2020 Air Quality Annual Status Report (ASR)

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

December 2020

Local Authority Officer	Henry Biddington
Department	Environmental Health
Address	Rugby Borough Council, Environment and Public Realm, Commercial Regulation Team, Town Hall, Evreux Way, Rugby CV12 2RR
Telephone	(01788) 533 607
E-mail	henry.biddington@rugby.gov.uk
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Executive Summary: Air Quality in Our Area

Air Quality in Rugby Borough 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 and older people, and those with heart and lung conditions. There is also often a strong correlation with equalities issues, because areas with poor air quality are also often the less affluent areas[1,2].

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion[3].

The main pollutants of concern in Rugby, as in most areas of the UK, are associated with road traffic, in particular NO_2 and particulate matter (PM) at locations close to busy, congested roads where people may live, work or shop. Previous Review and Assessment reports and local knowledge have identified areas where UK Air Quality Strategy (AQS) objectives may be exceeded. Rugby Borough Council declared an Air Quality Management Area (AQMA) in 2004 for exceedances of the annual mean NO_2 objective. This area covers the whole urban area of Rugby bounded by the southern boundary with Daventry District Council, the A5, the M6, minor roads west of Long Lawford, the A45 and M45 (https://uk-air.defra.gov.uk/aqma/details?aqma_ref=267#109).

Monitoring data for 2019 showed a decreasing trend in annual mean NO_2 concentrations compared to 2018, with decreases in annual mean concentration at 37 of the 55 monitoring sites in Rugby Borough Council's monitoring network. Two locations resulted in exceedances of the air quality objective at locations S54a and 54b. S54b is located within the Rugby AQMA and S54a is located outside of an AQMA in Shilton.

Actions to Improve Air Quality

Rugby Borough Council has continued its work alongside the Coventry and Warwickshire Air Quality Alliance, a partnership comprising Environmental Health,

[1] Environmental equity, air quality, socioeconomic status and respiratory health, 2010
[2] Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006
[3] Defra. Abatement cost guidance for valuing changes in air quality, May 2013

Public Health, Planning and Transport officers from the Coventry and Warwickshire local authorities to implement the Air Quality objectives of the Health Protection Strategy 2017-2021. The Strategy provides:

- Practical solutions to promote behaviour shifts and initiatives that reduce car journeys and promote physical activity, including in school and workplace environments;
- More 'active' travel infrastructure solutions with increased cycle ways, and improved public transport infrastructure;
- Evidence of designing in health through planning processes; and
- Exploration of wider opportunities for improving fleet vehicles, and green procurement opportunities.

Rugby Borough Council's Local Plan 2011 – 2031 has been updated and was adopted by the elected members on 4 June 2019. This sets out specific planning policies in relation to air quality, and states:

Policy HS5: Traffic Generation and Air Quality

> *"Development proposals should promote a shift to the use of sustainable transport modes and low emission vehicles (including electric/hybrid cars) to minimise the impact on air quality, noise and vibration caused by traffic generation. Proposals should be located where the use of public transport, walking and cycling can be optimised. Proposals should take full account of the cumulative impact of all development including that proposed in this Local Plan on traffic generation, air quality, noise and vibration. Development proposals should complement the Air Quality Action Plan."*

Several other policies also address air quality:

- ED2 (Employment development within Rugby urban area), requiring applicants to demonstrate that any potential impacts on neighbouring land uses, particularly those sensitive to noise, visual amenity or air quality impacts arising from industrial uses are avoided, or mitigated to an acceptable level;
- SDC1 (Sustainable Design), outlining that developers are to consider the impact of environmental factors such as poor air quality to ensure such sensitive sites

achieve relevant statutory compliance and/or are adhering to current best practice; and

- D1 (Transport), detailing the importance of reducing the impact of vehicular movements to mitigate the significant adverse impact road traffic can have on environmental factors such as air quality.

In conjunction with the Air Quality Alliance, Consultants and Planning Policy Officers, Rugby Borough Council has developed a new draft Air Quality Supplementary Planning Document to provide guidance to planners. This document outlines the criteria against which developments are evaluated in order to determine whether or not an Air Quality Assessment is required. Furthermore, the Document outlines suitable mitigation measures for minimising negative impacts on air quality within AQMAs and ensuring that future development remains air quality neutral.

Upon adoption of the Local Plan, Rugby Borough Council seeks to implement the Air Quality Supplementary Planning Document. The consultation process took place in November 2020 for formal acceptance of the document.

Conclusions and Priorities

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

1) A project is planned across the Coventry and Warwickshire which has been developed by Coventry and Warwickshire Public Health and the Air Quality Alliance to develop a behaviour change intervention to reduce exposure to air pollution and increase levels of physical activity. The aim of this work is to understand the barriers and opportunities people face in travelling more sustainably to their place of work. This understanding will be used to develop, implement and evaluate a behaviour change intervention that promotes active/sustainable travel while reducing exposure and contribution to air pollution. Use of personal air pollution monitors will be included as part of the project to investigate changes of behaviour.

2) RBC are currently part of a bid by Warwickshire County Council for funding for electric charging points. The bid is on behalf of WCC and all the districts and boroughs. The application for grant funding is to the Energy Saving Trust and if granted we intend to find a commercial company to provide the remainder of

the funding. RBC are planning up to 9 charging points. Hall) and the John Barford car park (our long stay multi-storey car park).

3) RBC were investigating the options of joining the Coventry and Warwickshire car share scheme so that Council workers can have better access to shared journeys to reduce the number of vehicle trips in and out of the town centre. This will be promoted to staff internally through the internet communication platforms. The Car Share scheme will also be promoted to the public with a campaign using social media and website links.

Presently, the pandemic has been the focus of attention and resources have been prioritised accordingly and therefore much of this work has been put on hold until the pandemic is under control.

Rugby Borough Council's priorities for the coming year are:

1) Warwickshire County Council is currently reviewing the Rugby Transport Strategy in partnership with Rugby Borough Council as part of a wider review of Warwickshire's Local Transport Plan (LTP3). This will consider possible measures for addressing congestion and improving safety and air quality at key locations in Rugby, including the Warwick Street Gyratory.

2) Rugby Borough Council's Licensing Team are drafting a Taxi Policy for 2020 which will include exhaust emission standards. The exhaust emission standard is critical to the level of pollutants emitted. To improve air quality and reduce emissions, standards relating to exhaust emissions will be introduced as follows:

    a) From 1 March 2021, any new application for a hackney carriage vehicle which is to be licensed for the first time must be new ultra-low emission or zero emission capable. This is defined as a vehicle emitting less than 50gCO2/km and capable of travelling at least 70 miles without emissions at all.

    b) From 1 January 2022, all new and existing private hire vehicles will need to be up to three years old Euro 4 petrol or Euro 6 diesel engines. These vehicles are capable of being licensed for 10 years, however once the vehicle is over six years old, the licence must be renewed every six months.

One of the key challenges to improving air quality in Rugby is predominantly in the form of planning applications for developments that may impact negatively on existing air quality, as is the case for most local authorities. There have been several recently completed major developments in Rugby, along with a considerable number of large-scale developments in the pipeline and numerous smaller developments.

The most significant planning applications and allocations in the Local Plan are listed below:

1. Coton Park East

2. Long Lawford for dwellings off the Coventry Road

3. Gala & Cemex House, Evreux Way.

4. Land to the north of Ashlawn Road

5. Urban Expansion South West of Rugby

6. Former Cattle Market, Rugby

7. R19/1496 – 117 Newbold Road, Rugby

8. R19/1528 – Butler's Leap, Clifton Road, Rugby

9. R18/1466 – Former Herbert Gray College, Little Church St, Rugby

10. R19/1164 - Oakfield Recreation Ground, Bilton Road, Rugby

The following developments are either under construction or are completed / occupied:

1. Rugby Radio Station (SUE) – Urban extension

2. Rugby Gateway (Eden Park)

3. Leicester Road/Technology Drive

4. Cawston Extension

See Appendix F for more details on the planning applications and developments in Rugby.

Local Engagement and How to get Involved

The general public can take simple measures to help improve air quality, the main ones being, where possible, making short trips and journeys on foot or by bike instead of by car, or using public transport. Car sharing with colleagues, or with other parents on the school run, are some other examples of ways to reduce traffic congestion. Other measures are listed below:

- Purchasing low-emission electric and/or hybrid vehicles, with government funding and grants available.
- Upgrading boilers to newest and most efficient gas condensing boilers with lowest NO_x (and carbon) emissions.
- Renewable energy generation via solar photovoltaics or wind turbine installation (although individual effect on air quality is minor and non-local)
- Reducing the use of open fires and wood-burning stoves;
- Ensuring only permitted appliances and fuels are burnt in the 'Smoke Free Zone' across the urban area; and
- Following sustainable practices.

Further information can be found on the Council's website[4], and Defra's Local Air Quality Management (LAQM) website[5].

[4] Rugby Borough Council Air Pollution website: https://www.rugby.gov.uk/info/20021/pollution/217/air_pollution
[5] Defra LAQM website: http://laqm.defra.gov.uk/

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1 Local Air Quality Management

This report provides an overview of air quality in Rugby Borough Council during 2019. 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 Rugby Borough 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 compliance with the objectives.

A summary of AQMAs declared by Rugby Borough Council can be found in Table 2.1. Further information related to declared or revoked AQMAs, including maps of AQMA boundaries are available online at https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=214. Alternatively, see Appendix D: Map(s) of Monitoring Locations and AQMAs, which provides a map of air quality monitoring locations in relation to Rugby Borough Council's AQMA.

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	City / Town	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance (maximum monitored/modelled concentration at a location of relevant exposure)				Action Plan		
						At Declaration		Now		Name	Date of Publication	Link
Rugby AQMA (NO_2)	16/12/2004	NO_2 Annual Mean 40 µg/m^3	Rugby	The area covers the whole urban area of Rugby bounded by the southern boundary with Daventry District Council, A5, M6, minor roads to the west of Long Lawford, A45 and M45.	YES	59.3 (2008)	µg/m^3	41.6	µg/m^3	Rugby Borough Council AQAP	2010	Currently being updated; available from the Council on request.

☒ **Rugby Borough Council confirm the information on UK-Air regarding their AQMA(s) is up to date**

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

Defra's appraisal of last year's ASR concluded although there have been significant improvements in local air quality in recent years, progress on action plan measures was limited since the previous reporting year. A number of recommendations have been taken forward from the appraisal including clarification over monitoring locations and provisions of clearer maps of monitoring locations.

Rugby Borough Council has taken forward a number of direct measures during the current reporting year of 2019 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2.

More detail on these measures can be found in the Rugby Borough Council Action Plans, Health Protection Strategy 2017-2021, Rugby Borough Council's Local Plan 2011 – 2031 and Air Quality and Planning Supplementary Planning Document.

Progress on the measures has been slower than expected due to the coronavirus pandemic which has led to the halt of measures, including those reported Table 2.2.

Whilst the measures in Table 2.2 will help to contribute towards compliance, Rugby Borough Council anticipates that further additional measures not yet prescribed will be required in subsequent years to achieve compliance and enable the revocation of Rugby AQMA (NO_2). The exceedance is found outside of an AQMA in Shilton in 2018 and 2019 will need further investigation to determine if an AQMA is required in the area.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	EU Category	EU Classification	Organisations involved and Funding Source	Planning Phase	Implementation Phase	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
A	Rugby Western Relief Road (RWRR)	Transport Planning and Infrastructure	Other	WCC	1996-2007	2007-2011	Implementation of the scheme in full	12%	The road was fully opened to traffic in September 2010.	Completed September 2010	N/A
B	Warwick Street Gyratory Improvements	Transport Planning and Infrastructure	Other	WCC	2007-2014	2014/15	Implementation of the scheme in full	N/A	The major improvement to the Gyratory was completed in May 2015.	Completed May 2015	N/A
C	Improvements to Church Street/ North Street	Transport Planning and Infrastructure	Other	WCC	2018	Post 2016/17	Implementation of the scheme in full	N/A	A scheme to extend the pedestrianised area of the town centre on Church Street/North Street was previously developed and consulted upon, however it was jointly agreed by Warwickshire County Council and Rugby Borough Council not to implement the scheme at that time. The Borough Council is now considering a number of public realm improvements as part of a wider strategy for the town centre, which for this area would supersede the previously developed proposals for Church Street/North Street	TBC	The timescales for implementation of the scheme have changed as a result of the further consultation, which has been carried out on the revised proposal.
D	Decriminalisation of Parking Enforcement within Rugby Borough	Traffic Management	Other	WCC	2000-2005	2005-2006	Implementation of the scheme in full	N/A	Scheme fully implemented in 2006	2006	Since the commencement of Decriminalisation of Parking (now referred to as Civil Parking Enforcement CPE) on 02/10/06 in Rugby, the introduction of parking charges on some town centre streets together with a high level of enforcement has resulted in less vehicles being parked on the streets and less congestion, and therefore emissions, due to inconsiderate parking.

