 data	
27	Promotion of Clean Air Day	Public Information	Via the Internet	2018	2032	Derbyshire County Council	District LAs	NO	Funded	< £10k	Implementation	No direct impact	Comm Plan	Comm Plan	
28	Improved communication to individuals with chronic	Public Information	Via other mechanisms	2018	2032	Derbyshire County Council	District LAs	NO	Not Funded	£10k - 50k	Planning	Reduced exposure of sensitive receptors	TBC	No specific plans developed	

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	health conditions														
29	Increase awareness of impacts of air quality on health across professional groups	Public Information	Via other mechanisms	2018	2032	Derbyshire County Council	NHS	NO	Not Funded	£10k - 50k	Planning	Reduced exposure of sensitive receptors	TBC	No specific plans developed	
30	Installation of a continuous PM monitor in South Derbyshire	Public Information	Via the Internet	2018	2032	South Derbyshire District Council	South Derbyshire District Council	NO	Funded	£10k - 50k	Implementation	No direct reductions	90% capture of PM10 & PM2.5 data	Monitor installed in Sept 2019	Technical problems with monitor
31	EPC compliance in private rented sector	Promoting Low Emission Plant	Emission control replacement of combustion sources	2019	2022	South Derbyshire District Council	South Derbyshire District Council	NO	Funded	£10k - 50k	Implementation	Reduced fixed plant (PM and NO2) emissions	100% to EPC E	99.8% at EPC E	
32	<b>South Derbyshire Climate &amp; Environment Action Plan</b>														
32a	Action T1	Promoting Low Emission Plant	Low Emission Fuels for stationary and mobile sources in Public Procurement	2021	2030	South Derbyshire District Council	South Derbyshire District Council	NO	Not Funded	£1 million - £10 million	Planning	Reduced fixed plant (PM and NO2) emissions	200 tonne carbon reduction	Approved in principle	No funding
32b	Action T2	Promoting Low Emission Plant	Low Emission Fuels for stationary and mobile sources in Public Procurement	2021	2030	South Derbyshire District Council	South Derbyshire District Council	NO	Not Funded	£500k - £1 million	Planning	Reduced fixed plant (PM and NO2) emissions	589 tonne carbon reduction	Approved in principle	No funding

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Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	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
			nt												
32c	Action T3	Promoting Low Emission Plant	Low Emission Fuels for stationary and mobile sources in Public Procurement	2021	2030	South Derbyshire District Council	South Derbyshire District Council	NO	Not Funded	£100k - £500k	Planning	Reduced fixed plant (PM and NO2) emissions	590 tonne carbon reduction	Approved in principle	No funding
32d	Action T4	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	2021	2030	South Derbyshire District Council	South Derbyshire District Council	NO	Not Funded	£1 million - £10 million	Planning	Reduced vehicle (PM and NO2) emissions	381 tonne carbon reduction	Approved in principle	No funding
32e	Action T5	Promoting Low Emission Plant	Low Emission Fuels for stationary and mobile sources in Public Procurement	2021	2030	South Derbyshire District Council	South Derbyshire District Council	NO	Not Funded	£100k - £500k	Planning	Reduced fixed plant (PM and NO2) emissions	42 tonne carbon reduction	Approved in principle	No funding
32f	Action T6	Promoting Low Emission Plant	Low Emission Fuels for stationary and mobile sources in Public Procurement	2021	2030	South Derbyshire District Council	South Derbyshire District Council	NO	Not Funded	£100k - £500k	Planning	Reduced fixed plant (PM and NO2) emissions	136 tonne carbon reduction	Approved in principle	No funding
32g	Action T7 & T8	Promoting Low Emission Plant	Other measure for low emission	2021	2030	South Derbyshire District Council	South Derbyshire District Council	NO	Not Funded	> £10 million	Planning	Reduced fixed plant (PM and NO2)	>1000 tonne carbon reduction	Approved in principle	No funding

## South Derbyshire District Council

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	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
			fuels for stationary and mobile sources				Council					emissions			
32h	Action ISP19	Freight and Delivery Management	Other	2021	2032	South Derbyshire District Council	TBD	NO	Not Funded	> £10 million	Planning	Reduced fixed plant and vehicle (PM and NO2) emissions	TBD	TBD	No funding
32i	Action DSP6	Promoting Low Emission Transport	Other	2021	2032	South Derbyshire District Council	TBD	NO	Not Funded	> £10 million	Planning	Reduced vehicle (PM and NO2) emissions	TBD	TBD	No funding
32j	Action DSP13	Promoting Low Emission Transport	Other	2021	2032	South Derbyshire District Council	TBD	NO	Not Funded	£50k - £100k	Planning	Reduced vehicle (PM and NO2) emissions	TBD	TBD	No funding
32k	Action DSP4	Promoting Low Emission Plant	Low Emission Fuels for stationary and mobile sources in Public Procurement	2021	2023	South Derbyshire District Council	BEIS / MEH	NO	Funded	£1 million - £10 million	Implementation	Reduced domestic (PM and NO2) emissions	700 residential properties with reduced energy demand	On Target	
32l	Action ISP8	Promoting Low Emission Plant	Emission control / replacement of combustion sources	2021	2023	South Derbyshire District Council	South Derbyshire District Council	NO	Funded	£100k - £500k	Implementation	Reduced mobile plant (PM and NO2) emissions	10 tonne carbon reduction	On Target	



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

As detailed in Policy Guidance LAQM.PG16 (Chapter 7), local authorities are expected to work towards reducing emissions and/or concentrations of PM<sub>2.5</sub> (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that PM<sub>2.5</sub> has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

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<sub>2.5</sub>).

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 2.3.

**Table 2.3 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<sub>2.5</sub> in South Derbyshire have been calculated from background air quality data published by DEFRA. The DEFRA data consists of estimated background concentrations of PM<sub>2.5</sub> in each 1x1km grid square across all of South Derbyshire attributable to all of the main sources. The estimated average concentration across all 340km<sup>2</sup> and the maximum estimated concentration (expressed in milligrammes per cubic metre, µg/m<sup>3</sup>) from each of the main sources of are presented in Table 2.4.

