



***St Albans City & District Council  
Annual Status Report 2021***

*Bureau Veritas*

*June 2021*

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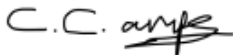



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**St Albans**  
**City & District Council**

# 2021 Air Quality Annual Status Report (ASR)

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

Date: June 2021

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## Executive Summary: Air Quality in Our Area

### Air Quality in St Albans City & District Council

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

The mortality burden of air pollution within the UK is equivalent to 28,000 to 36,000 deaths at typical ages<sup>3</sup>, with a total estimated healthcare cost to the NHS and social care of £157 million in 2017<sup>4</sup>.

St Albans City and District Council is set within Hertfordshire to the north of Greater London. The District has an area of just over 60 square miles with its boundary lines extending from just south of the M25 to a northern point south of Luton. The District is mainly rural in nature but there are a number of urban areas, which include towns such as St Albans, Harpenden and Wheathampstead.

The main source of air pollution within St Albans City and District Council is from vehicle emissions. The main pollutants of concern being Nitrogen Dioxide (NO<sub>2</sub>), and Particulate Matter (PM<sub>10</sub> and PM<sub>2.5</sub>). A number of main roads pass through the District in addition to smaller roads serving the main population centres. The M25 runs east to west through the southern area of the District. The M1 runs north to south up through the western area of the District and the 414 (North Orbital Road) provides an interlink between the M25 and M1.

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

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

<sup>3</sup> Defra. Air quality appraisal: damage cost guidance, July 2020

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

The road network that serves the main population areas within the District, although smaller in size and in terms of traffic flow to the main roads, passes close to residential areas. The road network experiences more urban based driving conditions such as congestion, causing constant acceleration and deceleration. In addition, the siting of buildings close to these roads can entrap pollutants in urban canyon environments that lessen the effects of natural dispersal. This is apparent to the conditions experienced in St Albans town centre.

St Albans currently has 3 declared Air Quality Management Areas (AQMAs 1, 2 and 7) in force within the District. Details of these AQMAs can be found here: [https://uk-air.defra.gov.uk/aqma/local-authorities?la\\_id=254](https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=254). AQMAs have been declared due to exceedances of the NO<sub>2</sub> annual mean AQS objective. All AQMA boundaries are either close to, or have busy roads within them, recognising the influence vehicle emissions have upon air quality.

Details of the AQMAs are provided in Table 2.1 and boundary maps are presented in Appendix D: Maps of Monitoring Locations and AQMAs.

An Air Quality Action Plan (AQAP) was completed in 2003 and progress on the existing measures was last updated in the 2020 ASR. The most recent update of the AQAP measures is included within this report, see Table 2.2. Within the AQAP, measures are outlined to be completed in order to achieve the annual mean objective for NO<sub>2</sub> thus improving air quality within the AQMAs and therefore the District as a whole. The AQAP is updated as measures are progressed and there are a number of projects that are ongoing that will provide a steer for the updated measures included. The Council wish to work towards commencing the process to update the current 2003 AQAP as it is now over 18 years old.

Monitoring of NO<sub>2</sub> is completed within St Albans using a network of passive diffusion tubes. There are currently 43 diffusion tubes within the network. No changes to the network took place during 2019, following the Council's extensive 2018 diffusion tube regime review. In July 2018, 11 diffusion tubes were removed, and 24 tubes were either introduced or relocated to sites near to their original locations or across St Albans and Frogmore, to allow for more relevant exposure and enhanced AQMA monitoring.

## Actions to Improve Air Quality

Whilst air quality has improved significantly in recent decades, and will continue to improve due to national policy decisions, there are some areas where local action is needed to improve air quality further.

The 2019 Clean Air Strategy<sup>5</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>6</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.

Efforts have been focussed on monitoring NO<sub>2</sub> concentrations in St Albans City and District due to the health effects and growing national concern surrounding this pollutant, illustrated in the Government's Air Quality Plan for NO<sub>2</sub>. It is noted that PM<sub>10</sub> concentrations haven't been ignored, as typically both NO<sub>2</sub> and PM<sub>10</sub> share the same origin, therefore actions which target NO<sub>2</sub> levels simultaneously impact PM<sub>10</sub> levels. Nonetheless, the Council will continue to act upon guidance issued by Defra and will undertake supplementary monitoring if required. In 2020, the highest PM<sub>10</sub> concentration within St Alban's City and District area, obtained from the Defra estimated background maps (2018), was 18.2µg/m<sub>3</sub>, which is well below the AQS objective of 40µg/m<sub>3</sub>.

Real-time and historic air quality data across Hertfordshire and Bedfordshire can be viewed on the Herts and Beds Air Quality website; [www.airqualityhertsbeds.co.uk](http://www.airqualityhertsbeds.co.uk). This allows the public to view current air quality concentrations, historical data and previously completed LAQM reports. Although there are no real-time automatic monitoring stations within St Albans City, the raw diffusion tube concentrations for St Albans are available for download from the St Albans City and District Council website - <https://www.stalbans.gov.uk/environmental-services>.

Due to the main source of air pollutant emissions arising from vehicular sources within the District, alternative modes of transport to private internal combustion engine vehicles continue to be promoted. The Council's draft Sustainability Strategy and Net Zero 2030 Action Plan is currently in development and promotes the development of a more sustainable transport system, while aiming to also reduce congestion and promote alternative fuel use. Examples of the Council's sustainable transport goals and their progress are as follows:

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<sup>5</sup> Defra. Clean Air Strategy, 2019

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

- Work in partnership with regional and national government and partners to reduce congestion, improve air quality and support the development of a sustainable transport system across the District;
- Cycling – A District wide cycling map continues to be available to help plan routes across the District and a revised cycling map was launched in spring 2019. SADC Green Travel Plan set out a range of actions to reduce emissions from staff travel, including a staff cycle scheme that was relaunched in spring 2019. The Green Ring route project encircles the city centre; it is a continuous 9km cycling and walking route that will help reduce congestion, pollution and provides a valuable and easy way to exercise. Additional strategies include the provision of secure cycle parking racks, upgrading and constructing new cycle paths and installation of Trixie mirrors at key junctions;
- Public Transport – A well connected bus route that serves St Albans city centre aims to reduce the use of private vehicles, there are services from North London, Welwyn Garden City, Hatfield, Luton and Watford in addition to routes to city suburbs and outlying shopping areas;
- The Idling Action St Albans campaign has been running since 2017 to raise awareness of the issue and urge car, van, lorry, bus and taxi drivers to switch off their engine when parked or stationary for more than a minute. It includes social media activities, letters, school engagement activities, market stalls, Idling Action St Albans events and information leaflets issued with resident car parking permits. In 2019, St Albans installed street signage to encourage drivers outside schools to turn off their engines when stationary and the ongoing work in reference to the control of idling vehicles continued into 2020 with the Council's District wide anti-idling campaign raising awareness at schools and for members of the public.

## Conclusions and Priorities

Within St Albans, there were no exceedances in the NO<sub>2</sub> annual mean objective at any diffusion tube sites for the first time in over 13 years. Only one site within the District had an annual mean value within 10% of the AQS annual mean objective and required distance correction during 2020. SA160, located within AQMA 1 had an annual mean concentration of 36.7µg/m<sup>3</sup> before distance correction was applied.

During 2020, the NO<sub>2</sub> annual mean concentration reduced significantly across all sites when compared to 2019 concentrations. The average reduction in annual mean concentration



was 32% in St Albans during 2020. This is largely owing to the Covid-19 restrictions and the reduction in road traffic.

Within AQMA 2 and 7, the NO<sub>2</sub> annual mean concentrations haven't been within 10% of the annual mean objective within AQMA 2 and 7 since 2017. This trend supports the revocation of both AQMAs 2 & 7.

## Local Engagement and How to get Involved

At an individual level there are a number of ways the public are able to get involved and help improve air quality on a local level. The main source of air pollution within St Albans District is vehicle emissions and changing the method of transport used can help reduce the amount of pollutant emissions released from vehicle sources. This can be from both the reduction in the number of vehicles being used and through the type of vehicles being used.

Changes in transport use such as the following help in reducing emissions of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> from vehicle sources:

- Use public transport where available – This reduces the number of private vehicles in operation reducing pollutant concentration through the number of vehicles and reducing congestion;
- Walk or cycle if your journey allows it – Choosing to walk or cycle for your journey reduces the number of vehicles on the road. There is the added benefit of keeping fit and healthy. In addition, many of the cycle routes are off-road meaning you are not in close proximity to emissions from road traffic sources;
- Reduce time of idling vehicles – If using a car for a journey avoid idling for any long periods of time. When it is apparent there will be no movement required then switch the engine off to reduce the amount of pollutant emissions released;
- Car/lift sharing – Where a number of individuals are making similar journeys, such as travelling to work or to school, car sharing reduces the number of vehicles on the road and therefore the amount of emissions being released. This can be promoted via travel plans through the workplace and within schools; and
- Alternative fuel / more efficient vehicles – Choosing a vehicle that meets the specific needs of the owner, fully electric, hybrid fuel and more fuel efficient cars are available and all have different levels of benefits by reducing the amount of emissions being released.

Real time and historical air quality data for Hertfordshire and Bedfordshire is presented at [www.airqualityhertsbeds.co.uk](http://www.airqualityhertsbeds.co.uk), an index related legend is provided so users can follow the current air quality. There are also a number of links providing further information, including the legislation of air quality within the UK, diffusion tube data, previous LAQM reports and graphical representations of data across the region. Up to date diffusion tube data and news relating to air quality within the District can be found on the St Albans City and District website at <https://www.stalbans.gov.uk/environmental-services>.

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# 1 Local Air Quality Management

This report provides an overview of air quality in St Albans City & District Council during 2020. 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 St Albans City & 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 12 months setting out measures it intends to put in place in pursuit of compliance with the objectives.

A summary of AQMAs declared by St Albans City & District Council can be found in Table 2.1. The table presents a description of the three AQMAs that are currently designated within St Albans City & District Council. Appendix D: Map(s) of Monitoring Locations and AQMAs provides maps of AQMAs and also the air quality monitoring locations in relation to the AQMAs. The air quality objectives pertinent to the current AQMA designations are as follows:

- NO<sub>2</sub> annual mean;
- PM<sub>10</sub> 24-hour mean.

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Name and Date of AQAP Publication	Web Link to AQAP
St Albans AQMA No. 1	Declared 02/11/2004, Amended 08/07/2009	NO <sub>2</sub> Annual Mean	The area comprising of odd numbers 1-7 London Road, 1-11c Holywell Hill and even numbers 2-38 London Road, St Albans.	NO	61	36.7	Air Quality Action Plan for St Albans City and District Council December 2003	<a href="http://aqma.defra.gov.uk/action-plans/StADC%20AQAP%202003.pdf">http://aqma.defra.gov.uk/action-plans/StADC%20AQAP%202003.pdf</a>
St Albans AQMA No. 1	Declared 02/11/2004, Amended 08/07/2009	PM <sub>10</sub> 24 Hour Mean	The area comprising of odd numbers 1-7 London Road, 1-11c Holywell Hill and even numbers 2-38 London Road, St Albans.	NO	-	-		-
St Albans AQMA No. 2	Declared 02/11/2004	NO <sub>2</sub> Annual Mean	The area comprising of Beechtree Cottages, Hemel Hempstead Road, St Albans (adjacent to junction of M1 (J7) and M10).	YES	52	19.6	Air Quality Action Plan for St Albans City and District Council December 2003	<a href="http://aqma.defra.gov.uk/action-plans/StADC%20AQAP%202003.pdf">http://aqma.defra.gov.uk/action-plans/StADC%20AQAP%202003.pdf</a>
St Albans AQMA No. 7	Declared 21/09/2004	NO <sub>2</sub> Annual Mean	An area encompassing a number of domestic properties in Frogmore on Radlett Road and Colney Street in the vicinity of the M25.	YES	44	22.7	Air Quality Action Plan for St Albans City and District Council December 2003	<a href="http://aqma.defra.gov.uk/action-plans/StADC%20AQAP%202003.pdf">http://aqma.defra.gov.uk/action-plans/StADC%20AQAP%202003.pdf</a>
St Albans AQMA No. 7	Declared 21/09/2004	PM <sub>10</sub> 24 Hour Mean	An area encompassing a number of domestic properties in Frogmore on Radlett Road and Colney Street in the vicinity of the M25.	YES	-	-		-

St Albans City & District Council confirm the information on UK-Air regarding their AQMA(s) is up to date.

St Albans City & District Council confirm that all current AQAPs have been submitted to Defra.

## 2.2 Progress and Impact of Measures to address Air Quality in St Albans City & District Council

Defra's appraisal of last year's ASR concluded:

1. The Council have provided a thorough report which contains the required content. Detailed discussion is provided throughout.
2. Monitoring location mapping is comprehensive and demonstrates the extent of the monitoring network and the location and extent of the Council's AQMAs.
3. The Council's AQAP was published in 2003 and is therefore out of date. It is however acknowledged that measures are reviewed periodically, and additional measures added where applicable, however the Council have stated their intention to commence a full review and update of their AQAP during the coming year, thereby actioning the comment raised following last year's appraisal. This is commended.
4. Trends are discussed and a series of useful graphs provided. The inclusion of AQMA-specific trend graphs is welcomed and encouraged where applicable in all future reports.
5. QA/QC of monitoring data is extensive, and full calculations and supporting discussion have been provided for all procedures applied. This is commended as it adheres to good practice and is encouraged in all future reports.
6. Following continued compliance with all relevant AQOs since 2017, the Council intend to consider the revocation of AQMAs 2 and 7. This action is supported providing continued compliance can be demonstrated at all tubes within the AQMAs throughout 2020.

St Albans City & District Council has taken forward a number of direct measures during the current reporting year of 2020 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. 18 measures are included within Table 2.2, with the type of measure and the progress St Albans City & District Council have made during the reporting year of 2020 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.2.

St Albans City & District Council expects the following measure to be completed over the course of the next reporting year:



- Consider requiring developers to install electric charging points in new developments under S106 agreements.

