2018 Air Quality Annual Status Report (ASR)

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

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Executive Summary: Air Quality in Our Area

Air Quality in Vale of White Horse 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 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.

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

Air quality in the Vale of White Horse area is generally very good. There are however air pollution hotspots where nitrogen dioxide (NO_2) associated with traffic emissions is higher and where it has been necessary to declare an Air Quality Management Area (AQMA). These areas are typically where houses are close to busy roads and pollution can be worsened by problems with congestion.

There are three AQMAs in the district all declared because NO_2 levels (primarily from traffic) were predicted to exceed national objectives:

- In **Abingdon**, problems relate to congestion in the town centre and poor dispersion of pollutants where roads are narrow with tall buildings on either side (a "canyon" effect). Since the AQMA was declared there have been improvements to traffic management and a reduction in NO_2 levels. There are currently no exceedances of the of the NO_2 objective within the Abingdon AQMA and consideration will be given to the feasibility of revoking the AQMA. There are however concerns about pollution levels in Marcham Road outside the AQMA, which has on occasions shown exceedances.

- In **Botley**, the issues relate to the proximity of houses to a heavily trafficked primary route (the A34) which also suffers congestion issues, carries a high proportion of HGVs, and operates at above its design capacity. There seems no

obvious solution to the air quality issues in this area. Additional development is adding further traffic on to this route and congestion is commonplace. There are regular exceedances of the NO_2 annual objective at residential property close to the southbound carriageway. Additional monitoring is being undertaken in this area with a view to assessment of the benefits which could be provided by a barrier, but space and access and local considerations may not make this a practical solution. This route is operated by Highways England and we will work with them to consider any options to reduce both air pollution and the impacts of air pollution in this area.

- In **Marcham** the issues also relate to the very close proximity of houses to the busy A415. This road suffers congestion issues because it is not wide enough to allow two large vehicles to pass in opposite directions. There are regular exceedances of NO_2 objectives at properties near the pinch point. There is further development planned near to the A415 and it is hoped that further development will contribute towards funding of road improvements to allow alternative routing to by-pass Marcham. This has been a local desire for decades but has never found funding.

Regular air quality monitoring is undertaken at one automatic monitoring station and at 39 diffusion tube sites throughout the district. There is a greater concentration of monitoring in the AQMAs and this monitoring is broken down to regular and short-term monitoring sites. Short term monitoring is being undertaken at Sutton Courtenay at the request of the parish council and at Watchfield to inform on NO_2 levels near the A420. There are also additional monitoring sites in Botley to provide a better understanding of the air quality issues in the AQMA and further additional short-term sites have recently been installed in Abingdon and Watchfield.

Previous review and assessment of air quality has established that NO_2 is the only pollutant of concern in the area.

The monitoring results give an annual average for NO_2 which is adjusted for bias and assessed for compliance with the annual Air Quality Objective ($40\mu g/m^3$) and monitoring results from previous years.

In 2017, nitrogen dioxide (NO_2) levels decreased compared with previous years.

In 2017 the air quality objective “at receptor” was breached at only two of our regular monitoring sites, compared with four such sites in 2016. These were at 10 Packhorse Lane in Marcham (within the AQMA) and Stanley Close in Botley (within the AQMA). The level was not exceeded at the Marcham Road, Abingdon site this year. This site is of interest because it lies outside the Abingdon AQMA but recorded a level above the objective “at receptor” last year. Exceedance of the objective was also recorded at other short-term monitoring sites in the Botley AQMA, but it is pleasing to note that level at the Stanley Close site was lower than previous four years.

Vale of White Horse is a member of the Oxfordshire Air Quality Group which is attended by all of Oxfordshire’s local authorities to discuss local air quality issues and work together to enable change. Monitoring results from all over Oxfordshire are available from the group website:

https://oxfordshire.air-quality.info/

There is significant development planned, or in progress throughout the Vale of White Horse District and the cumulative impacts of extra traffic will impact on general air quality.

Actions to Improve Air Quality

Additional monitoring is being undertaken in Botley to confirm the distribution of the worst-case locations and to provide information with respect to the NO_2 fall off with distance and barriers, to inform consideration of the feasibility of a barrier to reduce air quality impacts in this area.

The district has been going through the development of its Local Plan and the council developer guidance in relation to air quality is now embedded within the Local Plan. Consideration is now being given to developing this into a supplementary planning document (SPD) to make the guidance clearer and more meaningful in respect of measures to offset adverse air quality impacts.

The council intends to progress low emission feasibility studies for the AQMAs. It is anticipated that an application for funding will be made in the next round of Defra air quality grant applications.

Oxfordshire County Council has secured funding for improvements to Lodge Hill interchange on the A34. This should have a positive impact on Abingdon AQMA.

We have engaged with local schools with a view to encouraging active transport (walking/cycling) and engaged with Abingdon Carbon Cutters and Oxford Student Consultancy to investigate active transport.

Since the last ASR additional monitoring has commenced at schools in Botley and North Hinksey, and in Sutton Courtenay, Watchfield and Abingdon. This has been at the request of parish councils and schools and to provide a better spread of air quality monitoring.

During 2018/19 we intend to identify monitoring sites with stickers containing QR codes linked to sampling results for the Oxfordshire Air Quality website funded by Councils across Oxfordshire. We are also in the early stages of working on an anti-idling campaign with other Oxfordshire councils.

Conclusions and Priorities

- This year exceedances were recorded at facades of only two sites as opposed to four in 2016. Both are sites are within existing AQMAs, at Packhorse Lane, Marcham and Stanley Close, Botley. Abingdon AQMA experienced no exceedances in 2017 and the Marcham Road Abingdon site which showed an exceedance in 2016 was below the objective at façade of the nearest property in 2017.

- The long-term trend for most sites is that NO_2 levels appear to be showing a slow but steady overall decline. In the Abingdon AQMA there have been no exceedances of the air quality objective in the last five years. In view of this, further consideration could now be given to revoking the AQMA which would require further assessment and modelling. This will be dependent on the availability of funding and resources.

- There are several large developments planned or progressing in VWHDC which could potentially have a cumulative impact on air quality. Our planning department

have undertaken in-house AQ training so that potential air quality issues are highlighted. Involvement with planners in the production of Supplementary Planning Guidance on air quality should ensure that is fit for purpose.

• A district wide AQAP was approved in 2015. This contains measures for consideration or implementation, targeted at reducing local air quality emissions and improving air quality in the district.

We have identified the following actions from the AQAP as priorities for the next year.

- AQAP 1: begin creation of a Low Emission Strategy(LES)/Low Emission Zone(LEZ) feasibility study for VWHDC.
- AQAP M1: begin creation of a Marcham LEZ feasibility study. This will identify further actions to reduce vehicle emissions in this AQMA.
- AQAP 10: In addition to these actions, we hope to engage with more community involvement projects and schools to promote active transport.
- AQAP 7: Review of council and contractor's vehicle fleet. This will establish routes to reduce our vehicle emissions.
- It is several years since the AQAP was approved and this should now be reviewed to ensure that it is still appropriate and properly focussed.
- With the air quality 'developer guidance' embedded into the Local Plan work should continue to revise, formalise and develop this into a Supplementary Planning Guidance Document.
- There is large scale development planned and in progress which is likely to impact on the A415 and the Marcham AQMA. We have raised concerns with the council forward planning team in the hope of offsetting the potential impacts.
- We intend to submit air quality grant applications in respect of funding for barrier modelling at Botley and Low Emission Strategy for the AQMAs. Further development of these initiatives will depend on funding availability.

Local Engagement and How to get Involved

VWHDC has been working with local groups to promote the use of active transport (walking, biking) to school. There is much local interest in improving air quality, especially from young families.

We have engaged with parish and town councils. There is a lot of concern over cumulative air quality impacts from the developments planned for VWHDC.

We support two schools which are undertaking their own air quality monitoring with diffusion tubes.

As most air pollution of concern in VWHDC is the result of traffic emissions, we can all do our bit to reduce emissions by not using a car unless needed. Walking, cycling, taking public transport or car sharing rather than driving an otherwise empty car will reduce vehicle emissions - and active transport will improve health too!

Real-time air quality data and further information on levels where you live are available at the Oxfordshire Air Quality Group(OAQG) website: https://oxfordshire.air-quality.info/

During 2018/19 we intend to fix stickers to sampling sites with QR codes linked to the OAQG website, so that members of the public can easily check levels of local air quality in the area. We will also be working with other Oxfordshire authorities in developing a county wide anti-idling campaign.