**Table 2.4 Summary of the Average and Maximum Concentrations of PM<sub>2.5</sub> in South Derbyshire by 1x1km squares (2022 predictions)**

Source	Average Concentration $\mu\text{g}\text{m}^3$	Proportion of the total PM <sub>2.5</sub>	Maximum Concentration $\mu\text{g}\text{m}^3$
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<sub>2.5</sub> beyond those already described in this report.

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

### **3.1 Summary of Monitoring Undertaken**

#### **3.1.1 Automatic Monitoring Sites**

South Derbyshire District Council does not undertake any continuous air quality monitoring. An indicative continuous air quality monitor (Casella Guardian 2) capable of monitoring PM<sub>10</sub>, PM<sub>2.5</sub> and PM<sub>1</sub> was commissioned in mid-2019, although this was mainly for the purposes of complaint investigation. The monitor does not have approval as being 'type tested' for ambient monitoring to EU Limit Value standards. The data has not therefore been included in this report.

#### **3.1.2 Non-Automatic Monitoring Sites**

South Derbyshire District Council undertook non-automatic (passive) monitoring of NO<sub>2</sub> at seventeen (17) sites at the start of 2021 and by the end of the year had added a further seven sites. Table A.1 in Appendix A shows the details of the sites.

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on Quality Assurance/Quality Control (QA/QC) and bias adjustment for the diffusion tubes are included in Appendix C.

### **3.2 Individual Pollutants**

The air quality monitoring results presented in this section are, where relevant, adjusted for "annualisation" and bias. Further details on adjustments are provided in Appendix C.

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

Table A. in Appendix A compares the ratified and adjusted monitored NO<sub>2</sub> annual mean concentrations for the past five years with the air quality objective of 40µg/m<sup>3</sup>.

For diffusion tubes, the full dataset of monthly mean values is provided in Appendix B.

### **3.2.2 Particulate Matter (PM<sub>10</sub>)**

South Derbyshire does not currently carry out any routine monitoring of ambient particulate matter.

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

South Derbyshire does not currently carry out any routine monitoring of PM<sub>2.5</sub>.

### **3.2.4 Sulphur Dioxide (SO<sub>2</sub>)**

South Derbyshire does not currently carry out any routine monitoring of SO<sub>2</sub>.

## Appendix A: Monitoring Results

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

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube collocated with a Continuous Analyser?	Height (m)
SDDC1	Findern Lane, Burnaston	Roadside	430040	331110	NO <sub>2</sub>	No	30	2.0	No	1.5
SDDC2	27 High Street, Woodville	Roadside	431570	319130	NO <sub>2</sub>	No	0	4.0	No	1.5
SDDC3	Community Centre, Church Gresley	Urban Background	429300	318620	NO <sub>2</sub>	No	0	20.0	No	1.5
SDDC4	Castle Apartments, Station Road, Hatton	Roadside	421480	329630	NO <sub>2</sub>	No	10	1.5	No	1.5
SDDC5	24 High Street, Woodville	Kerbside	431572	319106	NO <sub>2</sub>	No	0	1.0	No	1.5
SDDC6	Woody's, 8 High Street, Woodville	Roadside	431540	319143	NO <sub>2</sub>	No	0	4.0	No	1.5
SDDC7	The Robin Hood Inn, Lullington Road, Overseal	Roadside	429460	315420	NO <sub>2</sub>	No	0	2.0	No	1.5
SDDC8	1 Lullington Road, Overseal	Roadside	429467	315395	NO <sub>2</sub>	No	0	30.0	No	1.5
SDDC9	99 Woodland	Roadside	427000	319840	NO <sub>2</sub>	No	0	3.0	No	1.5

**South Derbyshire District Council**

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube collocated with a Continuous Analyser?	Height (m)
	Road, Stanton									
SDDC10	160 Burton Road, Castle Gresley	Kerbside	427622	318878	NO <sub>2</sub>	No	5	1.0	No	1.5
SDDC11	Library, Hartshorne Road, Woodville	Roadside	431500	319250	NO <sub>2</sub>	No	0	15.0	No	1.5
SDDC12	32 High Street Repton	Roadside	430494	326810	NO <sub>2</sub>	No	0	3.0	No	1.5
SDDC13	35/37 High Street Repton	Roadside	430508	326810	NO <sub>2</sub>	No	0	1.5	No	1.5
SDDC14	The Priory, High St, Repton	Kerbside	430444	326888	NO <sub>2</sub>	No	0	1.0	No	1.5
SDDC15	2 Woods Meadow, Chellaston Lane	Roadside	439886	332070	NO <sub>2</sub>	No	0	1.5	No	1.5
SDDC16	25-39 Hepworth Road	Roadside	431154	318450	NO <sub>2</sub>	No	0	1.5	No	1.5
SDDC17	165 High Street, Woodville	Roadside	432100	318752	NO <sub>2</sub>	No	0	2.0	No	1.5
SDDC18	2a Repton Road, Willington	Roadside	430693	331831	NO <sub>2</sub>	No	0	1.5	No	1.5
SDDC19	9 Church Street, Church Gresley	Roadside	429704	318343	NO <sub>2</sub>	No	0	2.0	No	1.5

South Derbyshire District Council

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube collocated with a Continuous Analyser?	Height (m)
SDDC20	15 Swadlincote Road, Woodville	Roadside	431294	319204	NO <sub>2</sub>	No	0	1.5	No	1.5
SDDC21	39 Moira Road, Woodville	Roadside	431487	319003	NO <sub>2</sub>	No	0	1.5	No	1.5
SDDC22	12 Silverton Drive	Roadside	433236	330729	NO <sub>2</sub>	No	0	2.0	No	1.5
SDDC23	46 Deepdale Lane	Roadside	434558	330471	NO <sub>2</sub>	No	0	2.0	No	1.5
SDDC24	59 Station Road, Hatton	Roadside	421591	330015	NO <sub>2</sub>	No	0	1.5	No	1.5

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

(2) N/A if not applicable.