E	Re-routing traffic - Lorry Route Maps and agreements	Traffic Management	UTC, Congestion management, traffic reduction	WCC	Ongoing	N/A	Reduction in complaints regarding inappropriate lorry movements	N/A	An initial Advisory Lorry Route Map for the County was produced in 2005. This was subsequently revised and reissued in 2009. HGV routing agreements are stipulated through the planning process with WCC	N/A	
F	Variable Message Signing	Traffic Management	UTC, Congestion management, traffic reduction	WCC	2006-2008	2009	Implementation of the scheme in full	N/A	Scheme fully implemented in 2009	Completed in 2009	Evidence from other towns in Warwickshire that Variable Message Signing reduces the unnecessary distance travelled by vehicles looking for parking spaces. In Rugby town centre the impact of Variable Message Signing may have been masked by overall reductions in road traffic brought about by the opening of RWRR and road infrastructure improvements to the Warwick Street Gyratory.
G	Improve the Borough Council Fleet (interims of emissions)	Promoting Low Emission Transport	Company Vehicle Procurement -Prioritising uptake of low emission vehicles	RBC	Ongoing	Ongoing	N/A	N/A	Euro 6 is now the latest technology with no further advancement on the horizon. Currently the Euro 6 vehicles we have consists of 13 x refuse freighters', 1 x road sweeper 1 x highways tipper and 7 x housing vans/tippers 3.5t. All replacement vehicles will be Euro 6.	Ongoing	Euro 6 is the most advanced technology available and is anticipated to deliver NOx emissions reductions
H	Improve Bus Emissions	Vehicle Fleet Efficiency	Promoting Low Emission Public Transport	RBC/WCC	Ongoing	Ongoing	N/A	N/A	Urban Quality Bus Corridor improvements have been made on routes between the Town Centre and Lower Hillmorton/Long Lawford, between Woodlands and the Town Centre, and on the Inter-Urban route between Rugby and Coventry. Finance has been provided through developers of committed planning developments	Ongoing	A lack of resources by the bus operators. However the update older public service vehicles with those of the latest technologies should result in measureable emissions reductions of NOx and PM10
I	Cycling	Promoting Travel Alternatives	Promotion of cycling	WCC	Ongoing	Ongoing	Increase in cycling as a result of individual scheme implementation	N/A	The basis of a cycle network has been delivered in phases over the last 15 years, using a combination of on and off-carriageway routes. Additional routes will come forward as resources permit and in conjunction with new development. WCC and RBC provide cycle training for young people and adults who are keen to improve their cycle skills. Cycle facilities have been provided as part of RWRR. The Leicester Road viaduct Connect2 scheme opened in 2014. The A428 Lawford Road cycleway between Long Lawford and the RWRR was completed in 2014. A bid to the DfT's Cycle Safety fund	Ongoing	

									was successful for a scheme to extend this cycleway from the RWRR to the Town Centre. The extension was completed in 2015.		
J	Walking	Promoting Travel Alternatives	Promotion of walking	WCC	Ongoing	Ongoing	Increase in walking (footfall) as a result of individual scheme implementation	N/A	The LTP Walking Strategy sets out a series of improvements for pedestrians, including new or upgraded pedestrian crossings, new/widened footways, improved street lighting, provision of new dropped kerbs, and footway resurfacing/ reconstruction.	Ongoing	
K	Workplace Travel Plans	Promoting Travel Alternatives	Workplace Travel Planning	WCC	Ongoing	Ongoing	Number of Travel Plans agreed with existing employers and as part of new development	N/A	Workplace Travel Plans are secured through a S106 agreement as part of new development.	N/A	
L	School Travel Plans and Safer Routes to School	Promoting Travel Alternatives	School Travel Plans	WCC	Ongoing	Ongoing	Reduction in the number of car-based journeys to school	N/A	The majority of Local Authority run schools within the Borough now have a School Travel Plan in place.	N/A	
M	Public Transport Strategy, including the Bus Strategy	Promoting Travel Alternatives	Other	WCC	Ongoing	Ongoing	Increase in bus patronage	N/A	Ongoing implementation of the various strategies which make up the Public Transport Strategy, including the Bus Strategy, Passenger Rail Strategy, Community Transport Strategy, Public Transport Information Strategy and Public Transport Interchange Strategy.	N/A	

N	Travel Awareness Campaigns	Promoting Travel Alternatives	Personalised Travel Planning	WCC	Ongoing	Ongoing	Reduction in the number of car-based journeys being made within the Borough	N/A	Ongoing implementation of the Changing Travel Behaviour Strategy and other relevant LTP strategies.	N/A	
O	Energy efficiency improvements to Rugby housing & the reduction of fuel poverty.	Policy Guidance and Development Control	Low Emissions Strategy	RBC	Ongoing	Ongoing	HECA report published March 2017, and will be updated at two yearly intervals	N/A	Across the borough we have provided the following services: * Worked with our partner, Act on Energy, to provide an energy advice phone line * Organised advice sessions held at the Town Hall & library, flu clinics, Children's Centres and Older People's Drop-in session * Held training sessions for front-line staff and community and voluntary workers * Provided media coverage with Press Releases; articles in Tenant Times; twitter posts on coping with cold weather, energy savings tips, etc.; cold weather alerts issued to front-line staff and 100 community organisations * Sent mail out to 1970 households in the Benn area with information about ECO funding for energy improvements, plus support available from Act on Energy * Held presentation for local landlords about the Minimum Energy Efficiency Standards and provided information about new Carbon Monoxide legislation * Carried out initial feasibility assessment for District Heating Council tenants have benefitted from these improvements and services: * electric to gas conversions for 173 properties * new windows and doors to 2000 properties with windows and doors * central heating renewals – 235 gas to gas upgrades * Since April 2013 to date, 607 upgrades to boilers were carried out as planned maintenance. The Council is budgeting £3.1m for upgrading older boilers, with another 390 planned conversion up to 2021 * energy advice session held for tenants at Woodside Travellers Site * mail out to Sheltered Tenants and High Rise Residents about Warm Home Discount	N/A	DECC statistics show that CO_2 emissions by domestic use (Units kt CO_2) have reduced from 215.7 in 2009 to 213.3 in 2013, a per capita reduction from 21.8 to 19.8 We aim to reduce CO_2 emissions in the housing sector to 172.6kt $CO_2$of 2009 (215.7kt CO_2) levels by 2020. This will be equivalent to a 20% reduction.

P	Control Of Industrial Emissions	Environmental Permits	Measures to reduce pollution through IPPC Permits going beyond BAT	RBC	Ongoing	Ongoing	100% compliance improvements	N/A	37 Permitted Industrial Pollution Process (100% inspections completed) achieved 97.3% compliance improvements.	N/A	One site was not compliant making 100% compliance improvements achieved
Q	Emissions from Domestic and Commercial Sources	Environmental Permits	Other	RBC	Ongoing	Ongoing	Reduction in complaints	N/A	Low priority. Low number of complaints.	N/a	Designated smoke Control Area (chimneys) and section 79 of the EPA 1990 actively implemented where problems are identified.
R	Control of Bonfires	Policy Guidance and Development Control	Other policy	RBC	Ongoing	Ongoing	Reduction in complaints	N/A	Low priority. Low number of complaints.	N/A	Section 79 of the EPA 1990 actively implemented where problems are identified
S	Planning Development and Planning Applications	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	RBC	Ongoing	Ongoing	N/A	N/A	In June 2019 the Rugby Borough Council Local Plan 2011 – 2031 was approved. This introduced Policy HS5: Traffic Generation and Air Quality, Noise and Vibration Development throughout the Borough of more than 1,000 sqm of floorspace or 10 or more dwellings or development within the Air Quality Management Area (see Appendix 8) that would generate any new floorspace must: 1. Achieve or exceed air quality neutral standards; or 2. Address the impacts of poor air quality due to traffic on building occupiers, and public realm or amenity space users by reducing exposure to and mitigating their effects, proportionate to the scale of the development. This can be achieved using design solutions that include: • Orientation and layout of buildings, taking into account building occupiers, public realm and amenity space users; • Appropriate abatement technologies; and • Urban greening appropriate for providing air quality benefits. 3. Where air quality neutral standards are not met, measures to offset any shortfall will be	Adoption June 2019	Ongoing Draft Air quality and Planning SPD submitted to Cabinet in March. Due to coronavirus pandemic this has not yet been approved. Superceeds previous SPDs and brings in Policy HS:5 of the Local Plan 2011 -2013

									required, according to the following hierarchy: • On-site measures; then • Off-site measures; then • Financial contributions.		
T	Installing EV Charging Points in RBC Car Parks	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emissions Vehicles, EV recharging, Gas fuel recharging	WCC	2019-20	2021	N/A	N/A	RBC are currently part of a bid by Warwickshire County Council for funding for electric charging points. The bid is on behalf of WCC and all the districts and boroughs. The application for grant funding is to the Energy Saving Trust and if granted we intend to find a commercial company to provide the remainder of the funding. RBC are planning up to 9 charging points. Numbers and locations to be agreed, but provisional locations are Newbold Road car park (long stay), Evreux Way car park (in front of the Town Hall) and the John Barford car park (our long stay multi-storey car park).	2021	This work has been pushed back due to the Coronavirus pandemic
U	Promotion of Practical Guidance for use of open fires and wood burning stoves in domestic settings	Public Information	Via Internet	RBC	2019-20	2020	N/A	N/A	RBC are planning a promotion campaign using promotional guidance provided by DEFRA in relation to open fires and wood burning stoves. This will be done via the web page and social media communication platforms	Ongoing	
V	Promotion of Car Share Scheme	Promoting Travel Alternatives	Personalised Travel Planning	RBC/WCC	2021	Ongoing	Reduction in the number of car-based journeys being made within the Borough	N/A	There is car share scheme operating across Coventry and Warwickshire. RBC looking at options for staff to join the scheme as an organisation with internal promotion though emails and updates Promotion of the scheme externally via the website and Social Media platforms	Ongoing	Due to the Coronavirus pandemic car sharing has been discouraged and this work has been suspended
W	**Draft Taxi Policy**	Promoting Low Emission Transport	Taxi Licensing conditions	**RBC**	**2021**	**Ongoing**	**Reduction in emissions from taxis**	**N/A**	**Rugby Borough Council's Licensing Team are drafting a Taxi Policy for 2020 which will include exhaust emission standards.**	**Ongoing**	**The Policy is due before cabinet late 2020**

Rugby Borough Council has continued its work alongside Coventry and Warwickshire Air Quality Alliance, a partnership comprising Environmental Health, Public Health, Planning and Transport officers from the Coventry and Warwickshire local authorities to implement the Air Quality objectives of the Health Protection Strategy 2017-2021. The Strategy provides:

- Practical solutions to promote behaviour shifts and initiatives that reduce car journeys and promote physical activity, including in school and workplace environments;
- More 'active' travel infrastructure solutions with increased cycle ways, and improved public transport infrastructure;
- Evidence of designing in health through planning processes; and
- Exploration of wider opportunities for improving fleet vehicles, and green procurement opportunities.

Rugby Borough Council's Local Plan 2011 – 2031 has been updated and this was adopted by the elected members on 4 June 2019. This sets out specific planning policies in relation to air which states:

Policy HS5: Traffic Generation and Air Quality

> *"Any development that results in significant negative impacts on health and wellbeing of people in the area as a result of pollution, noise or vibration caused by traffic generation will not be permitted unless effective mitigation can be achieved.*
>
> *Any development that results in significant negative impacts on air quality within identified Air Quality Management Areas or on the health and wellbeing of people in the area as a result of pollution should be supported by an air quality assessment and, where necessary, a mitigation plan to demonstrate practical and effective measures to be taken to avoid the adverse impacts."*

Other policies in the plan relating to air quality are: ED2 (Employment development within Rugby urban area), SDC1 (Sustainable Design) and D1 (Transport).

Rugby Borough Council has developed a draft Air Quality and Planning Supplementary Planning Document. This provides guidance to planners of what developments require Air Quality Assessment and what mitigation is suitable to minimise the negative

impacts on air quality and implement policy HS5 of the Local Plan. This was due to go to cabinet but due to the impact of the coronavirus pandemic this has not been possible, but the draft guidance is being used to supplement the policy.