For information on cycling and air quality, visit:

www.sustrans.org.uk/what-you-can-do/use-your-car-less/join-air-quality-movement

Oxfordshire is home to many cycling groups, and advice on cycling in the area can be sought from the Oxfordshire Cycling Network and Cycling UK: http://cyclingukoxfordshire.org/campaign

Abingdon Carbon Cutters are a friendly and active group who aim to reduce the carbon footprint of Abingdon:

www.abingdoncarboncutters.org.uk

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1 Local Air Quality Management

This report provides an overview of air quality in Vale of White Horse DC during 2017 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 Vale of White Horse DC 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 Vale of White Horse District Council can be found in Table 2.1. Further information related to declared AQMAs, including maps of AQMA boundaries, monitoring sites and recorded results, are available online at

https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=290

Alternatively, see (APPENDIX D): Maps of regular monitoring locations

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
Abingdon	23/08/2006	NO_2 Annual Mean	Abingdon	Major town centre roads	NO	63.2 (High St, modelled)	µg/m^3	33.3 Stratton Way	µg/m^3	District Air Quality Action Plan	2015[4]	
Botley	29/04/2008	NO_2 Annual Mean	Botley	Residential properties close to the A34 in Botley	YES	58.8 (Stanley Close)	µg/m3	50.8	µg/m^3	District Air Quality Action Plan	2015[4]	
Marcham	15/06/2015	NO_2 Annual Mean	Marcham	Residential properties In Marcham near A415	NO	53.9 (10 Packhorse Lane)	µg/m3	42.7	µg/m^3	District Air Quality Action Plan	2015[4]	

[1] Available from: http://www.whitehorsedc.gov.uk/sites/default/files/Vales%20District%20AQAP.pdf Vale of White Horse District 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 Vale of White Horse District Council

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

1. **- 'The single result outside of the Abingdon AQMA suggests that additional monitoring sites should be considered in this area, and the AQMA boundary amended as appropriate.'**

Results for the Marcham Road Abingdon monitoring site, which exceeded the objective in 2016 declined to below the objective level in 2017. An additional monitoring site has been established this year at a nearby location. There is no need to extend the AQMA at this time. Monitoring will continue in this area and further considerations will depend on the outcome of current and future monitoring.

2. **- 'The status of many measures as reported in Table 2.2 is uncertain. This table should be used to reflect the updates to measures on an annual basis. It is not clear how many of the current measures are active and within current funded programmes. It would also be instructive to know to what extent traffic management measures are being actively employed in AQMA's.'**

Table 2.2 has been revised to be more relevant.

3. **- 'Persistent high levels remain within the Botley AQMA, the Council needs to work with Highways England to consider further effective measures to achieve the air quality objectives.'**

This point is noted the council has engaged with Highways England in respect of additional monitoring in Botley and engaged historically about the issues with the A34. But the fact of the matter is that there are no easy answers in respect of this stretch of road. We will review our engagement with Highways England.

4. **– 'The distance correction calculation has been applied to results in Table B1, but not correctly reported in Table 2.1. The corrected results for Abingdon should read 34.6, not 43.3ug/m3, and the results for Botley should read 57.4, not 52.5ug/m3.'**

This has been noted and corrected.

Vale of White Horse District Council has taken forward a number of direct measures during the current reporting year of 2017 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2.

- **AQAP 1**: begin creation of an LES/LEZ feasibility study for VWH.
- **AQAP M1**: begin creation of a Marcham LEZ feasibility study. This will identify further actions to reduce vehicle emissions in this AQMA.

  Application for AQ grant funding for LES/LEZ worked on but not submitted due to lack of time. This will hopefully be progressed during the next grant cycle.
- **AQAP 10**: In addition to these actions, we will engage with more community involvement projects and schools to promote active transport.

  Community engagement with schools, parish councils and local groups. Setting up diffusion tube monitoring and promoting active travel.
- **AQAP 7**: Review of council and contractor's vehicle fleet. This will establish routes to reduce our vehicle emissions.

  The council does not have a fleet of vehicles. Biffa are the councils waste contractors and they have undertaken work to deliver a 5% reduction in fuel use.

The council intends to progress low emission feasibility studies for the AQMAs. An air quality grant application should have been made last year to fund this work but was not able to be progressed due to the brief time period to submit the grant application along with obtaining a declaration in respect of state-aid implications. It is anticipated that a grant application will be made as a part of the next Defra air quality grant cycle which is expected in November 2018.

Oxfordshire County Council has secured funding for improvements to the north Abingdon access to the A34 at Lodge Hill. The scheme proposes to deliver a highway interchange by adding new south-facing slips in addition to the existing A34 north-facing slips at Lodge Hill, north Abingdon. The new slips will optimise the capacity on the junction and will include roundabouts to significantly improve the network and reduce local congestion. This will create a new access to and from the A34. New direct routes from north Abingdon to access the A34, reducing journey times and mileage and reducing the need to travel through and reduce congestion in

Abingdon AQMA and reduce emissions in the area. However, this may add further traffic to the A34 and have impacts on the Botley AQMA.

Community engagement has led to involvement in a project at a local primary school to make parents aware of air quality issues in the area, and encourage a shift to active transport to schools (walking, cycling) rather than driving.

We have also been involved in a project with Abingdon Carbon Cutters and the Oxford Student Consultancy to investigate how parents bring their children to school in Abingdon and encourage more walking and cycling.

A review of monitoring in Botley has led to a concentration of monitoring at the most vulnerable properties. It is hoped that the data gathered will provide evidence to support projects to improve air quality on the A34 in this area. New monitoring has been initiated in Sutton Courtenay and the A420 at Watchfield. Additional sites have also been added in Abingdon in Marcham Road and in the AQMA.

We expect to continue to progress the measures outlined above.

Vale of White Horse District Council's priorities for the coming year are:

- Submission of AQ grant applications to develop LES/LEZ feasibility studies and a feasibility study for a protective barrier in Botley
- Continue to develop the Supplementary Planning Document

The principal challenges and barriers to implementation that Vale of White Horse District Council anticipates facing are:

In Botley the options for emissions reduction are very limited. The A34 is a principal four lane dual carriageway route linking the M3 with the M40. It carries a lot of container traffic from the south coast ports enroute to the midlands. The A34 operates over capacity and congestion is commonplace. In this stretch there is a speed limit of 50mph (which is close to the optimum for minimising emissions). In Botley there are houses very close to the kerbside of the A34 and exceedances of the objective continue at properties close to the southbound carriageway, with Stanley Close recording the highest level.

An LEZ covering this part of the A34 may not be considered feasible due to the importance of the road and the lack of practical alternative routes. In view of this limiting the impacts of emissions may be the only viable option, and a conceivable way of achieving this could be a barrier. Further monitoring is being undertaken to inform on the feasibility of a barrier introducing any benefits in practice. Whether it would be feasible to install a barrier given the space and access constraints is a separate consideration and could be challenging. The council has no funding allocated for developing this work. So further work could be dependent on AQ grant funding.

Similarly, the council has no funding allocated for LES/LEZ feasibility studies and progress on developing these is likely to be dependent on AQ grant funding.

Vale of White Horse District Council anticipates that the measures stated above and in Table 2.2 will achieve compliance in Abingdon AQMA.

Whilst the measures stated above and in Table 2.2 will help to contribute towards compliance in the Botley and Marcham AQMAs. Vale of White Horse District Council anticipates that further additional measures not yet prescribed will be required in subsequent years to achieve compliance and enable the revocation of Botley and Marcham AQMAs. In both these areas the issues relate to the proximity of housing to ‘A’ roads carrying more than local traffic. Air quality is likely to remain a problem in these AQMAs unless traffic can be redirected to alternative routes or alternative routes can be created. Alternative routes for the A34 are not a practical option and for Marcham consideration has been given to re-directing HDVs to an alternative route but the County Council do not consider this a viable option.

