2024 Air Quality Annual Status Report (ASR)

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Date:
June 2024

2024 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995 Local Air Quality Management, as amended by the Environment Act 2021

Date: June, 2024

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Executive Summary: Air Quality in Our Area

Air Quality in Woking

Breathing in polluted air affects our health and costs the NHS and our society billions of pounds each year. Air pollution is recognised as a contributing factor in the onset of heart disease and cancer and can cause a range of health impacts, including effects on lung function, exacerbation of asthma, increases in hospital admissions and mortality. In the UK, it is estimated that the reduction in healthy life expectancy caused by air pollution is equivalent to 29,000 to 43,000 deaths a year[1].

Air pollution particularly affects the most vulnerable in society, children, the elderly, and those with existing heart and lung conditions. Additionally, people living in less affluent areas are most exposed to dangerous levels of air pollution[2].

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

Table ES 1 - Description of Key Pollutants

Pollutant	Description
Nitrogen Dioxide (NO_2)	Nitrogen dioxide is a gas which is generally emitted from high-temperature combustion processes such as road transport or energy generation.
Sulphur Dioxide (SO_2)	Sulphur dioxide (SO_2) is a corrosive gas which is predominantly produced from the combustion of coal or crude oil.
Particulate Matter (PM_{10} and $PM_{2.5}$)	Particulate matter is everything in the air that is not a gas. Particles can come from natural sources such as pollen, as well as human made sources such as smoke from fires, emissions from industry and dust from tyres and brakes. PM_{10} refers to particles under 10 micrometres. Fine particulate matter or $PM_{2.5}$ are particles under 2.5 micrometres.

[1] UK Health Security Agency. Chemical Hazards and Poisons Report, Issue 28, 2022.

[2] Defra. Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006

Woking Borough Council (WBC) has completed all past rounds of Review and Assessment. The Council continues to monitor air pollution levels monthly, as well as working collaboratively with partners to deliver an action plan to improve air quality locally, including The Surrey Air Alliance, Surrey County Council, Highways Agencies, health partners, Public Health, Trading Standards and The Environment Agency, to name a few. This Annual Status Report (ASR) considers all new monitoring data and assesses the data against the Air Quality Strategy Objectives (AQOs). It also considers any changes that may have an impact on air quality. Progress on measures to improve air quality are identified, as well as WBC's approach to reducing emissions and/or concentrations of fine particulates ($PM_{2.5}$), which has increased focus in the ASR as a result of emerging evidence of the health impacts.

This year's monitoring data is considered to be more representative of relevant exposure than recent years. In May 2023, The World Health Organisation (WHO) declared that Covid-19 no longer represented a "global health emergency". All Covid-19 lockdown restrictions have been lifted throughout this reporting year, and it has been noted that traffic flows have returned to levels similar to those seen before Covid-19. However, there is still an element of uncertainty around whether traffic has, or ever will, return to pre-pandemic levels, with more companies opting for hybrid working and people continuing to work from home as the 'new normal'.

Nitrogen dioxide (NO_2) monitoring has been carried out throughout 2023. A new diffusion tube was installed in August 2022 by the roundabout on the Junction of Old Woking High Street, Kingfield Road and Vicarage Road. This is an area where traffic gets heavily congested at peak times. There are high street shops and a junior school in the vicinity. The diffusion tube has been installed next to the nearest sensitive receptors on The Road House Estate.

The Anchor Hill Air Quality Management Area (AQMA) was revoked on 17th April 2023 by the order of WBC of Civic Offices, Gloucester Square, in exercise of its powers conferred upon it by Section 83(2)(b) of the Environment Act 1995. Further information is provided in Section 2.1.

2023 NO_2 concentrations within WBC are similar, or slightly lower, than those recorded in 2022. Furthermore, at most locations, concentrations are lower than those recorded in 2019, before the Covid-19 pandemic.

Monitoring and analysis of NO_2 concentrations at all locations included in the monitoring programme should continue, with specific consideration to Guildford Road where there is a designated AQMA. The number of monitoring sites on Anchor Hill has been reduced following the revocation of the AQMA, but WBC continues to monitor in two separate locations on Anchor Hill to ensure concentrations remain below the national air quality objective (AQO).

Actions to Improve Air Quality

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

The Environmental Improvement Plan[3] sets out actions that will drive continued improvements to air quality and to meet the new national interim and long-term targets for fine particulate matter ($PM_{2.5}$), the pollutant most harmful to human health. The Air Quality Strategy[4] provides more information on local authorities' responsibilities to work towards these new targets and reduce fine particulate matter in their areas.

The Road to Zero[5] details the Government's approach to reduce exhaust emissions from road transport through a number of mechanisms, in balance with the needs of the local community. This is extremely important given that cars are the most popular mode of personal travel and the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

WBC has declared one AQMA at Guildford Road as a result of exceedance of the annual mean NO_2 AQO. Improvements in air quality across the Borough led to the revocation of the Anchor Hill AQMA in April 2023. There have been no exceedances at Guildford Road since 2020 and WBC will continue monitoring in this location with the view of revoking the AQMA.

[3] Defra. Environmental Improvement Plan 2023, January 2023

[4] Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

[5] DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018

The Council continues to be an active member of the Surrey Air Alliance (SAA) and participates in the delivery of the SAA workplan. A key workplan task is the Surrey-wide air quality modelling project. The air quality modelling project, undertaken by Cambridge Environmental Research Company (CERC), was completed in 2019 and establishes a clear baseline for key pollutants (NO_2, PM_{10} and $PM_{2.5}$) across Surrey. The council hopes to participate in the repeat delivery of the SAA Surrey wide-modelling in 2024 - 2025, for publication in 2026. Once the data from the re-modelling is available, WBC will carry out a review of its diffusion tube monitoring locations accordingly. The interactive contour maps of modelled pollutant concentrations from the 2019 study have continued to be hosted on the Surrey County Council (SCC) website throughout 2023: https://surreycc.maps.arcgis.com/apps/webappviewer/index.html?id=43910ffb100248ed972115b7a9b49d20

In addition, the contour maps have also been used by the Surrey Heartlands Children and Young People's Asthma Network in 2022/23 for identifying and prioritising schools in local hotspots for the initial tranche of schools to roll their projects out to, including targeted promotion of the CYP Asthma Toolkits, as well as the delivery of Asthma Friendly Schools.

A draft updated climate change strategy has been produced and went out for public consultation in June 2023, though it is now under review in light of new legislation and WBC's current financial situation. The strategy reaffirms WBC's commitments and objectives to meeting its environmental goals and climate change commitments of a net zero council estate by 2030 and a net zero Borough by 2050 (or 2045). It will be the follow up strategy to Woking 2050 which was adopted in 2015. Information about the review is available on the Council's climate change webpages. Theme 4 of the Strategy focuses on transport and looks at how we can make positive changes to the sustainability of the Borough by adopting sustainable modes of transport. The draft strategy also includes a section on air quality and its links to sustainable transport, energy production/consumption and waste management.

The Council's Climate Change Supplementary Planning Document (SPD) was adopted on 30 November 2023 and is a material consideration in the determination of planning applications. It provides detailed information regarding the implementation and delivery of policies within the Core Strategy relating to climate change, in particular policies CS22 'Sustainable Construction' and CS23 'Renewable and low carbon energy generation'. It explains what developers need to do to meet policy requirements and is considered an

important document which will help deliver the spatial vision and objectives of the Core Strategy, particularly in terms of leading the way in high quality sustainable development.

With effect from the 22nd January 2023, all Private Hire vehicles must meet the Euro Emissions 6 criteria. WBC is continuing to ensure that the Private Hire Vehicles they licence are reaching the highest international standards in relation to the emissions of the vehicles. With effect from the 31st March 2023, any Hackney Carriage (or 'Taxi') that is not wheelchair accessible will also be required by WBC to be a 'Ultra-Low Emissions Vehicle' or 'ULEV' that emits 75g/km CO_2 or less, based on the NEDC test. Due to the 'wheelchair accessible' vehicles often being larger heavier vehicles, it is not currently practical or financially feasible or fair to request these vehicles meet the ULEV or 'greener' spectrum of vehicles. As a result of the above policies, Woking Licensing Authority can confirm that all 305 of its Private Hire Vehicles will be Euro Emissions 6, and of the 124 Hackney Carriages currently licenced, 64 are wheelchair accessible and 60 are ULEV compliant (less than 75g/km).

Some further actions undertaken include the following:

- Continued monitoring of local AQ
- Revocation of Anchor Hill AQMA following continued compliance with AQO
- Delivery of SAA work plan (projects include; EV Taxi Trial project, Clean Air Day, Clean Air Night, collaboration with SCC on schools AQ initiatives and projects, collaborating with County on domestic fuel regulations, joint work with Surrey Health Protection Board, Surrey Heartlands Paediatric asthma network on projects and joint initiatives, links with Asthma Week, CERC pollutant modelling across Surrey, Joint working with Planning forums on sustainable development and modelling AQ impacts)
- Collaboration with Asthma Network and Public Health on initiatives such as development of Asthma Friendly Toolkits and Clean Air Night
- Liaison with SCC with a view to updating the Guildford Road AQAP in 2024 -25
- Approach to National Highways re exceedances at M25 site
- Support to Surrey Education Support Hub on engaging local schools in classroom AQ monitoring in the Schools' Air quality Monitoring for Health and Education (SAMHE project), which offers UK schools with pupils aged 5-18 a free indoor air quality monitor linked to an interactive educational Web App.

- Newest version of the Surrey Health Protection dashboard launched by Surrey Heartlands and Public Health, which includes new metrics on Surrey's air quality.
- Promotion of the BetterPoints app in Woking Borough Council's newsletter on 1st September 2023, encouraging residents to try and embed more active travel into their lifestyle and to leave the car at home, as a way of making you happier, healthier and, saving money. The app rewards residents for active and sustainable travel by awarding points for every journey made, which can be redeemed for vouchers or donated to a charity.

Conclusions and Priorities

There were no exceedances of the NO_2 AQO identified by the monitoring undertaken in 2023. 2023 NO_2 concentrations within WBC are similar, or slightly lower, than those recorded in 2022.

All monitoring results within the Guildford Road AQMA were below the AQO, and there have been no exceedances since 2020. However, due to the covid-19 pandemic, it is felt that monitoring should remain in place and the AQMA extended until WBC is satisfied the results are reflective of normal conditions

A number of planning applications have been made that may have an impact on air quality in WBC. These include:

- PLAN/2020/0058 on Land To The North And South Of Goldsworth Road, for the demolition of all existing buildings and redevelopment of the site for a phased mixed-use scheme, comprising 929 residential units, communal residential and operational spaces, and commercial uses.
- PLAN/2022/0694 for the redevelopment of Land West of Egley Road, Woking to include 86 dwellings, the erection of a 62-bed care home building and a new vehicular access point off Egley Road with improved pedestrian and cycle links.
- PLAN/2019/0753 at the New Central Development Guildford Road, for erection of rooftop extensions to existing apartment blocks ranging in height from 1 to 2 storeys to provide x37 apartments together with private and shared roof terraces.
- M25 and A3 (junction 10) improvements will see a diversion through Woking, and may have some impact on traffic in the area.

Local Engagement and How to get Involved

WBC residents can play their part by taking simple measures to reduce emissions and improve Air Quality in your area. E.g. taking shorter trips, choosing to walk or cycle over driving and by using public transport, or car sharing.

Other measures that can be taken include:

1. Purchasing a low emissions vehicle, with the help of grant aid. See here: https://www.gov.uk/plug-in-car-van-grants;
2. Following guidance on the use of domestic burning. See here: https://uk-air.defra.gov.uk/assets/documents/reports/cat09/1901291307_Ready_to_Burn_Web.pdf;
3. Reporting bonfires. See here: https://woking.gov.uk/environmental-services/pollution/smoke-and-bonfires;
4. Comment on planning applications and voicing any air quality impact concerns you may have; and
5. Play your part to tackle climate change by using renewable energy, through switching to solar panels/ wind turbines etc. and upgrading boilers to the newest and more efficient gas condensing boilers with the lowest NO_X & Carbon Emissions.

The following sources of information are available on WBC's website for improving air quality in the borough and seeking further information:

- List of AQMAs in the borough. See here: https://www.woking.gov.uk/airquality
- The Air Quality Action Plan for the Guildford Road AQMA. See here: https://www.woking.gov.uk/sites/default/files/documents/environmentalservices/WBC_Guildford%20Rd_AQAP%20final%20report.pdf

Additional Information

- Healthy Surrey provides some useful links and tips on steps you can take to improve air quality for you and your family. See here: https://www.healthysurrey.org.uk/community-health/air-quality
- SCC's Transport Plan Strategies, which sets out Surrey's ambition to work with partners to reduce polluting emissions from transport in the County for the benefit of everyone who lives or works in Surrey. See here: Our transport plan strategies - Surrey County Council (surreycc.gov.uk)

Local Responsibilities and Commitment

This ASR was prepared by the Environmental Health Department of WBC with the support and agreement of the following officers and departments:

Tara Hellaby, Environment Officer

Emma Bourne, Head of Environmental Health

On behalf of the Surrey County Council Director of Public Health, the Public Health team work closely with Surrey Air Alliance including District and Borough Council partners responsible for submitting Annual Statement Reports (ASR) on air quality within their area; to develop initiatives and implement actions to improve air quality across the county of Surrey, through collaboration and consultation.

If you have any comments on this ASR please send them to Tara Hellaby at:

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1 Local Air Quality Management

This report provides an overview of air quality in Woking Borough Council (WBC) during 2023. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995), as amended by the Environment Act (2021), and the relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in order to achieve and maintain the objectives and the dates by which each measure will be carried out. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by WBC to improve air quality and any progress that has been made.