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

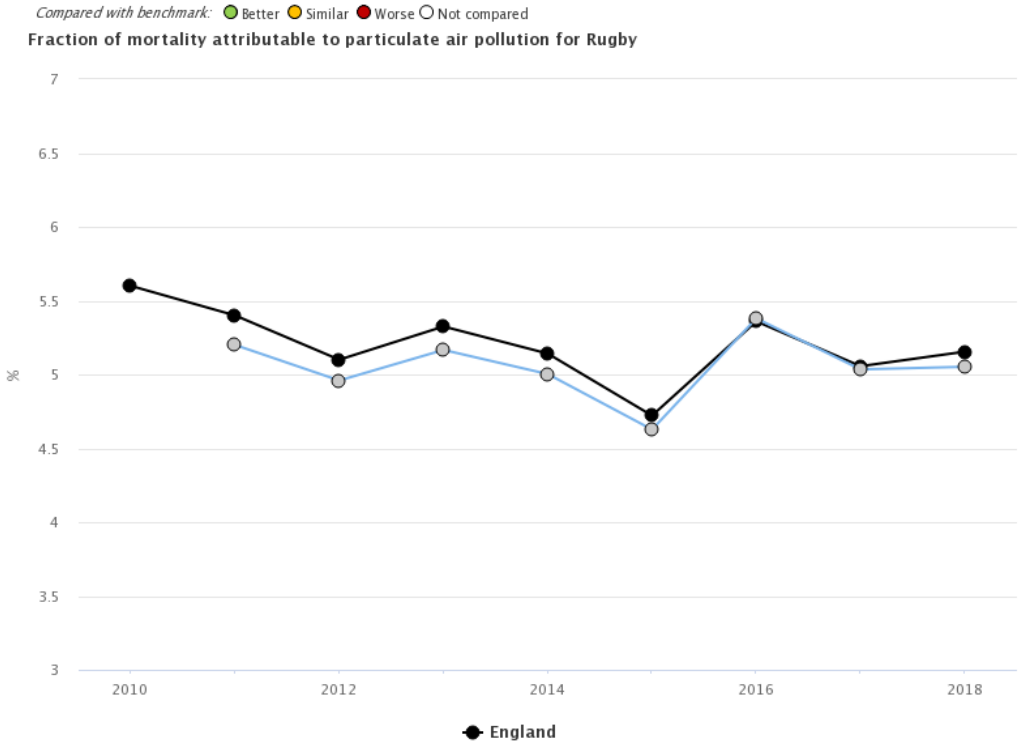
As detailed in Policy Guidance LAQM.PG16 (Chapter 7), local authorities are expected to work towards reducing emissions and/or concentrations of $PM_{2.5}$ (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that $PM_{2.5}$ has a significant impact on human health,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

Rugby Borough council notes the Public Health Outcomes Framework indicator DO1 – Fraction of mortality attributable to particulate ($PM_{2.5}$) air pollution for which 2018 gives a value of 5.1% which is slightly above on par with the average for the West Midlands region of 5.0%.

Rugby Borough Council is taking the following measures to address $PM_{2.5}$:

Rugby Borough Council are identifying strategies for reducing levels of $PM_{2.5}$. This has included a launch of a campaign using Social media and website links educating residents in the Borough in relation to use of open fires and wood burning stoves.

Figure 2.1 – Public Health Framework D01 Fraction of all-cause adult mortality attributable to anthropogenic particulate air pollution



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

This section sets out what monitoring has taken place and how it compares with objectives.

Rugby Borough Council no longer undertakes automatic (continuous) monitoring. The continuous particulate monitor at Parkfield Road was taken out of use in December 2017 due to consecutive years of low pollutant concentrations being monitored in the area.

3.1.2 Non-Automatic Monitoring Sites

Rugby Borough Council undertook non-automatic (passive) monitoring of NO_2 at 56 sites during 2019. 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) 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[6], “annualisation” (where the data capture falls below 75%), and distance correction[7]. Further details on adjustments are provided in Appendix C.

3.2.1 Nitrogen Dioxide (NO_2)

Table A.2 in Appendix A compares the ratified and adjusted monitored NO_2 annual mean concentrations for the past 5 years with the air quality objective of 40 µg/m^3. Note that the concentration data presented in Table A.2 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).

[6] https://laqm.defra.gov.uk/bias-adjustment-factors/bias-adjustment.html
[7] Fall-off with distance correction criteria is provided in paragraph 7.77, LAQM.TG(16)

For diffusion tubes, the full 2019 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. Please note that diffusion tube site 54a has resumed monitoring at 3 Church Street in Shilton due to an administrative error in 2018 which has now been corrected. Monitoring has ceased at site S2 along A423 Marston Lay with continuous low concentrations recorded for several years.

During 2019, exceedances at two diffusion tubes, S54a and S54b(located at Rugby School and 3 Church Street in Shilton) which measured 45.5 µg/m^3 and 41.5 µg/m^3 respectively.

Previously two diffusion tube locations were in exceedance in 2018; Site 54a and Site S24 in Dunchurch Square, which is the only other diffusion tube site to have consistently exceeded the AQS objective regularly since 2014. From 2018 to 2019, site S24 had an improvement in air quality with a concentration reducing from 43.3 µg/m^3 to 38.5 µg/m^3. S24 is located within the existing AQMA and is considered a location of relevant exposure with regard to the annual mean NO_2 AQS objective. S24 is displaying an overall downward trend between 2014 and 2019 with a continuous drop of concentrations barring 2018 when the concentrations increased (Figure A.2).

Site 54a, located on the junction of Church Road and Bulkington Road in Shilton, north of Coventry, exceeded the AQS objective for the third time since monitoring started in 2016. NO_2 concentrations at the site have fluctuated over the years from 47.1 µg/m^3 (2016), 37.6 µg/m^3 (2017), 46.1 µg/m^3 (2018) and remaining above the AQS objective in 2019. The site is considered a location of relevant exposure. The Council will continue to monitor this site closely for any changes in NO_2 concentration.

Site S54b, formally known as W2, is located at the roadside of the Warwick Street gyratory system near the centre of town within the existing AQMA. Figure A.4 demonstrates that NO_2 concentrations at S54b have been generally declining since 2016. For example, in 2017, NO_2 concentrations were 43.3 µg/m^3 and in 2018 this dropped to 38.7 µg/m^3, below the AQS objective. This continuned improvement can be in part attributed to major improvement works occurring to the gyratory system as part of the AQAP, which was completed in May 2015. However, in 2019, the annual mean NO_2 concentration has again risen above the AQS objective, which indicates that the air quality in this area can still be improved.

3.2.2 Particulate Matter (PM_{10})

Rugby Borough Council ceased PM_{10} monitoring in December 2017. Monitoring at the Parkfield Road location was originally commenced to investigate particulate matter concentrations at sensitive receptors near to the Cemex Climafuel facility, but there were no monitored exceedances of the PM_{10} annual mean or short-term mean AQS objectives after several years of monitoring.

3.2.3 Particulate Matter ($PM_{2.5}$)

Rugby Borough Council ceased $PM_{2.5}$ monitoring at the Parkfield Road location in December 2017, as there were no monitored exceedances of the $PM_{2.5}$ annual mean target value after several years of monitoring.

Appendix A: Monitoring Results

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

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube collocated with a Continuous Analyser?	Height (m)
S1	10 Newbold Road	Kerbside	449000	277178	NO_2	YES	0	0.5	NO	2.5
S2	Marton A423	Kerbside	440830	269008	NO_2	NO	5	1	NO	2.5
S3	69 School Street	Urban Background	447316	276162	NO_2	YES	0	15	NO	2.5
S4	St Margaret's School, Wolston	Urban Background	441131	275648	NO_2	NO	0	90	NO	2.5
S5	Ryton Village Hall, High Street	Kerbside	438642	274418	NO_2	NO	25	0.5	NO	2.5
S6	2 West Field Road	Urban Background	449671	274795	NO_2	YES	0	10	NO	2.5
S7	68 Cymbeline Way	Urban Background	448863	272786	NO_2	YES	0	10	NO	2.5
S8	EHO Treatment, Newbold Road	Kerbside	450138	275557	NO_2	YES	10	1	NO	2.5
S9	(Argyle Street) Cambridge Street	Roadside	451187	275334	NO_2	YES	0	5	NO	2.5
S10	Webb Ellis Pub, Corporation Street	Roadside	450069	275040	NO_2	YES	0	5	NO	2.5
S11	15 Oliver Street	Roadside	449787	275224	NO_2	YES	0	5	NO	2.5

S12	Boughton Leigh School, Hollowell Way	Urban Background	451445	277245	NO_2	YES	0	56	NO	2.5
S13	Avon Mill Pub, Newbold Road	Roadside	450088	276229	NO_2	YES	15	3	NO	2.5
S14	Binley Woods, Village Hall	Urban Background	439450	277523	NO_2	NO	0	20	NO	2.5
S15	Lawford Road / Jubilee Street, Arnie's Batch	Kerbside	449168	275411	NO_2	NO	0	0.5	NO	2.5
S16	Hotel, London Road A45, Ryton	Roadside	436867	275275	NO_2	NO	0	19	NO	2.5
S17	Stamford Gardens Rugby Road	Roadside	431271	266404	NO_2	NO	N/A	6	YES	2.5
S18	Stamford Gardens Rugby Road	Roadside	431271	266404	NO_2	NO	N/A	6	YES	2.5
S19	Stamford Gardens Rugby Road	Roadside	431271	266404	NO_2	NO	N/A	6	YES	2.5
S20	Newbold Road	Roadside	450137	275849	NO_2	YES	25	3	NO	2.5
S21	Corner of Percival Road and Ashlawn Road	Roadside	451698	273273	NO_2	YES	15	2	NO	2.5
S22	Corner of Fisher Avenue and Ashlawn Road	Roadside	452403	273567	NO_2	YES	18	5	NO	2.5
S23	Paddox Pub Corner	Roadside	452672	273633	NO_2	YES	13	3	NO	2.5
S24	Dun Cow, Dunchurch Square	Kerbside	448496	271244	NO_2	YES	0	0.5	NO	2.5

S25	Southam Road, 'Crystal', Dunchurch	Roadside	448414	271175	NO_2	YES	0	2	NO	2.5
S26	Lawford Road, (former Simms Scrap Yard)	Roadside	448999	275505	NO_2	YES	0	12	NO	2.5
S27	Leamington Road, Ryton on Dunsmore	Roadside	449435	275543	NO_2	NO	7	2.5	NO	2.5
S28	256 Parkfield Road	Roadside	449011	276329	NO_2	YES	0	2	NO	2.5
S29	Avon Valley School	Urban Background	449575	276540	NO_2	YES	0	35	NO	2.5
S30	Murray Road (Bus Stop Nr Rail Station)	Kerbside	451107	275838	NO_2	YES	0	0.5	NO	2.5
S31	Wood Street / Park Road	Roadside	450848	275849	NO_2	YES	0	3	NO	2.5
S32	Railway Terrace, Station Bar	Roadside	450750	275547	NO_2	YES	0	3	NO	2.5
S33	Albert Street, Alma Lodge Hotel	Roadside	450510	275355	NO_2	YES	0	3	NO	2.5
S34	Regent Street, near Oxfam	Roadside	450405	275329	NO_2	YES	0	3	NO	2.5
S35	Church Street, Town Fryer	Roadside	450444	275236	NO_2	YES	0	3	NO	2.5
S36	Whitehall Road junction with Clifton Road Roundabout	Roadside	450870	275043	NO_2	YES	12	3	NO	2.5
S37	Lower Hillmorton Road junction with	Roadside	450897	275059	NO_2	YES	5	2	NO	2.5

	Clifton Road. Roundabout									
S38	Clifton Road before railway bridge	Kerbside	451868	275501	NO_2	YES	9	0.5	NO	2.5
S39	Clifton Road Roundabout Murray Road	Roadside	450852	275116	NO_2	YES	0	5	NO	2.5
S40	Lawrence Sherriff Street, Drury Lane	Roadside	450181	275029	NO_2	YES	0	5	NO	2.5
S41	Bilton Road, Big Yellow House	Roadside	450010	274998	NO_2	YES	0	15	NO	2.5
S42	Bilton Road, near Crow Pie Pub	Roadside	448855	274352	NO_2	YES	10	5	NO	2.5
S43	Dunchurch Gyratory Residential	Roadside	450162	274898	NO_2	YES	4	3	NO	2.5
S44	Barby Lane/ Ashlawn Road	Roadside	453394	273633	NO_2	YES	15	2	NO	2.5
S45	Bretford- electricity pole near 3 Avon Cottages	Roadside	442963	277071	NO_2	YES	11	3	NO	2.5
S46	Oxford Road, Ryton Belvedere	Kerbside	437555	274561	NO_2	NO	30	1	NO	2.5
S47	Regent Place	Kerbside	450445	275495	NO_2	YES	5	0.5	NO	2.5
S48	North Street, Nat. West. Bank	Roadside	450304	275314	NO_2	YES	0	2	NO	2.5
S49	Lesley Suiter House, Whitehall Road, Hillmorton	Roadside	450864	274896	NO_2	YES	13	3	NO	2.5
S50	Bilton Church	Roadside	448169	273625	NO_2	YES	18	3	NO	2.5

S51	Brinklow, Brays Close	Roadside	443433	279208	NO_2	NO	6	3	NO	2.5
S52	Daventry Road East, Dunchurch	Roadside	448537	271195	NO_2	YES	1	3	NO	2.5
S53	Conventry Road West, Dunchurch	Roadside	448361	271334	NO_2	YES	0	1.5	NO	2.5
S54a* (formerly known as AD1)	3 Church Rd Shilton	Roadside	440416	284401	NO_2	NO	0	1.5	NO	2.5
S54b*(formerly known as W2)	Rugby School Lampost 6	Roadside	450269	274998	NO_2	YES	0	1.5	NO	2.5
S55	Main St Stretton	Roadside	445004	281330	NO_2	NO	5	2	NO	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_2 Monitoring Results