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
1	Creation of a 'low emission strategy' and 'low emission zone' feasibility study	Promoting Low Emission Transport	Low Emission Zone (LEZ)	VWHDC	2017/18		Feasibility study	-	Air Quality Grant Application prepared	Depends on whether we get funding	Priority
2	Installation of electric vehicle recharging points	Promoting Low Emission Transport	Promotion of LEV charging point installation	VWHDC		ongoing	No of LEV charging points		Encouragement through Planning process and council car parking initiatives	ongoing	
3	Parking permit & pricing incentives for green vehicles	Promoting Low Emission Transport	Priority parking for LEV's	VWHDC	2018/19		Priority parking in place	-	Being actively considered		
4	Feasibility study for freight transport consolidation centre (FCC) / freight quality partnership	Vehicle Fleet Efficiency	Fleet efficiency and recognition schemes	VWHDC/OCC	2018/19		Feasibility study	-	None		Not considered high priority for Abingdon. Not relevant to Botley and Marcham
5	Taxi licensing incentives for green vehicles	Promoting Low Emission Transport	Taxi emission incentives	VWHDC			No. LEV taxis	-	LEV licensing incentives in place in place		Review as part of licensing review

6	Improved use and enforcement of traffic regulation orders	Traffic Management	Other	OCC	-	-	Idling campaign to be promoted county wide	-	Talks in Progress	Unknown	Just being initiated
7	Review of the council and contractors fleet	Vehicle Fleet Efficiency	Reducing impacts for council contractors fleet	VWHDC	-	-	Reduction in fuel usage		Waste collection contractors have secured a 5% reduction in fuel usage		
8	Eco driver training	Vehicle Fleet Efficiency	Driver training and ECO driving aids	VWHDC	2018/19		Number of drivers trained	-	None		Being considered for council waste contractors
9	Air quality planning guidance	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	VWHDC		2017/18	Incorporation of guidance in local plan	-	Developers guidance document drafted and incorporated into Local Plan document	When new local plan is approved 2018	Incorporated into Local Plan. Now being developed into an SPD
10	Community involvement projects	Public Information	OAQG Website	Oxfordshire councils			Website usage	-	Completed		Externally hosted site. Difficult to update. Needs maintenance and someone to take overall responsibility.
11	Introduce south facing slip roads to Lodge Hill interchange	Traffic Management	Strategic highway improvements, Re-prioritising road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	OCC			Completion of highway projects	-	Lodge Hill interchange improvements planned and funded.		The Lodge Hill project now has funding and large-scale development in North Abingdon is dependent on its implementation. Construction work has not yet started. Priority bus lanes are not feasible in AQMAs.

B1	Assess Feasibility of Barriers	Other	Other	VWHDC/HE							Monitoring in progress to inform a feasibility study
M1	Marcham Low emission zone feasibility study	Promoting Low Emission Transport	Low Emission Zone (LEZ)								Will be included as part of district wide LES/LEZ feasibility study
M2	Marcham Weight restriction limit	Traffic Management	Strategic highway improvements, Re-prioritising road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	OCC							OCC have advised that initial considerations indicate that is not feasible
M3	Marcham by-pass	Traffic Management	Strategic highway improvements, Re-prioritising road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane								Long held wish for a bypass. Proposed route has been 'saved' but unlikely to be built unless there is significant development to fund it
12	Low Emission Strategy (LES)	Promoting Low Emission Transport	Other	VWHDC/OCC			Uptake of LEVs	-	Ongoing		Promotion through planning process

13	LES	Promoting Travel Alternatives	Personalised Travel Planning	OCC				-			Promoted via OCC website
14	LES	Promoting Travel Alternatives	Promotion of cycling	OCC				-			Promoted via OCC website
15	LES	Promoting Travel Alternatives	Promotion of walking	OCC				-			Promoted via OCC website
16	LES	Promoting Travel Alternatives	School Travel Plans	OCC			All plans in place	-	Completed		Promoted via OCC website
17	LES	Promoting Travel Alternatives	Workplace Travel Planning	OCC			No. plans in place	-	Ongoing		Promoted via OCC website
18	LES	Traffic Management	UTC, Congestion management, traffic reduction	OCC			Improvements to traffic flow	-	Completed in Abingdon		Traffic management has improved congestion and emissions in the Abingdon town centre street canyons, by holding traffic up beyond the worst affected areas. Reductions in NO_2 in centre of Abingdon now no exceedence of objectives and revocation of AQMA being considered.
19	LES	Transport Planning and Infrastructure	Bus route improvements	OCC			Completion of project	-	Layovers relocated in Abingdon completed. Real time bus information at stops.		Completed and has contributed to easing congestion issues in central Abingdon street canyons.

20	LES	Transport Planning and Infrastructure	Cycle network	OCC			Miles of cycle network	-	Many cycle routes already established		Sustrans route through Abingdon
21	LES	Vehicle Fleet Efficiency	Promoting Low Emission Public Transport	OCC			No. low emission buses	-	Many low emission buses in Abingdon		Most buses using Abingdon must be low emission in order to be able to access Oxford LEZ
22	LES	Alternatives to private vehicle use	Car & lift sharing schemes	OCC		ongoing	Car share usage	Not quantifiable	Ongoing	ongoing	Promoted via OCC website
23	LES	Alternatives to private vehicle use	Car Clubs	OCC		ongoing	Car club usage	-	Ongoing	ongoing	Promoted via OCC website

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.

Vale of White Horse District Council does not undertake any monitoring of $PM_{2.5}$ or PM_{10}. Previous review and assessment reports indicated that particulates were not a significant problem in the district.

The need to reduce particulate emissions where possible is recognised. There is a relationship between $PM_{2.5}$ and NO_2 from vehicle emissions.
For this reason, many of our actions to tackle NO_2 will also impact on $PM_{2.5}$ levels in the district, and they could therefore be reduced through our current actions.
Other actions that work towards reducing particulates are:

- Particulate emissions from relevant potentially polluting processes are controlled by permit conditions under the LAPC regime.
- There are no specific local measures in place targeted at reducing PM2.5 from vehicles, however there are national requirements for particulate traps for modern diesel vehicles.
- As part of the planning process, large construction sites are required to have and implement a dust management plan.

There are no smoke control zones in the district. Domestic smoke is not thought to be a significant issue in this largely rural district.

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.

Vale of White Horse District Council undertook automatic (continuous) monitoring at one site during 2017. Table A.1 in Appendix A shows the details of the site.

NB. Local authorities do not have to report annually on the following pollutants: 1,3 butadiene, benzene, carbon monoxide and lead, unless local circumstances indicate there is a problem. These pollutants have been assessed historically and are not a problem in Vale of White Horse district.
National monitoring results are available at https://uk-air.defra.gov.uk/interactive-map

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on how the monitors are calibrated and how the data has been adjusted are included in Appendix C.

3.1.2 Non-Automatic Monitoring Sites

Vale of White Horse District Council undertook regular non-automatic (passive) monitoring of NO_2 at 39 sites during 2017, 31 sites are regular monitoring locations and the others are short-term monitoring sites. Table A.2 in Appendix A shows the details of these sites.

A review of monitoring sites was conducted in December 2016 and some sites that are below the Air Quality Objective and showing a long-term steady or downward trend were removed. New sites have been added since the ASR 2017 at Botley and South Hinksey Primary Schools, at Henry Liddon House, Marcham Road Abingdon and CYPS Stratton Way Abingdon.

Maps showing the location of the principle monitoring sites are provided in Appendix D and on our website: https://oxfordshire.air-quality.info. 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” and distance correction. Further details on adjustments are provided in Appendix C.

3.2.1 Nitrogen Dioxide (NO_2)

Table A.3 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 40µg/m^3.

For diffusion tubes, the full 2017 dataset of raw monthly mean values is provided in Appendix B.

Table A.4 in Appendix A compares the ratified continuous monitored NO_2 hourly mean concentrations for the past 5 years with the air quality objective of 200µg/m^3, not to be exceeded more than 18 times per year.