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

2 Actions to Improve Air Quality

2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority should prepare an Air Quality Action Plan (AQAP) within 18 months. The AQAP should specify how air quality targets will be achieved and maintained and provide dates by which measures will be carried out.

WBC currently has one AQMA, the Guildford Road AQMA. This covers a section of Guildford Road and south of the Constitution Hill junction. The AQMA has been declared as a result of exceedances of the annual mean NO_2 AQO. WBC are continuing to monitor air quality within the AQMA. Monitored NO_2 concentrations have been compliant with the relevant AQOs since 2020 and the AQMA will be investigated to determine whether a revocation is appropriate. Further details of the AQMA are available at: https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=317.

A summary of the AQMA declared by WBC can be found in Table 2.1. The table presents a description of the Guildford Road AQMA. Appendix D: Maps of Monitoring Locations and AQMAs provides maps of the AQMA and also the air quality monitoring locations in relation to the AQMA. The air quality objective pertinent to the current AQMA designation is the NO_2 annual mean.

2.1.1 Guildford Road AQMA

Exceedances of the annual mean AQO for NO_2 were recorded between 2012 and 2015 at diffusion tubes located on Guildford Road. Additional monitoring in the area around Guildford Road AQMA commenced in 2014 and recorded exceedances of the AQO at five locations in 2015. A Detailed Assessment was carried out in November 2016 for the

junction between Guildford Road, Constitution Hill and Mount Hermon Road[6]. This assessment indicated that concentrations at some receptor locations with relevant exposure were exceeding the AQO because of road traffic emissions around Guildford Road. It was recommended that an AQMA should be declared on Guildford Road. Further monitoring was recommended around the junctions where Guildford Road meets York Road and Station Approach to confirm if the NO_2 annual mean AQO is exceeded where there is relevant exposure. Consequently, the Guildford Road AQMA was declared in May 2017.

The Guildford Road AQAP was published in 2018 and will be updated in 2024-25. The Environment Act requires that Action Plans be periodically reviewed, and while no time limit is set, the expectation is that a review is to occur no later than every five years and more frequently if significant changes to sources occur within the AQMA before that time. WBC has approached SCC seeking views of future development plans for the area and road network and will submit an extension request for the AQAP once feedback has been received.

The Guildford Road AQMA will remain in situ until such a time that the pollutant concentrations have consistently complied with the annual mean AQO. Between 2017 and 2019, there were locations in the AQMA in exceedance of the AQO prior to distance correction, as such it has been agreed that it is too early to revoke the AQMA at this time. Additionally, although data trends have shown that compliance is improving, there remains uncertainty surrounding development plans in the Town Centre before WBC can be satisfied that Air Quality will remain compliant in this area.

2.1.2 Anchor Hill AQMA

The Detailed Assessment of air quality on Anchor Hill published in 2012 identified predicted exceedances of the annual mean NO_2 AQO at the façade of properties at the top of Anchor Hill. Contour plots showed that concentrations at the three main housing blocks at the top of Anchor Hill exceeded the AQO or were within 10% of the AQO. Due to the

[6] https://www.woking.gov.uk/sites/default/files/documents/environmentalservices/detailedassessmentforguildfordroad.pdf

historical trend of high pollution levels at this location and the modelled exceedances it was recommended that WBC declared an AQMA as a result of exceedances of the annual mean NO_2 AQO at Anchor Hill.

Based on the results of the Anchor Hill Further Assessment (completed in January 2015[7]) it was recommended that the AQMA should remain in place as both monitoring and modelling results show that although in some places the AQO was being achieved, concentrations in other places were above the AQO.

An AQAP was produced for the Anchor Hill AQMA in July 2015[8] where it was recommended that the AQMA would be revoked when monitoring results from three consecutive years show no exceedances of the AQO, so that a permanent improvement in air quality can be demonstrated.

A review of monitoring data from the 2022 Annual Status Report for Woking highlighted that concentrations of NO_2 within the designated area of the Anchor Hill AQMA had dropped in recent years, evidencing improvement in 2017 and compliance in 2018, 2020 and 2021. This is likely as a result of the Junction upgrade to Microprocessor Optimised Vehicle Activation (MOVA) in 2015/16.

No major development is proposed in the area and therefore it is not expected that road traffic volumes will change significantly in future years. National data suggests that vehicle numbers will increase incrementally over future years however due to improvements in emission standards for vehicles entering the market these improvements are expected to compensate for increased traffic numbers. It is not expected that any significant increases in air pollutant are likely in future.

Monitoring has shown that the AQO for NO_2 in the Anchor Hill AQMA has not been exceeded for the past 7 years. The assessment indicates that the AQO is not likely to be exceeded in the future based on the downward trend of the concentrations over the last 7 years and the research carried out for the AQAP, which indicates that the reduction in

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7 https://www.woking.gov.uk/sites/default/files/documents/environmentalservices/furtherasessmentforanchorhillaqma.pdf

8 https://www.woking.gov.uk/sites/default/files/documents/environmentalservices/Woking%20Borough%20Council%20AQAP%20Anchor%20Hill.pdf

emissions associated with the national replacement of older vehicles, with new lower emitting models are likely to further reduce NO_2 concentrations, so that the AQO is no longer exceeded.

WBC's intention to revoke the AQMA was referenced in the 2022 Annual Status Report and there were no adverse comments raised in the Appraisal Letter from Defra. In addition, prior advice and agreement has been sought from the LAQM Helpdesk, who have confirmed that the ASR and appraisal is sufficient consultation with Defra for the revocation to move forward and for the Local Authority to raise the revocation order.

As such, the Anchor Hill AQMA was revoked on 17th April 2023 by the order of Woking Borough Council of Civic Offices Gloucester Square, in exercise of its powers conferred upon it by Section 83(2)(b) of the Environment Act 1995. Further details regarding this decision can be found here: https://moderngov.woking.gov.uk/mgIssueHistoryHome.aspx?IId=19743.

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Number of Years Compliant with Air Quality Objective	Name and Date of AQAP Publication	Web Link to AQAP
Guildford Road AQMA	15/05/2017	NO_2 Annual Mean	AQMA incorporates a small section of Guildford Road to the south of Constitution Hill junction and to the north of the Junction with Ashdown Close	NO	42.2 (modelled)	34.4	4 years	Guildford Road AQMA Air Quality Action Plan 2017	https://www.woking.gov.uk/sites/default/files/documents/environmentalservices/WBC_Guildford%20Rd_AQAP%20final%20report.pdf

☒ **WBC confirm the information on UK-Air regarding their AQMA(s) is up to date.**

☒ **WBC confirm that all current AQAPs have been submitted to Defra.**

2.2 Progress and Impact of Measures to address Air Quality in WBC

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

The report is well structured, detailed, and provides the information specified in the Guidance. The following comments are designed to help inform future reports:

1. Continue collaborative work with the Surrey Air Alliance (SAA).
2. Continue analysis of trends in the air quality data in comparison to the Air Quality Objectives.
3. Continue maintaining high standards of QA/QC procedures with sufficient supporting evidence provided, with robust analysis shown in this submission.
4. Provide details on the status of the review of the 2018 AQAP.
5. With the recent increase in annual NO_2 concentrations at site location, M25, between 2020-2022, identify measures which could be implemented to reduce the annual NO_2 concentrations to below the air quality objective at this location, as part of Table 2.2 on Progress on Measures to improve air quality. This could include for example engaging with external bodies such as National Highways on this section of the M25 (J10 and J11), which is relatively nearby to the diffusion tube, M25.

WBC has taken forward a number of direct measures during the current reporting year of 2023 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. 39 measures are included within Table 2.2, with the type of measure and the progress WBC have made during the reporting year of 2023 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.2.

More detail on some of these measures can be found within the Guildford Road AQAP[9], as well as in the Surrey Transport Plan: Air Quality Strategy[10].

Key completed measures are:

[9] https://www.woking.gov.uk/sites/default/files/documents/environmentalservices/WBC_Guildford%20Rd_AQAP%20final%20report.pdf

[10] Surrey County Council. Surrey Transport Plan Air Quality Strategy, January 2016.

- Continued monitoring of local AQ
- Revocation of Anchor Hill AQMA following continued compliance with AQO
- Delivery of SAA work plan (projects include; EV Taxi Trial project, Clean Air Day, Clean Air Night, collaboration with SCC on schools AQ initiatives and projects, collaborating with County on domestic fuel regulations, joint work with Surrey Health Protection Board, Surrey Heartlands Paediatric asthma network on projects and joint initiatives, links with Asthma Week, CERC pollutant modelling across Surrey, Joint working with Planning forums on sustainable development and modelling AQ impacts)
- Collaboration with Asthma Network and Public Health on initiatives such as development of Asthma Friendly Toolkits and Clean Air Night
- Liaison with SCC with a view to updating the Guildford Road AQAP in 2024 -25
- Approach to National Highways re exceedances at M25 site
- Support to Surrey Education Support Hub on engaging local schools in classroom AQ monitoring in the Schools' Air quality Monitoring for Health and Education (SAMHE project), which offers UK schools with pupils aged 5-18 a free indoor air quality monitor linked to an interactive educational Web App.
- Achieved 8 schools in Woking with accredited travel plans, of these 7 are at “Good Level Accreditation (Bronze)” and one is at “Approved Level Accreditation (Green)”
- Newest version of the Surrey Health Protection dashboard launched by Surrey Heartlands and Public Health, which includes new metrics on Surrey's air quality.
- Promotion of the BetterPoints app in Woking Borough Council’s newsletter on 1st September 2023, encouraging residents to try and embed more active travel into their lifestyle and to leave the car at home, as a way of making you happier, healthier and, saving money. The app rewards residents for active and sustainable travel by awarding points for every journey made, which can be redeemed for vouchers or donated to a charity.
- Launched the newest version of the Surrey Health Protection dashboard working with Public Health and Healthy Surrey. It includes new metrics on childhood immunisations, vaccinations for those 65+, and Surrey's air quality.[11]

[11] https://public.tableau.com/app/profile/surrey.public.health.intelligence.and.insight.team/vizzes

WBC expects the following measures to be completed over the course of the next reporting year:

- Updating the Guildford Road AQAP in 2024-25
- Commissioning of a county-wide air pollution dispersion modelling and source apportionment exercise as part of the SAA workplan
- Continued engagement with SAA and delivery of localised projects identified in the Workplan, where funding allows
- Work with National Highways to identify actions that can be delivered jointly to improve local air quality at the M25 bridge on Parvis Road.
- Woking Train Station Secure Cycle Parking Project - The council has partnered with South Western Railway (SWR) to provide approximately 50 secure cycle parking spaces in the vicinity of Woking Train Station. Funding for the cycle storage has been provided by SWR Customer and Communities Improvement Fund. This grant is specifically for providing secure bike storage for rail commuters, local workers, and residents.

  Residents were asked for their views on recommendations for the cycle storage locations prior to procurement and installation. It is expected that eight bike hangars, each housing six to eight bikes, will provide a secure and robust on-street cycle parking solution, giving cyclists peace of mind when they are away for the day or night. It is envisaged that storage space would be rented out for a nominal fee on a first come first served basis. Consultation closed on Sunday 19 November 2023.

WBC's priorities for the coming year are to update the Guildford Road AQAP, to continue engagement with Surrey Air Alliance (SAA) and delivery of localised projects identified in the SAA Workplan, as well as the commissioning of a county-wide air pollution dispersion modelling exercise across Surrey as part of the SAA workplan.

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

- Surrey Air Alliance
- Healthy Surrey
- Public Health
- National Highways
- Surrey County Council

The principal challenges and barriers to implementation that WBC anticipates facing are budgetary, as a Section 114 Notice was issued to Woking Borough Council on Wednesday 7 June 2023 in response to the unprecedented financial challenges facing the authority. This restricts all new spending with the exception of protecting vulnerable people and statutory services and pre-existing commitments. This poses uncertainty regarding commitments to projects and spending, as the Council seeks to balance its budget and address the unaffordable debt.

Progress on measures has been slower than expected due to the council's current financial position.

WBC anticipates that the measures stated above and in Table 2.2 will achieve continued compliance in the Guildford Road AQMA.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
20	AQ initiatives / awareness raising through SAA. Continuing to build on the schools programme to promote behaviour change for improved air quality and more active travel	Public Information	Via other mechanisms	2020	Ongoing	SCC/ WBC	SCC	NO	Committed	£20 - 30k	Implementation	Y	More students using means of active travel to get to school	WBC, along with SCC and SAA, are working to deliver and help facilitate a range of schools programmes and initiatives to raise awareness about Air Quality and change behaviours to reduce emissions to air. Since September 2021, SCC have employed a designated Eco Schools Officer, with the aim of encouraging and promoting the Eco Schools agenda in Surrey and increasing the number of Green Flag Schools within the County. A range of initiatives were offered to all schools in Surrey as part of this work; including, Modeshift STARS Travel Plans, Bikeability cycle training, Golden Boot/ Green boot Challenge and making Global Action Plan resources and Anti-Idling Equipment available to loan to schools. In addition, from September 2021, a return to schools/ anti idling campaign was run and packs were delivered shortly after. As of 2024 there are 11 schools in Woking on the Green Flag scheme. Two of these schools are currently at a merit level, and one at distinction. In addition, the Greener Schools Teachers	Temporary contract for Schools Officer post

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														Network now includes engagement with private schools across the County on AQ matters, whom have not had the opportunity to engage before now. In November 2023, the Schools air quality monitoring for health and education (SAMHE) was published on the Surrey Education Services Hub website. SAA has been working with the SAMHE team to engage with schools and promote sign ups in 2023- 2024. There are currently 8 schools in Woking with accredited travel plans, of these 7 are at “Good Level Accreditation (Bronze)” and one is at “Approved Level Accreditation (Green)”.	
28	Diffusion Tube Monitoring	Other	Other	2021	On-going	WBC	WBC	NO	n/a	Range from £4k- £80k depending on monitor	Completed	Y	Improved data gathering to inform action	WBC is carrying out ongoing monitoring of passive diffusion tube data and reviewing of diffusion tube locations. New diffusion tubes were added to Triggs Lane and Wych Hill in 2021 to monitor air quality in light of traffic diversions from town centre works. In 2022 a new diffusion tube was added to Old Woking High Street, following feedback from Ward Councillors and residents of heavy congestion at peak times. A costing exercise for automatic monitoring stations or indicative monitors was also	Research on hold before any changes considered, in light of announcement of National Policy changes due to be implemented 2022 – 2023 and current funding restrictions.