Table A.2 – Annual Mean NO<sub>2</sub> Monitoring Results

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2021 (%) <sup>(2)</sup>	2017	2018	2019	2020	2021
SDDC1	430040	331110	Roadside	92	92	22.8	21.7	20.7	16.5	17.5
SDDC2	431570	319130	Roadside	100	100	27.2	26.9	25.6	22.6	24.8
SDDC3	429300	318620	Urban Background	100	100	12.3	12.8	11.3	9.2	9.6
SDDC4	421480	329630	Roadside	100	100	24.8	22.4	19.5	19.1	20.4
SDDC5	431572	319106	Kerbside	100	100	31.4	26.8	24.3	19.6	19.9
SDDC6	431540	319143	Roadside	100	100	33.3	33.7	32.7	23.5	23.4
SDDC7	429460	315420	Roadside	92	92	26.0	25.7	23.3	19.8	19.9
SDDC8	429467	315395	Roadside	92	92	25.2	26.8	23.5	19.8	22.1
SDDC9	427000	319840	Roadside	92	92	32.9	31.4	32.3	24.8	26.1
SDDC10	427622	318878	Kerbside	100	100	31.8	32.7	29.0	24.8	27.7
SDDC11	431500	319250	Roadside	100	100	31.1	29.3	26.8	22.5	21.6
SDDC12	430494	326810	Roadside	92	92	23.2	19.8	18.1	13.9	14.8
SDDC13	430508	326810	Roadside	100	100	19.1	19.2	17.2	14.4	15.0
SDDC14	430444	326888	Kerbside	92	92	35.3	30.6	27.7	21.1	24.0
SDDC15	439886	332070	Roadside	83	83	-	-	-	-	16.3
SDDC16	431154	318450	Roadside	<b>66</b>	<b>66</b>	-	-	-	-	14.0
SDDC17	432100	318752	Roadside	100	100	31.3	32.1	27.8	24.7	28.0
SDDC18	430693	331831	Roadside	100	100	35.4	31.3	24.8	22.3	25.6
SDDC19	429704	318343	Roadside	100	100	20.7	23.4	24.8	17.0	17.4
SDDC20	431294	319204	Roadside	83	83	-	-	-	-	20.4
SDDC21	431487	319003	Roadside	83	83	-	-	-	-	17.1
SDDC22	433236	330729	Roadside	<b>17</b>	<b>17</b>	-	-	-	-	New
SDDC23	434558	330471	Roadside	<b>8</b>	<b>8</b>	-	-	-	-	New
SDDC24	421591	330015	Roadside	<b>0</b>	<b>0</b>	-	-	-	-	New

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

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



- (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 six months, the maximum data capture for the full calendar year is 50%). Any data capture below 75% is highlighted in red.
- (3) Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per Technical Guidance LAQM.TG16 if the valid data capture for the full calendar year is less than 75% (relevant locations have been highlighted in red). See Appendix C for details.

## Appendix B: Full Monthly Diffusion Tube Results for 2021

Table B.1 – NO<sub>2</sub> Monthly Diffusion Tube Results - 2021

Site ID	NO <sub>2</sub> Mean Concentrations (µg/m <sup>3</sup> )												Annual Mean	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Data	Adjusted <sup>(1)</sup>
	SDDC1	28.9	28.6	26.5	21.5	23.0	21.5	14.8	0.5	16.1	23.2	20.3	21.9	22.4
SDDC2	49.5	37.5	31.4	33.0	39.9	26.9	22.4	26.7	24.2	28.8	27.9	34.1	31.9	24.8
SDDC3	19.2	16.5	14.3	12.3	11.3	8.9	8.0	7.7	9.0	10.9	11.2	18.7	12.3	9.6
SDDC4	27.2	30.0	26.6	24.7	28.3	24.5	24.4	22.1	21.8	25.8	30.1	27.7	26.1	20.4
SDDC5	29.7	27.9	23.3	26.7	25.3	25.0	22.0	22.4	19.2	24.6	26.4	33.9	25.5	19.9
SDDC6	33.3	33.8	33.1	31.5	27.8	18.6	27.1	26.2	21.7	33.0	35.2	39.4	30.1	23.4
SDDC7	25.9	22.4		29.8	31.2	14.3	20.7	22.7	25.2	29.3	26.4	32.8	25.5	19.9
SDDC8	32.4	33.6	28.6	25.3	32.2	26.0	24.3	23.5	23.3		30.3	32.6	28.4	22.1
SDDC9	36.1	37.1	29.6		30.2	27.7	27.7	29.1	25.7	40.3	43.1	41.5	33.5	26.1
SDDC10	37.7	35.3	32.8	36.6	41.2	24.2	35.7	35.5	32.9	42.3	34.4	38.1	35.6	27.7
SDDC11	31.1	36.0	20.4	30.3	27.1	12.7	28.1	23.7	24.1	28.7	34.2	35.5	27.7	21.6
SDDC12	22.7	21.8	20.2	19.0		16.7	15.4	14.1	15.1	17.4	21.1	25.6	19.0	14.8
SDDC13	23.5	24.3	16.8	20.1	21.5	8.7	17.3	17.2	15.7	22.0	18.0	26.3	19.3	15.0
SDDC14	32.9	26.8	27.1	28.7	32.2	30.2	24.4		26.7	31.8	34.0	43.8	30.8	24.0
SDDC15	25.0	24.1		22.4	23.7		18.2	18.3	12.3	20.4	20.5	24.1	20.9	16.3
SDDC16			20.2	-	18.0	-	14.6	14.1	16.1	16.0	18.9	26.0	18.0	14.8
SDDC17	25.7	42.8	37.7	38.4	46.5	27.7	35.5	31.8	28.8	40.6	34.9	40.5	35.9	28.0
SDDC18	32.8	35.3	31.8	33.0	37.1	31.3	31.2	31.4	24.8	35.1	31.5	39.3	32.9	25.6
SDDC19	28.9	28.0	24.2	22.1	23.9	9.6	17.9	18.9	19.9	23.4	22.8	28.0	22.3	17.4
SDDC20			35.1	25.1	25.0	21.9	22.6	20.5	21.3	25.3	28.5	36.8	26.2	20.4
SDDC21			25.5	23.3	22.3	17.9	18.3	18.5	19.5	14.6	29.4	29.6	21.9	17.1
SDDC22											15.4	31.9	23.7	18.4
SDDC23											15.4		15.4	12.0
SDDC24													0	0

(1) Bias Adjustment factor of **0.78** for 2021 - See Appendix C for details on bias adjustment.