Progress on the following measures has been slower than expected:

- The implementation of action plan measure 17, the promotion of low emission busses has been delayed due to delays in investment from bus operators, therefore a target of reducing emissions through the introduction of buses to meet Euro VI standard has been slipped.
- Action plan measure 5, to increase bus patronage and encourage a modal shift from the car to public transport has been delayed because the Bus Users forum has been suspended due to the pandemic.

Table 2.2 – Progress on Measures to Improve Air Quality

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	Investigate the status of on-street parking in the AQMA and determine if parking is contributing to traffic congestion at each junction. Investigate the provision of on-street loading facilities and co-ordinated timings of deliveries.	Traffic Management	UTC, Congestion management, traffic reduction	2017/18	2023	SADC/HCC	SADC/HCC	No	Not Funded	< £10k	Implementation	See note 1 at end of table	Parking restrictions in place	The Parking Team have been consulting on proposals to amend parking restrictions to improve traffic flows. Work on Belmont hill was completed in September 2019. In Holywell Hill there is already loading restrictions in place during peak traffic hours to improve traffic flow near the shops. Further consultation to remove parking bays on Holywell Hill and change single yellow to double yellow lines is still ongoing and is included in a review of existing resident zones M and N. Any changes will be made with traffic movements and environmental impact as a priority. This has not been fully agreed and is subject to further and more detailed consultations. An informal consultation has already been undertaken and further consultations are ongoing as of June 2021. Likely timescale for any changes to take effect are, financial year 2022/23.	
2	SADC will assert comprehensive control over Part B/Part A2 processes for smaller scale industries under the environmental permitting (England & Wales) regulations 2007.	Environmental Permits	Other measure through permit systems and economic instruments	-	-	Annual subsistence fee and other relevant fees and charges payable by the process operator. Fees and Charges set by DEFRA	Defra and LA	NO	Not Funded	< £10k	Implementation	See note 1 at end of table	Inspections due/carried out in line with annual inspection programme	All processes are risk rated annually and inspection frequency determined based upon risk. Programmed annual inspections to April 2021, are currently up to date. Processes operating without a permit are identified and appropriate enforcement action taken.	
3	SADC will investigate complaints about nuisance (domestic and industrial emissions).	Public Information	Via other mechanisms	-	-	SADC	SADC	NO	Not Funded	£10k - 50k	Implementation	See note 1 at end of table	Time taken to resolve complaints	Complaints are investigated as and when received.	
4	Continue to monitor air quality within the district and as necessary review the suitability of monitoring locations in	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2018	-	SADC	SADC	NO	Not Funded	< £10k	Implementation	See note 1 at end of table	Data capture	Details of diffusion tube monitoring is recorded on <a href="https://www.stalbans.gov.uk/environmental-services">https://www.stalbans.gov.uk/environmental-services</a>	

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
	line with DEFRA guidance TG16														
5	To increase bus patronage and encourage modal shift from the car to public transport.	Transport Planning and Infrastructure	Bus route improvements	2018	2022	SADC/HCC	SADC/HCC	NO	Not Funded	-	Implementation	See note 1 at end of table	Service numbers	St Albans Bus Users Forum provides a platform for bus users, bus service operators and HCC Passenger Transport Team to discuss services and hear about service improvements. HCC and bus operators, alongside the 10 District and Borough Councils signed a Memorandum of Understanding, have formed the Intalink Enhanced Partnership (April 2020) using powers enabled by the Bus Services Act 2017. This partnership now provides a forum for closer working between HCC, LA's and Bus Operators. There are 5 key objectives which are aimed at improving bus transport. The initial focus for HCC will be to make changes to the road network to improve bus punctuality by prioritising bus journeys over other traffic in congested areas. Feasibility studies to identify localised improvements have been completed by HCC's consultant WSP. Phase 1 schemes implementation is underway, which include bus stop upgrades and road marking amendments. These should be completed by March 2022.	Bus Services operated on a commercial basis
6	To investigate the feasibility of a Clean Air Zone	Promoting Low Emission Transport	Low Emission Zone (LEZ)	2018	-	SADC/HCC	TBC	NO	Not Funded	-	Planning	See note 1 at end of table	Vehicle counts	Possible funding identified and steering group to be set up to investigate suitability and eligibility for funding for Clean Air Zones.	Application for DEFRA funding was unsuccessful. Subject to satisfying eligibility criteria, we may re-apply, should funding streams become available. We are also exploring other measures, which in addition to other AQAP actions and downward trend in air pollution

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
															levels, may bring about sufficient reduction to revoke AQMA 1 (Peahen Junction).
7	Pilot the Station Travel Plan	Promoting Travel Alternatives	Other	2010	-	SADC/HCC	HCC	NO	Not Funded	-	Planning	See note 1 at end of table	Usage figures	St Albans City Station Travel Plan – the travel plan documents are very limited in scope and it will require a Station Travel Plan working group to be established to take ownership of the plan and move towards achieving the objectives. GTR are in the process of developing a pilot which will involve working in partnership with HCC to work on improving sustainable and active travel to stations. It is hoped that St Albans will be part of this project. Val Male HCC Rail Team.	
8	Community Rail Partnership (CRP) The Abbey Line	Promoting Travel Alternatives	Promote use of rail and inland waterways	2010	-	SADC/HCC	SADC/HCC	NO	Not Funded	-	Planning	See note 1 at end of table	Usage figures	The Abbey Line CRP works closely with HCC, SADC, West Midlands Trains and other partners and stakeholders to promote the line as a sustainable transport option for journeys between St Albans and Watford. The CRP has engaged with the community to deliver projects to raise the profile of the line and improve facilities at stations on the line. A “Stations as Places” prospectus has been developed for the Abbey Line by LNR in consultation with stakeholders. Unfortunately there is no further resource within LNR to implement the plan so it will now be the responsibility of the CRP to take this forward. A new cycle shelter for a further 20 bikes has been installed at the Abbey Station to encourage more cycling to the station.	
9	Investigate possibility of road signs to discourage through traffic.	Traffic Management	Other	2018		HCC	HCC	NO	Not Funded		Implementation	See note 1 at end of table	Traffic counts	Variable Message Signs to be activated during city centre events to inform motorists of delays and parking options.	Messages restricted by DfT Traffic Signs Regulations & General Direction
10	Investigate introduction of additional electric charging at council car parks within the District .	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2020	-	SADC	SADC	NO	Not Funded	-	Planning	See note 1 at end of table	Usage figures	Car Parking back in house (Oct 19) Reviewing options to install EV charging points in appropriate Car Parks. Scoping work underway.	

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
11	Consider requiring developers to install electric charging points in new developments under S106 agreements.	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2019	2023	SADC	SADC	NO	Not Funded	-	Planning	See note 1 at end of table	Installation	We provided a response to the SLP consultation. Further discussions with the Planning Department regarding formulation of St Albans AQ Planning Policy Guidance to provide consistency of advice to developers across Herts & Beds are continuing. 10 Electric Vehicle Charge Points have been installed in the new Harpenden Sports and Leisure Centre.	
12	Consider an increase in car parking charges with the view to making bus travel a more attractive alternative.	Promoting Travel Alternatives	Other	2019	-	SADC	SADC	NO	Not Funded	-	Planning	See note 1 at end of table	Car park volume figures	Draft report relating to increases is currently with the SPO RR for sign off June 2021	
13	Continue the Trees Against Pollution project and explore green wall/hedging opportunities	Transport Planning and Infrastructure	Other	2018	-	SADC	SADC	NO	Not Funded	-	Implementation	See note 1 at end of table	Number of trees planted.	1,500 saplings planted in Tallents Crescent Open Space & Holyrood Crescent Open Space plus 57 standard trees throughout the district. LSTF Grant claim successful (£1700) and projects mainly funded by SADC.	
14	Cycling and walking Strategy	Promoting Travel Alternatives	Promotion of cycling	2017	-	SADC/HCC	SADC/HCC	NO	Not Funded	-	Implementation	See note 1 at end of table	Usage figures	<p>Cycling (2008) and Walking (2009) strategies in place. SADC Green Travel Plan sets out a range of actions to reduce emissions from staff travel.</p> <p>Staff cycle scheme relaunched in Spring 2019. Improvements and investments in cycling and walking infrastructure include;</p> <ul style="list-style-type: none"> <li>• Implementation of the St Albans Green Ring route project. <ul style="list-style-type: none"> <li>• Revised St Albans Cycling map launched Spring 2019.</li> </ul> </li> <li>• Construction of cycle and walking paths in Verulamium Park.</li> <li>• Provision of secure cycle parking racks within the city centre and at rail stations.</li> <li>• Upgrading and resurfacing of the Alban Way Leisure path. <ul style="list-style-type: none"> <li>• Installation of Trixie mirrors at key junctions in the city centre</li> <li>• Installation of new section of shared footpath/cyclepath London Road, St Albans.</li> <li>• Early cycle release traffic signals at Hatfield Road, St Albans</li> <li>• Improved access to Nicky Line in Harpenden.</li> </ul> </li> <li>• New link from Alban Way to St Albans City Rail station.</li> <li>• Provision of way finding monoliths within the city centre.</li> </ul>	

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
														A414 Corridor Strategy identifies package of walking/cycling improvements	
15	Taxi emissions.	Promoting Low Emission Transport	Taxi Licensing conditions	2020	-	SADC	SADC	NO	Not Funded		Implementation	See note 1 at end of table	Certificate of Compliance data	Emissions controlled through Certificate of Compliance at garage check. Vehicle Licence Conditions amended to include the following; Any taxi driver can licence a fully electric vehicle as long as it complies with the hackney carriage and private hire vehicle licence conditions. This type of vehicle or a hybrid attracts a discount of £60. A new taxi licensing policy has been introduced in 2020 which includes an emission standard for engines in taxis and private hire vehicles. Currently at first application, vehicles must meet or exceed Euro 5 emissions standards. This changes from 01/04/2022, at first application vehicles must meet or exceed Euro 6 emissions standards. At renewal – From 01/04/2022 vehicle licences will not be renewed in respect of any licensed vehicle that does not meet or exceed Euro 5 emissions standards. From 01/04/2025 vehicle licences will not be renewed in respect of any licensed vehicle that does not meet or exceed Euro 6 emissions standards.	
16	Campaign to raise awareness of air quality and the impact on air quality, of idling engines (when parked)	Public Information	Via the Internet	2017	2023	SADC	SADC	NO	Not Funded	-	Planning	See note 1 at end of table	Media coverage	The Idling Action St Albans campaign has been running since 2017 to raise awareness of the issue of engine idling when parked or stationary for more than a minute. It included social media activities, letters, school engagement activities, market stalls, Idling Action St Albans events and information leaflets issued with resident car parking permits. Since then the work has been paused due to lack of staff resources. Any engagement work was paused during the pandemic and is likely to resume in 2021/22.	
17	Bus fleet/ lower pollutant emissions	Promoting Low Emission Transport	Other	2019	-	SADC/HCC/Bus Operators	HCC/Bus Operators	NO	Not Funded	-		See note 1 at end of table	Number of link improvements	HCC is still considering a cross-county Mass Rapid Transit service. Feasibility design and consideration is continuing with support from HCC's appointed consultants. The long term proposal is to improve links by public transport from St Albans to Watford, Hemel and towards Welwyn, Hatfield and Hertford by providing alternatives to car use. HCC's bid for DfT's 'All Electric Bus Town Fund' for St Albans was unsuccessful. The Pandemic has delayed investment by bus operators, therefore a target of reducing emissions through the introduction of	

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
														buses to meet Euro VI standard has been slipped.	
18	Freight Management Plan	Freight and Delivery Management	Other	2017	-	SADC	TBC	YES	Partially Funded	-	Planning	See note 1 at end of table	Numbers of vehicles and routes taken	Project is on hold pending possibility of feeding into larger scale project (feasibility of CAZ ) subject to funding stream being available.	

## 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.

St Albans City and District Council are working to reduce emissions of air pollutants across the District, many of the measures used to reduce emissions of NO<sub>2</sub> also impact the emissions of PM<sub>10</sub> and PM<sub>2.5</sub> due to the pollutants originating from the same sources. The main source of local air pollution concentrations within St Albans is from vehicle emissions, both NO<sub>2</sub> and particulates are released from vehicular sources, therefore measures focussing on changing the number of vehicles on the roads, and the type of vehicles being used will help reduce emissions of both pollutants.

There is currently no ongoing monitoring of PM<sub>2.5</sub> within the District, and no specific measures in place to address PM<sub>2.5</sub> concentrations, as the air quality across the District is considered good. However, St Albans City & District Council is taking the following measures to address pollutants originating from vehicle emissions and therefore address PM<sub>2.5</sub>:

- Ongoing AQAP measure (5) – Increase bus patronage and encourage modal shift from the car to public transport. Phase 1 schemes implementation is underway, which includes bus stop upgrades and road marking amendments.
- Ongoing AQAP measure (12) – Consider an increase in car parking charges with the view to making bus travel an attractive alternative, draft report relating to the cost increases is due to be signed off June 2021
- Ongoing AQAP measure (14) – Cycling and walking strategy, including improvements and investment in infrastructure such as provision of secure cycle parking racks in the city centre and at rail stations.

The [Public Health Outcomes Framework indicator](#) for the fraction of deaths attributable to PM<sub>2.5</sub> in St Albans is 5.8% (current available report ref. 2019), which is slightly above the regional average of 5.5% and the national average of 5.1%.



Modelled concentrations of PM<sub>2.5</sub> in 2019 using the [Defra 2018 Background Maps](#) tool identify that grid reference x509500, y208500 contains the highest PM<sub>2.5</sub> concentration across the district at a predicted 11.2µg/m<sup>3</sup>. Whilst there is no official air quality standard to address PM<sub>2.5</sub> concentrations, the predicted PM<sub>2.5</sub> concentration closest to St Albans is much lower than the EU Ambient Air Quality Directive limit value of 25µg/m<sup>3</sup>. This area is located 5.3km west of St Albans and less than 1km north of junction 8 of the A414 joining onto the M1.