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														explored in 2021 to investigate the best monitoring solution for the Borough moving forward. WBC undertook $PM_{2.5}$ modelling exercises in 2019 as part of a SAA modelling project. WBC may need to consider taking part in further modelling exercises from 2024 – 2026 to aid in local government regulation of $PM_{2.5}$ according to the revised AQ strategy under the Environment Act 2021.	
30	Air Quality Action Plan (AQAP) Reviews	Other	Other	2019	On-going	WBC	n/a	NO	n/a	n/a	Planning	Y	Improved data gathering to inform action	WBC continues to take on board feedback from Defra and internal appraisals, and reviews its AQAPs/ monitoring data on a quarterly basis. Comments from last years' ASR have been addressed. In 2022 a report was drafted for Committee setting out the latest monitoring data on Anchor Hill in respect of proposing a revocation of the AQMA. This report went to Committee in March 2023 and was approved. In addition, WBC is seeking to review the Guildford Road AQAP and produce an internal report outlining progress against the action plan measures, as 2024 will mark 6 years since the publication of the Guildford Road AQAP. The carrying out of a detailed	Modelling and review of AQAP on hold until future development plans for the area and road network are known. Interim review to be completed in the meantime, against the current actions set in the 2018 AQAP.

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														assessment, with modelling, and the setting of new actions is heavily reliant on the new road layout of the Victoria Arch scheme to determine what the future traffic flow might look like. The current plans to make adjustments to the road layout have been closed down and made void, so WBC has approached SCC seeking views of future development plans for the road network with a view to updating the AQAP in 2024-2025. A full review of the Guildford Road AQAP cannot be carried out until the plans have been confirmed.	
1	Urban Traffic Management and Control (UTMC)	Traffic Management	UTC, Congestion management, traffic reduction	2015	Completed	SCC/ WBC	SCC	NO	Received and spent	£35,000	Completed	Y	Restrain or reduce traffic volumes in AQMA	MOVA installed and in operation since August 2016 at the busy junction in the Anchor Hill AQMA. This measure has resulted in consistent reductions in NO_2 and enabled WBC to revoke the AQMA in April 2023.	None
2	New and/or improved cycling and walking infrastructure	Transport Planning and Infrastructure	Cycle network	2008 - 2011	Trial Completed	SCC/ WBC	None	NO	Seeking opportunities	n/a	Completed	Y	Restrain or reduce traffic volumes in AQMA	In collaboration with WBC, SCC developed the Woking Local Cycling and Walking Infrastructure Plan (LWCIP), which was approved by DfT in March 2020. LCWIP identifies which infrastructure and route improvement measures could be funded to enhance local cycling and walking provision in this area, should external funding become available.	Staff resource; funding for infrastructure improvements

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3	Upgraded Cycle Track at Goldsworth Park Recreation Ground	Promoting Travel Alternatives	Promotion of cycling	2021	Completed	WBC	British Cycling/ WBC	NO	Received and spent	£120,000	Completed	Y	Reduce Traffic Volumes, more people taking up cycling	Installation of a new hybrid facility completed and opened in April 2022 following consultation. The track has been redesigned to accommodate more abilities and styles of cyclists, to encourage more residents to take up cycling and consequently encourage more active travel amongst borough residents.	None
4	Cycle parking	Transport Planning and Infrastructure	Cycle network	2008 - 2011	On-going	SCC/ WBC	Development contributions	NO	Received and spent	n/a	Completed	Y	Restrain or reduce traffic volumes in AQMA	Various improvements were made under Cycle Woking 2008 – 2011. In 2015 the Cycle Hub was installed at Woking station providing storage for over 200 cycles and encouraging cycle / rail integration. A new cycle storage compound was implemented at Brookwood station in 2016. These storage facilities have been funded by DfT. Funding was secured by South West Trains together with WBC S106 funding contributions. Approximately 20 cycle stands are to be reinstated around the Town Centre. Additional cycle stands were added to the Town Centre as part of the Victoria Place development in 2022, including cycle stores for The Marches, residential towers. A bid application was submitted to South Western Railway's Customer and Communities	None. Next phase dependent on success of funding bid

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														Improvement Fund 2023-24 for additional secure cycle storage close to Woking Railway Station, in August 2022. The bid was successful and a grant of £40,000 has been awarded.	
5	Cycle infrastructure and storage improvement Chertsey Rd & Chobham Rd	Transport Planning and Infrastructure	Cycle network	2020	Completed	WBC/ SCC	Enterprise M3/ SCC	NO	Received and spent	Included in wider costs of the Woking ltp (funded by developer contributions & £11m grant from Enterprise M3 Local Enterprise Partnership)	Completed	Y	Restrain or reduce traffic volumes in AQMA	Work started in 2020 on the resurfacing and creation of combined pedestrian/cycle path and creation of soft landscaping on Chertsey Road. Completion of the pedestrian and cycle footbridge on Chobham Road took place in the early part of 2020, which has created improved connectivity, with a view to encouraging more people to use the footpath for commuting into Woking.	Funding identified as part of the Woking Integrated Transport Project
6	Cycle infrastructure and storage improvement and Highways Improvements-Duke's Court	Transport Planning and Infrastructure	Cycle network	2021	Completed	WBC	WBC / WLT Plan	NO	Received and spent	included in the wider project cost of Dukes Plaza	Completed	Y	Improve cycle routes and pedestrian connectivity	In 2021, WBC continued to deliver on its ambitions of the Woking Integrated Transport Strategy, to improve the Highways network and create a safer environment for cyclists and pedestrians in Woking Town Centre, with the creation of the new public plaza outside Duke's Court, with a green wall and restaurant, complete with a green roof. This scheme was successful in improving signage and pedestrian routes to enhance the visitor experience and provide junction improvements to Maybury Road, Stanley Road and	None.

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														The Broadway Junctions.	
7	Cycle infrastructure and Highways Improvements- Victoria Arch Scheme	Transport Planning and Infrastructure	Cycle network	2021	On-going / project plans being rescoped	WBC/ SCC / Network Rail/ Homes England	WBC/ SCC / Network Rail/ Homes England	NO	Committed	Homes England (£95 mil), Network Rail (£10 mil), WBC (£10 mil)	Planning	Y	Reduce Traffic Volumes and congestion, improve cycle routes and transport connectivity	Demolition has already begun on the existing buildings located in 'The Triangle' (the pocket of land surrounded by the one way road gyratory system located on the South side of Victoria Arch). HIF project plans to make adjustments to the road layout/ site have now been closed down and made void. WBC have approached SCC seeking views of future development plans for the area / road network	Timescales unknown due to section 114.
8	Infrastructure to support the use of hybrid/electric vehicles	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2021	On-going	SCC / WBC	Enterprise M3 Local Transport Strategy/ SCC	NO	Received and spent	£470,911 split between 3 Surrey boroughs	Completed	Y	Reduce tailpipe emissions in AQMA	The Council currently has 64 EV charging points across Town Centre car parks. These electric vehicle charging points are in specifically marked bays and the majority offer immediate access to charging on a plug and go basis. WBC has implemented various policies and strategies supportive of this measure in the area. A highlight would be the financial incentive for using a low emission vehicle in the area by applying a 40% discount on car park season tickets for those driving vehicles in band A (any vehicle whose CO_2 emissions are less than 100 g/km). SCC's On-Street Electric Vehicle Charging Point (EVCP) project has seen the installation	Potential barriers identified within the statement

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														of a total of 20 charging bays at Church Street East, Oriental Road, Montgomery Road, Maybury Road and Lavender Park Road in West Byfleet. SCC was successful with a second funding application to OZEV for a further phase of the pilot which will see the installation of an additional 110 charging bays across the County, including locations in Woking Borough. WBC continues to participate in the Surrey EV Strategy Forum. A key objective of the Forum is to accelerate delivery of EV charging infrastructure across the County. Districts and boroughs have expressed their interest in a fully funded concession framework for EV charge point installation, to be led by SCC. A concession framework operator, Connected Kerbs, was appointed following finalisation of the contract in March 2023. The contract will be extended to interested districts and boroughs to formalise participation and to nominate locations to inform a network delivery plan. Information about electric vehicles and on street chargepoints can be found on the Surrey	

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														County Council website.	
9	EV Charging Points	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2021	On-going	WBC/ SCC/ Office for Zero Emission vehicles	Office for Zero Emission vehicles	NO	Received and spent	n/a	Completed	Y	Reduce tailpipe emissions in AQMA. Usage monitoring from 2023 once telemetry system is installed.	Work to expand electric vehicle charging infrastructure by installation of EV points in the new Red Shoppers Car Park using £166,060 funding from the Office for Zero Emission vehicles for is now complete. A back-office telemetry system was connected in 2023 to enable use monitoring. SCC using residents suggestions to inform a draft network plan for future EV charging installations. Woking locations were submitted as part of the consultation.	None
10	Encourage EV uptake via the Taxi Licensing Community	Promoting Low Emission Transport	Taxi emission incentives	2020	On-going	WBC/ SCC/ Surrey Air Alliance	Defra Air Quality Grant Scheme 2020/21 & LOCASE	YES	Received and pending spend	£256K	Implementation		Number of EVs added to the taxi fleet following projects and EV trials	The programme goal is to encourage the uptake of EVs amongst Surrey taxi drivers and operators by addressing concerns such as running costs and range anxiety through use of telematic devices and allowing taxi drivers to trial an EV taxi for a short period in order to create a ‘try before you buy’ scenario. The aim of the project is to reduce local air pollution in Surrey by encouraging behavioural change and mode shift from traditionally fuelled taxis and PHVs to the use of electric taxis. The revised project	New match funding agreed from Public Health. Procurement partner confirmation required, which will need to be signed off from Defra before funding can be committed and spent.

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														proposal has been approved by Defra, and £25k of match funding has been provided by Public Health. However, SAA is still waiting for procurement partner confirmation and procurement changes to be signed off by Defra before progressing.	
11	Encourage EV uptake in companies	Promoting Low Emission Transport	Company Vehicle Procurement -Prioritising uptake of low emission vehicles	N/A	On-going	WBC/ SCC/ Woking Works / local businesses	n/a	NO	n/a	n/a	Implementation	Y	Number of Evs added to company fleets or EV infrastructure installed	WBC actively promotes available Government Grants for low emissions vehicles, including the Workplace Charging Scheme (WCS).	None
12	EV Webpages	Public Information	Via the Internet	2021-22	On-going	WBC	n/a	n/a	n/a	n/a	Completed	Y	Improved awareness	A designated webpage has been created on the WBC website, which was updated in 2021 and 2022 to promote the locations of the charging points and provide information to EV users. This page has been added to the Council's website to reflect the growing importance of EV charging infrastructure.	None identified
13	Car Clubs	Alternatives to private vehicle use	Car Clubs	n/a	Ongoing	SCC / WBC	Local authority	NO	Complete	n/a	Completed	Y	Restrain or reduce traffic volumes in AQMA	WBC has a car club arrangement with Enterprise Rent A Car Ltd for staff business use. The scheme comprises two low emission vehicles (one of which is an EV) available for hires for up to four hours. Enterprise also operates SCC's car club scheme that is also available for the public. In Woking, there are five cars available in Guildford Road (one car), Goldsworth Road	None identified

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														(one car), Victoria Place (one car) and at Quadrant Court (two cars).	
14	Electrification of the Council's vehicle Fleet	Vehicle Fleet Efficiency	Fleet efficiency and recognition schemes	N/A	Ongoing	WBC	n/a	NO	n/a	n/a	Completed	Y	Reduce emissions from vehicles and contribute to the reduction in NOX concentrations	WBC is committed to reducing business associated mileage and has added an EV vehicle to its car club fleet and Building Services shared car.	None
15	Workplace travel planning	Promoting Travel Alternatives	Workplace Travel Planning	n/a	Ongoing	SCC/ WBC	Local authority	NO	Complete	n/a	Completed	Y	Restrain or reduce traffic volumes in AQMA	The Council has its own Staff Transport Plan including various initiatives to encourage alternative modes of transport to the car. Criteria has been applied to lease cars in order to lower emissions and air pollution associated with this fleet. In October 2018, it was agreed that diesel vehicles will no longer qualify as part of the Council's lease car scheme recognising research and Government policy that finds that diesel cars are more polluting in terms of NOx and PM. The CO_2 threshold for lease cars was increased slightly to 135g/km to enable a wider choice of petrol vehicle within the lease car fleet. Environmental standards also apply to cash alternative vehicles. Details are available via WBC's Intranet system for staff. For staff that need to undertake business mileage but do not own a car that fits the Council's environmental criteria, cars can be	None