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

### Diffusion Tube Bias Adjustment Factors

The bias adjustment factor for 2021 is based on the equivalent national studies reported on the DEFRA website for Socotec Didcot 50% TEA diffusion tube surveys across the UK for 2021. These are summarised below;

National Diffusion Tube Bias Adjustment Factor Spreadsheet				Spreadsheet Version Number: 03/22						
Follow the steps below in the correct order to show the results of relevant co-location studies				This spreadsheet will be updated at the end of June 2022						
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						
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.						
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.						
<b>Step 1:</b>		<b>Step 2:</b>		<b>Step 3:</b>		<b>Step 4:</b>				
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 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.		If you have your own co-location study then see footnote. If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953				
Analysed By <sup>1</sup>	Method <small>To update your selection, choose (M) from the pop-up list</small>	Year <small>To update your selection, choose (All)</small>	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m <sup>3</sup> )	Automatic Monitor Mean Conc. (Cm) (µg/m <sup>3</sup> )	Bias (B)	Tube Precision <sup>2</sup>	Bias Adjustment Factor (A) (Cm/Dm)
Socotec Didcot	50% TEA in acetone	2021	R	Leeds City Council	13	40	29	35.5%	G	0.74
Socotec Didcot	50% TEA in acetone	2021	KS	Leeds City Council	12	34	25	37.3%	G	0.73
Socotec Didcot	50% TEA in acetone	2021	R	Leeds City Council	9	43	31	40.8%	G	0.71
Socotec Didcot	50% TEA in acetone	2021	UC	Leeds City Council	12	31	23	37.4%	G	0.73
<b>SOCOTEC Didcot</b>								<b>Overall Factor<sup>3</sup> (23 studies)</b>	<b>Use</b>	<b>0.78</b>

### Summary of Lab Performance in AIR Proficiency Testing (AIR PT)

The following table summarises the results from the lab we use for our air quality monitoring analysis (Socotec Didcot, 50% TEA in acetone method) based on their summary of precision results from their colocations studies over the past three years. The table summarises the percentage (%) of results submitted which were determined to show a 'good' level of precision with the data from the co-located automatic monitor.

AIR PT AR033	AIR PT AR034	AIR PT AR036	AIR PT AR037	AIR PT AR039	AIR PT AR040
100%	100%	100%	No Results (Covid)	No Results (Covid)	100%

### Annualisation Calculations in Table A.2

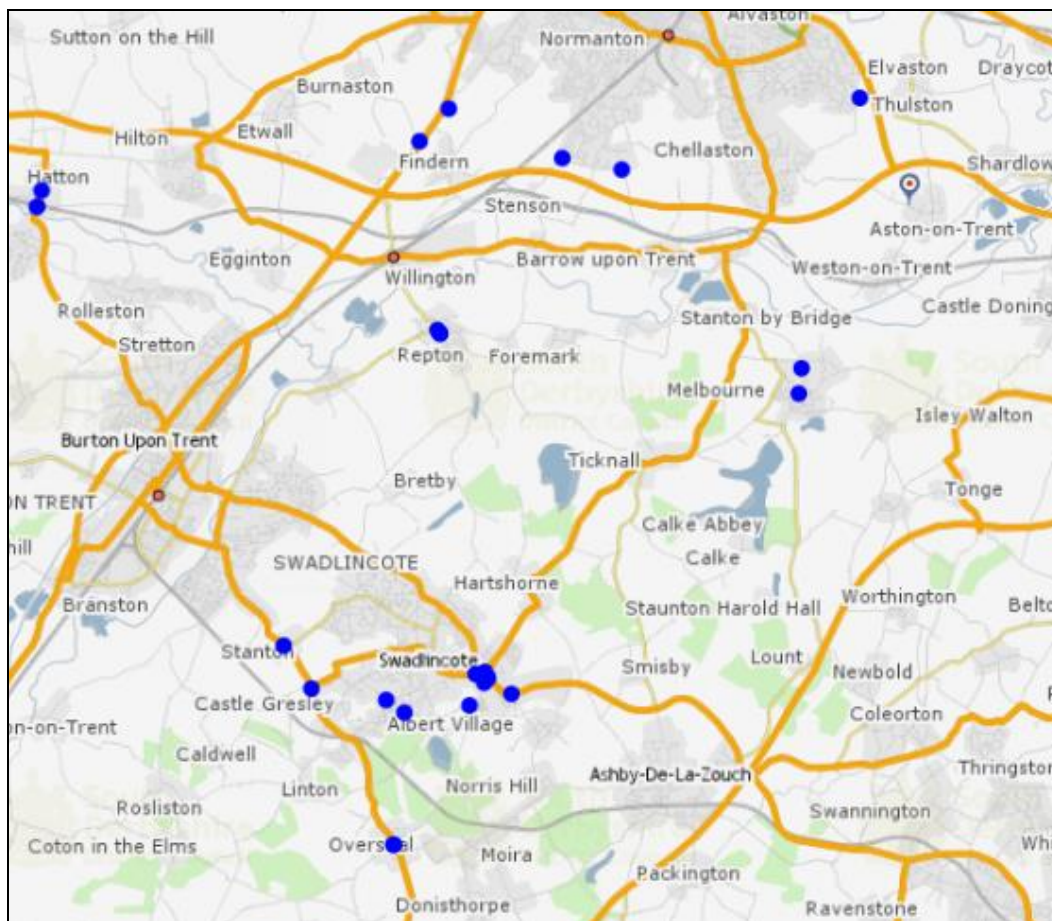
Only site SDDC16 had a data collection rate lower than 75%. The annualisation calculation for this site is summarised below and is based on the methodology in Box 7.9 of LAQM.TG916).