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

This section sets out the monitoring undertaken within 2020 by St Albans City and District Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2016 and 2020 to allow monitoring trends to be identified and discussed.

### 3.1 Summary of Monitoring Undertaken

#### 3.1.1 Automatic Monitoring Sites

There is currently no continuous monitoring undertaken by St Albans City and District Council.

#### 3.1.2 Non-Automatic Monitoring Sites

St Albans City & District Council undertook non- automatic (i.e. passive) monitoring of NO<sub>2</sub> at 43 single tube sites during 2020, 8 of these tubes are located within an AQMA. Table A.1 in Appendix A presents the details of the non-automatic sites.

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

### 3.2 Individual Pollutants

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

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

Table A.1 and Table A.2 in Appendix A compare the ratified and adjusted monitored NO<sub>2</sub> annual mean concentrations for the past five years with the air quality objective of

40µg/m<sup>3</sup>. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

For diffusion tubes, the full 2020 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.

Site SA141 and SA155 both reported only 7 months data during 2020, therefore due to data capture being below 75%, annualisation had to be carried out following the annualisation methodology presented in Table C.2.

During 2020, no sites within St Albans recorded exceedances of the NO<sub>2</sub> annual mean objective for the first time since before 2008.

For the 4<sup>th</sup> consecutive year, the annual mean NO<sub>2</sub> concentrations within AQMA 7 have remained outside of 10% of the AQS annual mean objective. Only 1 of 4 sites within AQMA 1 had an annual mean concentration within 10% of the AQS objective, therefore requiring distance correction. The annual mean concentration of 36.7µg/m<sup>3</sup> was recorded at SA160 and is a 33% reduction from last year's annual mean concentration of 54.7µg/m<sup>3</sup>.

As annual mean concentrations were much below 60µg/m<sup>3</sup> at all sites, according to Defra guidance, it is unlikely that any exceedances of the 1-hour mean objective has occurred at any sites.

During 2020, NO<sub>2</sub> annual mean concentrations reduced at all sites when compared to 2019, with reductions of 26 to 40% in AQMAs. AQMA 1 saw reductions of circa 35% at 3 of 4 sites. AQMA 2 saw a reduction of 26% at its only diffusion tube site. AQMA 7 saw reductions of circa 30% in its 3 sites. These reductions in concentrations are likely to be linked to the reduction in road traffic which has occurred across the UK as a result of Covid-19 restrictions. Recorded concentrations reduced by 40% at AQMA 1, 26% at AQMA 2 and 25% in AQMA 7 during the first Covid-19 national lockdown in 2020.

AQMA 7 has reported concentrations less than 10% since 2017 when considering the historic monitoring site SA124. This trending data supports the revocation of both AQMAs 2 & 7. 2020 was an anomalous year due to reduced road traffic across the UK as a result of the Covid-19 pandemic. Until 2020, AQMA 1 continued to present concentrations above the AQS objective, with 7 locations close to the boundary reporting similar concentrations.

This suggests that AQMA 1 may wish to be considered by the Council for boundary amendment.

## Appendix A: Monitoring Results

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

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
SA101	Museum Hatfield Road St Albans SA001	Roadside	515105	207476	NO <sub>2</sub>	N	9.3	1.6	N	2.7
SA107	Redbourn JMI Long Cutt Redbourn SA011 (RELOCATED July 2018)	Background	510138	212525	NO <sub>2</sub>	N	11.3	2.2	N	2.6
SA109	High Street Harpenden SA009 (RELOCATED July 2018)	Kerbside	513427	214308	NO <sub>2</sub>	N	6.3	0.1	N	2.6
SA110	Crabtree JMI Crabtree Lane Harpenden SA0 (RELOCATED July 2018)	Kerbside	514438	214353	NO <sub>2</sub>	N	7.5	1.5	N	2.6
SA112	High Street Wheathampstead SA013 (RELOCATED July 2018)	Kerbside	517727	214041	NO <sub>2</sub>	N	16.3	1.7	N	2.6

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
SA114	Fleetville 1 Royal Road St Albans SA020	Background	516549	207391	NO <sub>2</sub>	N	51.3	12.5	N	2.5
SA117	Five Acres London Colney Roundabout SA01	Kerbside	517712	204782	NO <sub>2</sub>	N	11.9	1.4	N	2.4
SA120	Sleapcross Gardens Smallford SA037	Kerbside	520053	206618	NO <sub>2</sub>	N	15.6	1.7	N	2.3
SA121	Mount Drive Park Street SA033	Kerbside	514654	204546	NO <sub>2</sub>	N	37.5	1.4	N	2.5
SA123	Radlett Road Park Street SA031 (RELOCATED July 2018)	Kerbside	515311	202730	NO <sub>2</sub>	AQMA 7	4.4	0.3	N	2.4
SA124	Smug Oak Lane Bricket Wood SA030	Kerbside	515383	202528	NO <sub>2</sub>	AQMA 7	4.5	1.3	N	2.5
SA125	Lye Lane Bricket Wood SA021	Kerbside	513308	202655	NO <sub>2</sub>	N	15.6	0.4	N	2.4
SA127	Oakwood Road Bricket Wood SA026	Kerbside	512570	202716	NO <sub>2</sub>	N	4.4	1.4	N	2.4
SA128	Waterdale Old Watford Rd Bricket Wd A405	Roadside	512004	202105	NO <sub>2</sub>	N	1.0	25.0	N	2.4
SA133	Belmont Hill St Albans SA042	Kerbside	514606	206801	NO <sub>2</sub>	N	13.8	2.5	N	2.4
SA134	Albert Street St Albans SA043	Kerbside	514648	206919	NO <sub>2</sub>	N	5.0	2.2	N	2.6

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
SA135	Watsons Walk St Albans SA040 (RELOCATED July 2018)	Kerbside	515060	206866	NO <sub>2</sub>	N	3.8	1.2	N	2.5
SA136	St Peters Street St Albans SA003	Kerbside	514883	207422	NO <sub>2</sub>	N	34.3	1.1	N	2.3
SA137	High Street St Albans SA039 (RELOCATED July 2018)	Kerbside	514684	207105	NO <sub>2</sub>	N	4.3	1.6	N	2.5
SA138	Peahen PH Holywell Hill St Albans SA015	Kerbside	514701	207082	NO <sub>2</sub>	AQMA 1	15.6	2.6	N	2.6
SA139	Civic Centre St Peters St St Albans SA03	Background	514921	207391	NO <sub>2</sub>	N	73.1	2.4	N	>3.00
SA140	Lattimore Road St Albans	Kerbside	515185	207070	NO <sub>2</sub>	N	6.3	2.5	N	2.5
SA141	Town Hall St Albans	Background	514722	207226	NO <sub>2</sub>	N	1.9	1.5	N	2.6
SA142	Beech Tree Cottage St Albans (AL3 6AR)	Roadside	510754	206091	NO <sub>2</sub>	AQMA 2	20.2	0.0	N	2.3
SA143	London Road West St Albans (RELOCATED July 2018)	Kerbside	514752	207094	NO <sub>2</sub>	AQMA 1	0.6	2.8	N	2.6
SA144	Forester House 1 St Peters Street St Albans	Kerbside	514833	207347	NO <sub>2</sub>	N	9.3	1.2	N	2.6
SA145	Moor Mill Lane Colney Street	Roadside	515257	202638	NO <sub>2</sub>	AQMA 7	12.5	1.6	N	2.3

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
SA146	Forrester House 2 St Peters Street St Albans (NEW July 2018)	Background	514856	207353	NO <sub>2</sub>	N	5.6	21.9	N	2.6
SA147	Shops St Peters Street St Albans (NEW July 2018)	Background	514818	207357	NO <sub>2</sub>	N	47.5	15.6	N	2.5
SA148	Chequer Street St Albans (NEW July 2018)	Kerbside	514705	207119	NO <sub>2</sub>	N	3.1	0.7	N	2.4
SA149	London Road East St Albans (NEW July 2018)	Roadside	515067	206946	NO <sub>2</sub>	N	5.6	2.5	N	2.6
SA150	Hatfield/Royal Road St Albans (NEW July 2018)	Kerbside	516590	207276	NO <sub>2</sub>	N	7.5	1.8	N	2.3
SA151	Thamesdale London Colney (NEW July 2018)	Roadside	518782	203507	NO <sub>2</sub>	N	4.4	1.5	N	2.3
SA152	Shenley Lane/Kings Road London Colney (NEW July 2018)	Roadside	517091	204114	NO <sub>2</sub>	N	6.9	2.4	N	2.4
SA153	Watling Street Park Street (NEW July 2018)	Kerbside	515275	202794	NO <sub>2</sub>	N	12.0	1.4	N	2.4
SA154	Mount Pleasant Lane Bricket Wood (NEW July 2018)	Roadside	512776	202050	NO <sub>2</sub>	N	21.9	2.0	N	2.5



Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
SA155	Westminster Court St Albans (NEW July 2018)	Kerbside	514346	206329	NO <sub>2</sub>	N	27.5	1.8	N	2.4
SA156	Folly Lane East St Albans (NEW July 2018)	Roadside	514602	207674	NO <sub>2</sub>	N	2.5	1.6	N	2.4
SA157	Catherine Street St Albans (NEW July 2018)	Kerbside	514840	207613	NO <sub>2</sub>	N	1.3	0.5	N	2.4
SA158	High Street Redbourn (NEW July 2018)	Roadside	510818	212167	NO <sub>2</sub>	N	2.5	1.7	N	2.6
SA159	Marford Road Wheathampstead (NEW July 2018)	Roadside	517727	213901	NO <sub>2</sub>	N	2.5	2.0	N	2.6
SA160	Hollywell Hill St Albans (NEW July 2018)	Roadside	514682	207060	NO <sub>2</sub>	AQMA 1	2.5	2.5	N	2.4
SA161	London Road Centre St Albans (NEW July 2018)	Kerbside	514787	207069	NO <sub>2</sub>	AQMA 1	1.9	0.5	N	2.5

**Notes:**

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

(2) N/A if not applicable.

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

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2020 (%) <sup>(2)</sup>	2016	2017	2018	2019	2020
SA101	515105	207476	Roadside	100.0	100.0	35.6	28.5	28.3	29.1	19.3
SA107	510138	212525	Background	100.0	100.0	-	-	20.9	20.9	14.7
SA109	513427	214308	Kerbside	84.6	84.6	-	-	25.0	26.9	15.9
SA110	514438	214353	Kerbside	100.0	100.0	-	-	21.0	21.2	12.3
SA112	517727	214041	Kerbside	92.3	92.3	-	-	26.7	26.1	19.6
SA114	516549	207391	Background	92.3	92.3	27.2	26.4	26.3	27.2	20.7
SA117	517712	204782	Kerbside	100.0	100.0	-	23.0	25.5	26.3	17.0
SA120	520053	206618	Kerbside	100.0	100.0	30.3	30.3	29.3	29.8	20.2
SA121	514654	204546	Kerbside	76.9	76.9	36.0	35.0	31.6	31.4	24.2
SA123	515311	202730	Kerbside	100.0	100.0	-	-	34.4	32.4	22.7
SA124	515383	202528	Kerbside	100.0	100.0	36.4	33.7	34.4	32.3	22.6
SA125	513308	202655	Kerbside	92.3	92.3	29.1	26.2	25.8	24.5	18.0
SA127	512570	202716	Kerbside	90.4	90.4	31.4	25.9	26.6	27.1	17.9
SA128	512004	202105	Roadside	100.0	100.0	35.9	34.3	34.7	34.4	23.8
SA133	514606	206801	Kerbside	84.6	84.6	37.9	34.1	31.8	33.4	21.5
SA134	514648	206919	Kerbside	100.0	100.0	35.7	32.8	34.8	36.4	20.9
SA135	515060	206866	Kerbside	100.0	100.0	-	-	34.3	32.8	20.1
SA136	514883	207422	Kerbside	92.3	92.3	<b>51.0</b>	<b>52.5</b>	<b>48.5</b>	<b>45.6</b>	35.3
SA137	514684	207105	Kerbside	100.0	100.0	-	-		<b>41.8</b>	25.7
SA138	514701	207082	Kerbside	100.0	100.0	<b>46.5</b>	<b>41.2</b>	<b>45.2</b>	<b>43.6</b>	27.5
SA139	514921	207391	Background	100.0	100.0	25.1	24.4	22.4	21.8	15.0
SA140	515185	207070	Kerbside	100.0	100.0	28.9	26.5	27.3	26.3	17.3
SA141	514722	207226	Background	57.7	57.7	-	-	26.8	-	15.2
SA142	510754	206091	Roadside	100.0	100.0	-	36.0	30.2	30.4	19.6
SA143	514752	207094	Kerbside	100.0	100.0	-	-	<b>42.4</b>	<b>40.8</b>	25.6
SA144	514833	207347	Kerbside	82.7	82.7	-	<b>46.5</b>	39.7	38.2	28.7
SA145	515257	202638	Roadside	100.0	100.0	-	37.4	34.2	32.3	22.3
SA146	514856	207353	Background	73.1	73.1	-	-	30.6	29.6	19.0
SA147	514818	207357	Background	100.0	100.0	-	-	35.2	39.7	24.4
SA148	514705	207119	Kerbside	100.0	100.0	-	-	<b>52.7</b>	<b>49.0</b>	35.8
SA149	515067	206946	Roadside	100.0	100.0	-	-	32.3	30.0	20.2
SA150	516590	207276	Kerbside	100.0	100.0	-	-	-	31.5	21.9

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2020 (%) <sup>(2)</sup>	2016	2017	2018	2019	2020
SA151	518782	203507	Roadside	92.3	92.3	-	-	36.8	34.2	24.5
SA152	517091	204114	Roadside	92.3	92.3	-	-	29.1	27.0	20.1
SA153	515275	202794	Kerbside	100.0	100.0	-	-	27.6	27.0	18.0
SA154	512776	202050	Roadside	100.0	100.0	-	-	29.3	26.8	18.7
SA155	514346	206329	Kerbside	55.8	55.8	-	-	31.3	29.4	20.2
SA156	514602	207674	Roadside	90.4	90.4	-	-	37.1	35.9	24.9
SA157	514840	207613	Kerbside	100.0	100.0	-	-	<b>46.2</b>	<b>40.8</b>	29.1
SA158	510818	212167	Roadside	100.0	100.0	-	-	25.4	20.5	15.8
SA159	517727	213901	Roadside	75.0	75.0	-	-	29.7	28.8	19.4
SA160	514682	207060	Roadside	100.0	100.0	-	-	<b>59.3</b>	<b>54.7</b>	36.7
SA161	514787	207069	Kerbside	100.0	100.0	-	-	-	38.7	23.9

☒ Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16.