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Inlet Height (m)
Masons	Masons 39 Stert St Abingdon	Roadside	449790	197180	NO_2	YES	Chemiluminescent	0	3.6	3

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 – Details of Non-Automatic Monitoring Sites

Site Ref	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Inlet Height (m)
S01/02/03	Masons Stert Street, colocation	R	449849	197169	NO2	Y	Diffusion tube	0	3.6	3
S04	High Street	R	449632	197062	NO2	Y	Diffusion tube	4	1	2.5
S05	Ock Street Baptist Church	R	449452	197047	NO2	Y	Diffusion tube	3.5	2	2.5
S06	Stratton Way	R	449697	197343	NO2	Y	Diffusion tube	6.5	2.5	2.5
S07	Vineyard	R	449926	197439	NO2	Y	Diffusion tube	3	2	2.5
S08	Turner Road	B	448869	196180	NO2	N	Diffusion tube	N/A	N/A	2.5
S09	Drayton Road LP 7	R	448791	196725	NO2	N	Diffusion tube	6	2	2.5
S10	Ock Street Drama Club	R	448828	196966	NO2	N	Diffusion tube	3.5	1.5	2.5
S11	Marcham Road LP 5	R	448738	196967	NO2	N	Diffusion tube	3	2	2.5
S12	97 Ock Street LP 12	R	449225	196992	NO2	N	Diffusion tube	0.2	1.5	2.5
S13	Drayton Road LP1	R	448842	196939	NO2	N	Diffusion tube	N/A	N/A	2.5
S14	Spring Rd LP2	R	448846	196992	NO2	N	Diffusion tube	0	1.5	2.5

S15	24 Mill Road	B	445522	196470	NO2	N	Diffusion tube	N/A	N/A	2.5
S16	10 Packhorse Lane	R	445552	196639	NO2	Y	Diffusion tube	0	0.6	2
S17	4 Frilford Road	R	445456	196623	NO2	Y	Diffusion tube	0.5	0.5	2.5
S18	4 Packhorse Lane	R	445528	196628	NO2	Y	Diffusion tube	0	1.8	2.5
S19	13 Packhorse Lane	R	445571	196675	NO2	Y	Diffusion tube	7.5	2	2.5
S20	Rafters B&B Abingdon Road	R	445875	196657	NO2	Y	Diffusion tube	3	0.6	2.5
S21	Stanley Close	R	448913	205813	NO2	Y	Diffusion tube	-3	10	2.5
S22	Westminster Way	R	448866	205807	NO2	Y	Diffusion tube	5	9	2.5
S23	Hutchcomb Road	B	447711	205634	NO2	N	Diffusion tube	N/A	N/A	2.5
S24	4 Yarnells Road The Willows Downpipe	R	449008	205729	NO2	Y	Diffusion tube	0.2	13.3	2
S25	4 Yarnells Road The Willows Fence	R	449003	205724	NO2	Y	Diffusion tube	10	3.4	2.5
S26	61 Southern Bypass	R	448894	205826	NO2	Y	Diffusion tube	0	8.5	2
S27	63 Southern Bypass	R	448918	205806	NO2	Y	Diffusion tube	0	9.5	2
S28	71 Southern Bypass (Flats)	R	448991	205745	NO2	Y	Diffusion tube	0	16	2
S29	65 Southern Bypass (Timbers)	R	448947	205781	NO2	Y	Diffusion tube	0	9	2
S30	63 Southern Bypass (fence)	R	448913	205798	NO2	Y	Diffusion tube	8	2	2

S31	Bath Street	R	449585	197273	NO2	Y	Diffusion tube	0	1.5	2.5
S32	Folly View Road	B	428682	194571	NO2	N	Diffusion tube	N/A	N/A	2.5
S33	Town Hall / Central Faringdon	R	428823	195554	NO2	N	Diffusion tube	7	2	2.5
S34	Sutton Courtenay Jct	R	450888	194358	NO2	N	Diffusion tube	13	1.5	2.5
S35	Sutton Courtenay Mill House	R	450587	194391	NO2	N	Diffusion tube	0	2.5	2.5
S36	Watchfield crossing	R	424271	190641	NO2	N	Diffusion tube	N/A	1.5	2.5
S37	Copenhagen Drive	R	448364	197836	NO2	N	Diffusion tube	N/A	N/A	2.5
S38	Market Square / Central Wantage	R	439807	187941	NO2	N	Diffusion tube	0	1.5	2.5
S39	Hampden Road	B	440409	188319	NO2	N	Diffusion tube	N/A	N/A	2.5

Notes:

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

(2) N/A if not applicable.

Table A.3 – Annual Mean NO_2 Monitoring Results

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2017 (%) (2)	NO_2 Annual Mean Concentration (µg/m^3) (3)				
					2013	2014	2015	2016	2017
Masons Stert Street, colocation	Facade	Chemiluminence continuous		99.1	31	29	28	30.4	25
S01/02/03	Facade	Diff tube (co-location)		100	30.2	30.1	28.0	30.0	24.4
S04 High St	Kerbside	Diff tube		100	38.2	**40.3**	38.8	**43.3**	37.1
S05	Kerbside	Diff tube		100	34.1	35.2	31.6	35.0	29.8
S06 Stratton Way	Kerbside	Diff tube		58	38.1	**46.8**	**45.1**	**45.8**	**42.3**
S07	Kerbside	Diff tube		75	38.6	39.6	37.0	39.0	31.2
S08	Background	Diff tube		92	15.5	14.9	13.6	16.6	13.8
S09	Kerbside	Diff tube		75	29.4	28.2	29.4	34.7	28.6
S10	Kerbside	Diff tube		92	30.8	34.0	33.4	36.8	32.6
S11 Marcham Rd	Kerbside	Diff tube		75	**45.4**	**46.3**	**44.2**	**46.8**	**40.1**
S12	Facade	Diff tube		100	28.7	31.6	29.3	31.2	25.7
S13	Kerbside	Diff tube		83			37.7	37.4	27.5
S14	Kerbside	Diff tube		100			32.4	37.0	31.6
S15	Background	Diff tube		92		10.8	10.5	13.5	10.8
S16 10 Packhorse Lane	Facade	Diff tube		100		**49.9**	**47.7**	**53.1**	**42.7**
S17	Kerbside	Diff tube		100	39.0	39.2	38.7	**44.8**	37.8

4 Frilford Rd									
S18	Kerbside	Diff tube		100	35.0	30.1	29.6	33.2	25.9
S19 13 Packhorse Lane	Kerbside	Diff tube		100	39.9	38.4	38.0	**40.4**	34.8
S20	Kerbside	Diff tube		100	36.9	39.3	36.5	36.9	30.6
S21 Stanley Close	Kerbside	Diff tube		100	**46**	**53**	**48**	**53**	**46**
S22	Kerbside	Diff tube		100	38	40	32	39	32
S23	Background	Diff tube		100	15	14	13	16	12
S24 Yarnells Rd facade	Facade	Diff tube		100				**40**	**41**
S25 Yarnells Rd fence	Kerbside	Diff tube		100				**104**	**90**
S26	Facade	Diff tube		100					39
S27	Facade	Diff tube		100					36
S28	Facade	Diff tube		92					35
S29	Facade	Diff tube		83					33
S30 63 Southern by-pass fence	Kerbside	Diff tube		100					**72**
S31	Facade	Diff tube		100	31.8	33.7	27.8	28.9	24.0
S32	Kerbside	Diff tube		92	11.6	10.6	9.8	15.2	11.6
S33	Kerbside	Diff tube		100	24.7	24.3	24.7	27.7	23.7
S34	Kerbside	Diff tube		100					22.5
S35	Facade	Diff tube		100					24.0
S36	Kerbside	Diff tube		92					25.3

S37	Kerbside	Diff tube		100	35.0	37.6	34.2	36.4	31.0
S38	Kerbside	Diff tube		100	26.6	26.8	23.6	27.8	24.2
S39	Background	Diff tube		92	10.6	9.3	10.3	12.3	10.0

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**.