South Derbyshire District Council

Annualisation Calculation - Site SDDC16			
AURN Station	Am	Pm	R
Burton	14.65	13.63	1.07
Derby	25.85	25.22	1.02
Cannock	15.71	14.72	1.07
Average (Ra)			1.06
SDDC16 Bias Corrected Pm			14
SDDC16 Annualised Mean			<b>14.78</b>

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

Figure 2.2a District Map of All Non-Automatic Monitoring Sites in South Derbyshire



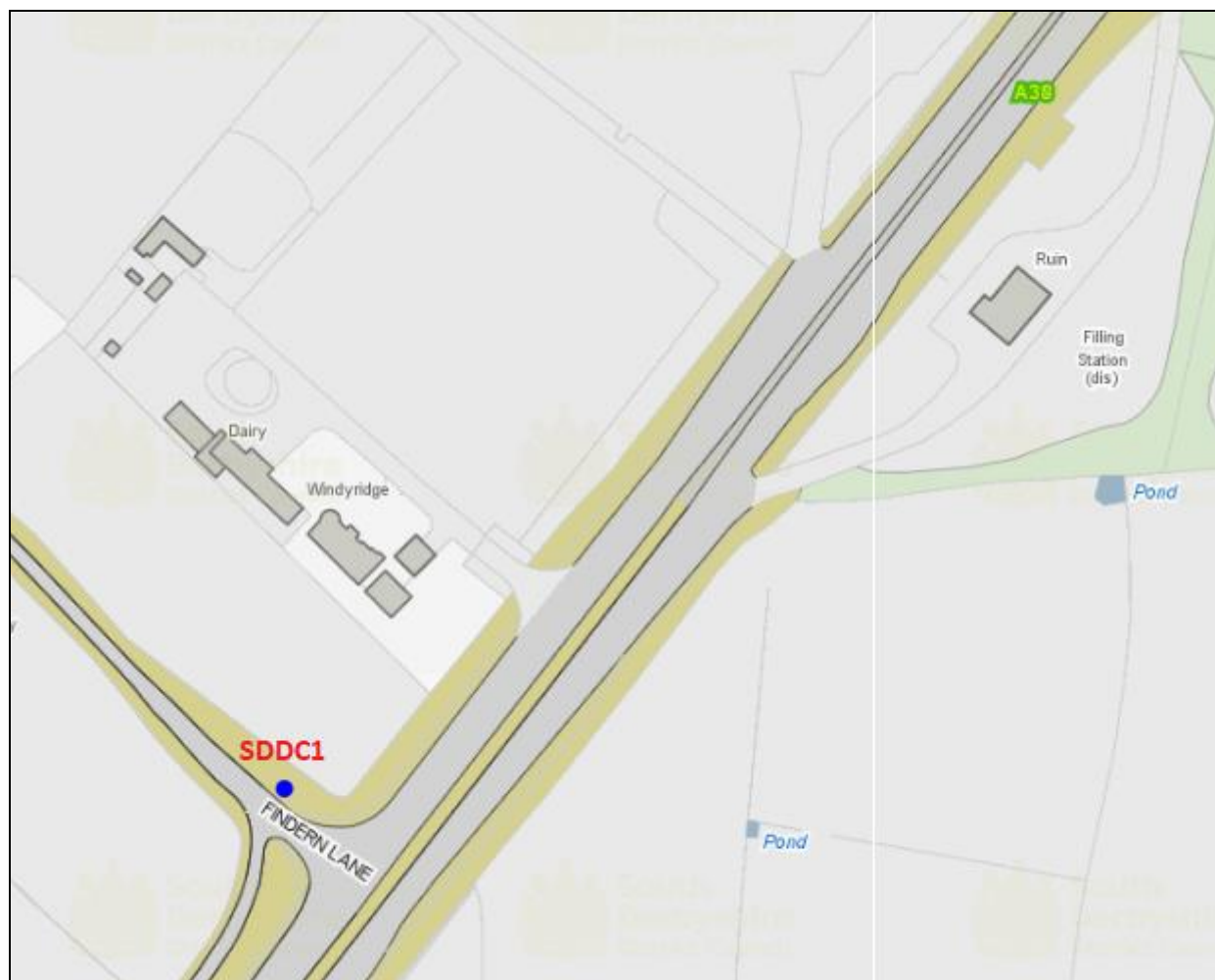
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Figure 2.2b Map of Non-Automatic Monitoring Sites in Woodville



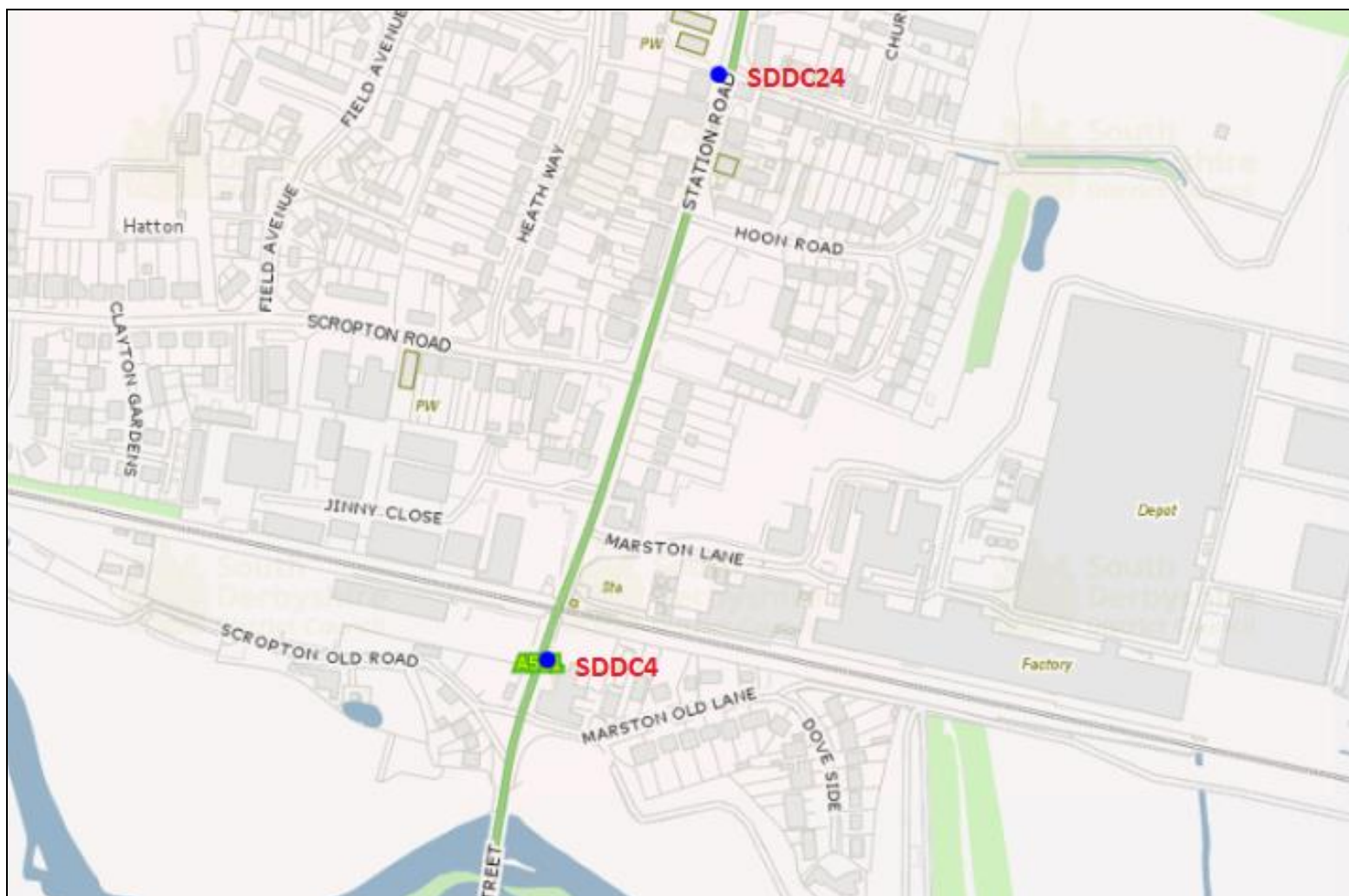
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Figure 2.2c Map of Non-Automatic Monitoring Site in Burnaston (SDDC1)