☒ Diffusion tube data has been bias adjusted.

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

#### Notes:

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

Exceedances of the NO<sub>2</sub> annual mean objective of  $40\mu\text{g}/\text{m}^3$  are shown in **bold**.

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

Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

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

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

Figure A-1 Trends in Annual Mean NO<sub>2</sub> Concentrations: AQMA 1

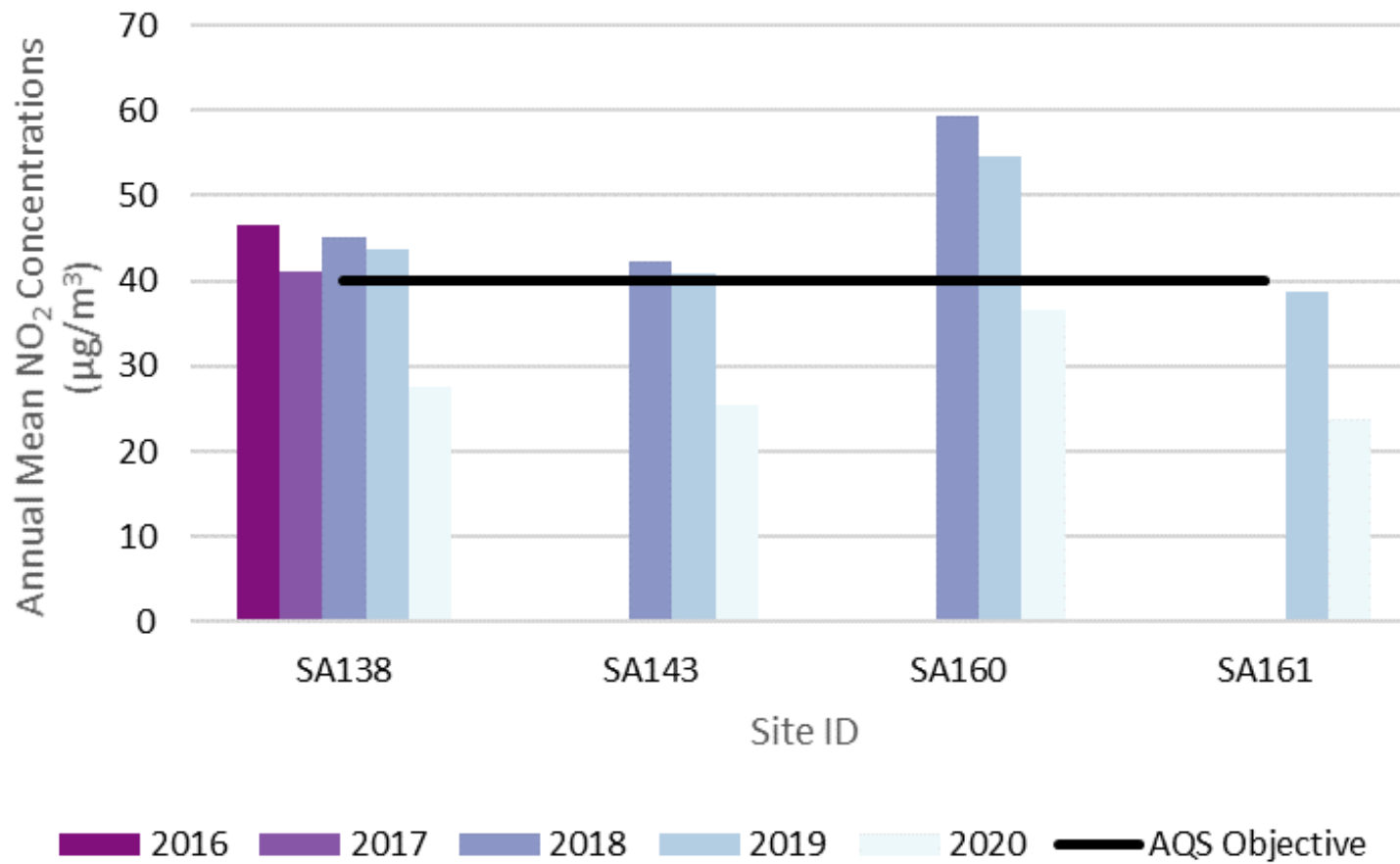


Figure A-2 Trends in Annual Mean NO<sub>2</sub> Concentrations: AQMA 2

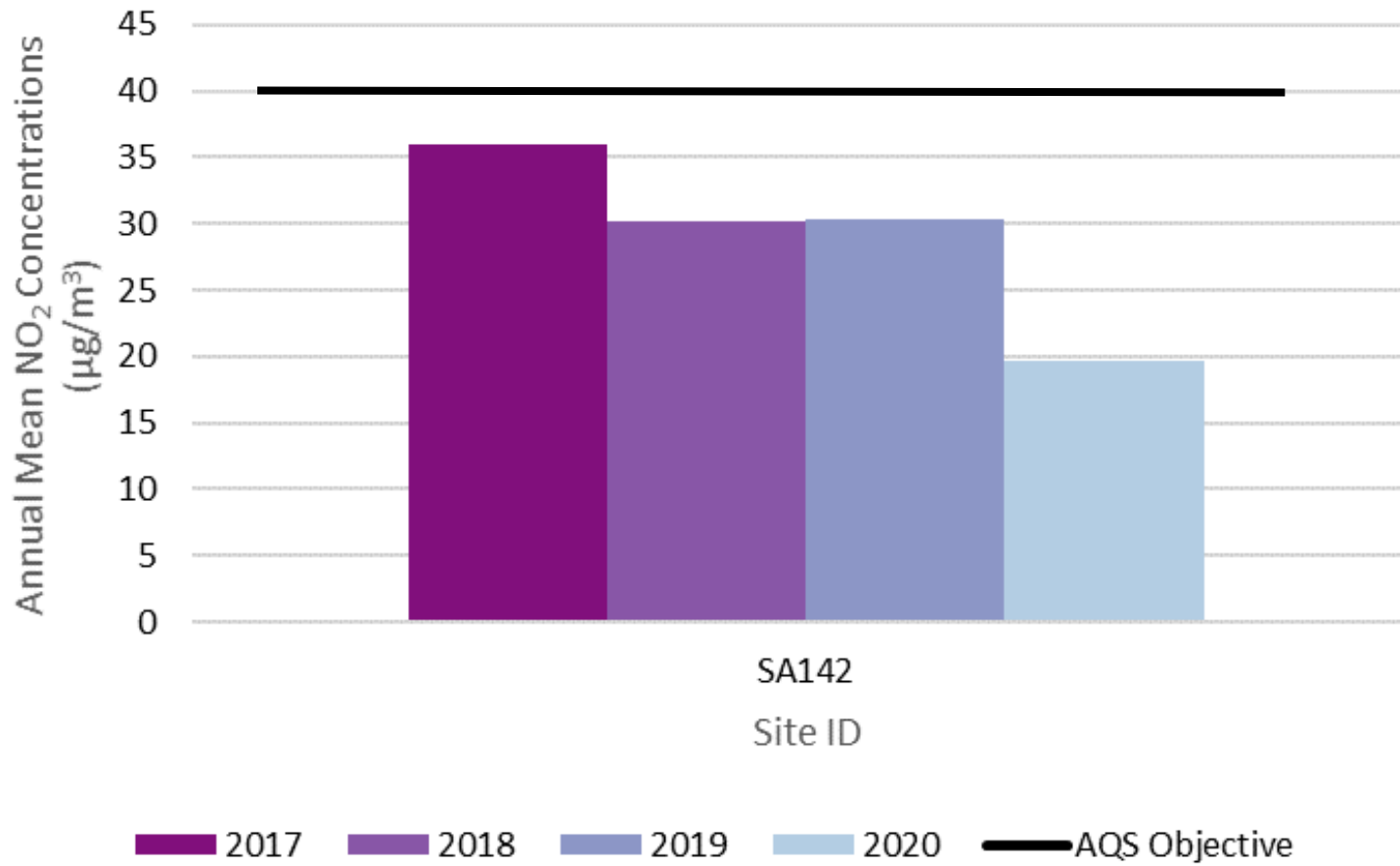


Figure A-3 Trends in Annual Mean NO<sub>2</sub> Concentrations: AQMA 7

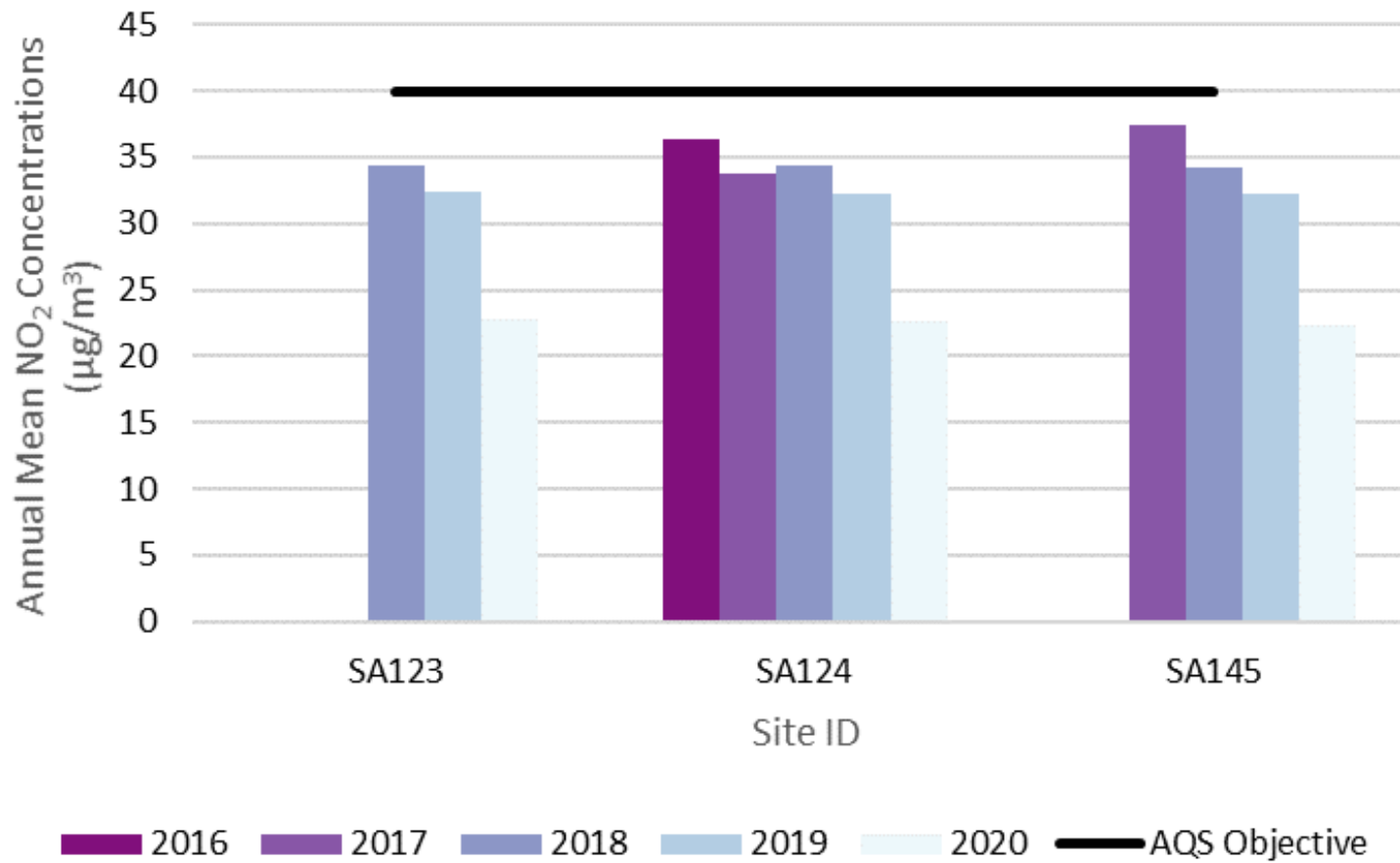
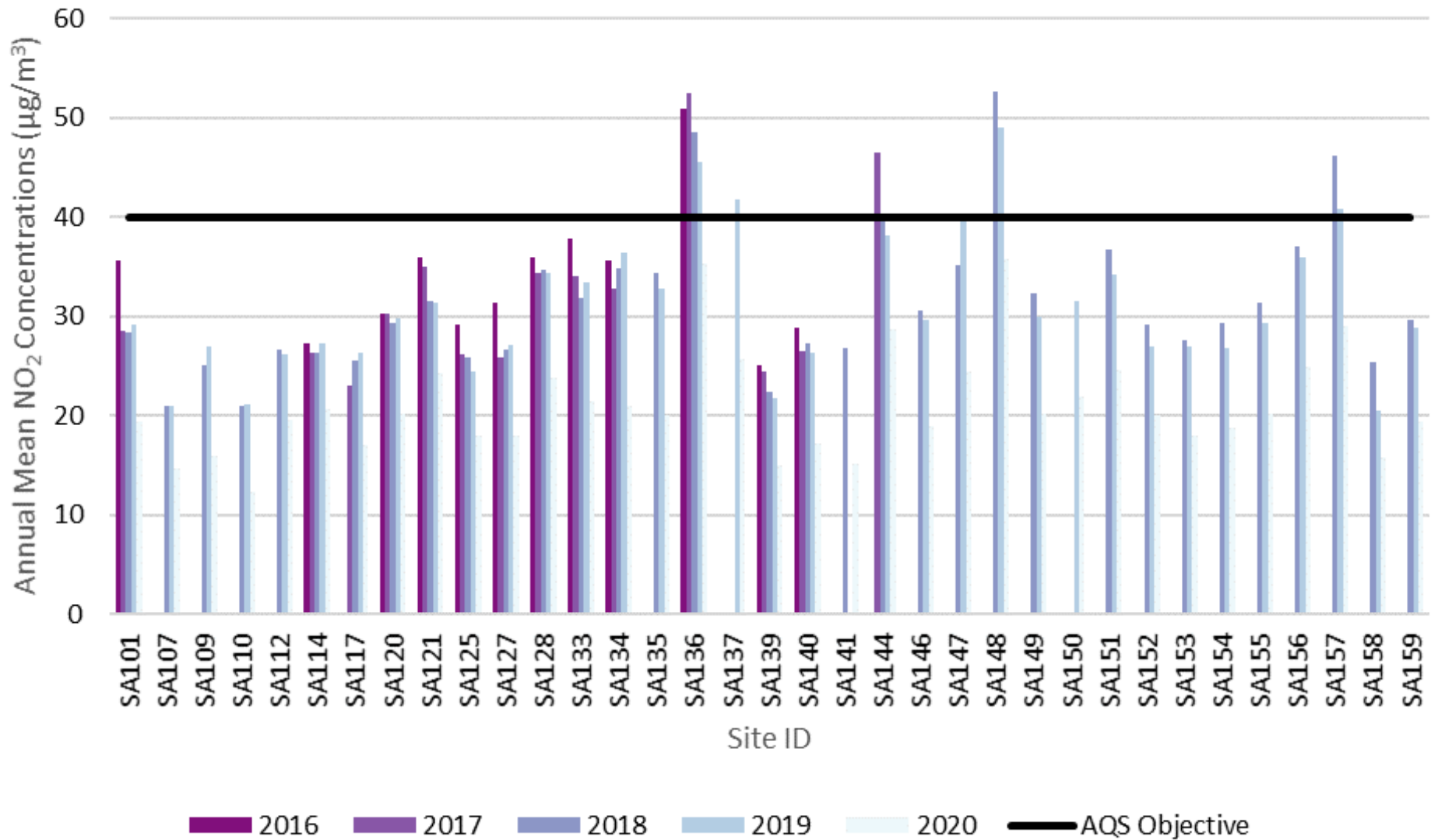