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														hired through the car club operated by Enterprise Rent A Car Ltd.	
16	Woking Sustainable Transport Package	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	n/a	Ongoing	SCC/ WBC	Local authority	NO	Complete	n/a	Planning	Y		SCC and WBC have jointly developed a proposal for a package of schemes that will make it easier to travel on foot, by bike, and by bus, to and from Woking Town Centre and Woking Railway Station, as well as around Woking more widely. The schemes will aim to increase the range of sustainable travel options, which have a lower impact on local air quality and lower carbon emissions. Ongoing pedestrianisation works in Woking town centre will go hand-in-hand with this scheme to help deliver the safest route possible. HIF project plans to make adjustments to the road layout/ site have now been closed down and made void. WBC have approached SCC seeking views of future development plans for the area / road network.	None
17	Differential parking charges	Promoting Low Emission Transport	Priority parking for LEV's	n/a	Ongoing	SCC/ WBC	n/a	NO	n/a	Estimated loss of season ticket income approx. £49.2k	Completed	Y	Reduce tailpipe emissions in AQMA	Differential parking charges are applied in WBC. The cost of a season ticket is based on a vehicle's CO_2 emission rating (determined by the Vehicle Certification Agency). A 40% discount is applied for vehicles that produce the lowest emissions (CO_2 band A) and a 20% discount for	None

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														band B vehicles. Those with a band G rating (the highest band) pay a 25% surcharge.	
18	Encourage districts and boroughs to consider adopting minimum emissions standards or vehicle age restrictions into taxi licensing procedures	Vehicle Fleet Efficiency	Promoting Low Emission Public Transport	2014	Ongoing	SCC / WBC	n/a	n/a	n/a	n/a	Completed	Y	Reduce tailpipe emissions in AQMA	With effect from the 22nd January 2023, all Private Hire vehicles meet the Euro Emissions 6 criteria, which is the highest possible rating. As it stands, therefore, Woking is ensuring that the Private Hire Vehicles it licences are reaching the highest international standards in relation to the emissions of the vehicles. With effect from the 31st March 2023, any Hackney Carriage (or 'Taxi') that is not wheelchair accessible is required to be a 'Ultra-Low Emissions Vehicle' or 'ULEV.' ULEVs include pure electric vehicles, electric range-extender vehicles, and plug-in hybrids (PHEVs). Due to the 'wheelchair accessible' vehicles being larger, heavier vehicles, it is not currently practical or financially fair to request these vehicles meet the ULEV or 'greener' spectrum of vehicles. All 305 of WBC's Private Hire Vehicles are Euro Emissions 6, and of the 124 Hackney Carriages currently licenced, 64 are wheelchair accessible and 60 are ULEV compliant due to the implementation of these policies.	None

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19	Work with, and encourage, businesses to build on their own sustainability practices	Vehicle Fleet Efficiency	Fleet efficiency and recognition schemes	On-going	Aborted	WBC/ Woking Chamber of Commerce / Woking Works	LOCASE	NO	Funded	£100k - £500k	Aborted	Y	Business engagement and ownership of climate and air quality initiatives	WBC worked with businesses, partners and residents to encourage active travel through the promotion of car clubs, alternative transport modes and use of public transport etc. Work with businesses included the encouragement and promotion of the use of company travel plans, which considers smarter travel solutions such as car shares, advocating shorter journeys, integrating EVs into company fleets and encouraging digital connectivity etc.	Measure cancelled due to council restructure and closure of the business liaison team.
20	AQ initiatives / awareness raising through SAA. Continuing to build on the schools programme to promote behaviour change for improved air quality and more active travel	Public Information	Via other mechanisms	2020	Ongoing	SCC/ WBC	SCC	NO	Committed	£20 - 30k	Implementation	Y	More students using means of active travel to get to school	WBC, along with SCC and SAA, are working to deliver and help facilitate a range of schools programmes and initiatives to raise awareness about Air Quality and change behaviours to reduce emissions to air. Since September 2021, SCC have employed a designated Eco Schools Officer, with the aim of encouraging and promoting the Eco Schools agenda in Surrey and increasing the number of Green Flag Schools within the County. A range of initiatives were offered to all schools in Surrey as part of this work; including, Modeshift STARS Travel Plans, Bikeability cycle training, Golden Boot/	Temporary contract for Schools Officer post

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														Green boot Challenge and making Global Action Plan resources and Anti-Idling Equipment available to loan to schools. In addition, from September 2021, a return to schools/ anti idling campaign was run and packs were delivered shortly after. As of 2024 there are 11 schools in Woking on the Green Flag scheme. Two of these schools are currently at a merit level, and one at distinction. In addition, the Greener Schools Teachers Network now includes engagement with private schools across the County on AQ matters, whom have not had the opportunity to engage before now. In November 2023, the Schools air quality monitoring for health and education (SAMHE) was published on the Surrey Education Services Hub website. SAA has been working with the SAMHE team to engage with schools and promote sign ups in 2023- 2024. There are currently 8 schools in Woking with accredited travel plans, of these 7 are at “Good Level Accreditation (Bronze)” and one is at “Approved Level Accreditation (Green)”.	

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21	Anti-idling campaign in schools	Traffic Management	Anti-idling enforcement	2020	On-going (2021-2022)	SCC/ WBC	SCC Transformation Grant	NO	Not yet committed	£20 - £30k	Planning	Y	Reduction in idling vehicles outside schools and a reduction in complaints on the issue	Some of the Transformation Grant awarded to SCC may also be used to progress anti-idling campaigns in schools, tackling areas outside of school grounds with the most traffic. In 2022-23 work took place to identify and prioritise school streets for the rollout of this project. WBC provides air quality resources to schools, including an anti-idling kit if they wish to do a campaign.	None
22	Improved awareness of AQ from Domestic Wood Burning	Public Information	Other	2020	On-going	SCC/ WBC	Internal / officer time / resource contribution	Application to Air Quality Grant, Defra	Project not shortlisted	TBC	Completed		Better awareness of the harmful effects of wood burning and better awareness amongst suppliers of the new regulations and what that means for selling/ supplying fuels	A Surrey-wide public awareness campaign for Clean Air Day in 2020 saw SAA produce a short animation video about domestic burning of solid fuels and wood. Since 2021, WBC in partnership with the SAA, have worked alongside SCC's Trading Standards to devise ideas for a surrey wide campaign/ project to advise and monitor solid fuel suppliers about the new rules and regulations for the safe supply of domestic solid fuels outlined in The Air Quality (Domestic Solid Fuels Standards) (England) Regulations 2020. In 2022 a designed webpage to raise awareness of the harmful effects of burning domestic fuels and ways that residents can heat their home, whilst	Funding bid could be unsuccessful and therefore additional funding to deliver these programmes will need to be identified

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														reducing the impact on the environment, was published on the WBC website. The sub-group are continuing to explore project ideas, resources and funding options available. Support was provided by SAA on the delivery of Clean Air Night in January 2024. SCC public health also contributed £5000 to a voluntary campaign under the SAA banner. A similar grant bid is being submitted for Clean Air Night in January 2025.	
23	Improved public awareness and understanding of air pollution generally	Public Information	Via other mechanisms	2020	Annually	WBC	n/a	NO	n/a	n/a	Implementation		Likes and engagement with social media posts	Continued promotion of the Action for Clean Air 'Clean Air Day', and signposting to local and national information and resources. Participation in the 2022 campaign day on 16th June with social media engagement and promotion of the benefits of Woking's Living Walls and re-publication of Planet Woking's resources for residents to create their own green walls. For National Tree Week in November 2023, WBC supported The Tree Council to encourage tree planting and promoted the Woking Park Tree Trail. Support was provided by SAA on the delivery of Clean Air Night in January 2024. SCC public health also	None

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														contributed £5000 to a voluntary campaign under the SAA banner. A similar grant bid is being submitted for Clean Air Night in January 2025.	
24	airAlert Subscription	Public Information	Via the Internet	April 2015	On-going	WBC	WBC	NO	Committed	£958 per annum	Aborted	N	Monitoring of numbers subscribed	WBC have ceased the subscription to the Surrey airAlert service, due to low subscriber numbers. WBC now directs people to information held nationally on the Defra website. The service previously forewarned local residents who have respiratory problems, such as asthma, COPD or emphysema, when air pollution in Woking was going to be high.	Lack of awareness and subscriptions
25	Green initiatives to improve air quality	Other	Other	2019	On-going	WBC	Various. Woking integrated transport project is funded by developer contributions and a grant of £11m from the Enterprise M3 Local Enterprise Partnership	NO	Spent	Included in the wider project cost of Dukes Plaza	Implementation		Reduction in pollutant concentrations in the Town	In 2019 Woking's First Living Wall was installed as part of the Albion Square development in the Town Centre. The ivy screens that make up the continuous wall, comprise a mix of species and will help to improve air quality by trapping and capturing pollutants. In 2021 a 25 metre high living wall currently was installed on Dukes Court central core as part of its refurbishment and in 2022 the Living Wall on the facade of the new Shoppers Car Park was completed. In 2022, WBC took part in National Tree week from 26th November to 4th December 2022 and promoted a step-by-step guide on	None

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														planting trees and hedges to improve air quality by trapping pollutants. 500 saplings were planted in the Borough to support green and sustainable living as part of her majesty Queen's Platinum Jubilee Celebrations. September 2022 saw the introduction of the Woking nature walks, trained walks aimed at improving H&W and encouraging and promoting walking as a smarter travel choice.	
26	Air Quality Modelling /PM2.5 Study	Other	Other	2024	On-going	SAA/ WBC/ SCC	TBC Under considerat ion	NO	TBC	TBC	Planning	Y	Improved data gathering to inform local and county wide action	An Air Quality modelling project, carried out by CERC, was previously completed in 2019, which established a baseline of key pollutants (NO_2, PM_{10}, $PM_{2.5}$). The intention is to run this study again to assess the current pollutant concentration levels in the County compared to the last. This piece of work will be updated for the year of 2024, subject to resources and funding. The interactive contour maps of modelled pollutant concentrations have continued to be modelled on, and accessed, via the SCC website throughout the past year, and have subsequently been used to prioritise schools for the roll out of the C&YP Asthma Care projects and initiatives.	Subject to resources and funding

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
27	Post-Covid changes to Air Quality	Promoting Travel Alternatives	Encourage / Facilitate home-working	2019	On-going	WBC	n/a	NO	n/a	n/a	Implementation	Y	Observations on traffic levels, and continuing to keep abreast of hybrid working arrangements across all of the Surrey Council's	WBC will continue to capitalise on the changes post covid that residents and commuters have made to their lifestyles, by continuing to promote on foot local travel, travelling at different times of the day etc. Video teleconferencing has been installed in the Council Offices to enable more remote meetings thereby avoiding unnecessary travel to meetings where possible. A Digital Strategy 2022 – 2025 was also produced. Following a recommendation from the Greener Woking Working Group, on 17th June 2021 the Executive resolved that non-statutory meetings should continue, where practical, on a remote basis. This will help further reduce unnecessary travel to meetings and associated carbon emissions.	Potential risk of a return to unnecessary travel as time goes on.
28	Diffusion Tube Monitoring	Other	Other	2021	On-going	WBC	WBC	NO	n/a	Range from £4k- £80k depending on monitor	Completed	Y	Improved data gathering to inform action	WBC is carrying out ongoing monitoring of passive diffusion tube data and reviewing of diffusion tube locations. New diffusion tubes were added to Triggs Lane and Wych Hill in 2021 to monitor air quality in light of traffic diversions from town centre works. In 2022 a new diffusion tube was added to Old Woking High Street, following feedback from Ward	Research on hold before any changes considered, in light of announcement of National Policy changes due to be implemented 2022 – 2023 and current funding restrictions.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
														Councillors and residents of heavy congestion at peak times. A costing exercise for automatic monitoring stations or indicative monitors was also explored in 2021 to investigate the best monitoring solution for the Borough moving forward. WBC undertook $PM_{2.5}$ modelling exercises in 2019 as part of a SAA modelling project. WBC may need to consider taking part in further modelling exercises from 2024 – 2026 to aid in local government regulation of $PM_{2.5}$ according to the revised AQ strategy under the Environment Act 2021.	
29	Embedding air quality into the planning process	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2019	On-going	WBC	n/a	NO	n/a	n/a	Implementation	Y	Improved data gathering to inform action	Running in parallel to the climate change strategy review, the Council's Climate Change SPD underwent public consultation ending on 30 June 2023 and was adopted on 30 November 2023. WBC continue to encourage adoption of good design principles in applications for new developments, i.e. low emission boilers, EV charging, good spatial planning in line with the EPUK/IAQM Planning for Air Quality guidance. Further guidance has also been produced by The Surrey Planning and Health	Under review. Lengthy timescales for final implementation.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
														Forum (not publicly available) to inform local planning policies, including health planning principles, to improve (For example) air quality and active travel.	
30	Air Quality Action Plan (AQAP) Reviews	Other	Other	2019	On-going	WBC	n/a	NO	n/a	n/a	Planning	Y	Improved data gathering to inform action	WBC continues to take on board feedback from Defra and internal appraisals, and reviews its AQAPs/ monitoring data on a quarterly basis. Comments from last years' ASR have been addressed. In 2022 a report was drafted for Committee setting out the latest monitoring data on Anchor Hill in respect of proposing a revocation of the AQMA. This report went to Committee in March 2023 and was approved. In addition, WBC is seeking to review the Guildford Road AQAP and produce an internal report outlining progress against the action plan measures, as 2024 will mark 6 years since the publication of the Guildford Road AQAP. The carrying out of a detailed assessment, with modelling, and the setting of new actions is heavily reliant on the new road layout of the Victoria Arch scheme to determine what the future traffic flow might look like. The current plans to make adjustments to the road layout have been closed down	Modelling and review of AQAP on hold until future development plans for the area and road network are known. Interim review to be completed in the meantime, against the current actions set in the 2018 AQAP.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
														and made void, so WBC has approached SCC seeking views of future development plans for the road network with a view to updating the AQAP in 2024-2025. A full review of the Guildford Road AQAP cannot be carried out until the plans have been confirmed.	
31	Air quality objectives outlined in the 'Woking for All 2022 - 2027 Strategy	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2022 – 2027	2027	WBC	n/a	NO	n/a	n/a	Implementation	Y	Reduce tailpipe emissions and improve cycle routes	Under the strategic objectives for creating Greener Communities, WBC will work with partners to develop and incentivise greener travel choices, and will embed wider carbon reductions and greater biodiversity support in our operations	None.
32	Deliver the objectives from the Climate Change Strategy	Policy Guidance and Development Control	Other policy	2019	On-going	WBC/ Climate Change Working Group	n/a	NO	n/a	n/a	Planning	Y		Progress against objectives and targets of the Council's Climate Change Strategy is monitored via quarterly Climate Emergency Action Plan update reports to the Greener Woking Working Group. Themes contributing to air quality in the Borough include sustainable transport, waste and energy. After an initial public consultation ending in June 2023, the Climate Change Strategy is being further reviewed to reflect new national targets and WBC's enhanced environmental ambitions and in light	None