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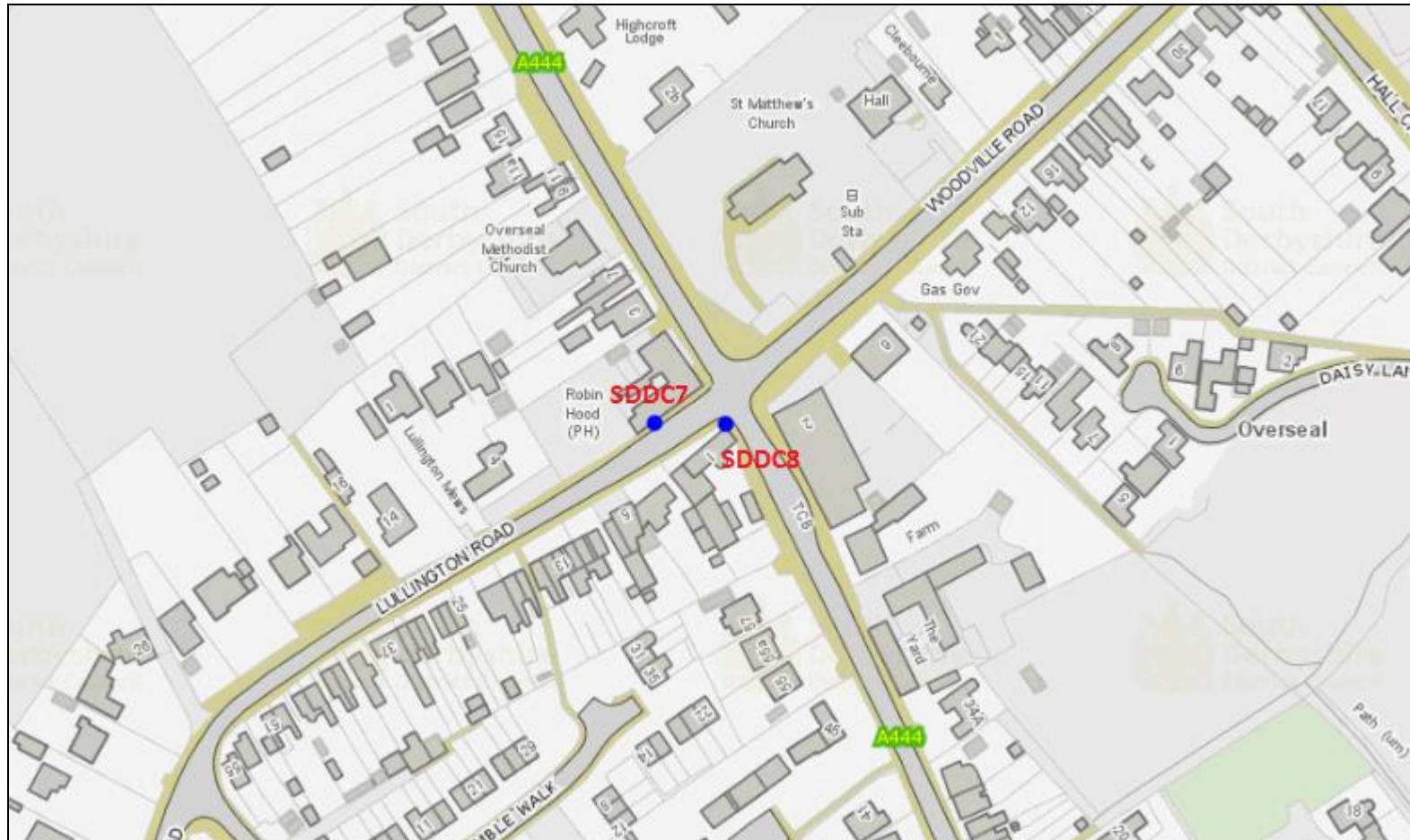
Figure 2.2d Map of Non-Automatic Monitoring Site in Hatton



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Figure 2.2e Map of Non-Automatic Monitoring Sites in Overseal