Figure A-4 Trends in Annual Mean NO<sub>2</sub> Concentrations at all monitoring sites outside an AQMA



# Appendix B: Full Monthly Diffusion Tube Results for 2020

Table B.1 – NO<sub>2</sub> 2020 Diffusion Tube Results (µg/m<sup>3</sup>)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.81)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
SA101	515105	207476	25.3	24.2	23.9	17.1	15.9	17.5	19.3	22.4	29.6	25.4	36.4	29.4	23.9	19.3	-	
SA107	510138	212525	27.5	23.3	14.6	10.0	9.9	10.8	13.5	15.8	16.8	18.8	30.6	25.9	18.1	14.7	-	
SA109	513427	214308	29.3			14.9	11.8	14.3	12.2	15.8	20.8	19.3	31.0	26.9	19.6	15.9	-	
SA110	514438	214353	24.8	17.8	13.8	7.7	9.0	9.8	9.7	12.3	15.0	14.5	26.7	20.5	15.1	12.3	-	
SA112	517727	214041	36.2	27.3	23.5	16.7	17.9	18.3		20.4	23.7	24.7	33.5	24.2	24.2	19.6	-	
SA114	516549	207391	45.3	30.6	22.9	15.3	12.8		13.8	16.8	20.4	25.4	42.9	35.1	25.6	20.7	-	
SA117	517712	204782	30.3	22.6	21.1	16.5	15.7	16.0	14.0	15.9	23.3	19.8	30.6	25.3	20.9	17.0	-	
SA120	520053	206618	38.2	26.9	25.1	18.0	17.0	23.2	17.0	22.2	24.5	26.6	32.8	27.8	24.9	20.2	-	
SA121	514654	204546	37.0			20.6	23.1		22.7	25.6	33.3	32.6	41.4	33.1	29.9	24.2	-	
SA123	515311	202730	42.7	29.7	28.4	18.4	19.6	19.9	19.8	24.4	27.9	31.1	40.4	34.5	28.1	22.7	-	
SA124	515383	202528	35.6	26.1	28.8	21.8	26.0	23.4	21.6	26.8	33.3	27.0	34.7	29.4	27.9	22.6	-	
SA125	513308	202655	27.4	22.2	23.8	19.9	16.7		15.2	19.6	28.2	20.3	29.5	22.2	22.3	18.0	-	
SA127	512570	202716	32.2	23.6	21.0	16.5	17.7	15.7	16.4		22.9	20.0	30.8	26.3	22.1	17.9	-	
SA128	512004	202105	43.8	32.5	27.1	20.0	24.5	21.7	22.6	26.2	32.9	32.5	36.7	31.8	29.4	23.8	-	
SA133	514606	206801			27.0	21.8	21.1	22.7	18.5	27.1	34.4	26.1	35.5	31.1	26.5	21.5	-	
SA134	514648	206919	38.0	30.1	25.8	17.7	16.8	20.9	16.4	25.7	27.6	26.9	33.0	31.2	25.8	20.9	-	
SA135	515060	206866	42.5	27.3	20.0	15.6	15.7	19.4	19.1	19.9	28.4	25.9	32.2	31.3	24.8	20.1	-	
SA136	514883	207422	49.7	35.3	48.2	35.7	38.5	42.0		44.3	60.5	43.9	44.3	37.0	43.6	35.3	-	
SA137	514684	207105	57.7	43.4	34.8	22.5	22.7	23.5	16.7	27.8	27.9	28.7	40.0	34.9	31.7	25.7	-	
SA138	514701	207082	50.2	29.9	35.2	27.2	26.6	30.3	22.0	33.1	39.7	32.8	44.4	35.5	33.9	27.5	-	
SA139	514921	207391	29.5	21.3	16.7	11.3	11.5	12.3	13.8	16.4	19.3	19.9	26.8	23.8	18.5	15.0	-	
SA140	515185	207070	33.5	21.2	22.6	16.0	12.0	15.2	12.8	17.0	23.0	23.1	33.0	26.1	21.3	17.3	-	
SA141	514722	207226			19.2	13.8	11.6	13.8			18.9	20.0	28.4		18.0	15.2	-	
SA142	510754	206091	40.1	27.0	22.7	7.0	23.2	18.8	20.6	22.9	24.7	26.7	27.5	29.5	24.2	19.6	-	
SA143	514752	207094	47.6	36.8	30.0	20.8	26.6	22.1	24.4	30.4	37.9	31.0	38.9	32.1	31.5	25.6	-	
SA144	514833	207347	48.4	36.9	35.7	21.0	22.4		28.8	35.9	42.8	39.7	42.6		35.4	28.7	-	
SA145	515257	202638	47.4	36.9	29.4	16.6	17.0	20.0	19.5	22.7	23.9	31.7	40.1	25.2	27.5	22.3	-	
SA146	514856	207353	39.5	27.2	25.1	15.0	15.2	15.8	20.5	24.5	28.1				23.4	19.0	-	
SA147	514818	207357	42.1	32.4	29.6	18.7	21.3	23.2	25.7	30.0	37.2	31.9	37.5	32.5	30.2	24.4	-	
SA148	514705	207119	58.8	49.6	43.2	24.6	34.1	32.8	38.3	47.4	52.0	47.5	56.2	45.6	44.2	35.8	-	
SA149	515067	206946	38.2	27.8	24.9	17.5	15.7	20.1	15.5	23.5	26.9	25.0	36.7	26.9	24.9	20.2	-	
SA150	516590	207276	36.9	28.4	26.9	20.4	19.9	21.0	21.6	25.2	30.0	29.5	37.6	27.3	27.1	21.9	-	
SA151	518782	203507	45.8		28.4	22.3	22.8	23.8	21.1	28.0	33.1	32.3	42.1	33.3	30.3	24.5	-	
SA152	517091	204114	37.2	26.9	22.0	16.9	17.3		17.7	21.6	26.4	25.8	32.9	27.5	24.8	20.1	-	
SA153	515275	202794	36.0	22.8	20.6	16.6	14.9	18.4	15.1	19.0	23.0	24.6	29.4	26.8	22.3	18.0	-	
SA154	512776	202050	34.4	23.9	20.7	16.7	17.3	17.2	18.5	20.0	23.6	24.8	33.1	27.5	23.1	18.7	-	
SA155	514346	206329		30.1	27.4	18.4		26.1	16.1				33.3	25.6	25.3	20.2	-	
SA156	514602	207674	41.9	32.3	29.1	21.1	24.1	21.1	24.1	29.1	38.3		42.5	35.0	30.8	24.9	-	
SA157	514840	207613	49.2	33.4	31.3	23.2	24.9	26.2	26.2	38.3	42.7	39.0	52.5	43.7	35.9	29.1	-	
SA158	510818	212167	30.7	24.9	18.8	12.9	11.7	13.1	13.8	16.8	18.9	20.7	27.9	24.1	19.5	15.8	-	
SA159	517727	213901	38.2	29.1	23.6	15.0	17.4	21.0	17.9			24.4		29.1	24.0	19.4	-	
SA160	514682	207060	72.2	52.4	45.4	26.8	38.1	31.1	37.6	44.8	48.4	47.0	54.7	45.4	45.3	36.7	33.1	-
SA161	514787	207069	50.9	34.5	30.4	18.9	19.7	20.2	21.1	26.1	29.4	30.7	37.8	33.9	29.5	23.9	-	

- All erroneous data has been removed from the NO<sub>2</sub> diffusion tube dataset presented in Table B.1.
- Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16.



- Local bias adjustment factor used.
- National bias adjustment factor used.
- Where applicable, data has been distance corrected for relevant exposure in the final column.
- St Albans City & District Council confirm that all 2020 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.

**Notes:**

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

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

See Appendix C for details on bias adjustment and annualisation.

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

### **New or Changed Sources Identified Within St Albans City & District Council During 2020**

St Albans City & District Council have identified 15 planning applications of up to 600 dwellings as being “large scale major”. Of the 15 applications, two have been approved, 1 has been refused and 2 are yet to be determined. Of the 4 which are in the later stages of planning, only one has had an air quality assessment submitted. The large-scale major planning application that has undergone an air quality assessment is for the proposed demolition of an old community building and construction of a single-storey pavilion in St Albans.

### **Additional Air Quality Works Undertaken by St Albans City & District Council During 2020**

St Albans City & District Council has not completed any additional works within the reporting year of 2020.

### **QA/QC of Diffusion Tube Monitoring**

St Albans City & District Council’s diffusion tubes are supplied and analysed by Gradko International Limited utilising the 20% Triethanolamine (TEA) in water preparation method. Gradko International Ltd is a UKAS accredited laboratory and participates in laboratory performance and proficiency testing schemes. These provide strict performance criteria for participating laboratories to meet, thereby ensuring NO<sub>2</sub> concentrations reported are of a high calibre. The laboratory follows the procedures set out in the Harmonisation Practical Guidance and participates in the AIR proficiency-testing (AIRPT) scheme. Defra and the Devolved Administrations advise that diffusion tubes used for LAQM should be obtained from laboratories that have demonstrated satisfactory performance in the AIR-PT scheme. Laboratory performance in the AIR-PT is also assessed by the National Physical

Laboratory (NPL), alongside laboratory data from the monthly NPL Field Inter-Comparison Exercise.

### **Diffusion Tube Annualisation**

Two non-automatic monitoring (diffusion tube) sites recorded data capture of <75% therefore requiring annualisation. Annualisation was conducted using an average annualisation factor, calculated using background concentrations from the four closest AURN sites to St Albans City & District Council. Raw diffusion tube data was the annualised using the average annualisation factor to provide annual annualised mean concentrations. An annualization summary is provided in Table C.2.

### **Diffusion Tube Bias Adjustment Factors**

The diffusion tube data presented within the 2020 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.TG16 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<sub>x</sub>/NO<sub>2</sub> continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

St Albans City & District Council have applied a national bias adjustment factor of 0.81 to the 2020 monitoring data. A summary of bias adjustment factors used by St Albans City & District Council over the past five years is presented in Table C.1.

St Albans City & District Council have applied a national bias adjustment factor to the 2020 monitoring data of 0.81 (based on 18 studies, version 03/21) as derived from the national bias adjustment factor spreadsheet. A summary of bias adjustment factors used by St Albans City & District Council over the past five years is presented in Table C.1.

**Table C.1 – Bias Adjustment Factor**

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2020	National	03/21	0.81
2019	National	09/20	0.93
2018	National	06/19	0.92
2017	National	09/18	0.87
2016	National	06/17	0.92

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

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

One NO<sub>2</sub> fall-off-with-distance calculation was required for St Albans, at SA160 (presented in Table C.3). Distance correction has been considered because the annual mean NO<sub>2</sub> concentration is greater than 36µg/m<sup>3</sup> at SA160 and the monitoring site is not located at the point of relevant exposure. This fall-off-with-distance calculation has been completed using the NO<sub>2</sub> fall-off with distance calculator within the Diffusion Tube Data Processing Tool.