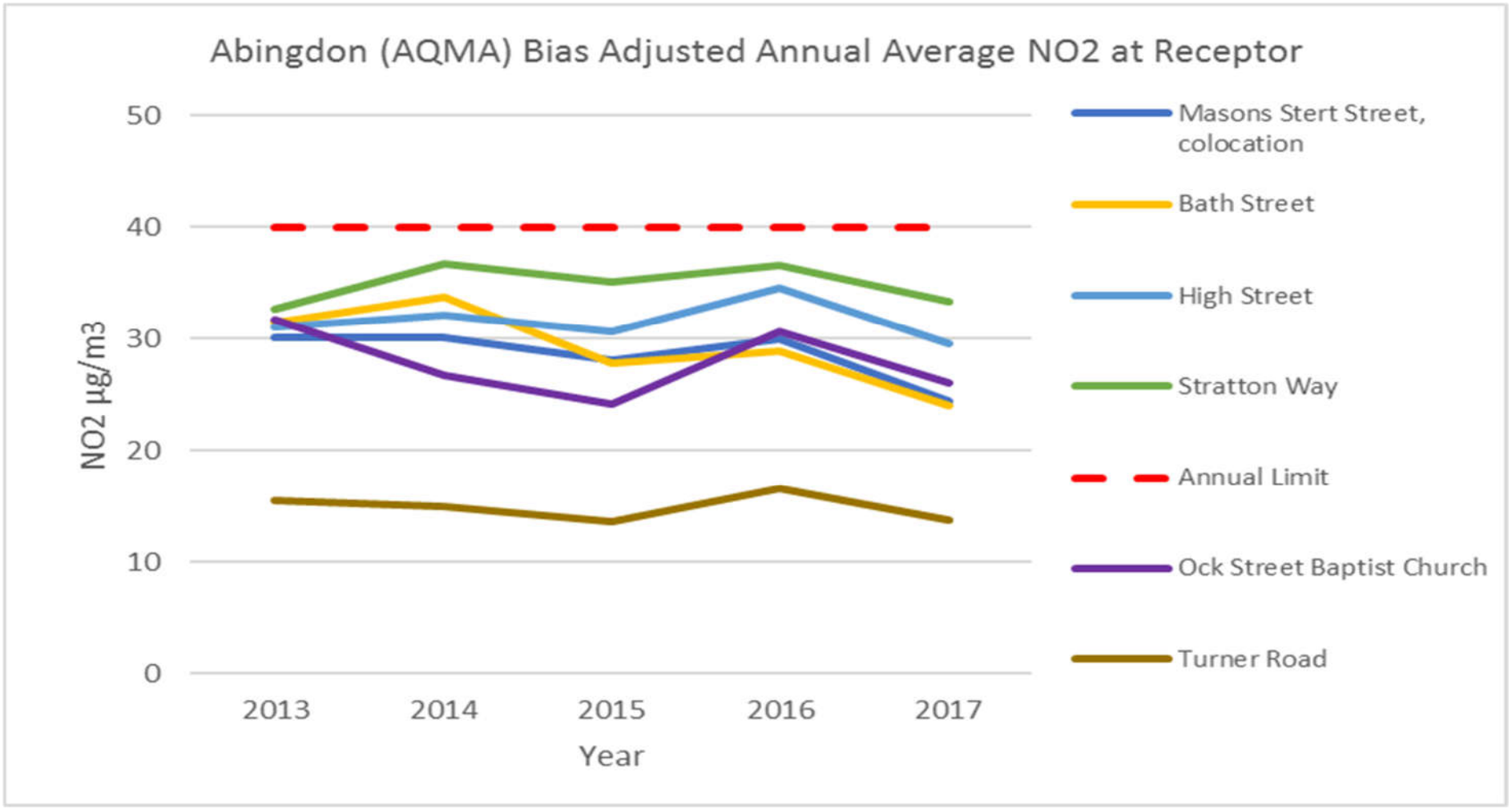
NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined.**

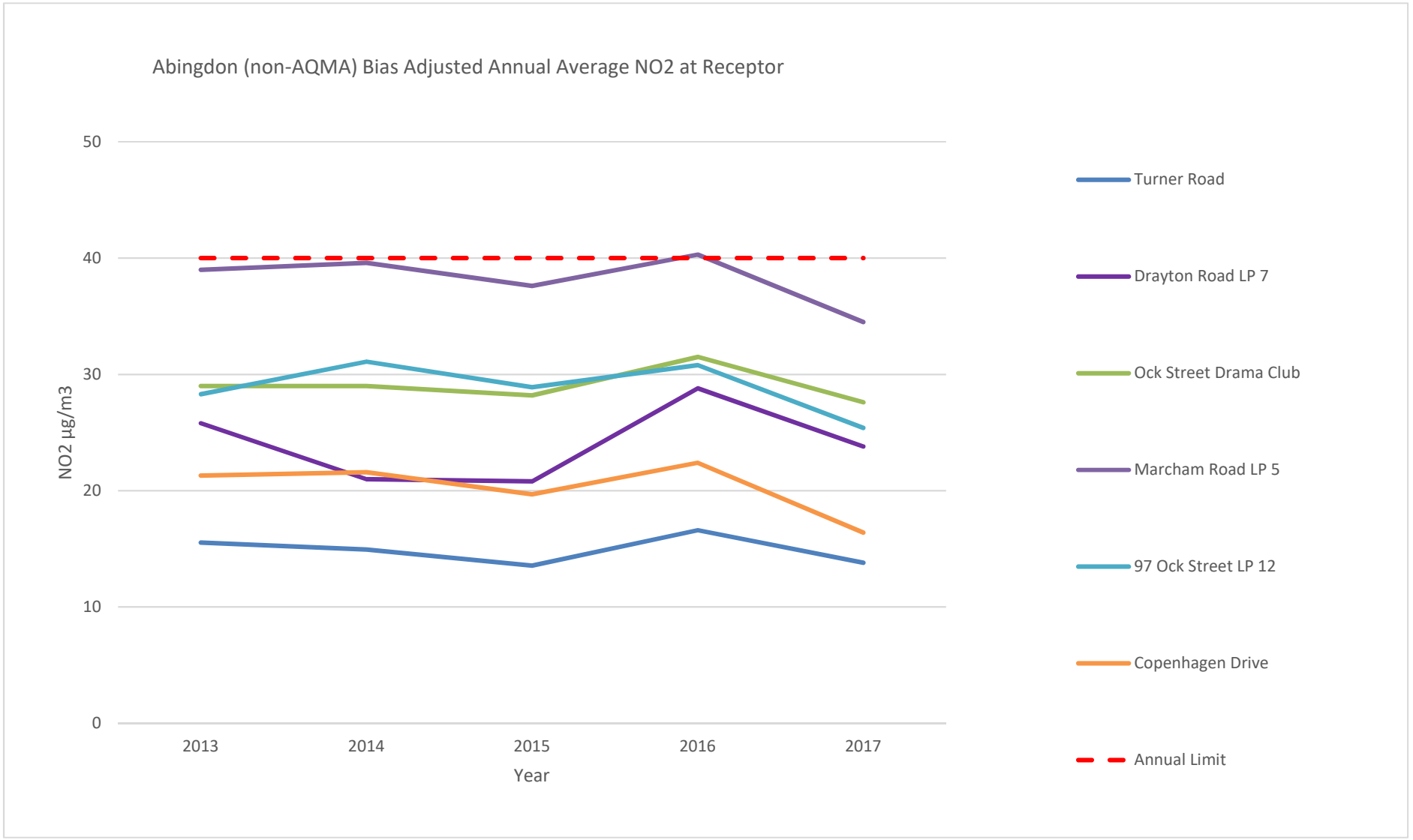
(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