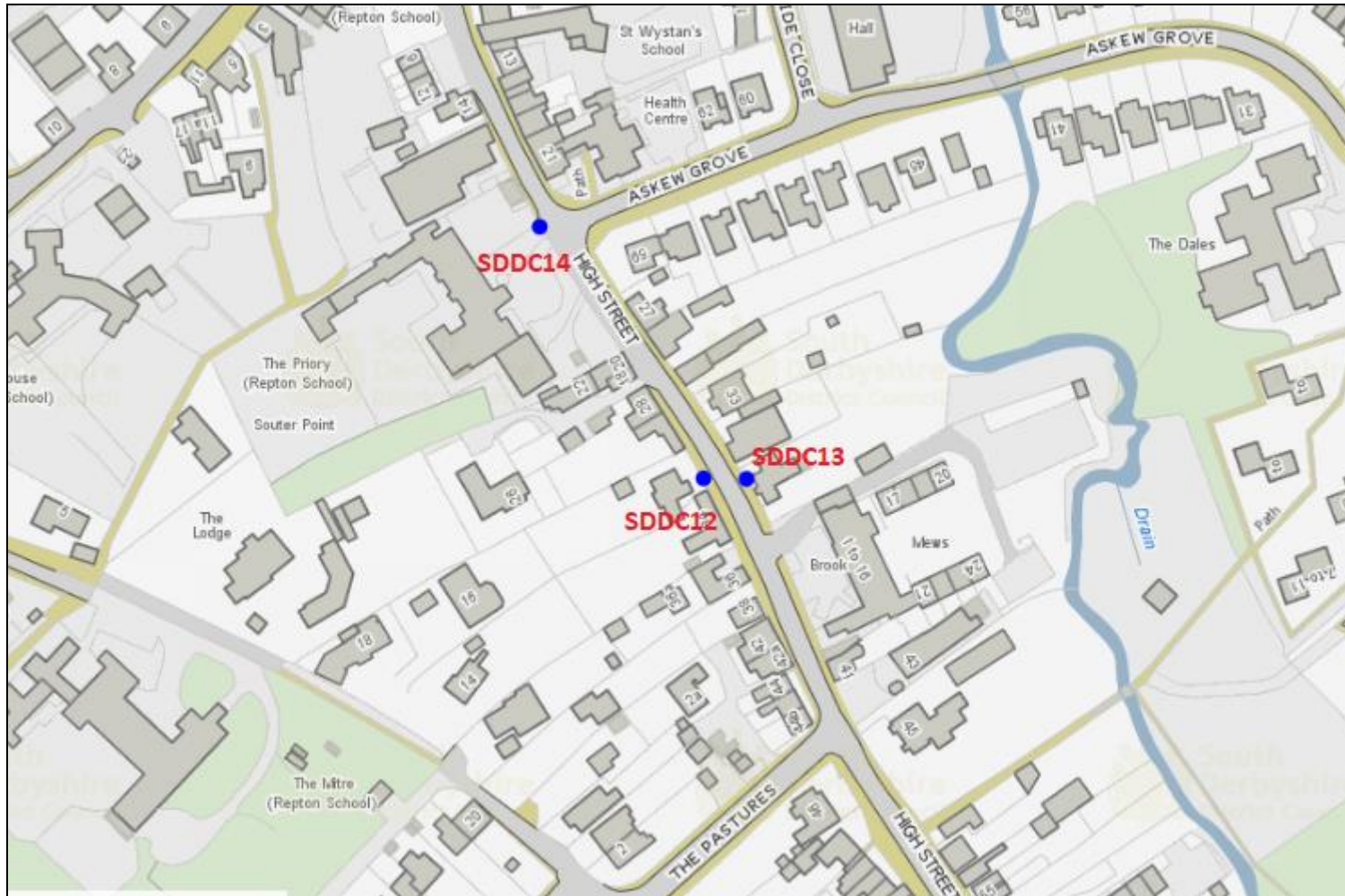
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Figure 2.2f Map of Non-Automatic Monitoring Sites in Stanton (A444)



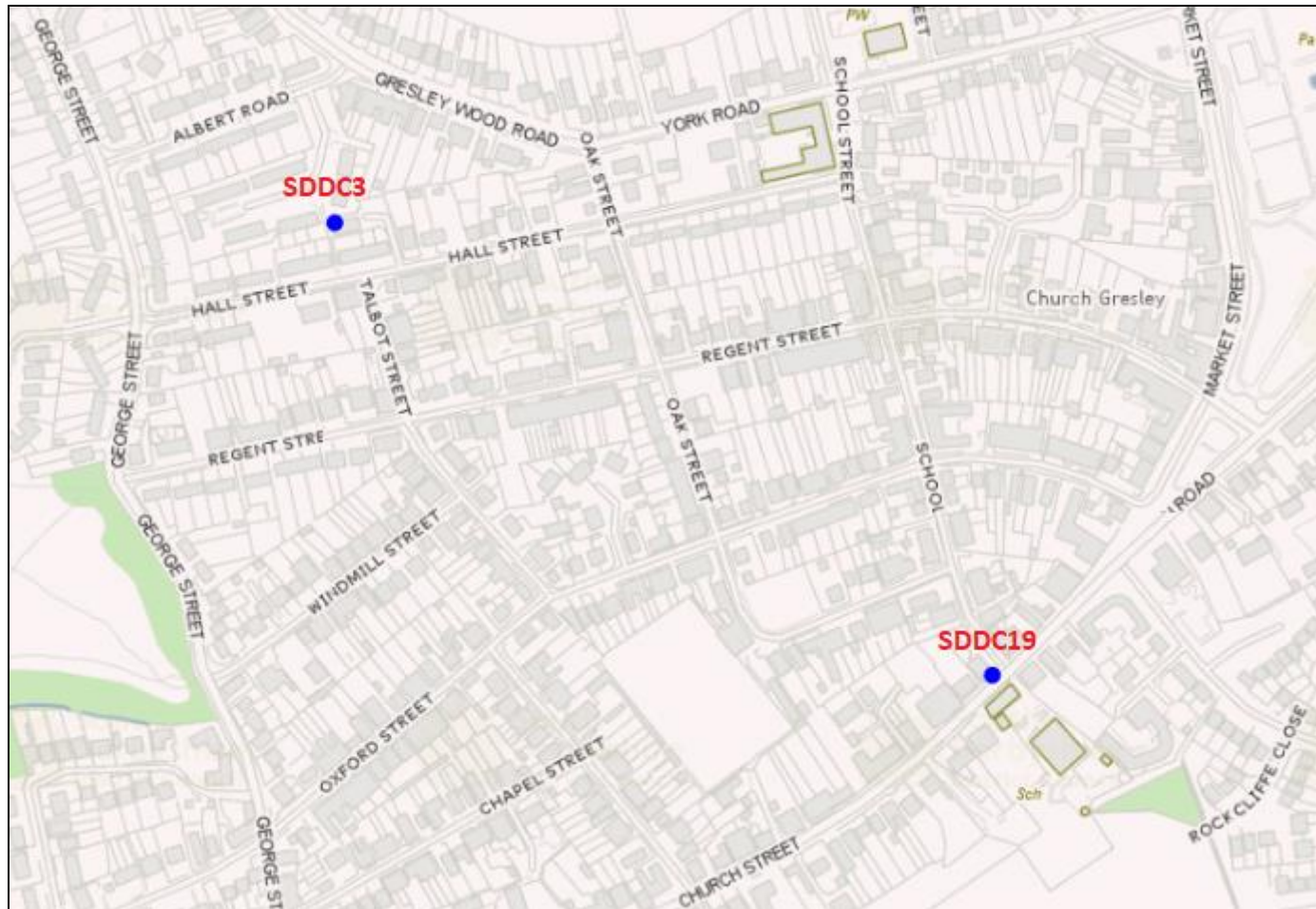
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Figure 2.2g Map of Non-Automatic Monitoring Sites in Repton