**Table C.2 – Annualisation Summary (concentrations presented in  $\mu\text{g}/\text{m}^3$ )**

Site ID	Annualisation Factor Borehamwood Meadow Park	Annualisation Factor London Haringey Priory Park South	Annualisation Factor Haringey Roadside	Annualisation Factor Luton A505 Roadside	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean	Comments
SA141	1.0815	1.0441	1.0412	1.0078	1.0436	18.0	18.8	
SA155	0.9747	0.9637	0.9839	1.0212	0.9859	25.3	24.9	

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

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted)	Background Concentration	Concentration Predicted at Receptor	Comments
SA160	2.5	5.0	36.7	15.9	33.2	

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

Figure D-1 Map of Non-Automatic Monitoring Sites: St Albans Centre and AQMA 1

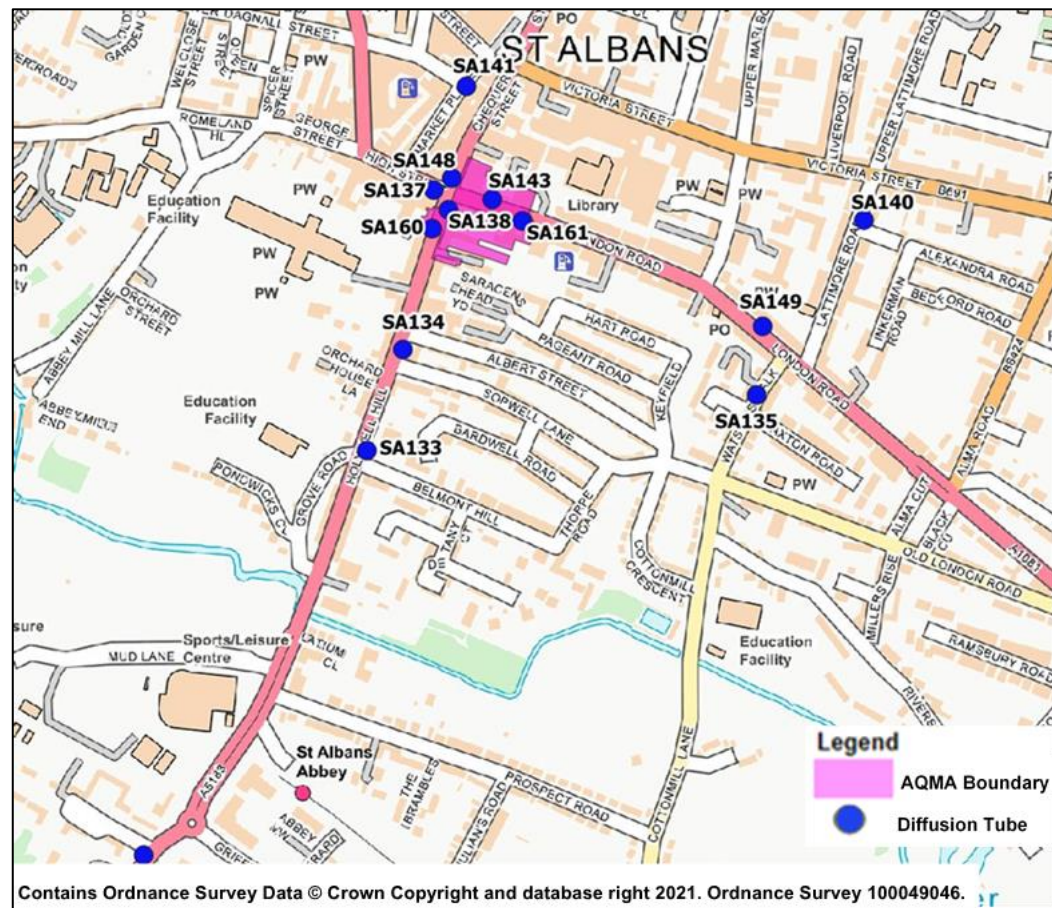


Figure D-2 - Map of Non-Automatic Monitoring Sites: AQMA 2

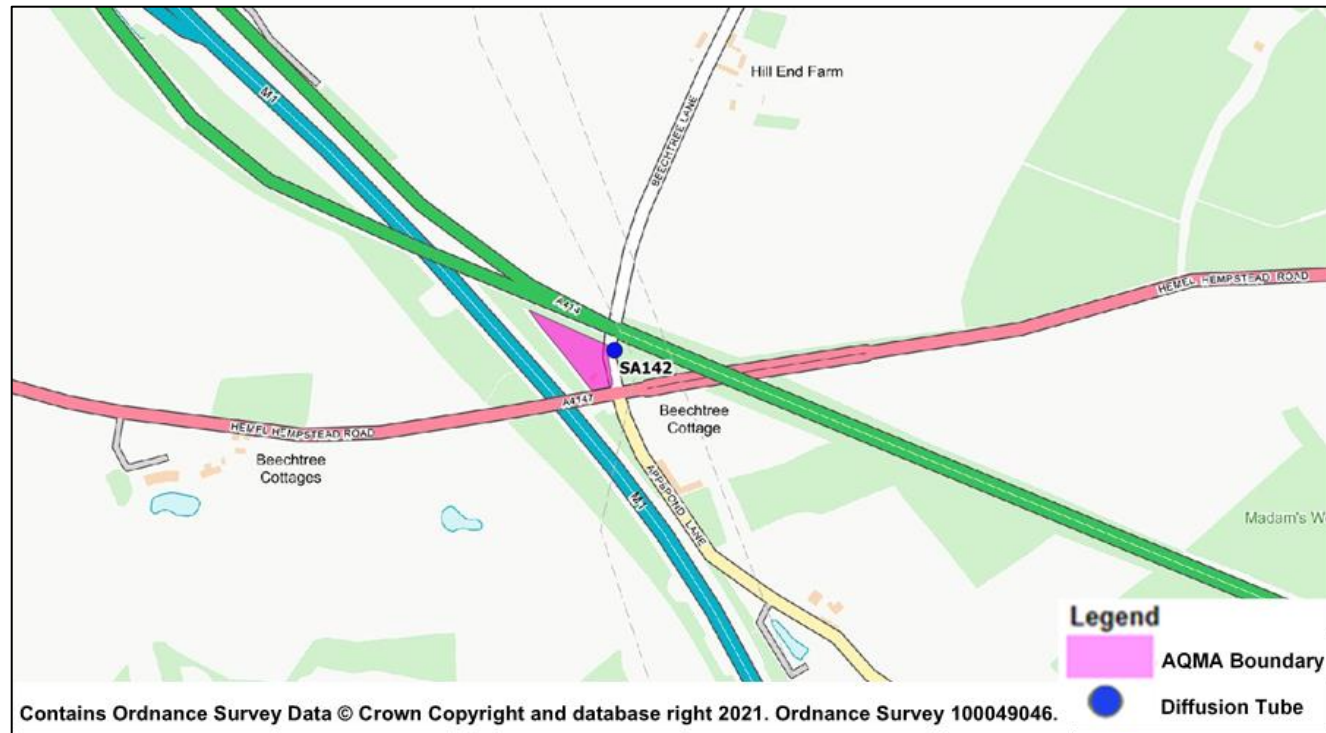


Figure D-3 Map of Non-Automatic Monitoring Sites: AQMA 7

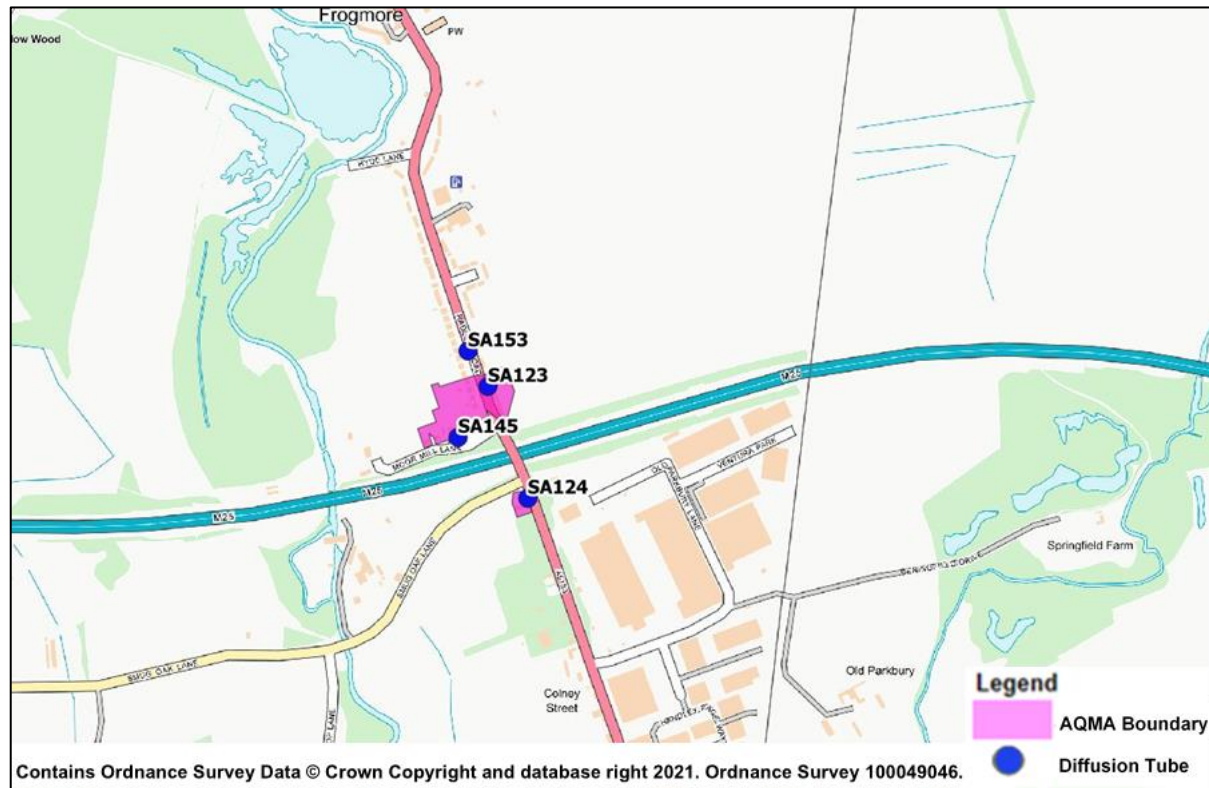




Figure D-4 - Map of Non-Automatic Monitoring Sites: Napsbury

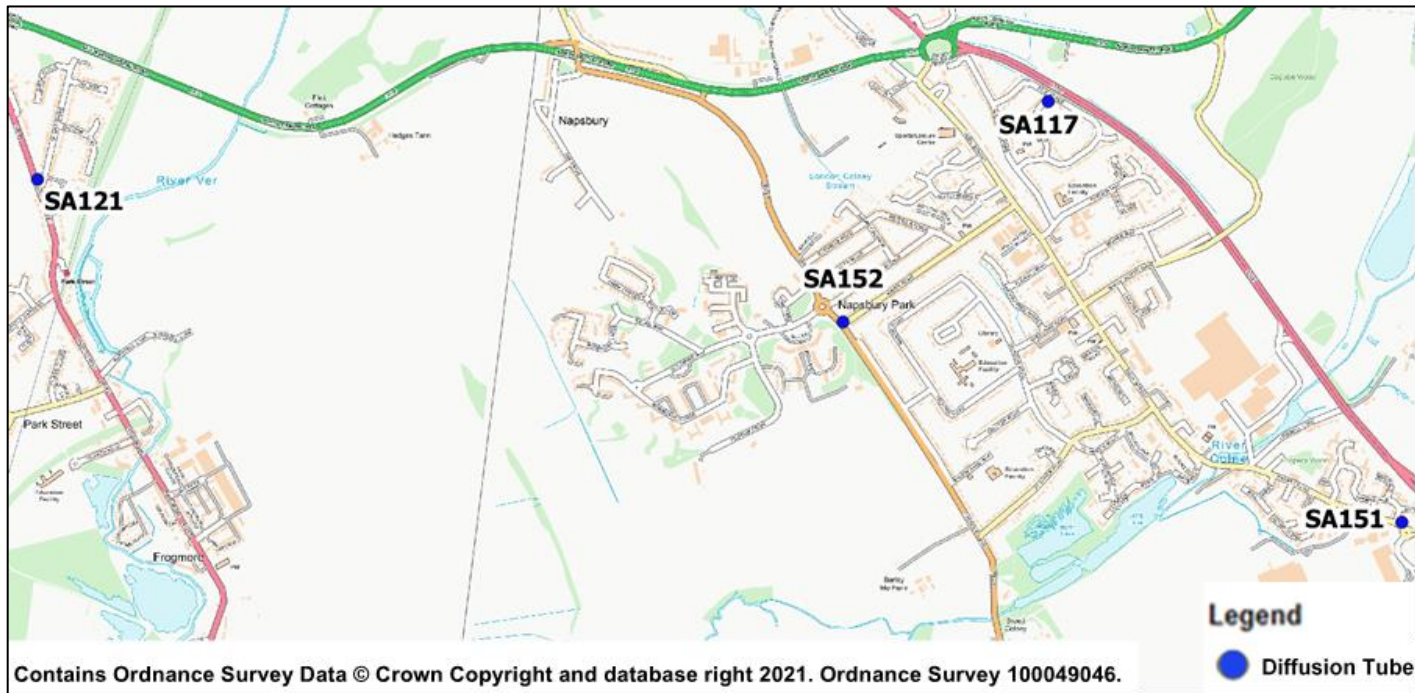


Figure D-5 Map of Non-Automatic Monitoring Sites: St Albans East

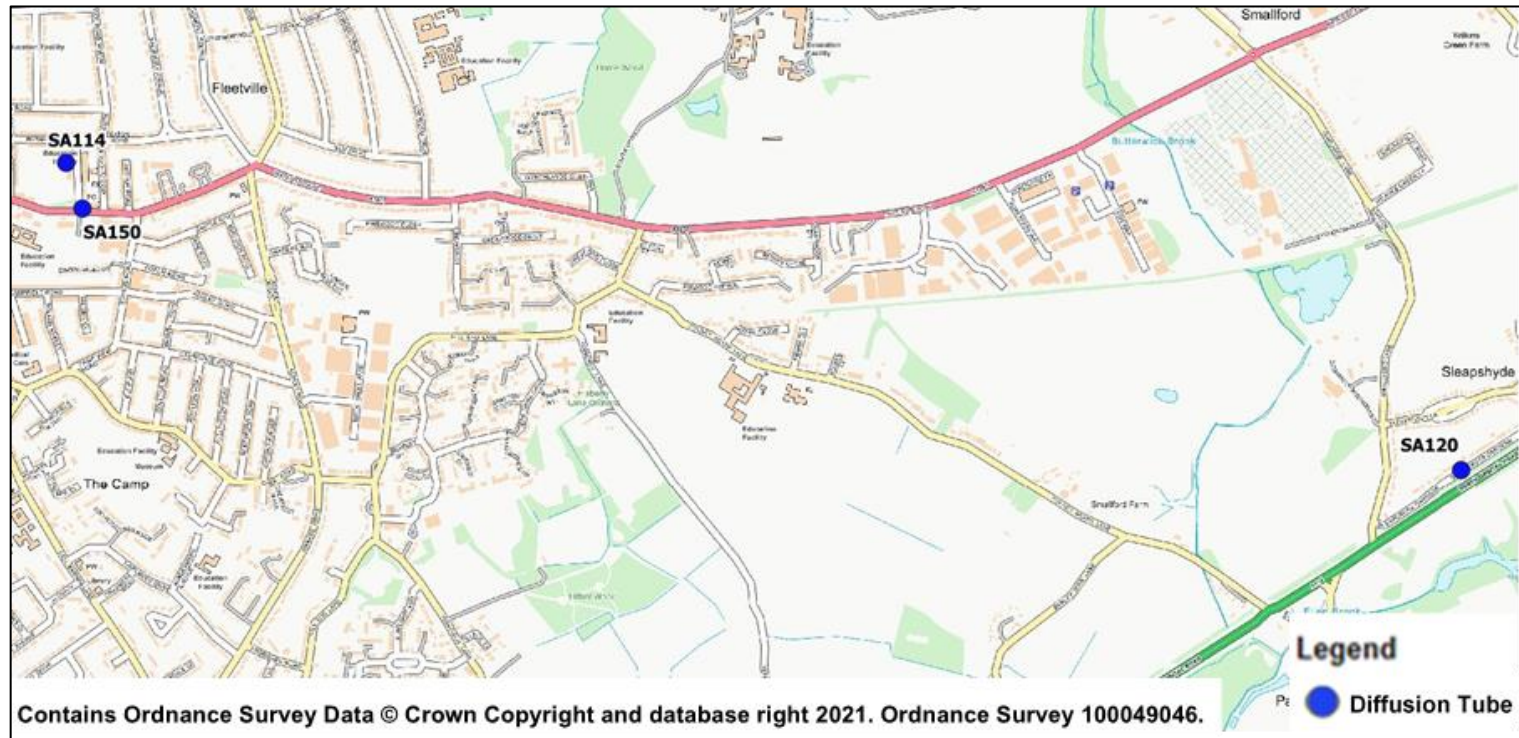


Figure D-6 Map of Non-Automatic Monitoring Sites: St Albans North

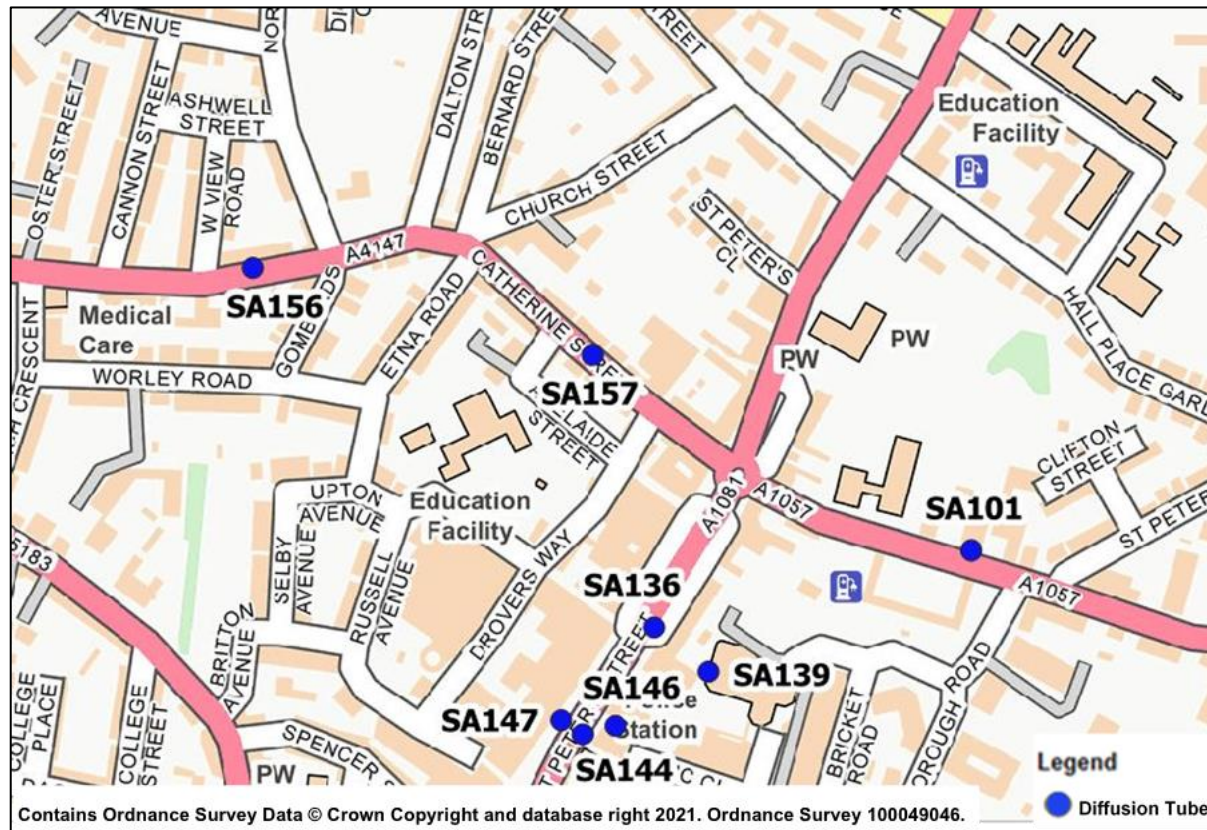


Figure D-7 - Map of Non-Automatic Monitoring Sites: Harpenden

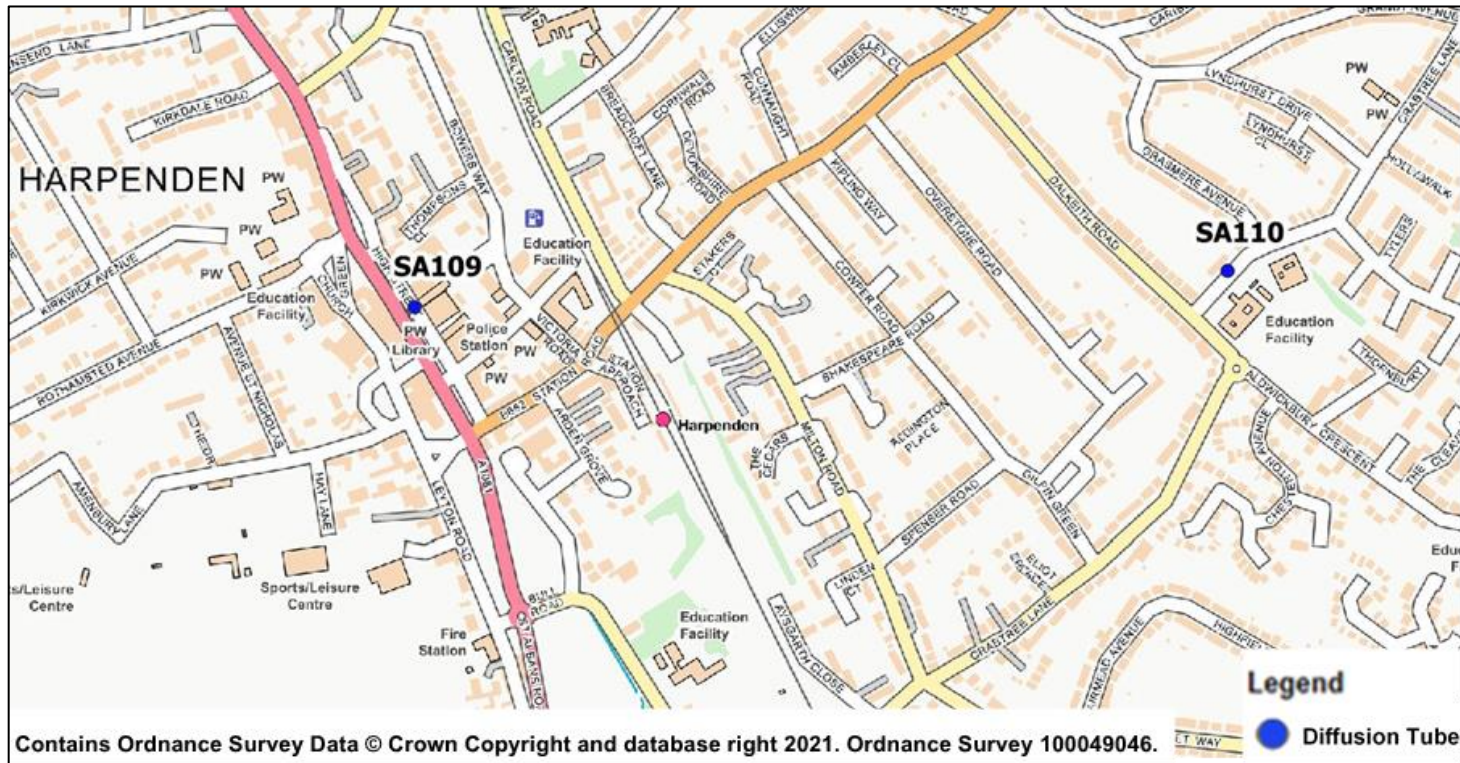


Figure D-8 Map of Non-Automatic Monitoring Sites: Redbourn

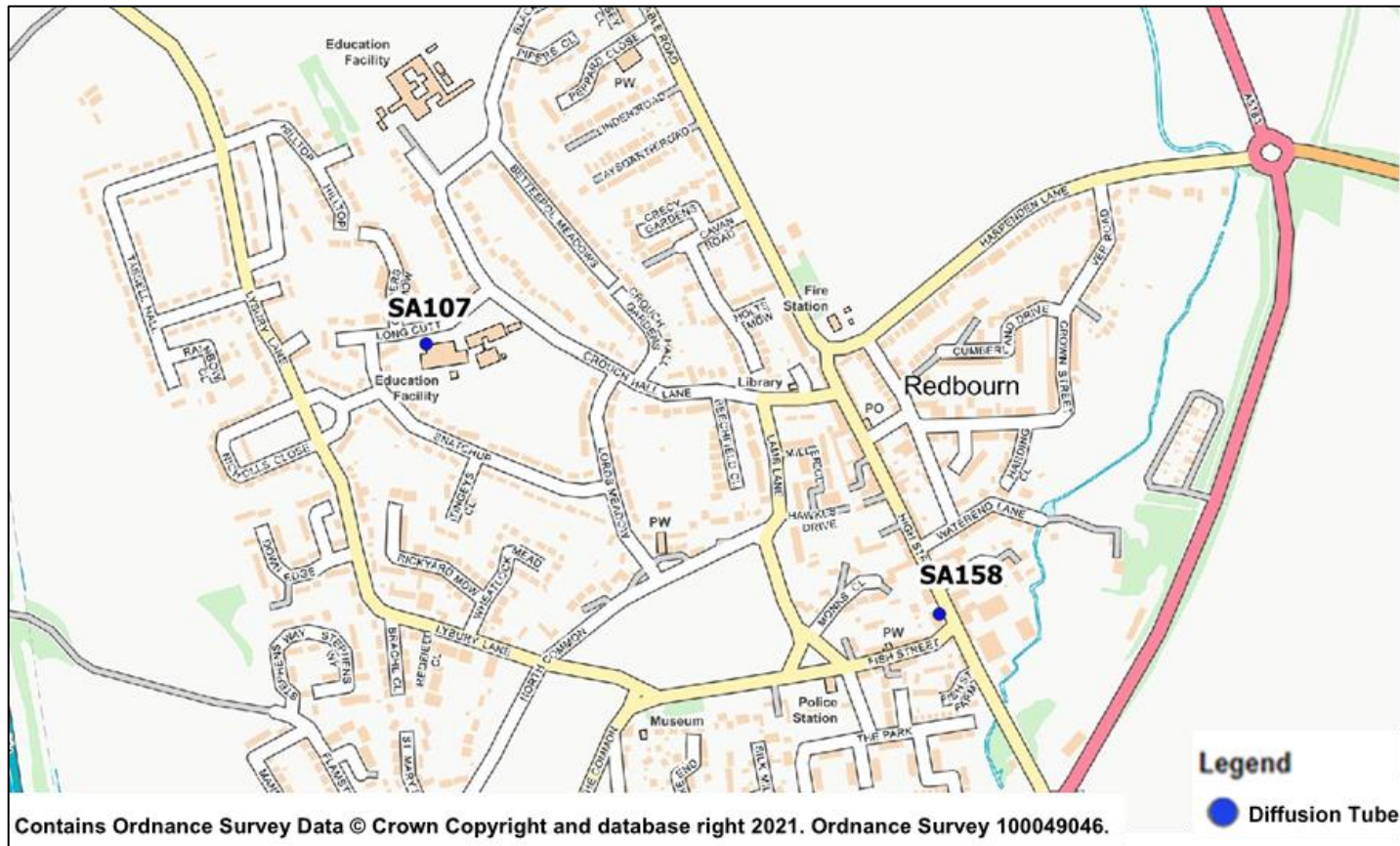


Figure D-9 Map of Non-Automatic Monitoring Sites: Wheathampstead

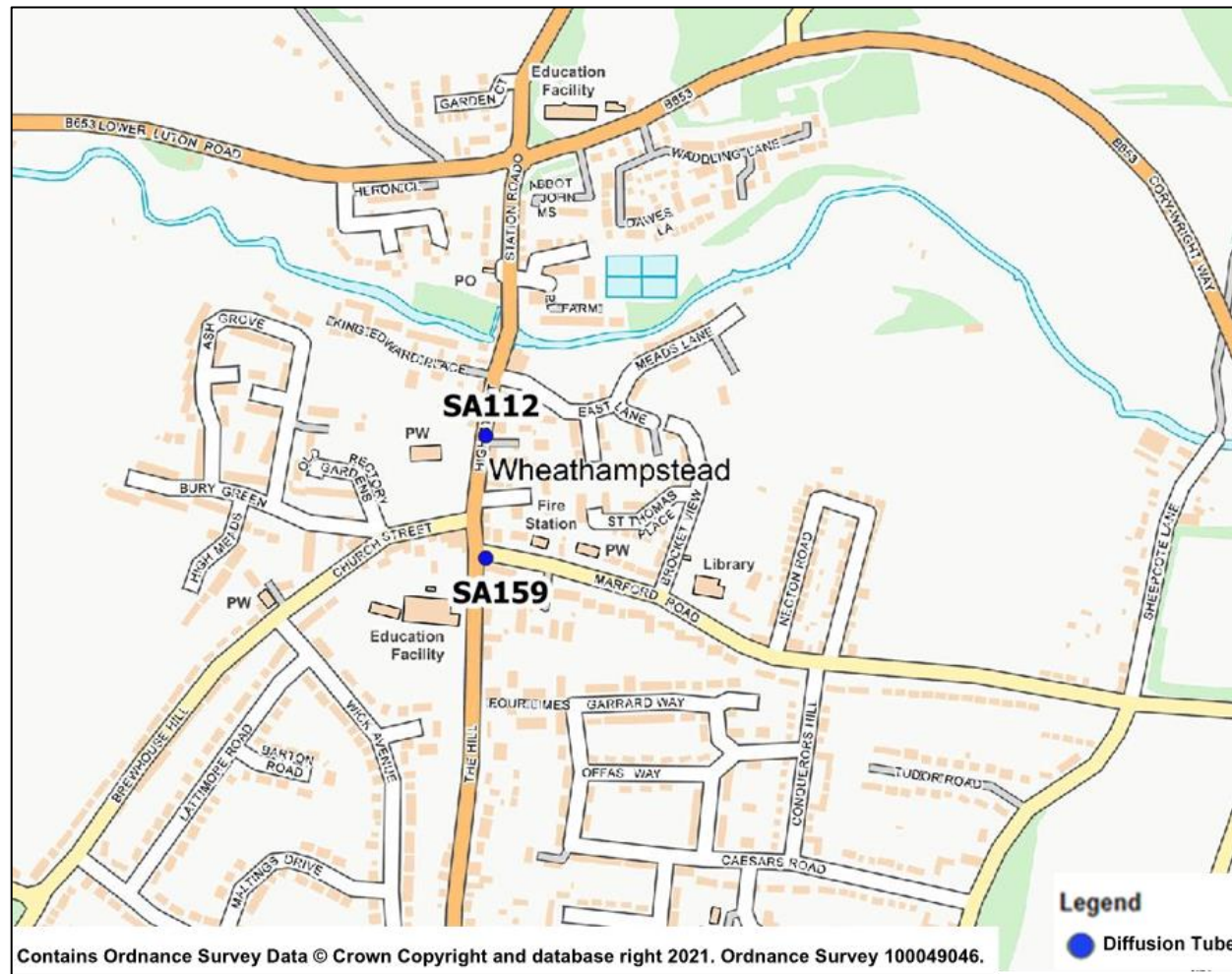
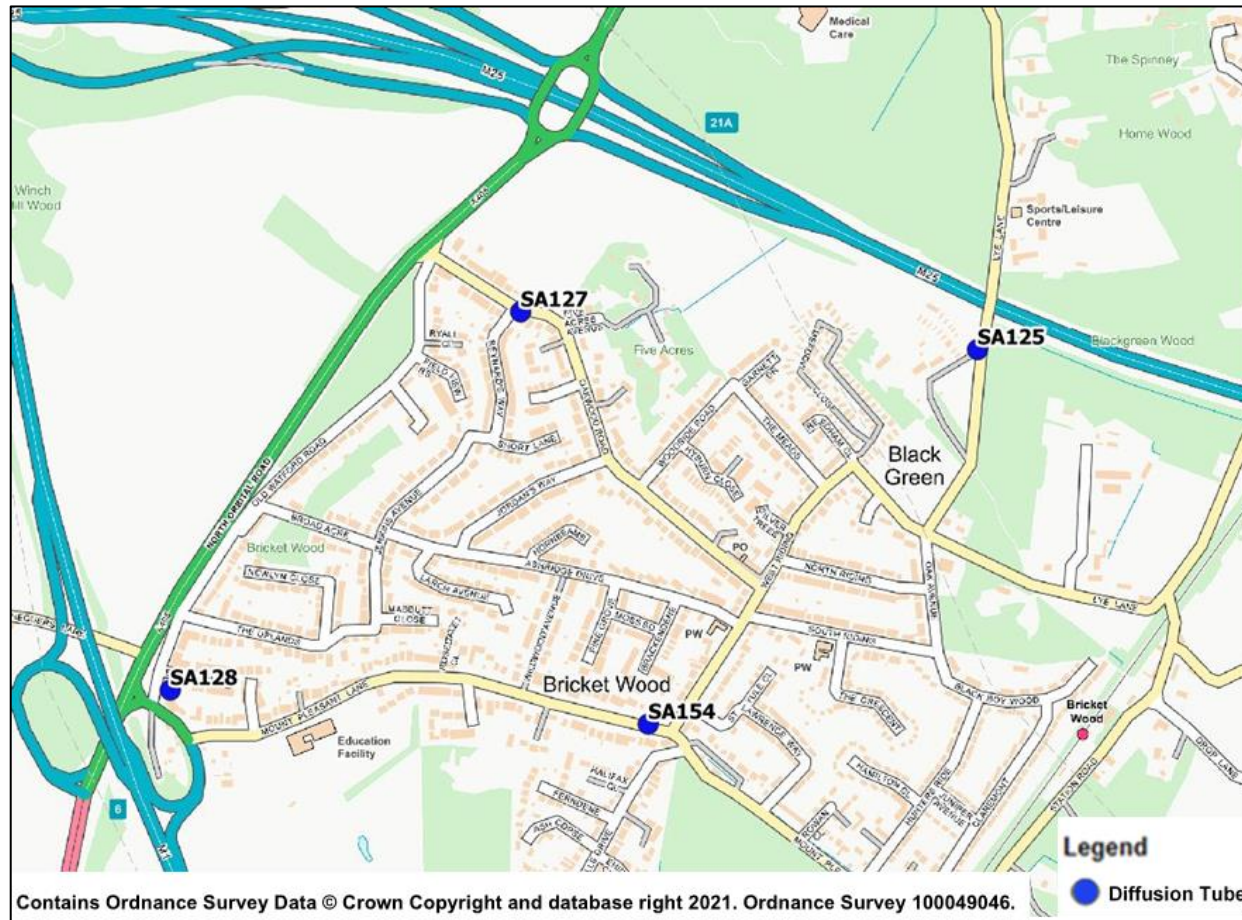


Figure D-10 - Map of Non-Automatic Monitoring Sites: Bricket Wood



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

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

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

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



## Appendix F: Impact of COVID-19 upon LAQM

COVID-19 has had a significant impact on society. Inevitably, COVID-19 has also had an impact on the environment, with implications to air quality at local, regional and national scales.

COVID-19 has presented various challenges for Local Authorities with respect to undertaking their statutory LAQM duties in the 2021 reporting year. Recognising this, Defra provided various advice updates throughout 2020 to English authorities, particularly concerning the potential disruption to air quality monitoring programmes, implementation of Air Quality Action Plans (AQAPs) and LAQM statutory reporting requirements. Defra has also issued supplementary guidance for LAQM reporting in 2021 to assist local authorities in preparing their 2021 ASR. Where applicable, this advice has been followed.

Despite the challenges that the pandemic has given rise to, the events of 2020 have also provided Local Authorities with an opportunity to quantify the air quality impacts associated with wide-scale and extreme intervention, most notably in relation to emissions of air pollutants arising from road traffic. The vast majority (>95%) of AQMAs declared within the UK are related to road traffic emissions, where attainment of the annual mean objective for nitrogen dioxide (NO<sub>2</sub>) is considered unlikely. On 23rd March 2020, the UK Government released official guidance advising all members of public to stay at home, with work-related travel only permitted when absolutely necessary. During this initial national lockdown (and to a lesser extent other national and regional lockdowns that followed), marked reductions in vehicle traffic were observed; Department for Transport (DfT) data<sup>8</sup> suggests reductions in vehicle traffic of up to 70% were experienced across the UK by mid-April, relative to pre COVID-19 levels.