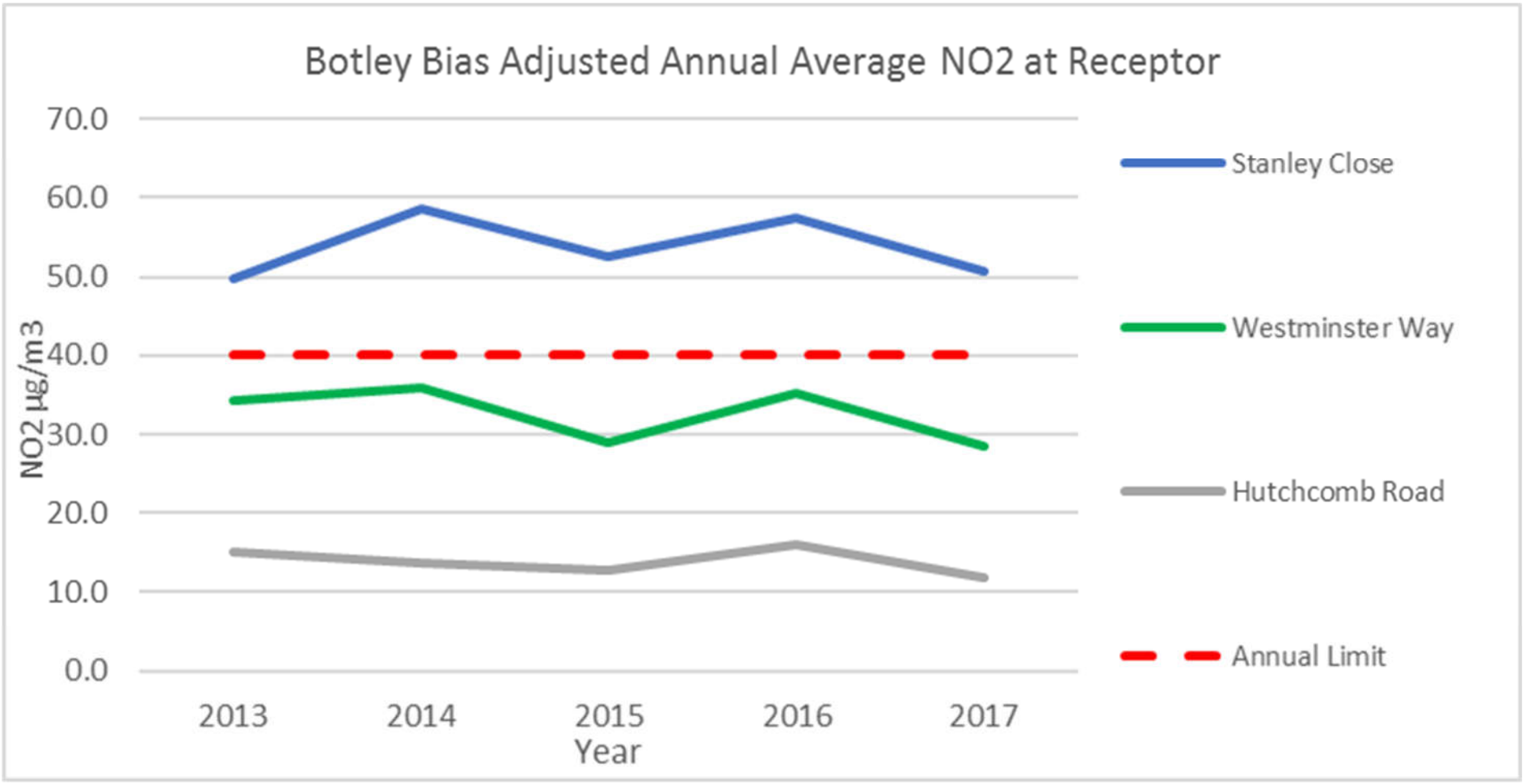
(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

(3) Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per Boxes 7.9 and 7.10 in LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Figure A.1 – Trends in Annual Mean NO_2 Concentrations




Abingdon (non-AQMA) Bias Adjusted Annual Average NO2 at Receptor
50
40
30
20
10
0
NO2 µg/m3
2013
2014
2015
2016
2017
Year
Turner Road
Drayton Road LP 7
Ock Street Drama Club
Marcham Road LP 5
97 Ock Street LP 12
Copenhagen Drive
Annual Limit


Botley Bias Adjusted Annual Average NO2 at Receptor
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
NO2 µg/m3
2013
2014
2015
2016
2017
Year
Stanley Close
Westminster Way
Hutchcomb Road
Annual Limit

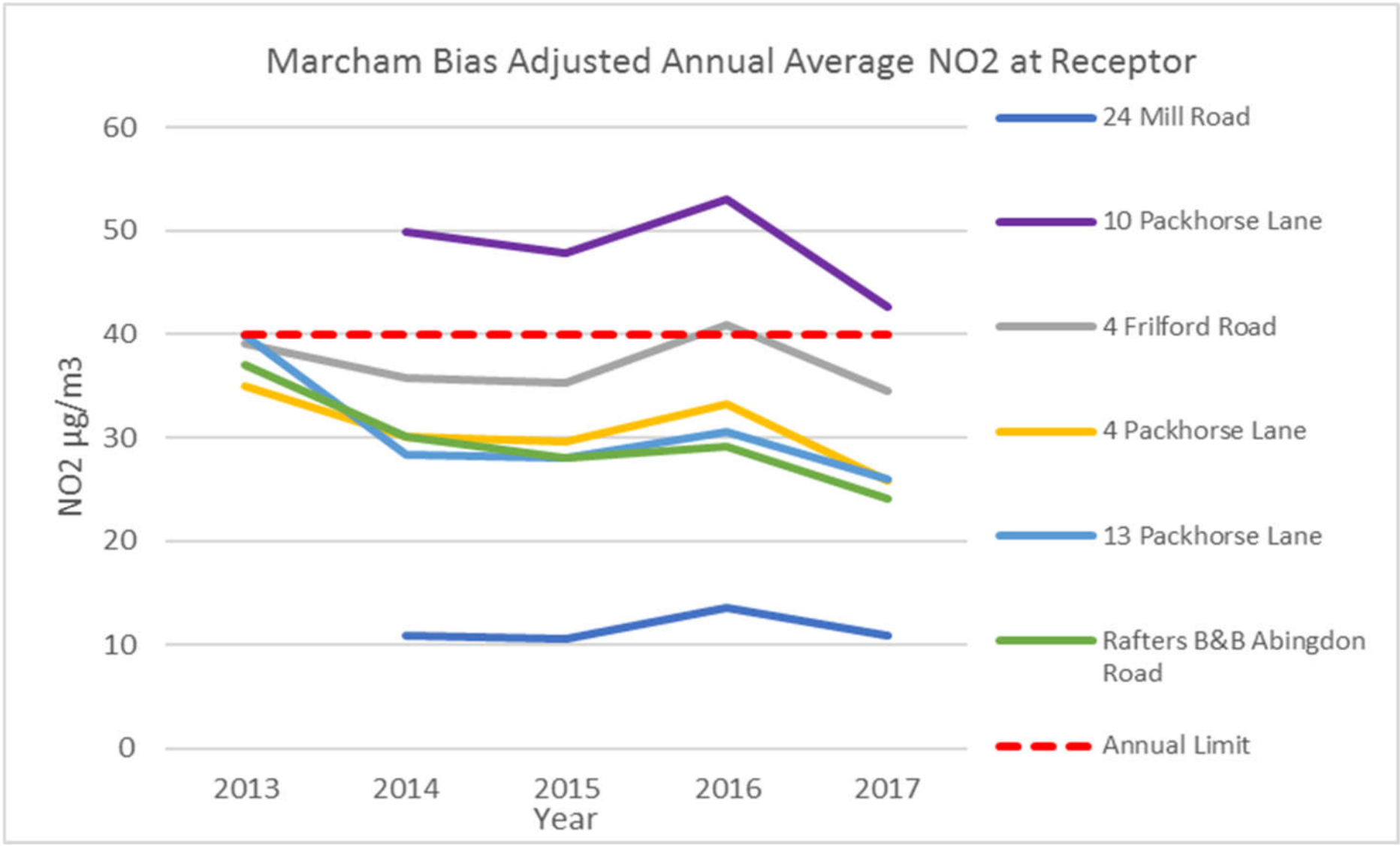

Marcham Bias Adjusted Annual Average NO2 at Receptor
60
50
40
30
20
10
0
NO2 µg/m3
2013
2014
2015
2016
2017
Year
24 Mill Road
10 Packhorse Lane
4 Frilford Road
4 Packhorse Lane
13 Packhorse Lane
Rafters B&B Abingdon Road
Annual Limit

Table A.4 – 1-Hour Mean NO_2 Monitoring Results

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2017 (%) (2)	NO_2 1-Hour Means > 200µg/m^3 (3)				
					2013	2014	2015	2016	2017
Masons Stert Street, colocation	Kerbside	Chemiluminence		99.1	0	0	0	0	0

Notes:

Exceedances of the NO_2 1-hour mean objective (200µg/m^3 not to be exceeded more than 18 times/year) are shown in **bold.**

(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) If the period of valid data is less than 85%, the 99.8th percentile of 1-hour means is provided in brackets.

