



2023 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 2023

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Executive Summary: Air Quality in Our Area

Air Quality in Woking

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

The mortality burden of air pollution within the UK is equivalent to 29,000 to 43,000 deaths at typical ages³, with a total estimated healthcare cost to the NHS and social care of £157 million in 2017⁴.

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

¹ Public Health England, Air Quality: A Briefing for Directors of Public Health, 2017

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

³ Defra, Air quality appraisal: damage cost guidance, January 2023

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

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 (NO₂) monitoring has been carried out throughout 2022. 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.

2022 NO₂ concentrations within WBC are similar, or slightly higher, than those recorded in 2021. However, at most locations, concentrations are lower than those recorded in 2019, before the Covid-19 pandemic.

Monitoring and analysis of NO₂ concentrations at all locations included in the monitoring programme should continue, with specific consideration on Guildford Road where there is a designated AQMA. The number of monitoring sites on Anchor Hill will be reduced following the revocation of the AQMA, but WBC will continue 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.

WBC has declared one AQMA at Guildford Road as a result of exceedance of the annual mean NO₂ AQO. Improvements in air quality across the Borough, has 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.

The Environmental Improvement Plan⁵ sets out actions that will drive continued improvements to air quality and to meet the new national interim and long-term PM_{2.5} targets. The National Air Quality Strategy, due to be published in 2023, will provide more information on local authorities' responsibilities to work towards these new targets and reduce PM_{2.5} in their areas. The Road to Zero⁶ details the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that the majority of AQMAs are designated due to elevated concentrations heavily influenced by transport emissions.

The 2019 Clean Air Strategy⁷ sets out the case for action, with goals to reduce exposure to harmful pollutants.

WBC adopted its 'Woking for All' corporate strategy⁸ at the Executive on 16th June 2022, which includes a core 'greener communities' theme, acknowledging the commitment to climate change action by the Local Authority, improvements to Air Quality and its role as a key influencer and enabler for engagement by others. The Woking for All strategy sets the strategic direction for shaping the future of the Borough and the 'greener communities' theme places carbon reduction at the centre of WBCs decisions and actions.

The Environment Act 2021⁹ was established to legally bind duty on government to bring forward at least two new air quality targets in secondary legislation by 31st October 2022.

⁵ Defra, Environmental Improvement Plan 2023, January 2023

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

⁷ Defra, Clean Air Strategy, 2019

⁸ Woking Borough Council, Woking for all, 2022-2027, June 2022

⁹ <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

This duty sits within the environmental targets framework outlined in the Environment Act (Part 1). The proposed air quality targets, relating to PM_{2.5}¹⁰, are:

- Annual Mean Concentration Target ('concentration target') - a maximum concentration of 10µg/m³ to be met across England by 2040; and
- Population Exposure Reduction Target ('exposure target') - a 35% reduction in population exposure by 2040 (compared to a base year of 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 (NO₂, PM₁₀ and PM_{2.5}) across Surrey. The Council will work with the SAA to deliver an update to the Surrey-wide modelling in 2024. Once the data from the 2024 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 2022:

<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 will go out for public consultation from 18 – 30 June 2023, reaffirming 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

¹⁰ [https://uk-air.defra.gov.uk/library/air-quality-targets#:~:text=The%20Environment%20Act%202021%20establishes,Environment%20Act%20\(Part%201\).](https://uk-air.defra.gov.uk/library/air-quality-targets#:~:text=The%20Environment%20Act%202021%20establishes,Environment%20Act%20(Part%201).)

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) is also under review. Both documents were considered by the Executive at its meeting on 23rd March 2023 and approved for public consultation. The consultation will run from 18 – 30 June 2023, the details of which will be published via the Woking Community Forum on the Council's website.

Climate change and biodiversity focused communications continue through the Planet Woking programme across social media, the [Planet Woking website](#) and regular [e-newsletters](#). Coverage of topics with links to air quality include [Better Points](#), walking and cycling and posts about national campaigns such as car free day and cycle to work day etc.