This reduction in travel in turn gave rise to a change of air pollutant emissions associated with road traffic, i.e. nitrous oxides (NO<sub>x</sub>), and exhaust and non-exhaust particulates (PM). The Air Quality Expert Group (AQEG)<sup>9</sup> has estimated that during the initial lockdown period in 2020, within urbanised areas of the UK reductions in NO<sub>2</sub> annual mean concentrations were between 20 and 30% relative to pre-pandemic levels, which

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<sup>8</sup> Prime Minister's Office, COVID-19 briefing on the 31<sup>st</sup> of May 2020

<sup>9</sup> Air Quality Expert Group, Estimation of changes in air pollution emissions, concentrations and exposure during the COVID-19 outbreak in the UK, June 2020

represents an absolute reduction of between 10 to 20µg/m<sup>3</sup> if expressed relative to annual mean averages. During this period, changes in PM<sub>2.5</sub> concentrations were less marked than those of NO<sub>2</sub>. PM<sub>2.5</sub> concentrations are affected by both local sources and the transport of pollution from wider regions, often from well beyond the UK. Through analysis of AURN monitoring data for 2018-2020, AQEG have detailed that PM<sub>2.5</sub> concentrations during the initial lockdown period are of the order 2 to 5µg/m<sup>3</sup> lower relative to those that would be expected under business-as-usual conditions.

As restrictions are gradually lifted, the challenge is to understand how these air quality improvements can benefit the long-term health of the population.

## **Impacts of COVID-19 on Air Quality within St Albans City & District Council**

Reductions of NO<sub>2</sub> concentrations of between 15 and 35% were experienced at roadside diffusion tube monitoring sites between April and June 2020 in AQMA 7. This equated to a 30% reduction in annual mean concentration relative to 2019.

At 3 of 4 diffusion tube sites within AQMA 1, reductions in NO<sub>2</sub> annual mean concentrations of around 40% were recorded between April and June 2020. In previous years, monitoring sites within AQMA 1 haven't complied with the annual mean objective. This has equated to a reduction in annual mean concentration of over 35%.

At the one diffusion tube site within AQMA 2, the reduction in annual mean NO<sub>2</sub> concentration is 26% when compared to 2019 data.

## **Opportunities Presented by COVID-19 upon LAQM within St Albans City & District Council**

No LAQM related opportunities have arisen as a consequence of COVID-19 within St Albans City & District Council.

## **Challenges and Constraints Imposed by COVID-19 upon LAQM within St Albans City & District Council**

- The implementation of action plan measure 17, the promotion of low emission busses has been delayed due to HCC's bid for DfT's 'All Electric Bus Town Fund'

for St Albans being unsuccessful. The Pandemic caused a delay in investment from bus operators, therefore a target of reducing emissions through the introduction of buses to meet Euro VI standard has been slipped. **Small Impact**