Appendix B: Full Monthly Diffusion Tube Results for 2017

Table B.1 – NO_2 Monthly Diffusion Tube Results – 2017

Site ID	NO_2 Mean Concentrations (µg/m^3)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (0.78) and Annualised (1)	Distance Corrected to Nearest Exposure (2)
S01/2/3	49.8	36.7	31.6	28.7	33.2	25.8	23.2	25.4	30.7	29.4	32.4	27.2	31.2	24.4	24.4
S04	70.4	53.8	49.1	45.8	48.0	44.6	33.1	34.3	46.9	45.9	57.2	41.9	47.6	37.1	29.5
S05	52.7	42	43.6	37.4	34.6	32.2	29.4	33.9	33.5	34	50.1	34.7	38.2	29.8	26.0
S06	73.1	52.9	42.7	50.3	45.6	**missing**(4)	missing	missing	missing	missing	65.7	49.2	54.2	**42.3**	33.3
S07	64.4	missing	missing	missing	41.2	33.3	29	31.6	36.1	40.2	45.7	39	40.1	31.2	27.5
S08	32.7	22.2	18.7	14.3	14	10.5	missing	12.4	15.5	16.9	20.9	16.1	17.7	13.8	13.8
S09	53.7	42.1	41.8	35.3	missing	missing	29.4	26.1	missing	32.6	43.5	25.2	36.6	28.6	23.8
S10	60.7	45.1	44.3	41.6	36.6	34.2	34.1	30.5	40.5	missing	51.7	40.1	41.8	32.6	27.6
S11	missing	60.6	58.4	missing	53.3	missing	44	38.2	49	53.7	59.1	45.9	51.4	**40.1**	34.5
S12	48.8	40.4	33.7	32.9	34	25.2	25.4	25.2	31	30.4	39	28.9	32.9	25.7	25.4
S13	missing	39.1	missing	36.4	43.1	28.3	31.4	29	37.9	43.5	37.4	26.7	35.3	27.5	-
S14	65.9	48.5	43.3	36.9	43.6	32	29.5	27.2	37.9	39.9	46	35.5	40.5	31.6	-
S15	28.5	17	14.7	9.7	12.1	missing	6.7	11.1	12.5	13	16.8	9.9	13.8	10.8	10.8
S16	79.8	63.3	56.2	52	55.9	52.9	43.7	46.1	51.1	54.2	65	37.2	54.8	**42.7**	**42.7**
S17	68.6	48.4	49.8	49.1	44.4	42.7	41	40.9	50.9	45.9	62	38.6	48.5	37.8	34.5
S18	49.9	44.3	31.9	32.8	34	14.8	27.4	30.1	32.4	32.9	41.2	27.4	33.3	25.9	25.9

S19	45.8	50.7	44.2	43.6	46.9	37.9	33.1	38	48.2	46.9	58.1	42.2	44.6	34.8	26.0
S20	54.8	47.1	39.2	40.1	37.5	37.1	32.5	37.3	34.4	35.7	51.5	24.2	39.3	30.6	24.1
S21	63.9	50.3	72.4	56.3	50.2	53.1	50.2	62	62.5	66.1	71.8	51.8	59.2	**46.2**	**50.8**
S22	58	45.3	47.9	38.2	46.5	37.8	32.9	30.4	40.4	34.4	41.4	34.7	40.7	31.7	28.5
S23	20.3	23.6	18	13	15.6	9.7	10.6	9.9	13.5	13.8	18.7	15.4	15.2	11.8	11.8
S24	61.5	58.2	59.9	50.4	38.1	50.8	46.8	48.6	53.3	53	62.5	47.1	52.5	**41.0**	**41.0**[3]
S25	131.9	120	126.3	116	116	111.9	102.4	117.2	108.6	104.9	122.6	101.3	114.9	**89.6**	**60.9**[3]
S26	missing	54.1	52.9	55.6	41.3	45.4	47	49.6	47.2	48	60.2	46	49.8	38.8	38.8
S27	missing	42.3	57.3	48.7	37.7	39.9	41.3	43.8	47.3	50.6	54.4	44.2	46.1	36.0	36.0
S28	missing	42.3	51.6	43.3	35.8	40.3	missing	missing	45.6	46.6	55.6	39.7	44.5	34.7	34.7
S29	missing	48.5	51.3	41.7	39.8	35.7	33.6	40.5	38.8	46.2	49.7	38.3	42.2	32.9	32.9
S30	missing	85	100.4	88	90	67.9	83.9	96.3	97.9	96.3	112.7	99.4	92.5	**72.2**	**49.7**[3]
S31	42.1	29.7	37.7	26.6	36.4	27.7	24.1	21	30.6	30.7	36.2	25.9	30.7	24.0	24.0
S32	27.7	18.1	14.6	9.8	11.4	9.5	missing	9.5	11.6	13.8	21	16.4	14.9	11.6	11.6
S33	36.3	39.2	31.7	26	28.4	23	24.9	26.4	31.1	31	37.5	28.9	30.4	23.7	19.4
S34	missing	31.5	32	34.3	27.4	10.2	23.9	25.2	33.5	29.6	35.1	16.8	27.2	22.5	16.4
S35	missing	29.4	42.7	41.2	27.1	25.4	22.8	27.5	33.8	29.4	41.7	17.8	30.8	24.0	24.0
S36	missing	39.1	35.7	29.9	31.4	27.5	missing	19.4	31.9	33.3	44.9	31	32.4	25.3	25.3
S37	52.1	50.2	49.7	38.4	35.7	28.5	33.5	35.9	34.4	39.5	49	29.8	39.7	31.0	31.0
S38	42.7	34.8	35.7	25.4	28.8	23.8	23	26.2	31	28.9	40.1	31.3	31.0	24.2	24.2

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

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) Locally derived bias adjustment factor (0.78). See Appendix C for details on bias adjustment and annualisation.

(2) Distance corrected to nearest relevant public exposure.

(3)The exceedences at sites S24,25 and 30 are part of a separate monitoring study within Botley AQMA. S24 is at a façade, S25 and S30 are on boundary fences. The façade level at the Stanley Close site S21 is representative of the worst-case exposure in the Botley AQMA and is recorded as a regular monitoring site in the graphs Figure A.1.

(4) Where a diffusion tube was not present at the site in a particular month, it is recorded as 'missing' in the results box for that month.

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

The automatic continuous monitor is serviced twice a year and calibrated against known gas concentration every two weeks. Data is downloaded, assessed against the calibration record and ratified by Geoff Broughton of AQDM. Diffusion tubes containing TEA 50:50 in acetone, are placed at heights representative of public exposure where practicable. They are exposed for periods of 4-5 weeks and sent for analysis by Socotec (Formerly ESG) at Didcot, which performs well in laboratory inter-comparison WASP tests.

As diffusion tubes record higher levels than continuous automatic monitoring they need to be bias adjusted to improve accuracy. The results for each month are averaged over a year and bias adjusted using local bias adjustment factor. The local bias adjustment factor is based on the co-location of three tubes by the inlet to the automatic continuous monitor.

The ratio of the annual averages provides the local bias adjustment factor. The local bias adjustment factor of 0.78 has been used, this is slightly higher than the national bias adjustment factor of 0.77 (based on 27 studies), and represents a more conservative approach. Annual averages for each site are multiplied by the bias adjustment factor to give the more accurate bias adjusted annual averages.
Ideally, diffusion tubes would be placed at a site representative of public exposure (in most cases on the façade of adjacent properties) rather than at the roadside. However, it is not always possible to measure concentrations at the desired location for a range of practical reasons (e.g. safe access, presence of suitable surfaces to mount a diffusion tube). Where this is not possible, the NO_2 concentration at the nearest location relevant for exposure is estimated using the NO_2 fall-off with distance calculator[1] .