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
														of the council's financial position. See Climate Change Strategy review 2023 | Woking Borough Council.	
33	Climate Change and Biodiversity focused communications	Public Information	Via other mechanisms	2019	On-going	WBC	n/a	NO	n/a	n/a	Implementation	Y		Communication continues to be pushed out via the following sources: Planning policy: Woking 2027 Local Development Framework WBC air Quality pages: Pollution | Woking Borough Council News: Woking continues to lead the way on climate change | Woking Borough Council	None
34	Deliver work programme and initiatives under the umbrella of Planet Woking	Other	Other	2019	On-going	WBC, Council's Green Infrastructure Team, borough residents and local businesses	n/a	NO	n/a	n/a	Aborted	Y	Improved awareness, profile raising of air quality initiatives promoted by Plant Woking, increase in attendance at events, action being taken off the back of events, initiative and campaigns run by Planet Woking to do with air quality.	Funding was agreed up to July 2023 for Planet Woking, the council's climate and biodiversity communications programme. This measure was aborted post 2023 due to lack of funding.	None
35	Promotion of Active Travel Schemes	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2022	On-going	SCC	n/a	NO	n/a	n/a	Implementation	Y	Sign up to the app	WBC promotion of SCC collaboration with the BetterPoints Greener Future app which offers rewards every time a car journey is switched for a more sustainable mode of travel. For every 1000 points, you can redeem £1 at a range of retailers, or you can convert your	None

Commented [TH1]: Remove 34 completely

Commented [BR2R1]: Kept in, but changed status to aborted and updated progress.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
														points to charitable donation. The app was promoted in the Borough Council newsletter in September 2023.	
36	Electrification of buses and minibuses	Promoting Low Emission Transport	Public Vehicle Procurement -Prioritising uptake of low emission vehicles	2022	On-going	Various	None	NO	Not Funded		Planning	N	Procurement of EVs	WBC endeavours to support improvements to public and shared transport services operating in the Borough, including the provision of electric buses and mini buses	Subject to funding
37	Increased monitoring of emissions from Woking Crematorium	Environmental Permits	Measures to reduce pollution through IPPC Permits going beyond BAT	2022	2025	MCA, WBC, Woking Crematorium	n/a	NO	Not Funded		Planning	N	Reduction in emissions	Regular communication and meetings with Woking Crematorium management to reduce pollution and improve emissions from their cremators. Interim measures for improvement and monitoring have been set under their Part B licence and an agreement reached for the cremators to be replaced by 2025.	To be implemented in line with new guidance, which requires abatement for all new cremators (31st December 2025 in current draft of PG5/2)
38	Carbon Footprint Assessment of the Council's corporate emissions	Other	Other	2022	2030	WBC	n/a	NO	n/a	n/a	Implementation	N	improved targeted intervention and achievement of net zero target by 2030	Independent assessment carried out to improve the Council's knowledge of its footprint helping to further identify key areas of focus in reaching our net zero target by 2030.	
39	Continued engagement with Local Transport Plans and Projects	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2022	2050	County and D&Bs	SCC	NO	n/a	n/a	implementation	Y		Continued delivery of the Woking Integrated Transport Project. Continued engagement with SCC on the LTP4, in schemes such as Liveable Neighbourhoods which reduce the dominance of cars in areas, Healthy Streets for Surrey	Significant land use changes outlined in the schemes are likely to take several years, so smaller actions that are more achievable in the short time will be delivered

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
														and Street Family Framework.	under the LTP4.

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

As detailed in Policy Guidance LAQM.PG22 (Chapter 8) and the Air Quality Strategy[12], local authorities are expected to work towards reducing emissions and/or concentrations of fine particulate matter ($PM_{2.5}$)). There is clear evidence that $PM_{2.5}$ (particulate matter smaller 2.5 micrometres) has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

WBC does not monitor $PM_{2.5}$, however a $PM_{2.5}$ dispersion modelling exercise funded by SCC has been carried out to gain a better understanding of the current situation; The modelling exercise was undertaken by Cambridge Environmental Research Consultations (CERC). The dispersion modelling report aimed to find and prioritise actions in local pollution hotspots and the findings demonstrated that the annual mean concentrations are below 25µg/m^3 in Surrey.

The report also evaluated the public health impact of air quality. Areas near major roads have the highest levels of pollution and health impacts.

The results have been published as a map, which is hosted on the SCC website here: https://surreycc.maps.arcgis.com/apps/webappviewer/index.html?id=43910ffb100248ed972115b7a9b49d20 and has subsequently been used by partners, including the Surrey Heartlands C&YP Asthma Network, to identify and prioritise the roll out of their projects in schools that are in these pollution hotspot areas.

WBC, in partnership with SAA, are working alongside SCC's Trading Standards to deliver a surrey wide campaign to advise and monitor solid fuel suppliers about the new rules and regulations for the safe supply of domestic solid fuels outlined in The Air Quality (Domestic Solid Fuels Standards) (England) Regulations 2020.

SAA, along with other Local Authorities across the Country, Trading Standards and Global Action Plan have been working together on a proposal to deliver a regional and county wide campaign/ educational project on the effects of wood burning and the use and sell of domestic fuels. A subgroup has been formed and a funding bid was submitted to Defra in 2022, but was not selected for shortlisting. Surrey County Council Public Health

[12] Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

contributed £5k to a voluntary campaign under the SAA banner for the roll out of Clean Air Night in January 2024. A similar grant bid is also being submitted to Defra in September 2024 for Clean Air Night in January 2025. The sub-group remains in place and will continue to meet to explore what educational work can be done with the resources available and what other funding opportunities could be applied for.

In 2022 information regarding the effects of domestic wood burning was published on the WBC website to raise awareness and educate residents about the negative effects of smoke on air quality. This newly published information outlines various steps that residents can take themselves to reduce pollution if they need to burn solid fuels to heat their homes.

Re-modelling local Air Quality across the County is under consideration for the year of 2024, with the aim to procure a contract in 2025- 2026. The scope of which will include more modelling of $PM_{2.5}$ during the next round, using data derived from the monitoring stations in Waverley, Spelthorne, Elmbridge and Reigate. WBC's involvement is to be confirmed depending on their financial position.

WBC does not have $PM_{2.5}$ specific measures, but implementations of traffic reduction measures as detailed in Table 2.2 will have a beneficial impact on $PM_{2.5}$ concentrations across the Borough.

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

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

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

WBC does not undertake any automatic (continuous) monitoring.

3.1.2 Non-Automatic Monitoring Sites

WBC undertook non-automatic (i.e. passive) monitoring of NO_2 at 38 sites during 2023. Table A.1 in Appendix A presents the details of the non-automatic sites. A new diffusion tube was installed in August 2022 by the roundabout on the Junction of Old Woking High Street, Kingfield Road and Vicarage Road. This is an area where traffic gets heavily congested at peak times. The diffusion tube has been installed next to the nearest sensitive receptors, but there are high street shops and a junior school in the vicinity.

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

3.2 Individual Pollutants

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

3.2.1 Nitrogen Dioxide (NO_2)

Table A.2 in Appendix A compares the ratified and adjusted monitored NO_2 annual mean concentrations for the past five years with the air quality objective of 40µg/m^3. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

For diffusion tubes, the full 2023 dataset of monthly mean values is provided in Appendix B.

There were no monitored exceedances of the NO_2 AQO in 2023.

3.2.2 Particulate Matter (PM_{10})

WBC does not undertake any PM_{10} monitoring.

3.2.3 Particulate Matter ($PM_{2.5}$)

WBC does not undertake any $PM_{2.5}$ monitoring.

3.2.4 Sulphur Dioxide (SO_2)

WBC does not undertake any SO_2 monitoring.

Appendix A: Monitoring Results

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

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
BD	Bitterne Drive	Roadside	498025	158949	NO2	NO	6.0	2.0	No	2.5
TW	Tresta Walk	Roadside	498435	159451	NO2	NO	9.5	1.5	No	2.7
AH	Anchor Hill 1	Kerbside	496618	158699	NO2	NO	0.0	1.0	No	2.7
AH2	Anchor Hill 2	Roadside	496615	158696	NO2	NO	0.0	5.0	No	2.4
AH3	Anchor Hill 3	Roadside	496646	158750	NO2	NO	0.0	5.0	No	2.8
AH4	Anchor Hill 4	Roadside	496679	158767	NO2	NO	6.0	2.0	No	2.5
AH5	Anchor Hill 5	Roadside	496594	158698	NO2	NO	0.0	5.0	No	2.6
AH6	Anchor Hill 6	Roadside	496586	158686	NO2	NO	0.0	2.0	No	2.7
LGR	Lower Guildford Rd	Roadside	496601	158668	NO2	NO	0.0	3.0	No	2.6
BR	Bagshot Road	Kerbside	495821	157793	NO2	NO	15.0	1.0	No	2.6

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube Co-located with a Continuous Analyser?	Tube Height (m)
BR1	Bagshot Road	Roadside	495852	157188	NO2	NO	21.0	1.5	No	2.6
GR	Goldsworth Road	Kerbside	499952	158545	NO2	NO	6.0	1.0	No	2.6
YR	York Road	Kerbside	500450	158278	NO2	NO	12.0	1.0	No	2.6
YR1	York Road	Kerbside	500447	158256	NO2	NO	18.0	1.0	No	2.8
LTK	Constitution Hill 1	Kerbside	500437	158120	NO2	NO	3.0	1.0	No	2.5
LT1	Constitution Hill 1	Kerbside	500453	158100	NO2	NO	15.0	1.0	No	2.8
CH	Constitution Hill 4	Roadside	500417	158102	NO2	NO	4.0	1.5	No	2.7
CH2	Constitution Hill 5	Kerbside	500367	158073	NO2	YES	12.0	1.0	No	2.3
CH3	Constitution Hill 6	Roadside	500330	158012	NO2	YES	14.0	1.5	No	2.5
CH4	Constitution Hill 7	Kerbside	500332	157983	NO2	YES	17.0	1.0	No	2.6
RC	Rosebery Crescent	Kerbside	500946	157110	NO2	NO	10.0	1.0	No	2.2
LD	Lincoln Drive	Kerbside	503244	159659	NO2	NO	12.0	1.0	No	2.7
PR	Dartnell Avenue (previously Parvis Road)	Kerbside	504926	161063	NO2	NO	12.0	1.0	No	2.3

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube Co-located with a Continuous Analyser?	Tube Height (m)
M25	M25	Other	505611	161180	NO2	NO	n/a	0.0	No	2.6
TC	The Cedars	Roadside	506731	161229	NO2	NO	24.0	4.0	No	2.9
Church	Church Road	Kerbside	506401	160504	NO2	NO	6.0	1.0	No	2.5
WL	Woodham Lane	Kerbside	502854	161062	NO2	NO	31.0	1.0	No	2.7
MR	Monument Road	Roadside	501611	159645	NO2	NO	4.0	2.0	No	2.4
MR2	Monument Road	Roadside	501613	159646	NO2	NO	18.0	2.0	No	2.7
OR	Oriental Road	Roadside	501679	159148	NO2	NO	26.0	3.0	No	2.5
VW	Victoria Way	Kerbside	500510	159030	NO2	NO	20.0	1.0	No	2.5
VW2	Victoria Way 2	Roadside	500281	158827	NO2	NO	44.5	8.0	No	2.7
VW3	Victoria Way 3	Roadside	500270	158731	NO2	NO	6.5	3.0	No	2.7
VW4	Victoria Way 4	Roadside	500425	158584	NO2	NO	30.0	5.5	No	2.5
TL	Triggs Lane	Roadside	499555	157846	NO2	NO	14.0	1.3	No	2.3
WH1	Wych Hill 1	Roadside	499624	157664	NO2	NO	12.5	1.1	No	2.2

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
WH2	Wych Hill 2	Roadside	499029	157667	NO2	NO	12.5	2.3	No	2.5
OW	Old Woking High Street	Roadside	501092	157006	NO2	NO	8.0	2.5	No	2.6

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: Non-Automatic Monitoring (µg/m^3)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023
BD	498025	158949	Roadside	100	100.0	14.4	11.0	12.1	14.3	12.4
TW	498435	159451	Roadside	100	100.0	12.7	11.2	11.6	14.3	12.0
AH	496618	158699	Kerbside	92.3	92.3	38.0	28.4	35.3	36.4	32.2
AH2	496615	158696	Roadside	100	50.0	30.9	25.7	30.5	25.8	23.6
AH3	496646	158750	Roadside	100	50.0	23.0	18.8	20.6	21.4	17.0
AH4	496679	158767	Roadside	100	50.0	22.0	23.0	28.7	30.2	24.9
AH5	496594	158698	Roadside	83.3	40.4	25.7	20.2	22.4	23.6	17.3
AH6	496586	158686	Roadside	100	50.0	37.2	20.1	23.1	25.2	20.7
LGR	496601	158668	Roadside	100	100.0	26.7	21.6	20.6	23.0	20.8
BR	495821	157793	Kerbside	100	100.0	26.8	24.0	23.3	25.4	22.3
BR1	495852	157188	Roadside	100	100.0	21.6	23.0	21.2	20.3	20.0
GR	499952	158545	Kerbside	90.4	90.4	25.1	21.0	22.6	22.6	22.3
YR	500450	158278	Kerbside	100	100.0	27.5	22.0	24.6	27.6	24.6