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2019 (%) (2)	NO_2 Annual Mean Concentration ($\mu g/m^3$) (3) (4)				
							2015	2016	2017	2018	2019
S1	449000	277178	Kerbside	Diffusion Tube	83.3	83.3	20.4	18.8	17.8	17.6	16.2
S2*	440830	269008	Kerbside	Diffusion Tube	100.0	58.3	16.3	16.5	13.4	14.6	13.6
S3	447316	276162	Urban Background	Diffusion Tube	100.0	100.0	15.6	15.5	12.2	14.2	13.1
S4	441131	275648	Urban Background	Diffusion Tube	91.7	91.7	13.7	14.0	12.3	12.1	10.4
S5	438642	274418	Kerbside	Diffusion Tube	100.0	100.0	27.9	28.5	25.0	24.0	23.5
S6	449671	274795	Urban Background	Diffusion Tube	100.0	100.0	17.3	16.3	14.1	14.9	13.6
S7	448863	272786	Urban Background	Diffusion Tube	100.0	100.0	12.7	13.2	10.4	11.6	11.7
S8	450138	275557	Kerbside	Diffusion Tube	100.0	100.0	38.2	33.6	29.3	30.0	28.0
S9	451187	275334	Roadside	Diffusion Tube	100.0	100.0	18.8	23.3	15.9	15.8	16.3
S10	450069	275040	Roadside	Diffusion Tube	100.0	100.0	**41.6**	**41.0**	34.8	30.8	35.7
S11	449787	275224	Roadside	Diffusion Tube	100.0	100.0	25.6	24.3	21.8	21.8	22.6
S12	451445	277245	Urban Background	Diffusion Tube	100.0	100.0	23.9	25.8	21.3	19.6	20.9
S13	450088	276229	Roadside	Diffusion Tube	91.7	91.7	38.3	39.5	36.5	34.8	33.5
S14	439450	277523	Urban Background	Diffusion Tube	100.0	100.0	19.0	18.2	14.7	15.1	16.8

S15	449168	275411	Kerbside	Diffusion Tube	91.7	91.7	30.9	28.3	25.6	26.9	25.1
S16	436867	275275	Roadside	Diffusion Tube	100.0	100.0	21.3	22.8	18.2	19.6	18.8
S17	431271	266404	Roadside	Diffusion Tube	100.0	100.0	20.2	21.4	17.1	18.9	17.9
S18	431271	266404	Roadside	Diffusion Tube	100.0	100.0	20.2	20.7	17.1	18.6	17.9
S19	431271	266404	Roadside	Diffusion Tube	100.0	100.0	20.5	20.4	16.7	17.7	16.6
S20	450137	275849	Roadside	Diffusion Tube	100.0	100.0	30.9	32.4	26.7	27.8	26.0
S21	451698	273273	Roadside	Diffusion Tube	100.0	100.0	24.2	24.2	22.2	22.5	22.2
S22	452403	273567	Kerbside	Diffusion Tube	91.7	91.7	23.2	24.4	20.8	21.3	20.7
S23	452672	273633	Roadside	Diffusion Tube	100.0	100.0	23.1	25.1	21.7	21.0	21.8
S24	448496	271244	Roadside	Diffusion Tube	91.7	91.7	**48.9**	**47.1**	**40.7**	**43.3**	38.5
S25	448414	271175	Roadside	Diffusion Tube	100.0	100.0	33.8	34.5	28.0	29.3	25.4
S26	448999	275505	Roadside	Diffusion Tube	100.0	100.0	20.3	22.4	18.3	19.1	18.7
S27	449435	275543	Urban Background	Diffusion Tube	100.0	100.0		27.5	21.3	18.2	21.2
S28	449011	276329	Kerbside	Diffusion Tube	100.0	100.0	20.9	19.7	16.1	17.2	16.7
S29	449575	276540	Roadside	Diffusion Tube	100.0	100.0	24.9	21.7	18.7	19.8	21.0
S30	451107	275838	Roadside	Diffusion Tube	100.0	100.0	36.6	36.4	32.3	34.5	33.0
S31	450848	275849	Roadside	Diffusion Tube	100.0	100.0	32.1	29.7	26.1	27.3	24.7
S32	450750	275547	Roadside	Diffusion Tube	100.0	100.0	32.6	30.4	28.2	29.3	27.4

S33	450510	275355	Roadside	Diffusion Tube	100.0	100.0	25.6	25.4	21.6	22.4	22.2
S34	450405	275329	Roadside	Diffusion Tube	83.3	83.3	33.9	27.8	25.5	24.8	23.1
S35	450444	275236	Roadside	Diffusion Tube	100.0	100.0	34.8	32.3	28.4	31.7	31.0
S36	450870	275043	Kerbside	Diffusion Tube	100.0	100.0	34.7	35.3	29.5	28.9	29.8
S37	450897	275059	Roadside	Diffusion Tube	100.0	100.0	31.6	30.1	24.1	23.9	25.2
S38	451868	275501	Roadside	Diffusion Tube	91.7	91.7	27.8	29.9	25.7	26.5	25.1
S39	450852	275116	Roadside	Diffusion Tube	100.0	100.0	31.9	30.0	25.9	27.9	26.2
S40	450181	275029	Roadside	Diffusion Tube	100.0	100.0	32.8	34.7	30.5	26.5	28.3
S41	450010	274998	Roadside	Diffusion Tube	100.0	100.0	27.0	27.4	23.0	25.7	24.8
S42	448855	274352	Roadside	Diffusion Tube	100.0	100.0	23.7	24.2	20.7	22.8	21.2
S43	450162	274898	Roadside	Diffusion Tube	100.0	100.0	28.7	31.1	25.2	25.9	26.3
S44	453394	273633	Kerbside	Diffusion Tube	100.0	100.0		29.8	23.8	27.4	23.6
S45	442963	277071	Kerbside	Diffusion Tube	100.0	100.0	27.7	26.7	22.5	22.5	23.8
S46	437555	274561	Roadside	Diffusion Tube	100.0	100.0	38.1	39.3	36.5	36.7	35.3
S47	450445	275495	Roadside	Diffusion Tube	100.0	100.0	33.9	35.2	30.8	32.6	29.5
S48	450304	275314	Roadside	Diffusion Tube	100.0	100.0	34.5	37.5	34.3	31.0	34.1
S49	450864	274896	Roadside	Diffusion Tube	100.0	100.0	39.1	36.6	**43.7**	34.0	30.0
S50	448169	273625	Roadside	Diffusion Tube	75.0	75.0	25.1	25.3	21.5	22.9	21.3

S51	443433	279208	Roadside	Diffusion Tube	100.0	100.0	33.6	32.4	28.3	29.4	28.1
S52	448537	271195	Roadside	Diffusion Tube	91.7	91.7	24.9	24.0	20.9	20.8	20.9
S53	448361	271334	Roadside	Diffusion Tube	75.0	75.0		24.6	20.1	21.8	21.8
S54a* (formerly known as AD1)	440416	284401	Roadside	Diffusion Tube	100.0	41.7		**47.1**	37.6	**46.1**	**45.5**
S54b(formerly known as W2)	450269	274998	Roadside	Diffusion Tube	100.0	100.0	**46.5**	**45.5**	**43.3**	38.7	**41.6**
S55	445004	281330	Roadside	Diffusion Tube	100.0	100.0		25.3	20.6	20.8	21.4

☒ **Diffusion tube data has been bias corrected**

☒ **Annualisation has been conducted where data capture is <75%**

Notes:

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

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

(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%).

(3) No annualization was required.

* Due to limited data capture at these sites, data should be viewed with caution. A full year of results will be reported on in next year's ASR.