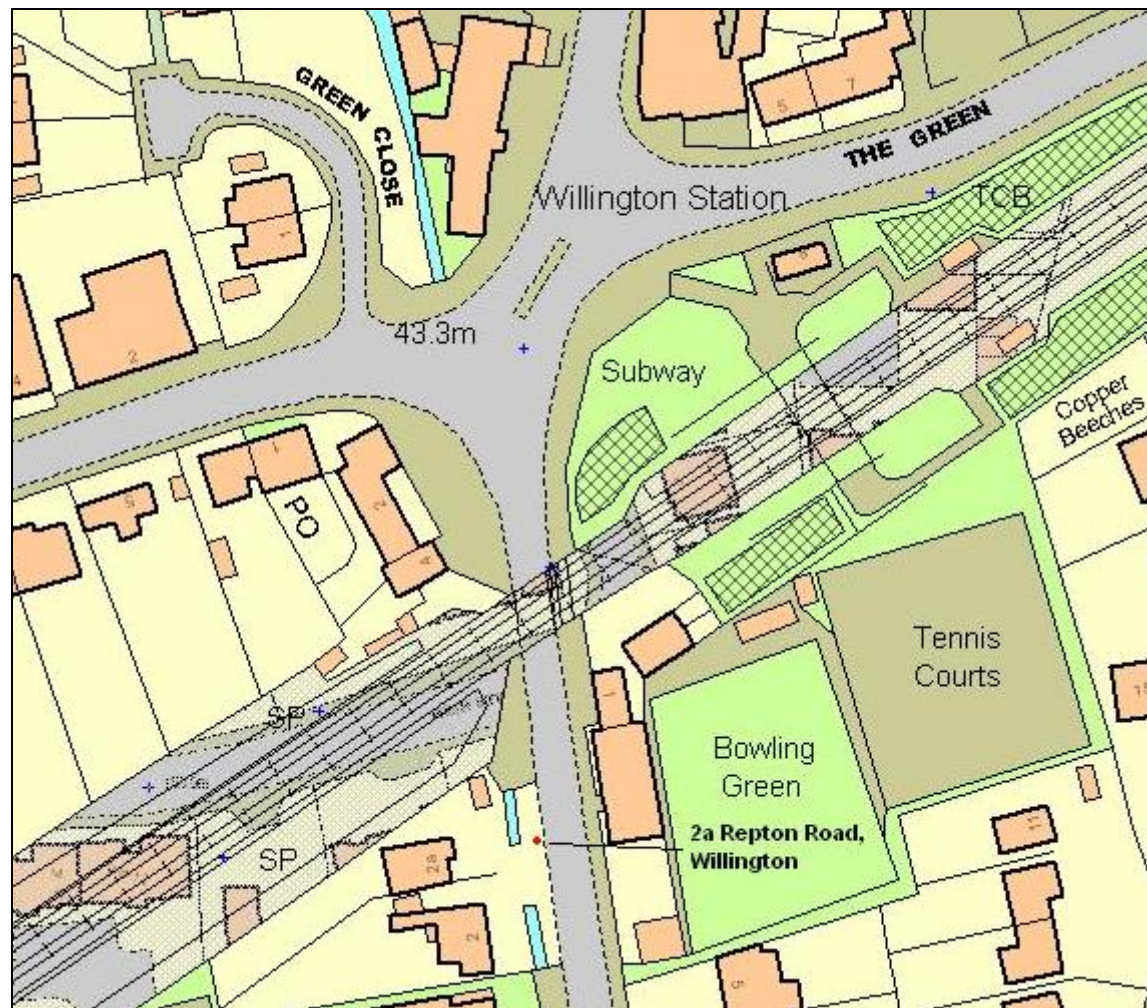
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Figure 2.2h Map of Non-Automatic Monitoring Sites in Church Gresley



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Figure 2.2i 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 England

Pollutant	Air Quality Objective <sup>6</sup>	
	Concentration	Measured as
Nitrogen Dioxide (NO <sub>2</sub> )	200 µg/m <sup>3</sup> not to be exceeded more than 18 times a year	1-hour mean
	40 µg/m <sup>3</sup>	Annual mean
Particulate Matter (PM <sub>10</sub> )	50 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	24-hour mean
	40 µg/m <sup>3</sup>	Annual mean
Sulphur Dioxide (SO <sub>2</sub> )	350 µg/m <sup>3</sup> , not to be exceeded more than 24 times a year	1-hour mean
	125 µg/m <sup>3</sup> , not to be exceeded more than 3 times a year	24-hour mean
	266 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	15-minute mean

<sup>6</sup> The units are in microgrammes of pollutant per cubic metre of air (µg/m<sup>3</sup>).

## Glossary of Terms

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

## References

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