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023
YR1	500447	158256	Kerbside	100	100.0	29.5	23.6	24.4	25.8	24.4
LTK	500437	158120	Kerbside	100	100.0	28.5	27.9	25.1	27.8	26.2
LT1	500453	158100	Kerbside	92.3	92.3	23.7	15.0	16.1	18.9	16.1
CH	500417	158102	Roadside	100	100.0	37.2	26.8	30.2	34.5	31.7
CH2	500367	158073	Kerbside	100	100.0	**40.0**	34.1	38.1	33.0	34.0
CH3	500330	158012	Roadside	100	100.0	35.2	31.7	34.3	34.4	34.4
CH4	500332	157983	Kerbside	100	100.0	34.3	28.6	32.0	33.8	30.4
RC	500946	157110	Kerbside	100	100.0	15.0	11.9	12.5	13.5	12.0
LD	503244	159659	Kerbside	100	100.0	17.9	12.4	13.1	15.4	13.0
PR	504926	161063	Kerbside	100	100.0	22.2	18.5	18.5	20.7	17.7
M25	505611	161180	Other	100	100.0	**46.7**	37.0	**40.5**	**43.5**	36.1
TC	506731	161229	Roadside	92.3	92.3	26.2	23.8	24.8	23.9	22.8
Church	506401	160504	Kerbside	92.3	92.3	19.6	15.2	17.1	20.3	17.9
WL	502854	161062	Kerbside	92.3	92.3	21.9	18.0	20.3	21.9	19.2

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023
MR	501611	159645	Roadside	100	100.0	30.7	23.4	30.6	30.9	28.2
MR2	501613	159646	Roadside	76.9	76.9	28.6	23.4	26.8	25.7	24.6
OR	501679	159148	Roadside	100	100.0	22.7	19.9	23.8	26.4	23.2
VW	500510	159030	Kerbside	100	100.0	34.9	28.2	28.1	31.2	27.6
VW2	500281	158827	Roadside	75	75.0	24.1	19.5	23.2	23.4	25.6
VW3	500270	158731	Roadside	90.4	90.4	27.1	19.8	23.4	22.9	20.6
VW4	500425	158584	Roadside	84.6	84.6	28.0	22.2	24.4	23.9	24.1
TL	499555	157846	Roadside	100	100.0	-	-	26.8	26.4	22.7
WH1	499624	157664	Roadside	100	100.0	-	-	28.4	29.8	25.8
WH2	499029	157667	Roadside	100	100.0	-	-	30.0	29.9	26.4
OW	501092	157006	Roadside	100	100.0	-	-	-	23.7	20.4

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

☒ **Diffusion tube data has been bias adjusted.**

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

Notes:

The annual mean concentrations are presented as µg/m^3.

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

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

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

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

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

Figure A.1 - Trends in Annual Mean NO_2 Concentrations for sites within the Guildford Road AQMA

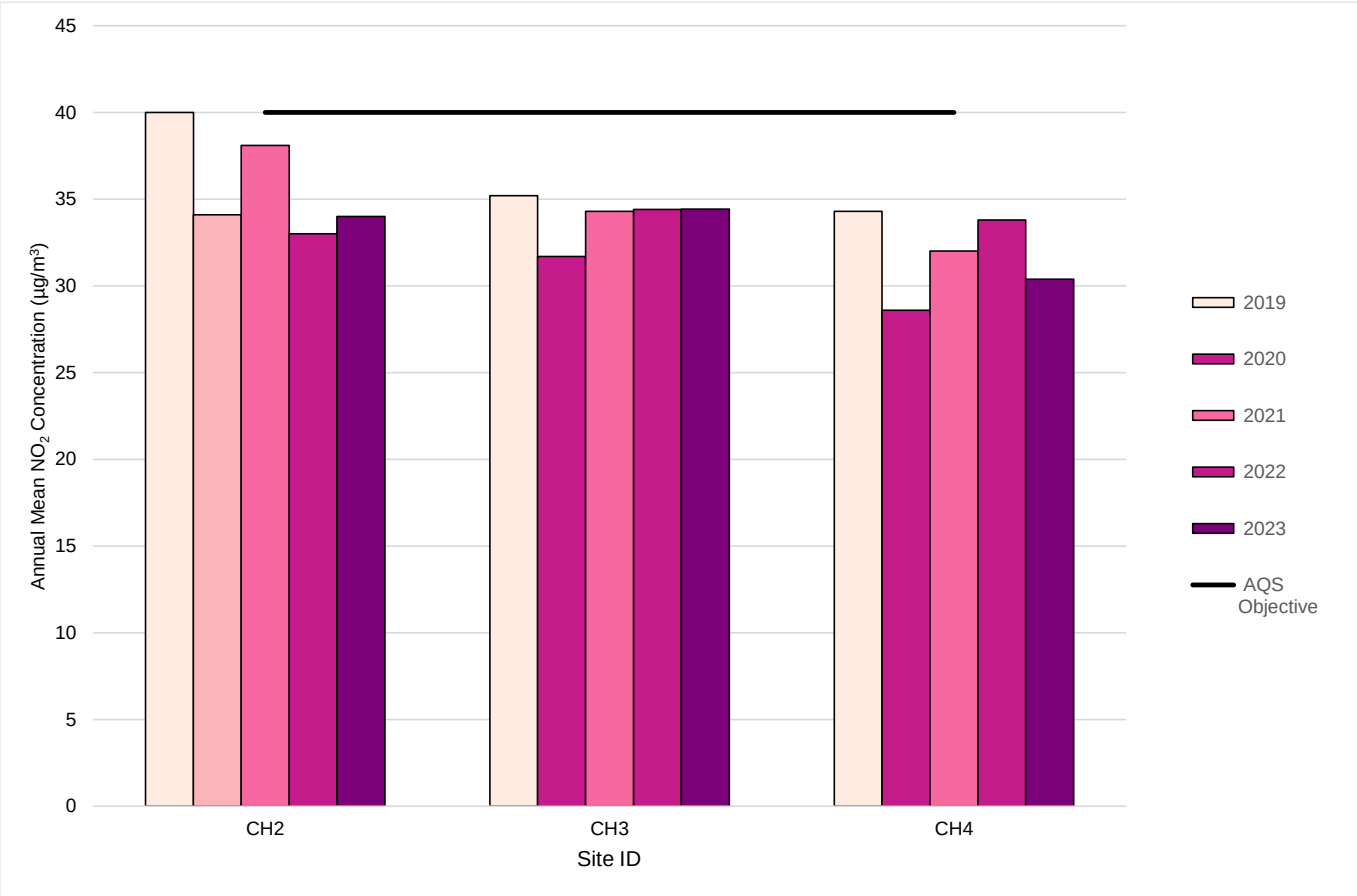


Figure A.2 - Trends in Annual Mean NO_2 Concentrations – Knaphill and Goldsworth Park areas

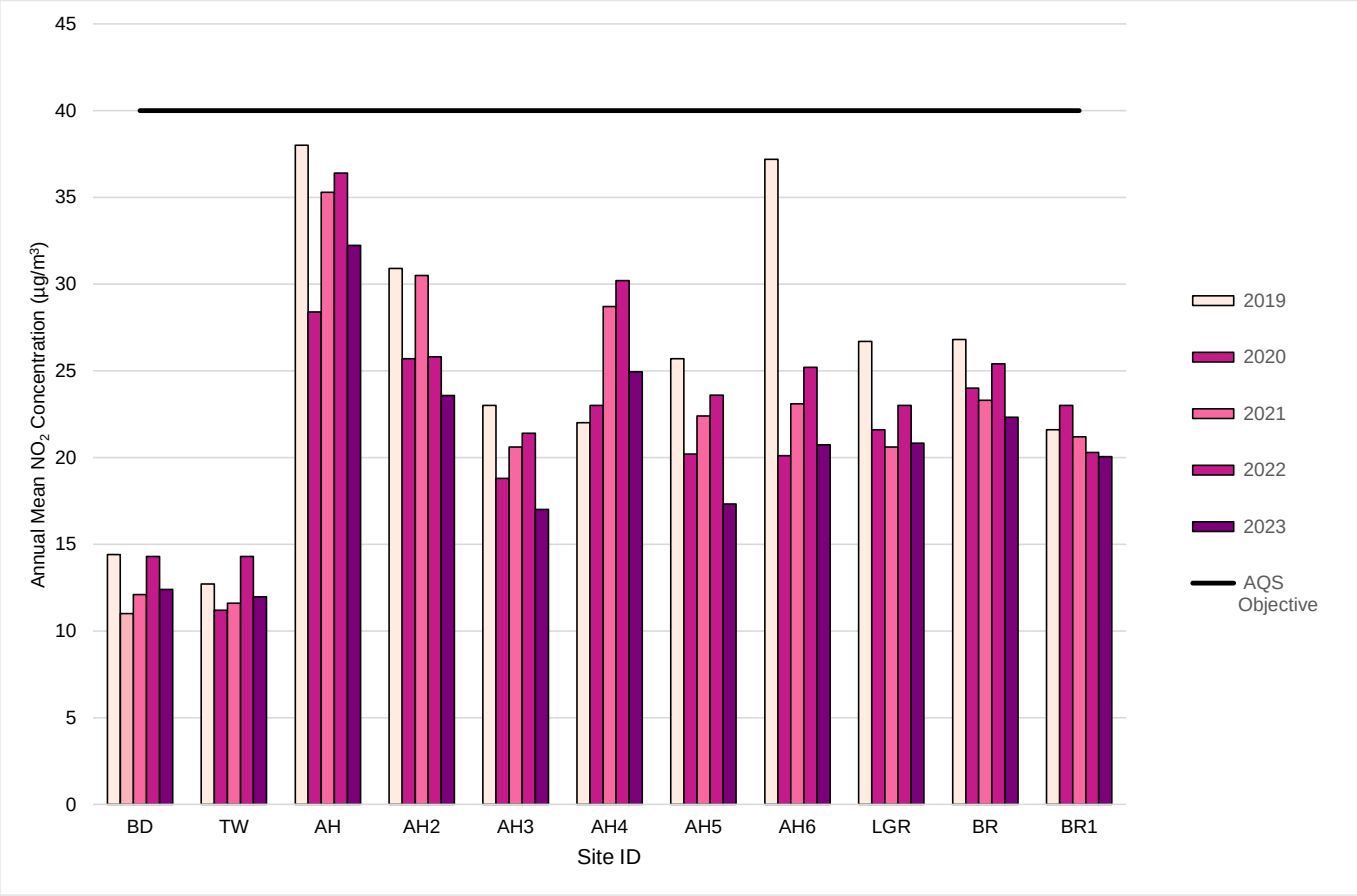


Figure A.3 - Trends in Annual Mean NO_2 Concentrations – Town Centre

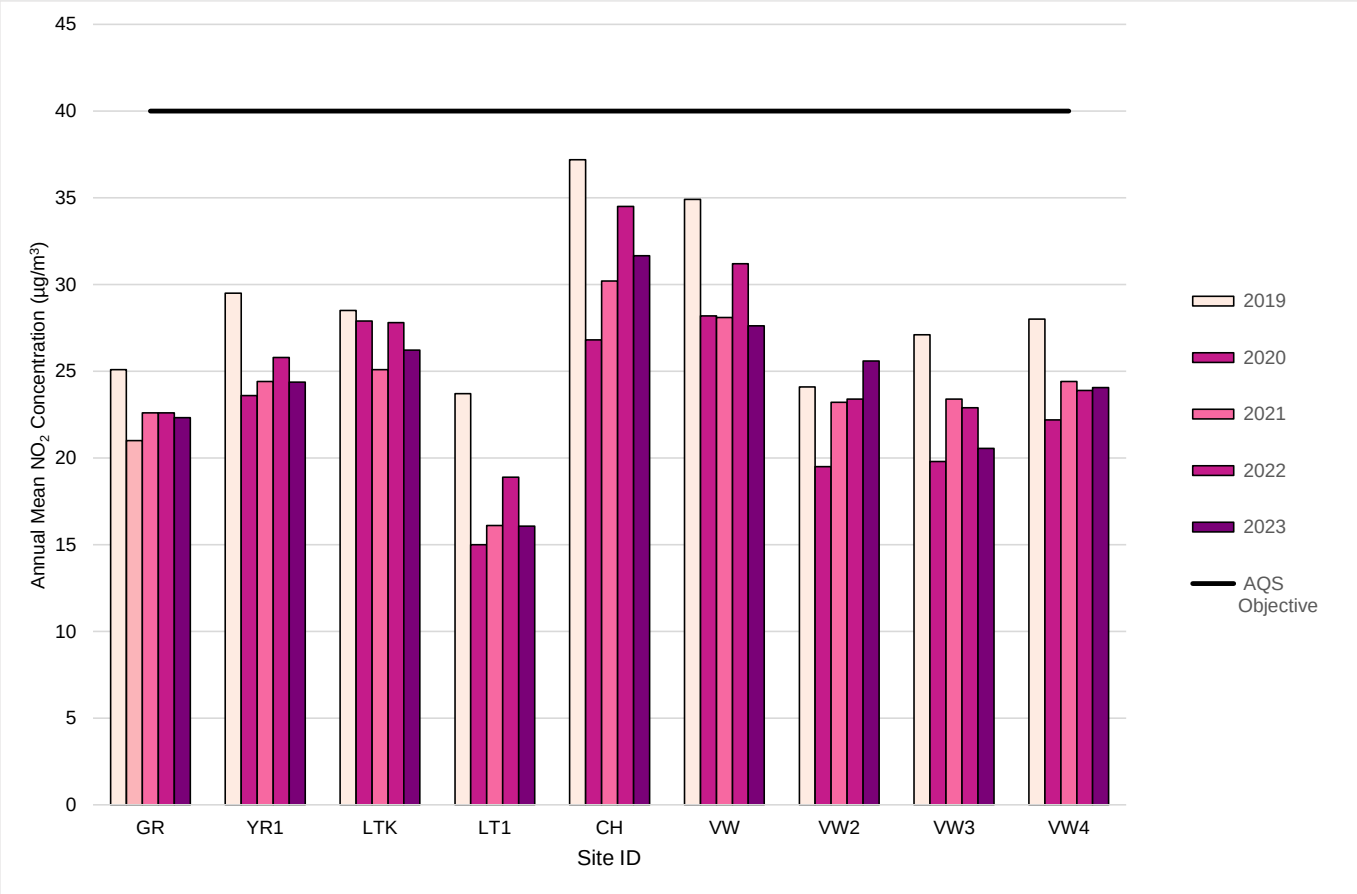


Figure A.4 – Trends in Annual Mean NO_2 Concentrations – Hook Heath and Kingfield