[1] http://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html

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

Figure 2. Central Abingdon (Abingdon AQMA) diffusion tube sites

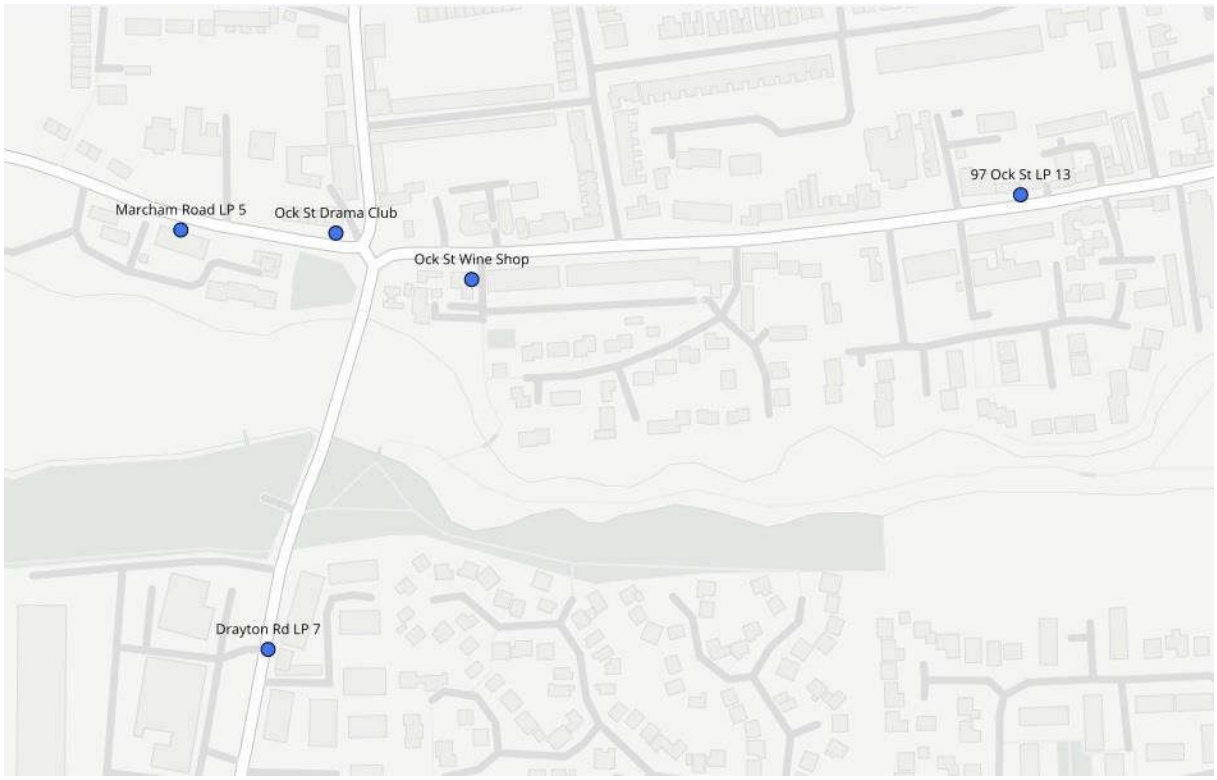


Figure 3. Abingdon (west)(outside AQMA) diffusion tube sites

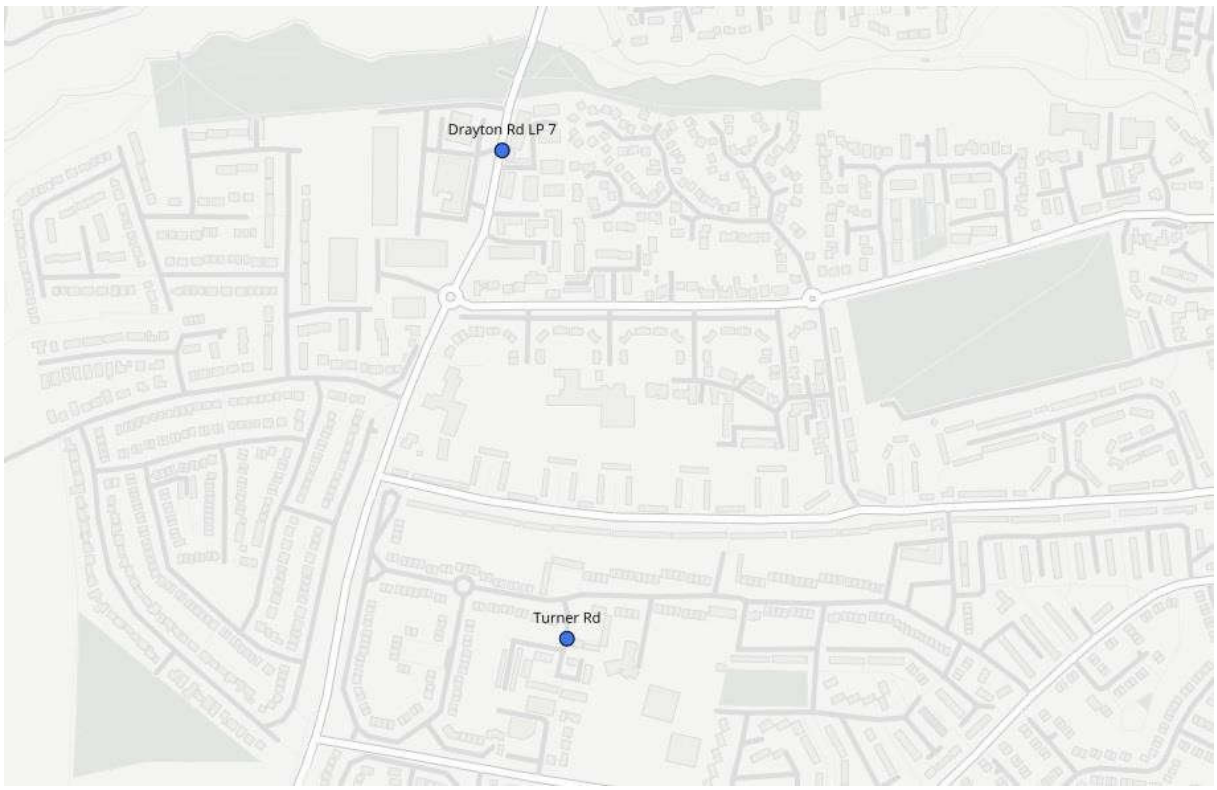


Figure 4. Abingdon (south) (outside AQMA) diffusion tube sites

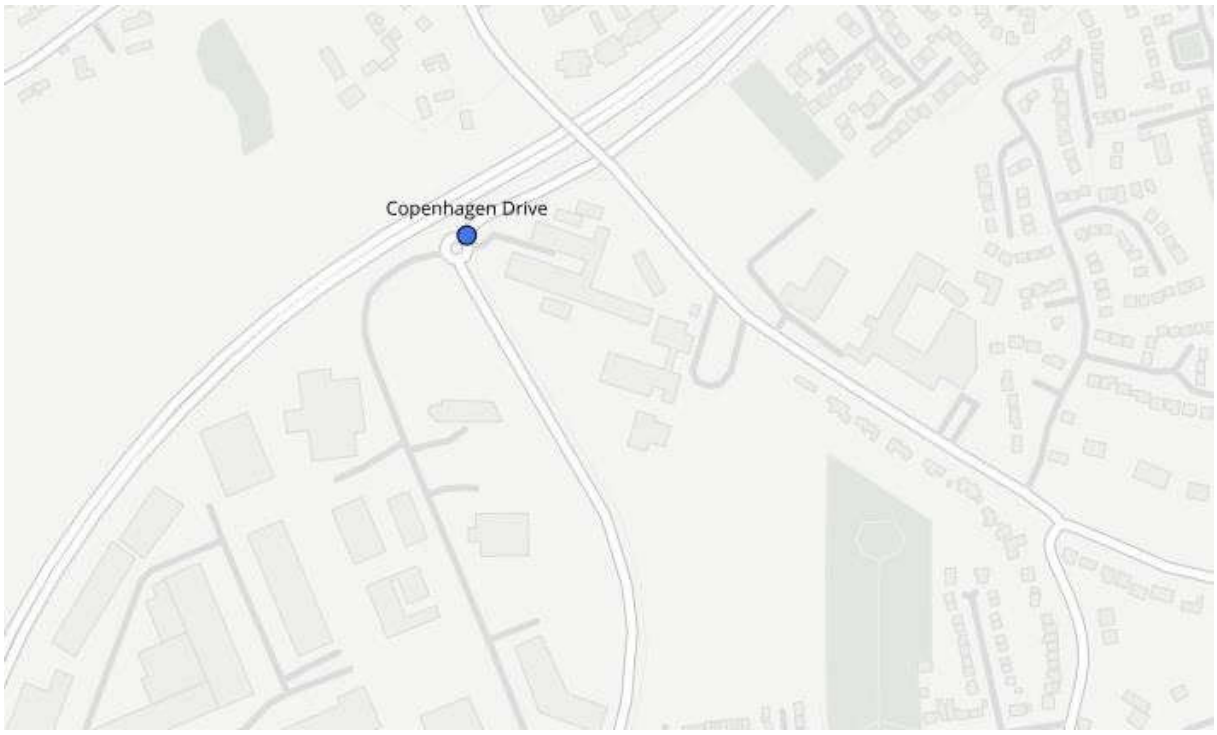


Figure 5. Abingdon (north) (outside AQMA) diffusion tube site

Figure 6. Botley AQMA diffusion tube sites

Figure 7. Marcham AQMA diffusion tube sites

Figure 8. Faringdon diffusion tube sites

Figure 9. Wantage diffusion tube sites

Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England

Pollutant	Air Quality Objective[2]	
	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

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

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	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
LES	Low Emission Strategy
LEZ	Low Emission Zone
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
VWHDC	Vale of White Horse District Council