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 CO₂ 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:

- Participation in Clean Air Day campaign on 16th June 2022;
- WBC undertook a [carbon footprint assessment](#) in 2022, which gives the Council its most accurate insight to date into its emissions and pathways to a net zero estate;
- WBC continues to work with SCC on the local transport plan LTP4, adopted on 12th July 2022, to continue to secure local travel improvements;

- Publishing of information and spotlight on the effects of [wood burning](#) on the WBC website ([Open fires and wood-burning stoves | Woking Borough Council](#));
- Promotion of sustainable transport options via the Planet Woking website including articles on [electric vehicles](#), the [Better Points app](#) that rewards active travel and [walking and cycling](#).
- Promotion and support of [Woking Environment Action](#)'s programme of events to mark Great Big Green Week from 24th September to 2nd October 2022; and
- Forming partnerships with the Surrey Heartlands Paediatric Asthma Network to pool information regarding the effects of indoor and outdoor pollution for the development of an asthma toolkit for the Asthma Bundle of Care for Children and Young People (C&YP) across Surrey. The toolkit also includes information regarding the airAlert service and is now hosted on the Healthy Surrey website. WBC and SAA have attended regular meetings to support with the production of an Air Quality Pack for healthcare professionals, with the aim of ensuring air quality information is easily accessible and available, and messaging about what poor air quality means for patients, and what actions they can take, is clearly set out. In 2023 the Surrey Air Alliance gave a briefing on air quality (17th May) to the Surrey Asthma Network, including a discussion on ozone levels across the county and how this can also impact on health aside from PM and nitrogen dioxide. The group also helped the Surrey Heartlands Children and Young People's Asthma Team at their Children and Young People's Asthma Learning Event on the 20th June 2023, with a stand demonstrating the Surrey air alert service, and other pollution services available across the UK. The event was well attended by a number of health care professionals (doctors, nurses, and pharmacists) working in asthma and respiratory medicine, and provided a key forum at which to demonstrate pollution warning services in Surrey.

Conclusions and Priorities

- WBC is committed to reducing business associated mileage and has replaced one of its petrol car club vehicles with an EV;
- WBC continues to participate in the Surrey EV Strategy Forum. The aim of this forum is to work together to deliver a consistent strategy across the County to

provide the necessary EV infrastructure for Surrey residents to help meet common climate targets and facilitate a shift to zero emission transport in line with the government's Road to Zero Strategy which bans the sale of petrol and diesel vehicles from 2030;

- A key objective of the Surrey EV 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. Concession frameworks are a popular delivery mechanism for local authorities looking to increase EV infrastructure as they offer no or low-cost options with extensive roll out of fast and rapid charge points. Following a competitive tender process, SCC identified a concession framework operator in December 2022 with the contract to be finalised in Spring 2023. The contract will be extended to interested districts and boroughs to formalise participation and to nominate locations to inform a network delivery plan;
- WBC continues to incentivise lower emission vehicles through differential parking charges with a 40% discount applied to season tickets for vehicles with less than 100 g/km CO₂ emissions (from April 2023 until April 2024);
- WBC encourages its own staff to make sustainable travel choices through its Staff Transport Plan;
- WBC ensures sustainable travel and travel planning is a consideration in all development schemes through its Planning policies. The Parking SPD also advises on the number of charge points per dwelling; and
- WBC commits to supporting improvements to public and shared transport services operating in the Borough, including provision of electric buses and minibuses.

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) Signing up to Planet Woking to keep up to date with all the latest news. See here: <https://planetwoking.co.uk/>;
- 5) Comment on planning applications and voicing any air quality impact concerns you may have; and
- 6) 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

AirAlert is a service warning local residents who have respiratory problems when the air pollution in Woking is going to be high. This is a free subscription service which individuals, who suffer from asthma, COPD, emphysema or other respiratory illnesses, can sign up to in order to receive either an email, text message or voicemail giving an advanced warning of high pollution levels. See here: <http://airalert.info/Surrey/Default.aspx>



Other 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:

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Lara Beattie, Senior Policy Officer, Green Infrastructure

This ASR has been approved by:

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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 Status Reports (ASR) on air quality within their area; to develop initiatives, air quality action plans, and implement actions to improve air quality across the County of Surrey,

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 2022. 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

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. Guildford Road AQMA (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 NO₂ AQO. WBC are continuing to monitor air quality within the Guildford Road AQMA. NO₂ concentrations monitored have been compliant with the relevant AQOs since 2020 and the AQMA will be investigated 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.

2.1.1 Guildford Road AQMA

Exceedances of the annual mean AQO for NO₂ 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 Road¹¹. 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

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<https://www.woking.gov.uk/sites/default/files/documents/environmentalservices/detailedassessmentforguildfordroad.pdf>

monitoring was recommended around the junctions where Guildford Road meets York Road and Station Approach to confirm if the NO₂ 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 is due for review in 2023. 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. An internal review will be carried out by WBC's Pollution Officer and a report will be produced early 2023 setting out the current monitoring data and reviewing the current status of the actions set out in the 2015 action plan.