- Action plan measure 5, to increase bus patronage and encourage a modal shift from the car to public transport has been delayed. This is because of the Bus Users forum being suspended due to the pandemic when they would usually meet bi-annually. **Small Impact**

The impacts as presented above are aligned with the criteria as defined in Table F 1, with professional judgement considered as part of their application.

Table F 1 – Impact Matrix

Category	Impact Rating: None	Impact Rating: Small	Impact Rating: Medium	Impact Rating: Large
Automatic Monitoring – Data Capture (%)	More than 75% data capture	50 to 75% data capture	25 to 50% data capture	Less than 25% data capture
Automatic Monitoring – QA/QC Regime	Adherence to requirements as defined in LAQM.TG16	Routine calibrations taken place frequently but not to normal regime. Audits undertaken alongside service and maintenance programmes	Routine calibrations taken place infrequently and service and maintenance regimes adhered to. No audit achieved	Routine calibrations not undertaken within extended period (e.g. 3 to 4 months). Interruption to service and maintenance regime and no audit achieved
Passive Monitoring – Data Capture (%)	More than 75% data capture	50 to 75% data capture	25 to 50% data capture	Less than 25% data capture
Passive Monitoring – Bias Adjustment Factor	Bias adjustment undertaken as normal	<25% impact on normal number of available bias adjustment colocation studies (2020 vs 2019)	25-50% impact on normal number of available bias adjustment studies (2020 vs 2019)	>50% impact on normal number of available bias adjustment studies (2020 vs 2019) and/or applied bias adjustment factor studies not considered representative of local regime
Passive Monitoring – Adherence to Changeover Dates	Defra diffusion tube exposure calendar adhered to	Tubes left out for two exposure periods	Tubes left out for three exposure periods	Tubes left out for more than three exposure periods
Passive Monitoring – Storage of Tubes	Tubes stored in accordance with laboratory guidance and analysed promptly.	Tubes stored for longer than normal but adhering to laboratory guidance	Tubes unable to be stored according to be laboratory guidance but analysed prior to expiry date	Tubes stored for so long that they were unable to be analysed prior to expiry date. Data unable to be used
AQAP – Measure Implementation	Unaffected	Short delay (<6 months) in development of a new AQAP, but is on-going	Long delay (>6 months) in development of a new AQAP, but is on-going	No progression in development of a new AQAP
AQAP – New AQAP Development	Unaffected	Short delay (<6 months) in development of a new AQAP, but is on-going	Long delay (>6 months) in development of a new AQAP, but is on-going	No progression in development of a new AQAP

## 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 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 or less
PM <sub>2.5</sub>	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO <sub>2</sub>	Sulphur Dioxide

## References

- Local Air Quality Management Technical Guidance LAQM.TG16. April 2021. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Local Air Quality Management Policy Guidance LAQM.PG16. May 2016. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- St Albans City & District Council Annual Status Report. July 2020.
- St Albans City & District Council Annual Status Report. November 2020.
- St Albans City & District Council Annual Status Report Appraisal Report. August 2020.