Figure A.1 – Trends in Urban Background Annual Mean NO_2 Concentrations

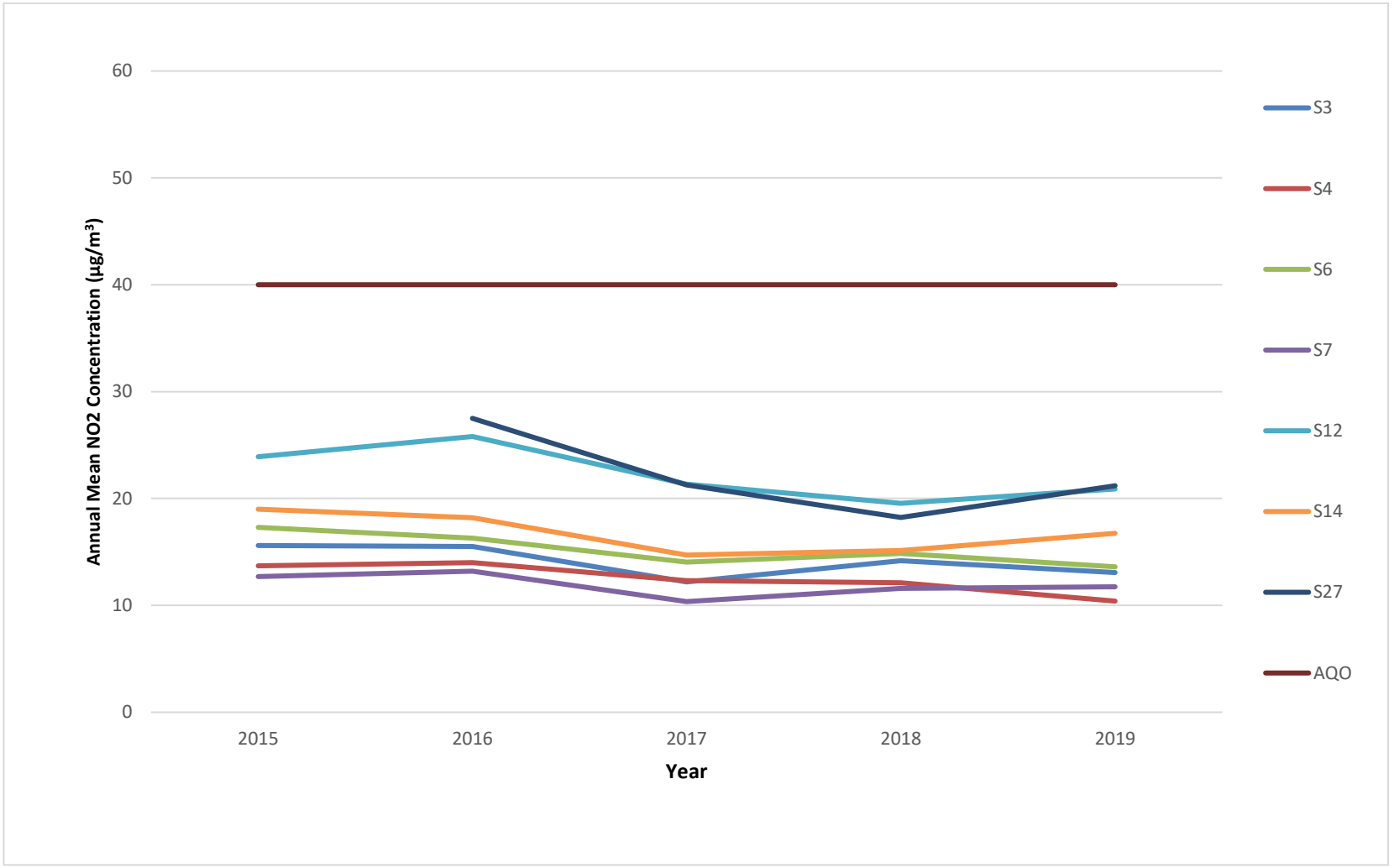


Figure A.2 – Trends in Kerbside Annual Mean NO_2 Concentrations

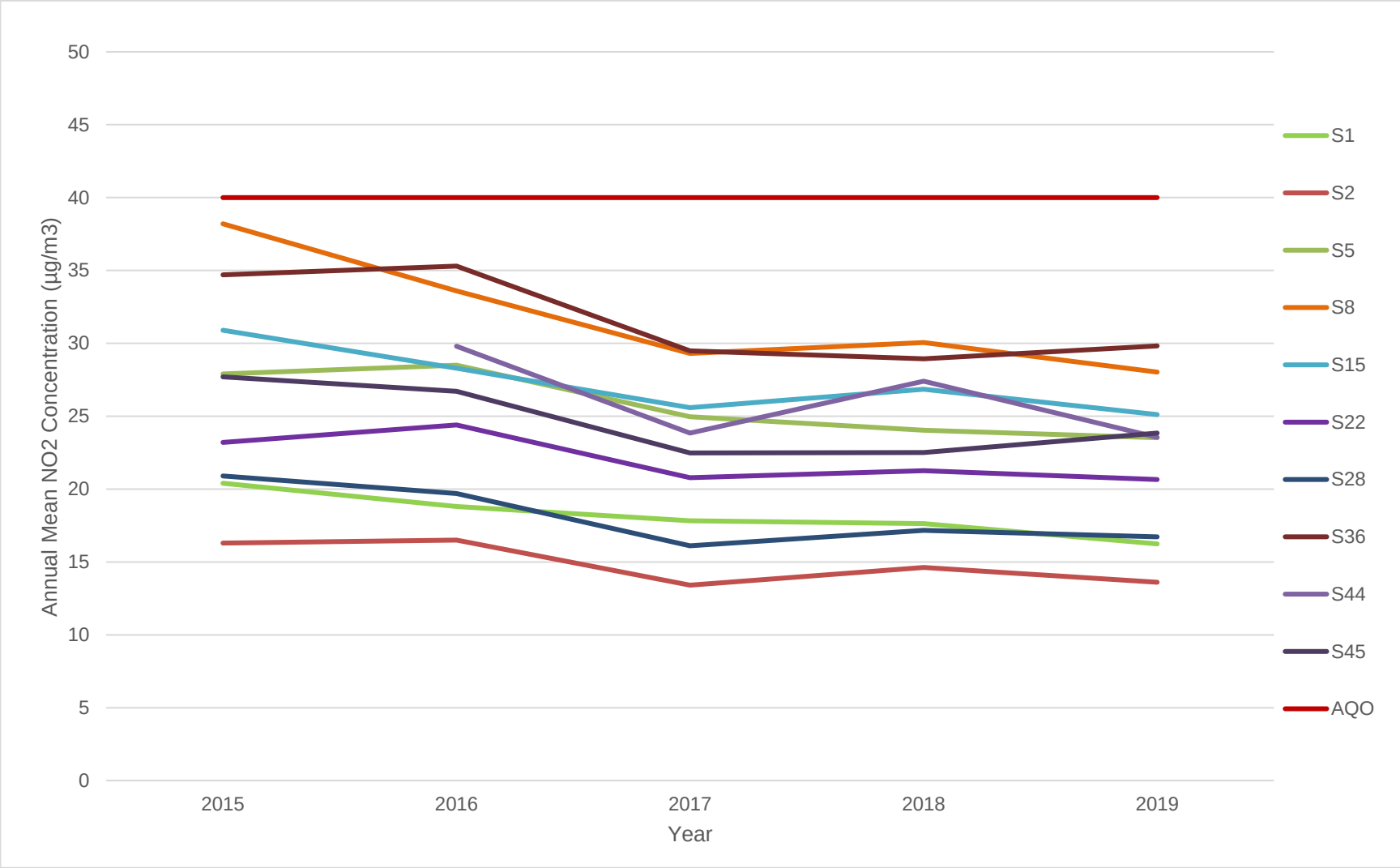


Figure A.3 – Trends in Roadside Annual Mean NO_2 Concentrations

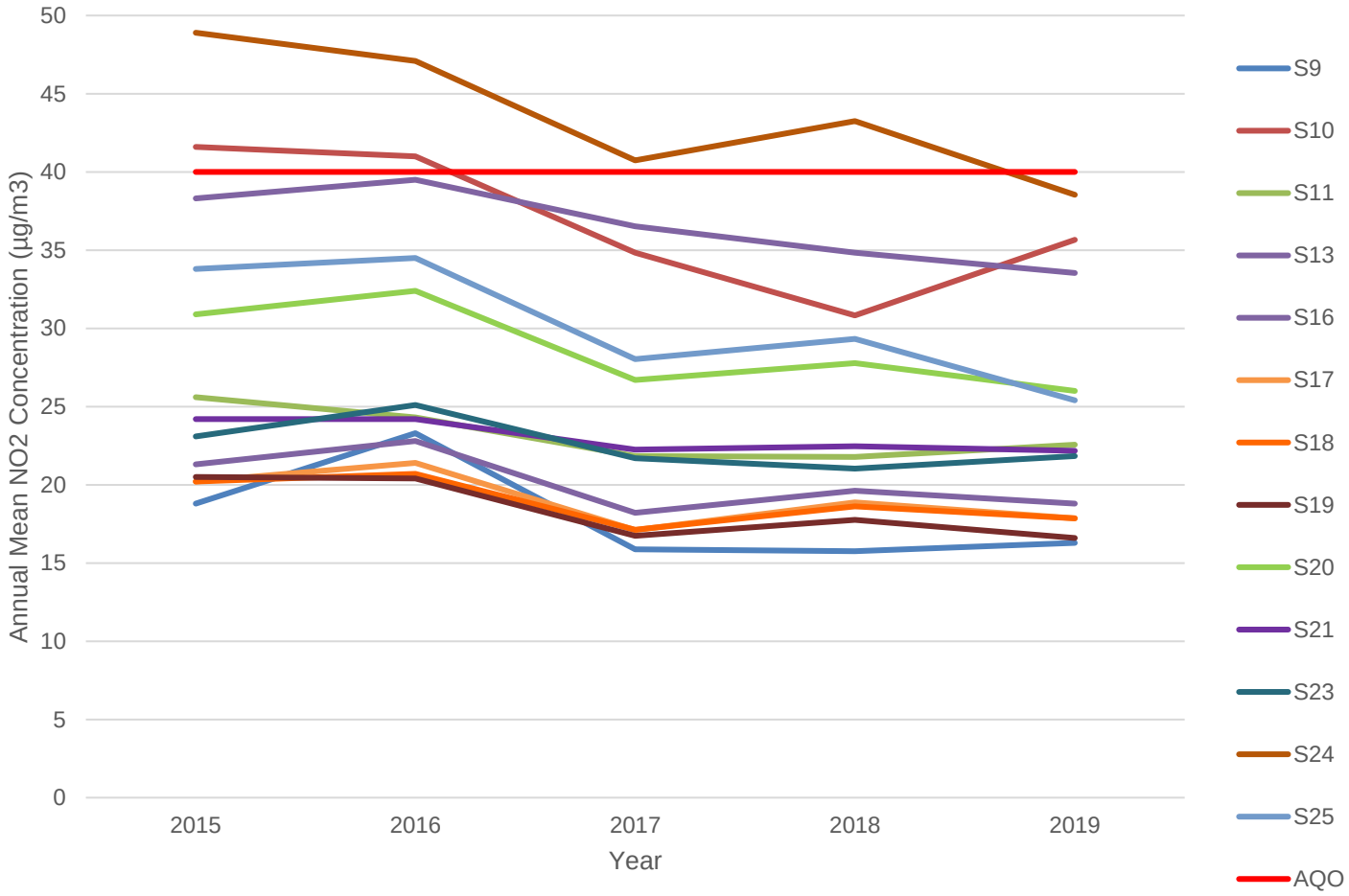


Figure A.4 – Trends in Roadside Annual Mean NO_2 Concentrations

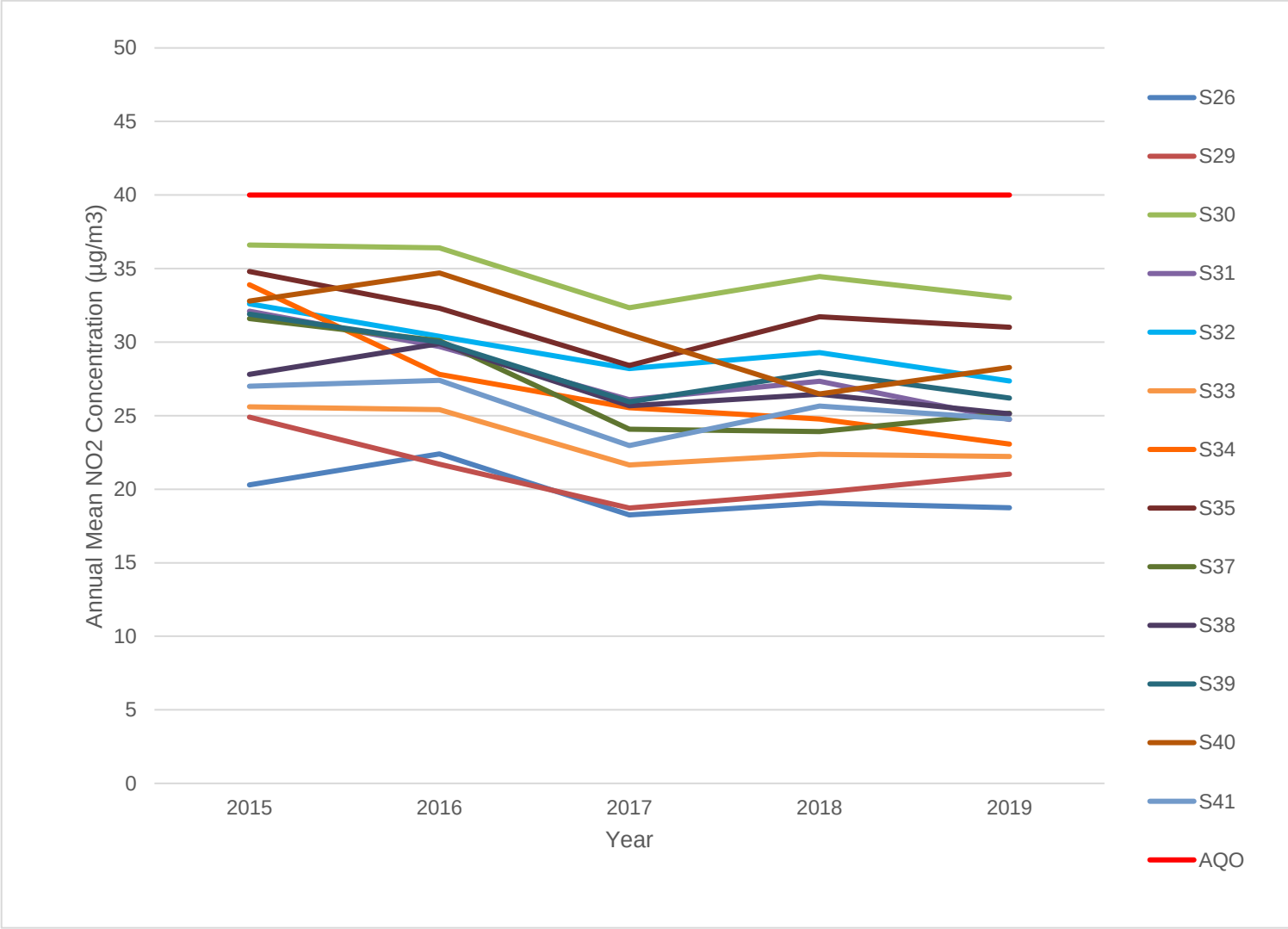
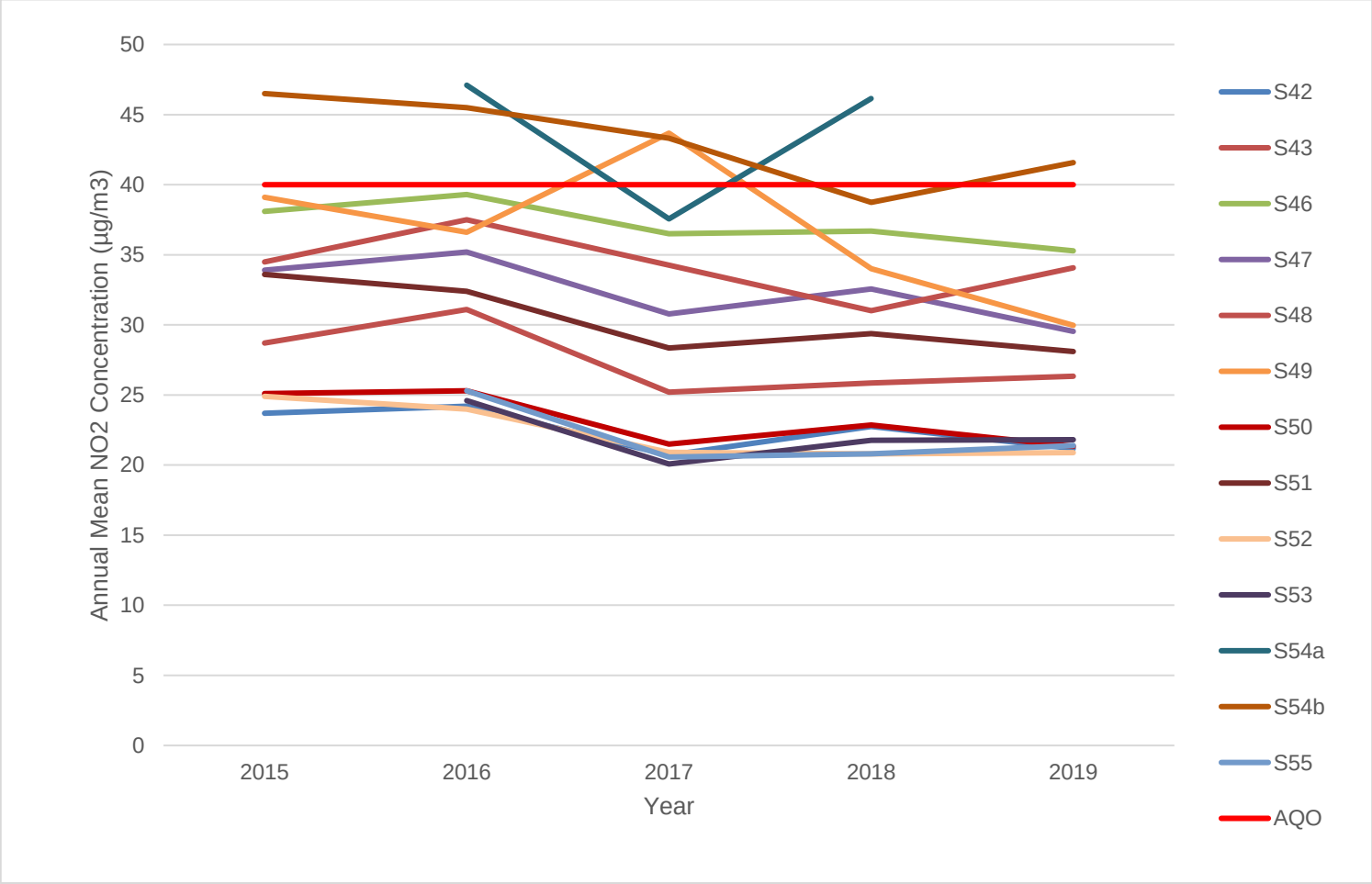