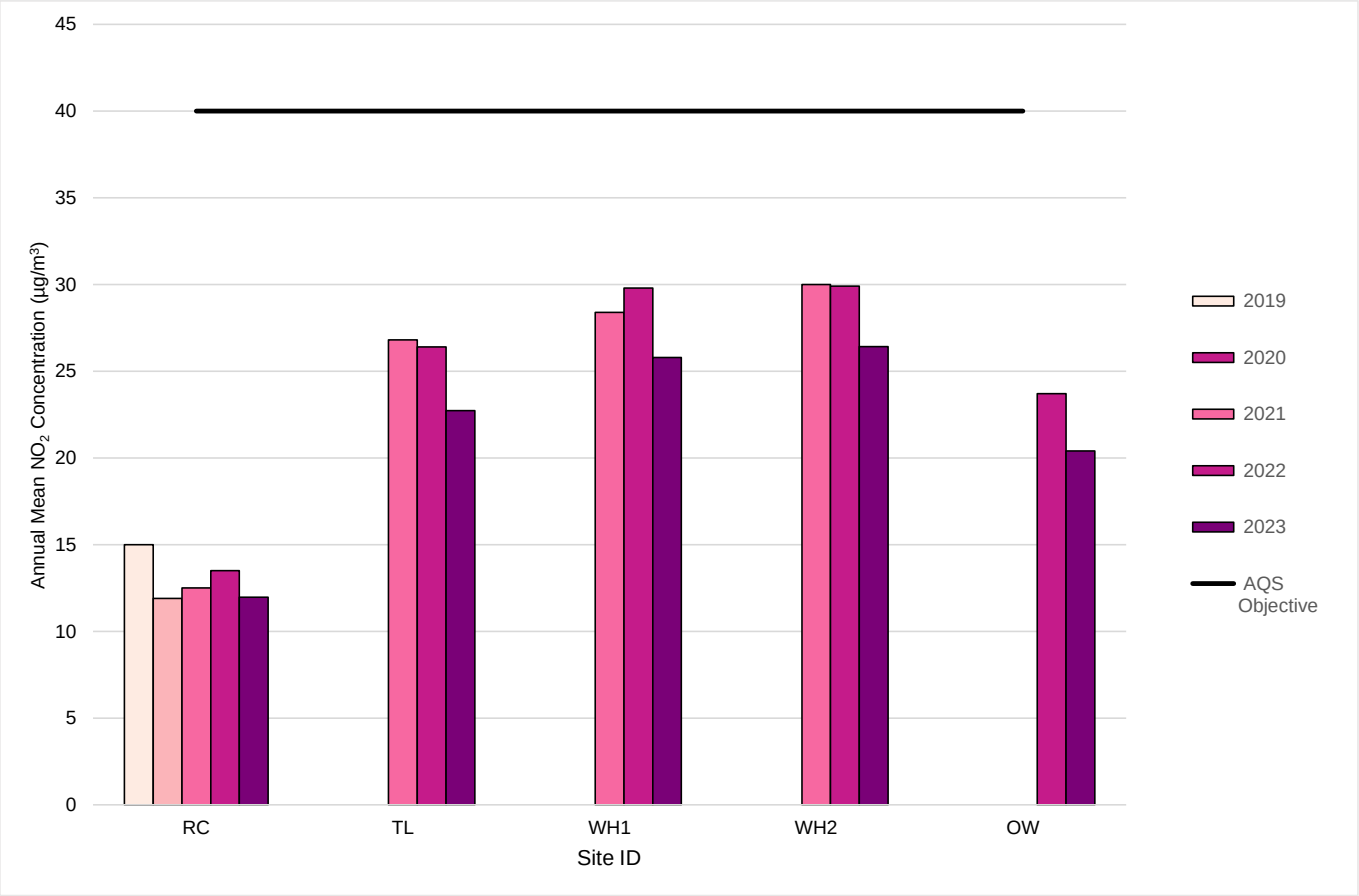
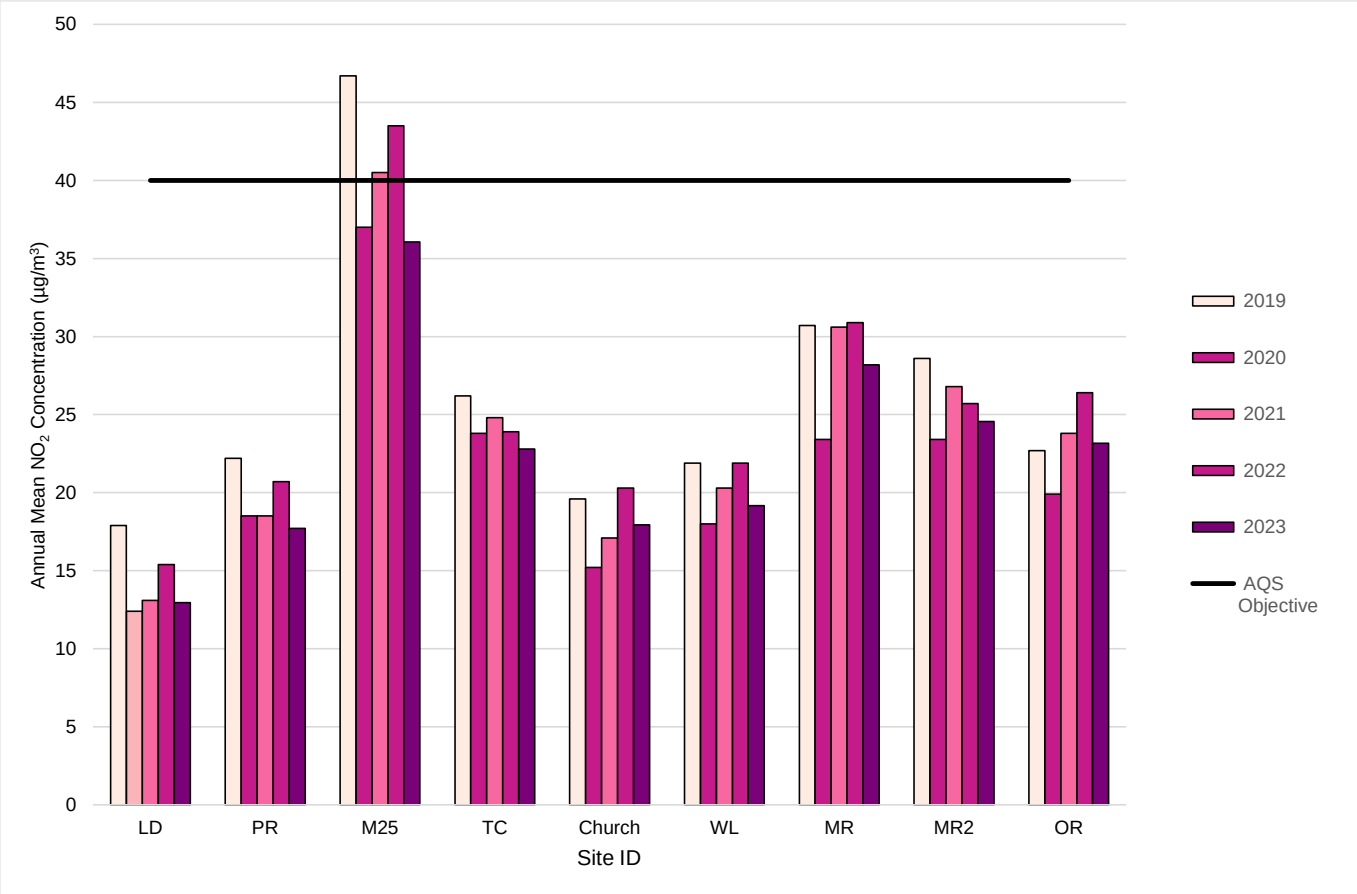


Figure A.5 – Trends in Annual Mean NO_2 Concentrations – Byfleet and Maybury



Appendix B: Full Monthly Diffusion Tube Results for 2023

Table B.1 – NO_2 2023 Diffusion Tube Results ($\mu g/m^3$)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.85)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
BD	498025	158949	20.0	18.0	13.0	14.0	11.0	11.0	13.0	10.0	15.0	16.0	19.0	15.0	14.6	12.4	-	
TW	498435	159451	18.0	22.0	12.0	15.0	11.0	13.0	11.0	8.0	16.0	15.0	15.0	13.0	14.1	12.0	-	
AH	496618	158699		36.0	38.0	34.0	36.0	35.0	36.0	30.0	46.0	50.0	43.0	33.0	37.9	32.2	-	
AH2	496615	158696	37.0	39.0	30.0	27.0	29.0	28.0							31.7	23.6	-	
AH3	496646	158750	26.0	28.0	23.0	22.0	15.0	23.0							22.8	17.0	-	
AH4	496679	158767	37.0	41.0	30.0	27.0	32.0	34.0							33.5	24.9	-	
AH5	496594	158698	29.0	34.0	25.0	25.0	16.0								25.8	17.3	-	
AH6	496586	158686	32.0	34.0	27.0	28.0	19.0	27.0							27.8	20.7	-	
LGR	496601	158668	28.0	29.0	22.0	23.0	26.0	27.0	21.0	18.0	27.0	26.0	27.0	20.0	24.5	20.8	-	
BR	495821	157793	27.0	26.0	23.0	28.0	29.0	26.0	23.0	20.0	34.0	30.0	28.0	21.0	26.3	22.3	-	
BR1	495852	157188	22.0	25.0	22.0	25.0	23.0	21.0	20.0	21.0	29.0	27.0	26.0	22.0	23.6	20.0	-	
GR	499952	158545	32.0	31.0	25.0	27.0	19.0	21.0	21.0		31.0	29.0	30.0	23.0	26.3	22.3	-	
YR	500450	158278	29.0	34.0	26.0	31.0	24.0	24.0	23.0	19.0	41.0	33.0	34.0	29.0	28.9	24.6	-	
YR1	500447	158256	34.0	37.0	27.0	27.0	22.0	23.0	26.0	21.0	36.0	32.0	34.0	25.0	28.7	24.4	-	
LTK	500437	158120	33.0	35.0	30.0	26.0	23.0	25.0	28.0	27.0	40.0	37.0	38.0	28.0	30.8	26.2	-	
LT1	500453	158100	24.0	24.0	18.0	17.0		16.0	17.0	12.0	18.0	20.0	24.0	18.0	18.9	16.1	-	
CH	500417	158102	32.0	41.0	37.0	39.0	38.0	38.0	31.0	29.0	53.0	42.0	36.0	31.0	37.3	31.7	-	
CH2	500367	158073	54.0	50.0	42.0	44.0	32.0	38.0	30.0	27.0	46.0	39.0	43.0	35.0	40.0	34.0	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.85)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
CH3	500330	158012	46.0	55.0	41.0	37.0	39.0	38.0	32.0	29.0	46.0	45.0	43.0	35.0	40.5	34.4	-	
CH4	500332	157983	42.0	40.0	35.0	40.0	35.0	31.0	32.0	26.0	42.0	38.0	37.0	31.0	35.8	30.4	-	
RC	500946	157110	21.0	18.0	12.0	13.0	10.0	12.0	11.0	9.0	15.0	16.0	19.0	13.0	14.1	12.0	-	
LD	503244	159659	22.0	19.0	13.0	15.0	15.0	12.0	13.0	11.0	17.0	16.0	19.0	11.0	15.3	13.0	-	
PR	504926	161063	25.0	23.0	20.0	20.0	20.0	20.0	19.0	15.0	25.0	22.0	24.0	17.0	20.8	17.7	-	
M25	505611	161180	38.0	53.0	39.0	40.0	49.0	42.0	38.0	27.0	53.0	47.0	49.0	34.0	42.4	36.1	-	
TC	506731	161229	34.0	34.0	23.0	31.0		30.0	19.0	19.0	27.0	23.0	30.0	25.0	26.8	22.8	-	
Church	506401	160504	27.0	24.0	19.0		16.0	15.0	28.0	21.0	20.0	20.0	24.0	18.0	21.1	17.9	-	
WL	502854	161062	29.0	29.0	20.0	17.0	18.0	22.0		19.0	22.0	25.0	27.0	20.0	22.5	19.2	-	
MR	501611	159645	31.0	32.0	29.0	39.0	36.0	33.0	27.0	30.0	45.0	33.0	35.0	28.0	33.2	28.2	-	
MR2	501613	159646	31.0	35.0	25.0			28.0	25.0	23.0		27.0	37.0	29.0	28.9	24.6	-	
OR	501679	159148	27.0	34.0	25.0	30.0	28.0	25.0	21.0	18.0	30.0	31.0	33.0	25.0	27.3	23.2	-	
VW	500510	159030	37.0	42.0	29.0	28.0	27.0	25.0	23.0	26.0	42.0	40.0	40.0	31.0	32.5	27.6	-	
VW2	500281	158827	29.0	28.0	28.0		53.0	35.0	29.0			21.0	28.0	20.0	30.1	25.6	-	
VW3	500270	158731	26.0	27.0	26.0	29.0	22.0	25.0	23.0	19.0	25.0	26.0		18.0	24.2	20.6	-	
VW4	500425	158584	33.0	31.0	27.0		28.0	25.0	24.0	21.0	34.0	28.0	32.0		28.3	24.1	-	
TL	499555	157846	32.0	32.0	28.0	28.0	25.0	21.0	20.0	19.0	32.0	26.0	33.0	25.0	26.8	22.7	-	
WH1	499624	157664	35.0	36.0	16.0	25.0	30.0	31.0	26.0	28.0	45.0	36.0	33.0	23.0	30.3	25.8	-	
WH2	499029	157667	37.0	38.0	30.0	23.0	26.0	31.0	27.0	26.0	46.0	27.0	35.0	27.0	31.1	26.4	-	
OW	501092	157006	28.0	32.0	23.0	22.0	23.0	21.0	19.0	14.0	28.0	25.0	28.0	25.0	24.0	20.4	-	

☒ **All erroneous data has been removed from the NO_2 diffusion tube dataset presented in Table B.1**.