Figure A.5 – Trends in Roadside Annual Mean NO_2 Concentrations



Appendix B: Full Monthly Diffusion Tube Results for 2019

Table B.1 - NO_2 Monthly Diffusion Tube Results - 2019

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	NO_2 Mean Concentrations ($\mu g/m^3$)												Annual Mean		
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Data	Bias Adjusted (0.81) and Annualised (1)	Distance Corrected to Nearest Exposure (2)
S1	449000	277178	29.1	25.2	18.5	21.6	19.1	16.6	15.2	14.2	17.1			23.9	20.1	16.2	16.2
S2	440830	269008	31.2	17.1	14.7	21.1	13.1	13.9	11.4	Monitoring ceased in August					17.5	13.6	21.4
S3	447316	276162	26	24.1	14.2	16.5	10.6	10.7	10.3	10.1	10.6	13.8	27.5	19.1	16.1	13.1	13.1
S4	441131	275648	20.3	2.5	13.2	14	10.4	9.5	9.5		10.6	13.4	23.1	14.7	12.8	10.4	10.4
S5	438642	274418	40.3	31.4	32	31	24.2	24	23.2	17.8	27.2	30.9	38.5	28	29.0	23.5	16.1
S6	449671	274795	18.5	20.5	14.5	18.1	14.6	14.5	11.3	10.4	15.4	17.5	28.7	17.6	16.8	13.6	13.6
S7	448863	272786	23.5	20.4	8.5	13.5	8.7	10.4	11.3	9	11.8	14.4	25.9	16.5	14.5	11.7	11.7
S8	450138	275557	28.5	36.4	42.6	34	2.7	36.1	26.9	33.7	35	40	53	46.3	34.6	28.0	23.1
S9	451187	275334	26.8	23.1	18.9	16.6	13.9	13.7	18.6	17.6	16.3	19.8	30.5	25.4	20.1	16.3	16.3
S10	450069	275040	49.4	51.3	40.1	40.9	35.4	39.1	38.1	36.5	41.6	46.3	63.9	45.6	**44.0**	35.7	35.7
S11	449787	275224	38.6	32.1	26.9	22.9	21.7	22.8	21	21	24.2	26.7	44.4	32.1	27.9	22.6	22.6
S12	451445	277245	37.9	51.3	23.8	18.3	16.4	16.2	16.1	18	19.9	22.7	39.7	29.3	25.8	20.9	20.9
S13	450088	276229	53.2	44.9		27	31.3	35.4	39.9	39.5	42.2	44.7	47.3	50.1	**41.4**	33.5	25.2
S14	439450	277523	30.1	23.7	18	15.7	13.6	14.4	12.5	10.2	36.5	18.6	32.4	22.5	20.7	16.8	16.8
S15	449168	275411	44	42.1	34.8	26.8	3.7	28.3		25.6	16.1	35.1	49.6	34.9	31.0	25.1	25.1
S16	436867	275275	30.3	23.5	23	28.2	21.9	20.2	21.4	13	21.8	22.2	34.4	18.6	23.2	18.8	18.8

S17	431271	266404	32	27.7	20.3	21.4	18.2	15.3	14.3	13.6	18.8	21.6	34.2	27.1	22.0	17.9	17.9
S18	431271	266404	33.1	27.4	17.3	21.1	16.1	15.8	13.5	13.5	19	22.5	37.3	28	22.1	17.9	17.9
S19	431271	266404	29.5	26.1	14.6	20.6	17.1	15.6	3.3	12.9	19.9	22.1	37.3	26.9	20.5	16.6	16.6
S20	450137	275849	42.1	42.7	28.7	35.3	7.9	26.6	26.9	21.8	27.1	32.9	55.7	37.5	32.1	26.0	21.3
S21	451698	273273	31.4	36.3	26.1	24	21.1	23	23.8	21.4	25.4	25.4	40.5	30.1	27.4	22.2	16.0
S22	452403	273567	35.2	28.4	22.9	24.9	21.6	22.6	19.9		21.1	24.6	33.4	25.9	25.5	20.7	16.0
S23	452672	273633	34.2	32.5	25	26	25.2	21.1	19.6	16.6	25.3	28	45.1	25	27.0	21.8	16.9
S24	448496	271244	59	47.9	53.4	39.3	47.7	39.8		39	42.2	45.3	62.4	47.4	**47.6**	38.5	38.5
S25	448414	271175	39.2	36.7	33.5	27.4	28.3	27.4	27.7	24	29.2	30.3	42.4	30.2	31.4	25.4	25.4
S26	448999	275505	32.8	29.8	20.6	20.1	19.2	18.1	18.6	15.3	20.8	20.3	38.4	23.7	23.1	18.7	18.7
S27	449435	275543	39.4	28.8	28.5	24.6	20.7	21.5	21.1	17.2	22.6	27.6	33.9	27.9	26.2	21.2	18.6
S28	449011	276329	29.1	26.8	17.8	20.1	16.3	13.4	15.6	13.6	17.4	20.5	34	23.2	20.7	16.7	16.7
S29	449575	276540	22.7	35.1	21	30.1	16.6	22.6	18.9	20.9	23.3	24.4	40.4	35.5	26.0	21.0	21.0
S30	451107	275838	45.1	41.8	34.9	46	39.4	38.2	35.8	29.6	39.1	41.9	56.2	41.2	**40.8**	33.0	33.0
S31	450848	275849	43.5	34.7	33.3	34.7	28	26.1	25.9	23.5	28.7	33.6	53.2	1.3	30.5	24.7	24.7
S32	450750	275547	36	39.7	36	33.4	27.6	29.8	29.3	24.9	30.9	35.4	48.6	33.7	33.8	27.4	27.4
S33	450510	275355	43.3	31.5	26.7	25.4	20.9	18.2	20.9	20.4	26.6	28.5	39.9	27	27.4	22.2	22.2
S34	450405	275329	32	32.8		23.4	22.3		24.3	27.3	24.6	26	41.2	30.9	28.5	23.1	23.1
S35	450444	275236	43.3	49.2	35.9	30.9	30.5	32.8	35.1	36.3	36.1	38.8	46.1	44.3	38.3	31.0	31.0
S36	450870	275043	51.4	47.9	36.6	33.4	20	30.6	31.6	30	33.4	38	45.1	43.8	36.8	29.8	24.8
S37	450897	275059	48.5	37.9	34.7	20.6	29.4	21.7	22.2	21.3	29.2	29.5	46.4	31.4	31.1	25.2	23.0
S38	451868	275501	44.4	36.6	37	31.2		26.6	23	20.1	25.4	29.7	37.6	29.6	31.0	25.1	19.3
S39	450852	275116	41.8	39.1	33.2	27.3	27.9	27.4	27.3	24.3	30	32.8	44.6	32.4	32.3	26.2	26.2
S40	450181	275029	46.7	41.2	36.5	32.1	30.7	30.9	26.3	23.8	31.1	35.2	50.5	33.9	34.9	28.3	28.3
S41	450010	274998	41.1	34.5	31.8	30.6	31.3	25.4	23.5	21.7	26.6	30.4	41.2	29	30.6	24.8	24.8
S42	448855	274352	28.5	32.8	25.1	26.5	25.4	23.2	19.9	18.2	22.7	25.2	36.7	29.6	26.2	21.2	18.1

S43	450162	274898	42.1	38.1	26.5	35.3	31.7	30.4	24.5	26.6	30.2	33.8	38	33	32.5	26.3	23.4
S44	453394	273633	28.9	36.3	31.4	36.3	29.4	29.3	24.6	22.4	30.2	1.3	51.5	27.3	29.1	23.6	16.8
S45	442963	277071	41.6	39.1	27.1	22.8	24.8	24.6	24.1	21.2	27.2	29	36.3	35.3	29.4	23.8	18.6
S46	437555	274561	55.7	49.9	43.6	49.1	43.3	38.3	39.3	28	41.7	38.4	58.9	36.5	**43.6**	35.3	19.8
S47	450445	275495	32.4	37.1	43.5	38.9	36	34.4	33.4	27.3	31.6	37.5	51.3	34.2	36.5	29.5	24.6
S48	450304	275314	48.1	75.8	41.9	27.7	35.4	33	30.9	35.2	38.5	39.6	51.5	47.1	**42.1**	34.1	34.1
S49	450864	274896	51.2	39.4	31	38.7	34.4	32.9	29.8	27.8	33.3	37.6	56.4	31.5	37.0	30.0	22.5
S50	448169	273625	35.6	33	26.6		22.3	24.4	20.3	20.6	26.2			28.1	26.3	21.3	16.3
S51	443433	279208	54.9	41.7	33.8	32	29.3	27.1	29	29	32.8	35	38.6	33.1	34.7	28.1	23.3
S52	448537	271195	32.4	28.8	25.9	22.4	21.6		22.3	18.4	23.5	26	39.1	23.4	25.8	20.9	20.1
S53	448361	271334	29.7	29.5	22.8	29.6	24.1	20.4	19.9				44.2	22.2	26.9	21.8	21.8
S54a* (formerly known as AD1)	440416	284401	Monitoring resumed in August							50.2	56.9	60.7	64	63.2	**59.0**	**45.5**	**45.5**
S54b* (formerly known as W2)	450269	274998	67.1	59.8	52.5	42	40.5	47	49.6	47.8	51.7	49.5	53.6	54.9	**51.3**	**41.6**	**41.6**
S55	445004	281330	35.7	30.4	22.7	28.8	22.8	20.3	19.9	17.3	23.5	27.7	41.4	26.3	26.4	21.4	19.8

☒ **Local bias adjustment factor used**

☐ **National bias adjustment factor used**

☒ **Annualisation has been conducted where data capture is <75%**

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

Notes:

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

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

(1) See Appendix C for details on bias adjustment and annualisation.

(2) Distance correction not required because locations are either at relevant public exposure or below 40µg/m^3

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

QA/QC of Diffusion Tube Monitoring Data

Rugby Borough Council's NO_2 diffusion tubes are supplied and analysed by SOCOTEC Didcot using the 50%TEA in Acetone method. This method conforms to the guidelines set out in Defra's 'Diffusion Tubes for Ambient NO_2 Monitoring: Practical Guidance' document.

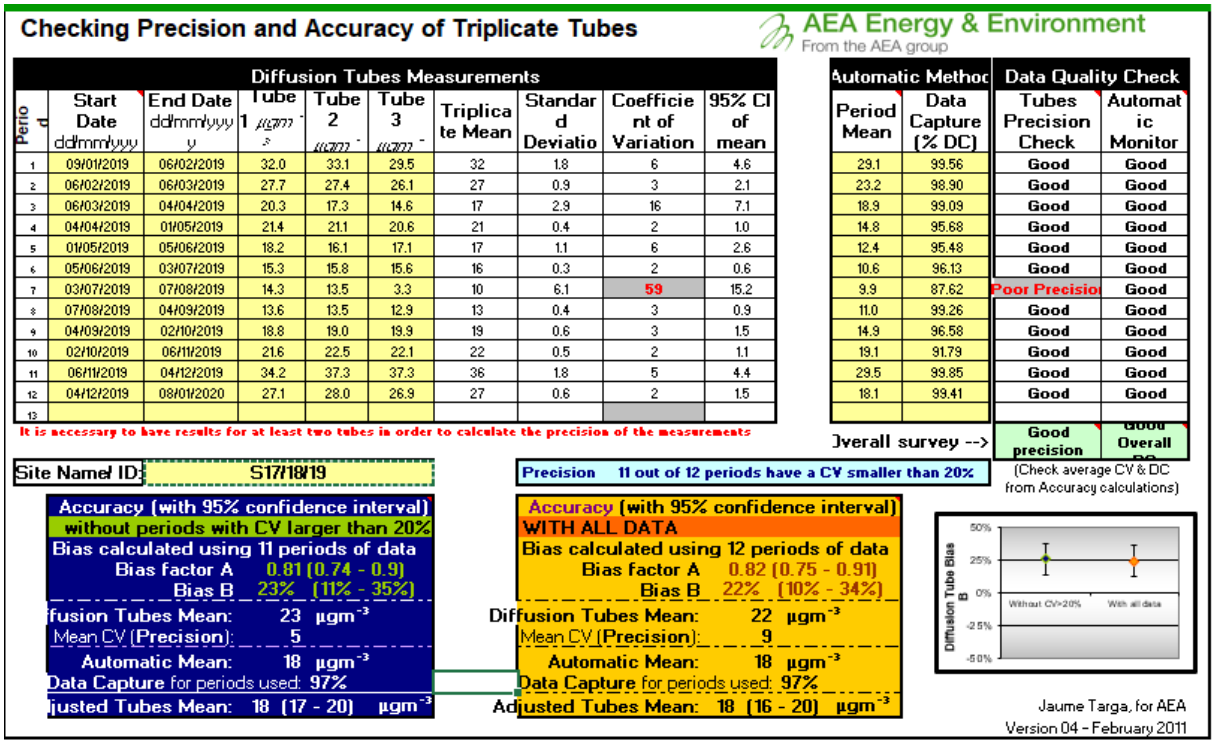
SOCOTEC Didcot participates in the AIR NO_2 PT scheme[8]. This scheme forms an integral part of the UK NO_2 Network's QA/QC, and is a useful tool in assessing the analytical performance of those laboratories supplying diffusion tubes to Local Authorities for use in the context of Local Air Quality Management (LAQM). In AIR NO_2 PT rounds AR030 SOCOTEC Didcot achieved 87.5% satisfactory scores and in AIR NO_2 PT rounds AR0024, 25, 27 and 28 SOCOTEC Didcot achieved 100% satisfactory scores.

Bias Adjustment of Diffusion Tube Data

A local bias adjustment factor was calculated from the triplicate co-location of diffusion tubes (S17, S18 and S19) alongside the AURN monitoring station at Leamington Spa Rugby Road. The local bias adjustment factor was calculated as 0.81; details of the calculation are provided in Figure C.1.

8 LGC (2019) Summary of Laboratory Performance in AIR NO2 Proficiency Testing Scheme (April 2017 – February 2019) Available at: https://laqm.defra.gov.uk/assets/laqmno2performancedatauptofebruary2019v1.pdf

Figure C.1 – Local Bias Adjustment Factor calculation tool



Checking Precision and Accuracy of Triplicate Tubes

AEA Energy & Environment
From the AEA group

Diffusion Tubes Measurements

Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 µg/m³	Tube 2 µg/m³	Tube 3 µg/m³	Triplicate Mean	Standard Deviation	Coefficient of Variation	95% CI of mean
1	09/01/2019	06/02/2019	32.0	33.1	29.5	32	1.8	6	4.6
2	06/02/2019	06/03/2019	27.7	27.4	26.1	27	0.9	3	2.1
3	06/03/2019	04/04/2019	20.3	17.3	14.6	17	2.9	16	7.1
4	04/04/2019	01/05/2019	21.4	21.1	20.6	21	0.4	2	1.0
5	01/05/2019	05/06/2019	18.2	16.1	17.1	17	1.1	6	2.6
6	05/06/2019	03/07/2019	15.3	15.8	15.6	16	0.3	2	0.6
7	03/07/2019	07/08/2019	14.3	13.5	3.3	10	6.1	59	15.2
8	07/08/2019	04/09/2019	13.6	13.5	12.9	13	0.4	3	0.9
9	04/09/2019	02/10/2019	18.8	19.0	19.9	19	0.6	3	1.5
10	02/10/2019	06/11/2019	21.6	22.5	22.1	22	0.5	2	1.1
11	06/11/2019	04/12/2019	34.2	37.3	37.3	36	1.8	5	4.4
12	04/12/2019	08/01/2020	27.1	28.0	26.9	27	0.6	2	1.5
13									

It is necessary to have results for at least two tubes in order to calculate the precision of the measurements

Automatic Method Period Mean	Automatic Method Data Capture (% DC)	Data Quality Check Tubes Precision Check	Data Quality Check Automatic Monitor
29.1	99.56	Good	Good
23.2	98.90	Good	Good
18.9	99.09	Good	Good
14.8	95.68	Good	Good
12.4	95.48	Good	Good
10.6	96.13	Good	Good
9.9	87.62	Poor Precision	Good
11.0	99.26	Good	Good
14.9	96.58	Good	Good
19.1	91.79	Good	Good
29.5	99.85	Good	Good
18.1	99.41	Good	Good
Overall survey -->		Good precision	Good Overall

(Check average CV & DC from Accuracy calculations)

Site Name/ ID: S17/18/19

Precision 11 out of 12 periods have a CV smaller than 20%

Accuracy (with 95% confidence interval) without periods with CV larger than 20%
Bias calculated using 11 periods of data
Bias factor A 0.81 (0.74 - 0.9)
Bias B 23% (11% - 35%)
Diffusion Tubes Mean: 23 µgm⁻³
Mean CV (Precision): 5
Automatic Mean: 18 µgm⁻³
Data Capture for periods used: 97%
Adjusted Tubes Mean: 18 (17 - 20) µgm⁻³

Accuracy (with 95% confidence interval) WITH ALL DATA
Bias calculated using 12 periods of data
Bias factor A 0.82 (0.75 - 0.91)
Bias B 22% (10% - 34%)
Diffusion Tubes Mean: 22 µgm⁻³
Mean CV (Precision): 9
Automatic Mean: 18 µgm⁻³
Data Capture for periods used: 97%
Adjusted Tubes Mean: 18 (16 - 20) µgm⁻³

Jaume Targa, for AEA
Version 04 - February 2011

A national bias adjustment factor was obtained from the national Diffusion Tube Bias Adjustment Factors Spreadsheet for September 2020[9]. Based on the analytical laboratory (SOCOTEC Didcot) and tube preparation method (50%TEA/Acetone) a national bias adjustment factor of 0.75 was derived for 2019. The national factor was found to be lower than the local factor. Choosing the conservative option of the two factors calculated, the local factor was deemed more suitable and appropriate for use.

The use of the local bias adjustment factor is considered preferable, particularly when the data used for the calculation are precise and reliable. Given the good quality of the co-location data the local bias adjustment factor has been used to adjust the raw NO_2 diffusion tube results for 2019.

Annualisation

Data capture rates for 54 of the 56 diffusion tube monitoring sites exceed 75%, and therefore are considered representative of annual mean in accordance with Box 7.10 of LAQM.TG16. Consequently, it is not necessary to seasonally adjust any of these monitored concentrations.

However, due to a relocation of site 54 part-way through the year, seasonal adjustment was carried out for site 2 (prior to relocation) and site 54a (post-relocation) due to

[9] Defra, 2020. Diffusion Tube Bias Adjustment Factors Spreadsheet, September 2020.

reduced data capture at these two locations. Seasonal adjustment was carried out using AURN data from four nearby automatic monitoring stations: Coventry Allesley; Leamington Spa; Northampton Spring Park; and Leicester University. Details of the summary table produced from the annualisation tool (provided by Defra) are shown in Table C.1 below.

Table C.1 – Seasonal Adjustment Factor Calculation

Diffusion Tube ID	Coventry Allesley	Leamington Spa	Leicester University	Northampton Spring Park	Average
S2 Annualisation Factor	1.03	1.04	1.03	1.03	1.03
S2 Period Mean	20.24	17.63	23.90	13.37	
S2 Annual Mean	19.85	17.27	23.52	12.98	
S54a Annualisation Factor	0.96	0.95	0.96	0.93	0.95
S54a Period Mean	21.09	18.48	24.83	14.33	
S54a Annual Mean	20.24	17.63	23.90	13.37	

Distance Correction

It is not always possible to measure concentrations at precisely the desired location. It is recommended by LAQM TG.16 that measurements recorded at a site not representative of relevant exposure should be distance-corrected to estimate the annual mean NO_2 concentration at the nearest "receptor".

In some cases, where a monitoring site is not representative of relevant exposure, an exceedance of the annual mean NO_2 objective at the monitoring site may not correspond to an exceedance at the closest point of relevant exposure.

Distance correction was undertaken for all appropriate sites using Defra's NO_2 Fall-Off with Distance Calculator[10]. The distances from tube to receptor and tube to kerb that are used for the distance correction calculations can be found in Table A.2, and the distance corrected concentrations, where applicable, are found in Table B.1.

Note that concentrations at the monitoring locations shown in Figure C.1 are below 36 µg/m3 threshold as required by LAQM TG.16[11] guidance in paragraph 7.78. All other

[10] Defra (2018). NO_2 Fall-Off with Distance Calculator (Version 4.2). Available at: https://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html
[11] Defra (2018). Local Air Quality Management Technical Guidance (TG 16). Available at: https://laqm.defra.gov.uk/supporting-guidance.html

locations are already at distance to relevant exposure therefore no correction is required for these. These are reported in Figure C.1 for completeness and to provide more information, and are also shown in the Table B.1.

Figure C.1 – Façade distance correction calculations

Enter data into the pink cells

Site Name/ID	Distance (m)		NO_2 Annual Mean Concentration ($\mu g/m^3$)			Comment
	Monitoring Site to Kerb	Receptor to Kerb	Background	Monitored at Site	Predicted at Receptor	
S2	1.0	6.0	9.5	28.2	21.4	
S5	0.5	25.5	12.8	23.5	16.1	Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.
S8	1.0	11.0	17.8	28.0	23.1	
S13	3.0	18.0	15.6	33.5	25.2	
S20	3.0	28.0	17.8	26.0	21.3	Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.
S21	2.0	17.0	9.9	22.2	16.0	
S22	5.0	23.0	10.5	20.7	16.0	Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.
S23	3.0	16.0	10.5	21.8	16.9	
S27	2.5	9.5	13.4	21.2	18.6	
S36	3.0	15.0	17.8	29.8	24.8	
S37	2.0	7.0	17.8	25.2	23.0	
S38	0.5	9.5	13.8	25.1	19.3	
S42	5.0	15.0	11.9	21.2	18.1	
S43	3.0	7.0	12.8	26.3	23.4	
S44	2.0	17.0	10.1	23.6	16.8	
S45	3.0	14.0	10.8	23.8	18.6	

S45	3.0	14.0	10.8	23.8	18.6	
S46	1.0	31.0	12.9	35.3	19.8	Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.
S47	0.5	5.5	17.8	29.5	24.6	
S49	3.0	16.0	12.8	30.0	22.5	
S50	3.0	21.0	11.3	21.3	16.3	Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.
S51	3.0	9.0	11.1	28.1	23.3	
S52	3.0	4.0	10.2	20.9	20.1	
S55	2.0	7.0	16.1	21.4	19.8	

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

Figure D.1 – Rugby Borough Council Non-Automatic Monitoring Sites and AQMA Boundary