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

☐ **Local bias adjustment factor used.**

☒ **National bias adjustment factor used.**

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

☒ **WBC confirm that all 2023 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System**.

Notes:

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

See Appendix C for details on bias adjustment and annualisation.

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

New or Changed Sources Identified Within WBC During 2023

WBC has not identified any new sources relating to air quality within the reporting year of 2023.

Additional Air Quality Works Undertaken by WBC During 2023

WBC has not completed any additional works within the reporting year of 2023

QA/QC of Diffusion Tube Monitoring

The diffusion tubes for 2023 were supplied by Lambeth Scientific Services and prepared using a 50% triethanolamine (TEA)/Acetone method).

The dates outlined in the Defra 2023 Diffusion Tube Monitoring Calendar[13] were adhered to when changing over diffusion tubes.

Lambeth Scientific Services take part in the analytical proficiency testing scheme (AIR-PT), operated by LGC Standards and supported by the Health and Safety Laboratory (HSL). During 2023, 0% of samples were determined to be satisfactory in the 1st quarter, 75% of samples were determined to be satisfactory in the 2nd quarter, 50% of samples were determined to be satisfactory in the 3rd quarter and 0% of samples were determined to be satisfactory in the 4th quarter.

Lambeth Scientific Services have provided assurance that their analytical procedures are in accordance with DEFRA guidance. Along with continuous monitoring of their procedures, remedial action is being put in place by Lambeth Scientific Services to ensure that a higher percentage of test samples are considered satisfactory in future rounds of the AIR-PT scheme.

[13] https://laqm.defra.gov.uk/air-quality/air-quality-assessment/diffusion-tube-monitoring-calendar/

Given the AIR-PT 1st and 4th quarter results for 2023, a further review of the reliability of the diffusion tube monitoring results for 2023 has been undertaken. The 'Precision and Accuracy' webpage[14] on DEFRA's LAQM website reports good/bad precision results from co-location studies in 2023; all three co-location studies using diffusion tubes prepared and analysed by Lambeth Scientific Services in 2023 had 'Good' diffusion tube precision. QA/QC of the raw diffusion tube data was also undertaken to remove any erroneous values from the data and did not highlight any clear overall issues with the dataset. Furthermore, the diffusion tube results have been bias adjusted in order to remove bias and improve their accuracy, in accordance with DEFRA's LAQM TG(22). Overall, it has therefore been considered appropriate to report the diffusion tube results from the 1st and 4th quarter of 2023 in this ASR rather than removing these results and annualising the data.

Diffusion Tube Annualisation

Results were annualised in line with guidance included in Box 7.9 and 7.10 of the LAQM.TG(22) for monitoring sites AH2, AH3, AH4, AH5 and AH6 as data capture was below 75%.

Data from Reading New Town, London Hillingdon, London N. Kensington and London Westminster automatic monitoring stations were used to derive the adjustment factors. All monitors are in background locations and had data capture above 85% in 2023 They are managed by the Automatic Urban and Rural Network (AURN), and ratified data was downloaded from the Air Quality England website[15]. Table C.1 details the calculations used to derive the annualisation factors.

Table C.1 – Annualisation Summary (concentrations presented in µg/m^3)

Site ID	Annualisation Factor London Hillingdon	Annualisation Factor Reading New Town	Annualisation Factor London N. Kensington	Annualisation Factor London Westminster	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
AH 2	1.0019	0.7979	0.8635	0.8414	0.8762	31.7	27.7
AH 3	1.0019	0.7979	0.8635	0.8414	0.8762	22.8	20.0

[14] https://laqm.defra.gov.uk/air-quality/air-quality-assessment/precision-and-accuracy/

[15] https://www.airqualityengland.co.uk/

Site ID	Annualisation Factor London Hillingdon	Annualisation Factor Reading New Town	Annualisation Factor London N. Kensington	Annualisation Factor London Westminster	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
AH 4	1.0019	0.7979	0.8635	0.8414	0.8762	33.5	29.4
AH 5	0.9120	0.6973	0.7693	0.7801	0.7897	25.8	20.4
AH 6	1.0019	0.7979	0.8635	0.8414	0.8762	27.8	24.4

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2024 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG22 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO_2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

WBC have applied a national bias adjustment factor of 0.85 to the 2023 monitoring data. A summary of bias adjustment factors used by WBC over the past five years is presented in Table C.2.

Table C.2 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2023	National	03/24	0.85
2022	National	03/23	0.95
2021	National	03/22	0.97
2020	National	03/21	0.96
2019	National	09/20	0.85

NO_2 Fall-off with Distance from the Road

Fall-off with distance calculation was not required for any of the monitoring sites within WBC as the monitoring locations are considered representative of exposure.

Appendix D: Maps of Monitoring Locations and AQMAs

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

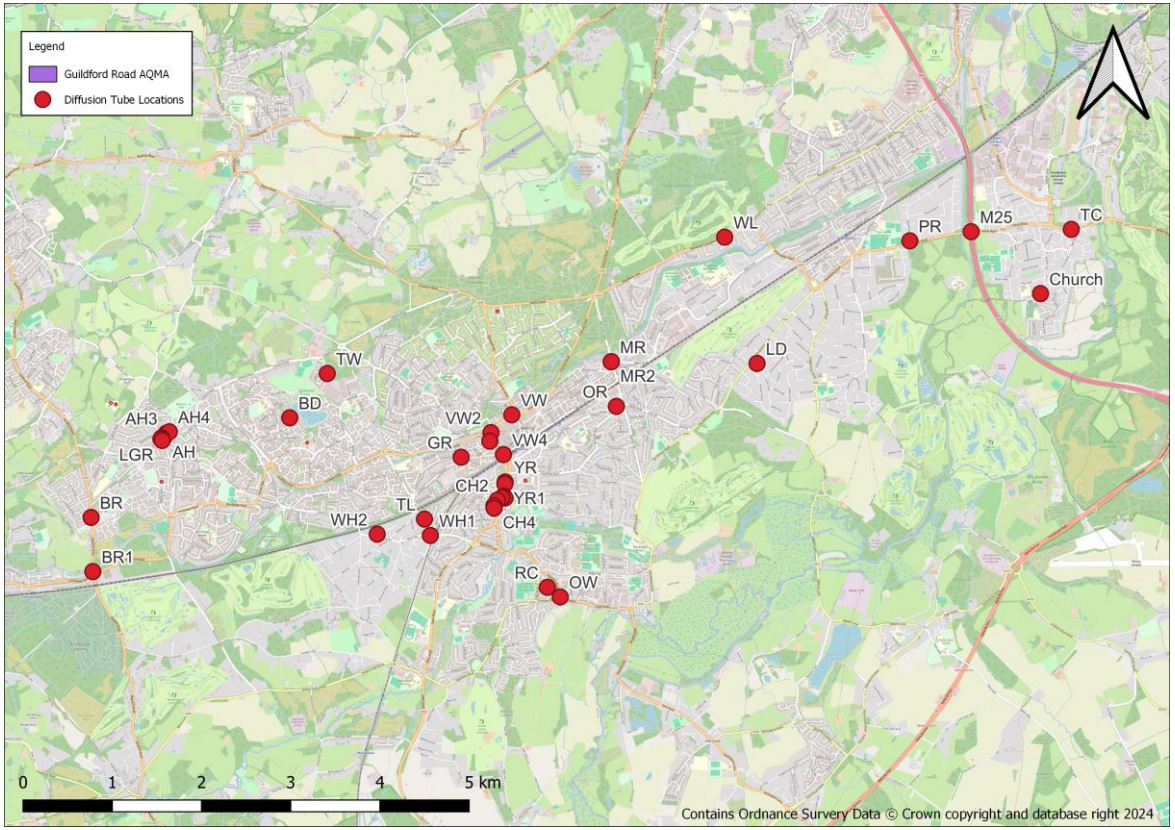
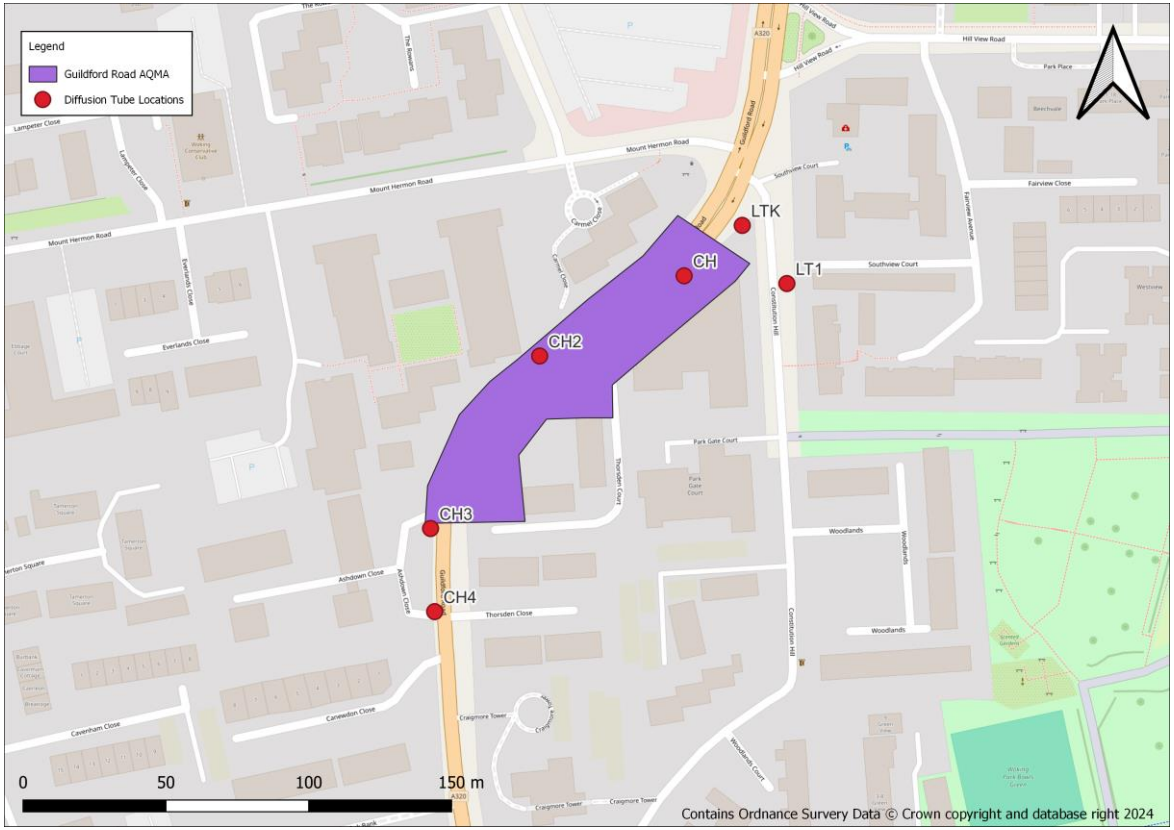


Figure D.2 – Map of Guildford Road AQMA and Diffusion Tube Locations



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England[16]

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

[16] 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	Annual Status Report
AQO	Air Quality Objective
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SAA	Surrey Air Alliance
SCC	Surrey County Council
SO_2	Sulphur Dioxide
SPD	Supplementary Planning Document
SWR	South Western Railway
WBC	Woking Borough Council
WHO	World Health Organisation

References

- 2016 LAQM Detailed Assessment for Woking Borough Council. November 2016. Published by Woking Borough Council.
- Defra 2023 Diffusion Tube Monitoring Calendar. 2022. Published by Defra. Available at https://laqm.defra.gov.uk/air-quality/air-quality-assessment/diffusion-tube-monitoring-calendar/
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- Chemical hazards and poisons report: Issue 28. June 2022. Published by UK Health Security Agency
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- Surrey Transport Plan Air Quality Strategy. January 2016. Published by Surrey County Council.