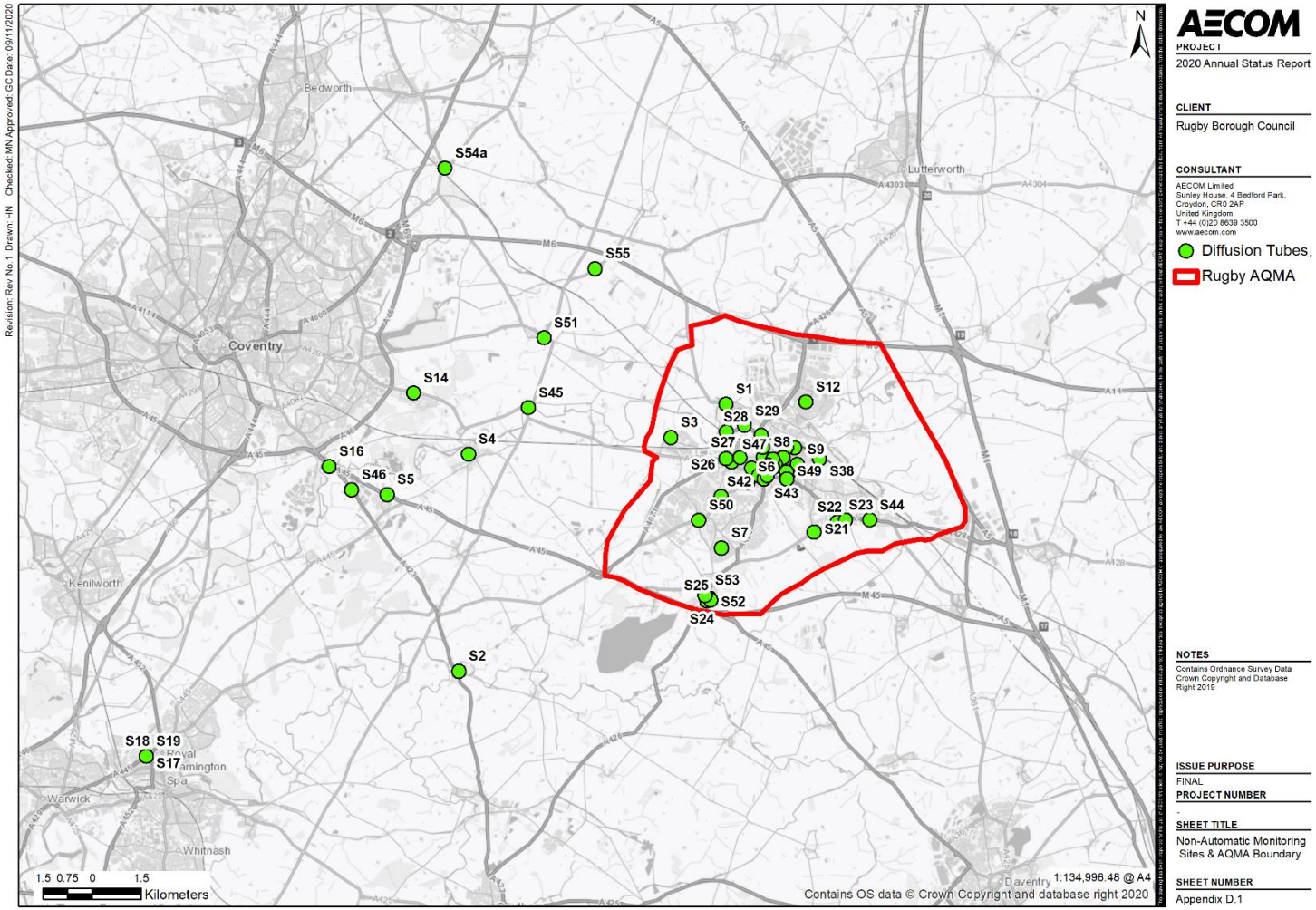


Figure D.2 – Map of NO_2 Diffusion Tubes in Rugby AQMA

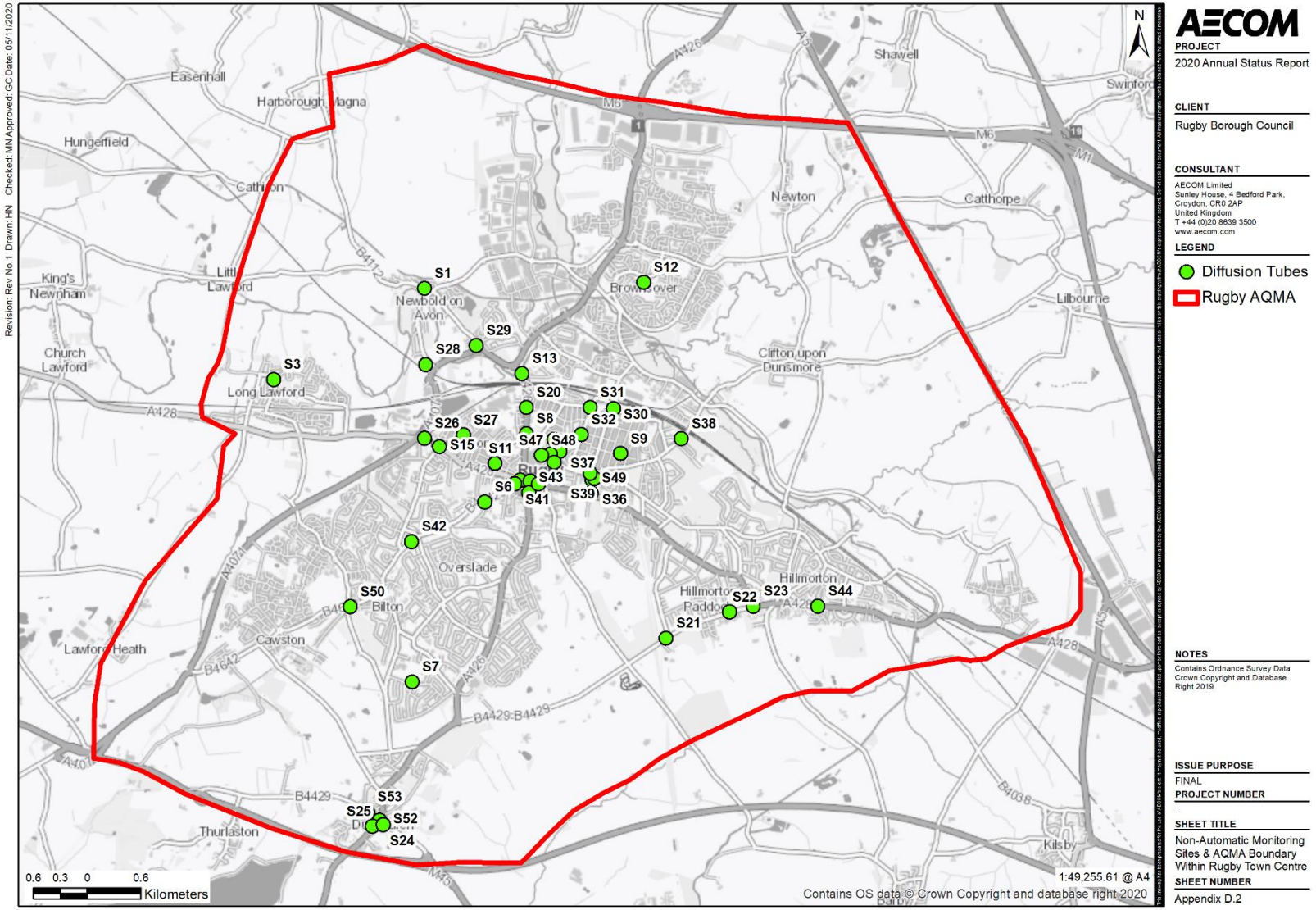
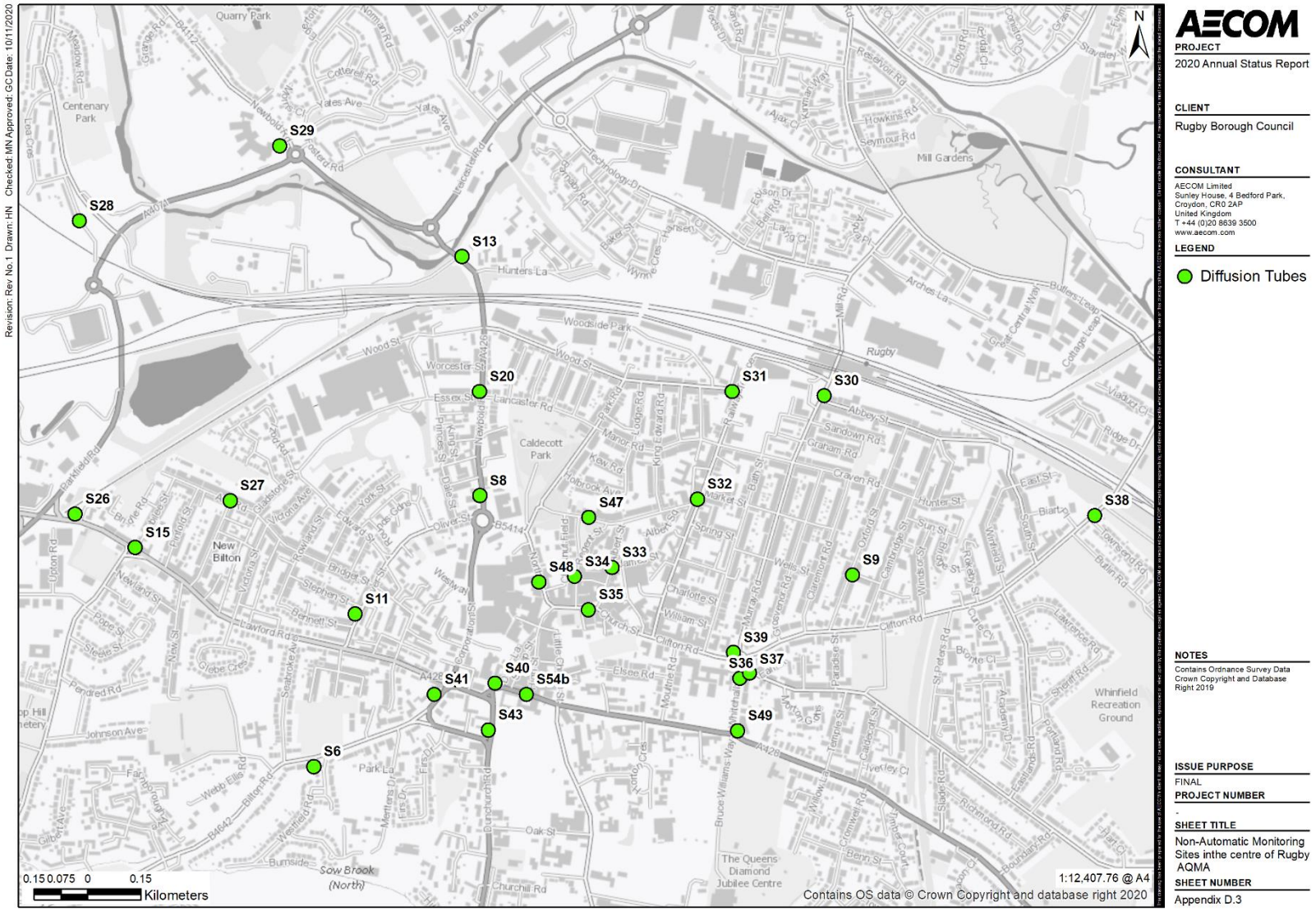


Figure D.3 – Close View Map of NO_2 Diffusion Tubes in Rugby AQMA



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England

Pollutant	Air Quality Objective[12]	
	Concentration	Measured as
Nitrogen Dioxide (NO_2)	200 µg/m^3 not to be exceeded more than 18 times a year	1-hour mean
	40 µg/m^3	Annual mean
Particulate Matter (PM_{10})	50 µg/m^3, not to be exceeded more than 35 times a year	24-hour mean
	40 µg/m^3	Annual mean
Sulphur Dioxide (SO_2)	350 µg/m^3, not to be exceeded more than 24 times a year	1-hour mean
	125 µg/m^3, not to be exceeded more than 3 times a year	24-hour mean
	266 µg/m^3, not to be exceeded more than 35 times a year	15-minute mean

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

Appendix F: Summary of Planning Applications

The most significant planning applications and allocations in the Local Plan are listed below:

1. Coton Park East – An allocation in the Local Plan for around 800 dwellings and 7.5 ha of employment land

2. Long Lawford for around 150 dwellings off the Coventry Road. A pending application in for 143 (revised from 149) dwellings ref R17/1089.

3. Gala & Cemex House, Evreux Way – An Outline application for 6255 square metres of retail and an additional 785 square metres of A1/A2/A3/A4/A5 has been approved but not yet implemented. In addition, a further planning application is being considered under reference R17/0971 for the erection of a two storey drive through restaurant and associated works for 580 square metres of floorspace.

4. Land to the north of Ashlawn Road – allowed on appeal decision for development of up to 860 dwellings and associated school. Planning Appeal Reference: APP/E3715/W/16/3147448.

5. Urban Expansion South West of Rugby – an allocation in the Local Plan for around 5,000 residential dwellings with associated infrastructure comprising of link road, health/community facility, and employment uses, including a local centre, together with primary and secondary schools. This site also covers the development proposal for Ashlawn Road.

6. Former Cattle Market, Rugby – 360 Dwellings, approved 15/09/2020 R19/0804

7. R19/1496 – 117 Newbold Road, Rugby -122 Dwellings, approved 20/08/2020

8. R19/1528 – Butler's Leap, Clifton Road, Rugby – 78 bed care home, approved 14/08/2020

9. R18/1466 – Former Herbert Gray College, Little Church St, Rugby – 78 extra care apartments and 52 bed care home, resolved to grant (legal agreement pending)

10. R19/1164 - Oakfield Recreation Ground, Bilton Road, Rugby – 62 extra care apartments, resolved to grant (legal agreement pending)

The following developments are either under construction or are completed / occupied:

1. Rugby Radio Station (SUE) – Urban extension to Rugby providing up to 6,200 dwellings, up to 130,000 m^2 of space for various land uses, including mixed use district centre, construction works are underway on all 3 Phases now with the Secondary School due to open in Sept 2021. David Lloyd Fitness Centre, including courts and swimming pools, approved 01/09/2020

2. Rugby Gateway (Eden Park) – Outline application for up to 1,300 residential units and employment zone. Phase I and the employment zone has been completed. Phase II (230 dwellings), and Phase 4 (134 dwellings) is virtually complete. Phase 3 for 146 dwellings has just received permission

3. Leicester Road/Technology Drive – permission granted for 620 dwellings. The first three phases comprised of 87 dwellings for phase 1, 40 apartments for phase 2, and 75 dwellings for phase 3 and have been completed. On the south side of the development site, three further sites were granted planning permission for Leicester Road West for 87 dwellings, Butterfield Gardens for 101 dwellings (both of which were completed) and Land South of Technology Drive was granted planning permission for 230 dwellings which represents the final phase and is under construction.

4. Cawston Extension – Outline planning permission granted for up to 600 homes under reference R11/0114. However, the site has been divided into four sections with four different developers. Each of the four sections have been substantially completed and partly occupied. The northern most section has been constructed by William Davis for 184 dwellings under reference R16/1721. The southern site has been constructed by Linden Homes for a total of 246 dwellings (from combined planning permissions of R16/1780 and R17/1885). To the east of these two sites, Redrow Homes constructed 113 dwellings (from planning permission R15/0540), whilst the furthest site to the east has been constructed by Triosquare and comprises 10 dwellings granted under combined references of R12/1947 and R16/2295 (it should be noted that these last two permissions were not part of the original outline under R11/0114). In total, these four sections comprise 553 dwellings, substantially completed, and partly occupied.

WCC as the Highway Authority for the Borough have a responsibility for tackling Air Quality. There have been instances in relation to planning applications where WCC have not considered the impact of air quality and despite concerns raised by RBC

Environmental Health WCC did not support objections. This has led to planning applications being granted that may have an adverse impact on air quality.

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
AQS	Air Quality Strategy
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_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO_2	Sulphur Dioxide