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 an uncertainty surrounding the changes from the near completed highways works on Victoria Way, the impact of temporary diverted traffic from Town Centre works and the future of the HIF project to replace the railway arch, 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 NO₂ 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 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 NO₂ AQO at Anchor Hill.

Based on the results of the Anchor Hill Further Assessment (completed in January 2015¹²) 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 2015¹³ 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 NO₂ 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 NO₂ in the Anchor Hill AQMA has not been exceeded for the past 6 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 6 years and the research carried out for the AQAP, which indicates that the reduction in emissions associated with the national replacement of older vehicles, with new lower

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<https://www.woking.gov.uk/sites/default/files/documents/environmentalservices/furtherassessmentforanchorhillaqma.pdf>

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

emitting models are likely to further reduce NO₂ 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/mglIssueHistoryHome.aspx?IId=19743>.

A summary of the remaining AQMA declared by WBC can be found in Table 2.1. Appendix D: Map(s) 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 objectives pertinent to the current AQMA designation is NO₂ annual mean.

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	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)	36.4	4 years	Guildford Road AQMA Air Quality Action Plan 2017	https://www.woking.gov.uk/sites/default/files/documents/environmental-services/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.**

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.

- Reference to the Public Health Outcomes Framework has been made and this practice should continue going forward;
- Trends have been presented with a robust comparison to the Air Quality Objectives; and
- QA/QC procedures are robust, with sufficient supporting evidence provided.

WBC has taken forward a number of direct measures during the current reporting year of 2022 to improve local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. 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 AQAP¹⁴, as well as in the Surrey Transport Plan: Air Quality Strategy¹⁵.

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

- In March 2021, SAA were successful in their bid for the DEFRA 2020/21 Air Quality Grant, and were awarded £256,686.000 to fund a project to encourage a greater uptake of Electric Vehicles as Taxi's across 7 eligible Boroughs and Districts in Surrey. Taxis were selected as the target vehicles given the high mileage and multiple trips the vehicles make within Surrey's Air Quality Management Areas, and the nature of the journeys which take the vehicles into areas frequented by the members of our communities who are most sensitive to air pollution, such as to

¹⁴https://www.woking.gov.uk/sites/default/files/documents/environmentalservices/WBC_Guildford%20Rd_AQAP%20final%20report.pdf

¹⁵ Surrey County Council. Surrey Transport Plan Air Quality Strategy, January 2016.

hospitals, care facilities and schools. Following attempts to find a supplier and to begin procurement in 2021, it became clear that the prolonged impact of the pandemic on the taxi trade made the project unviable as it had been originally configured, and no vehicle supplier could be found. The project was reconfigured to accommodate longer vehicle trials based on feedback from the taxi trade and potential vehicle suppliers and submission of the reconfigured project was made to Defra for approval. The project team obtained legal advice regarding State Subsidy Control, and this was submitted to Defra for review at their request. Defra took over 6 months to confirm that the reconfigured project could continue. Due to the time that had passed, the match funding source was no longer available, so additional match funding is now being explored to enable the project to commence.

- SCC's Temporary Eco Schools Officer will remain in post until Summer 2023, working with state and independent schools on their Modeshift STARS and Green Flag Awards for submission in July. In 2022 there were 65 Schools engaged in the programme and working on Travel Plans; and
- Work is taking place to identify and prioritise school streets to focus on for the enforcement of anti-idling. SAA are collaborating with SCC and other partners to ensure that the most polluted streets and schools are prioritised for this piece work going forward.
- WBC will look at how to extend the reach of the Clean Air Day campaign for 2023 and explore ways of involving more health, business sector and climate change partners to raise awareness amongst a variety of communities and sectors across Woking.
- In 2022, SAA, Trading Standards and Global Action Plan collaborated on a joint bid to the Defra Air Quality Fund, on a proposal to deliver a regional and county wide educational campaign on the issue of domestic wood burning. On this occasion, the bid was not shortlisted and as such was unsuccessful. The sub-group are continuing to explore what educational work can be done with the resources available. Through WBC's involvement in the SAA, partnership working will continue to remain a priority, including working alongside the health sector, other agencies and enforcement authorities to explore future joint bidding opportunities for funds to deliver localised projects addressing air quality.
- A bid application was submitted to South Western Railway's Customer and Communities 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 was awarded in early 2023.

- WBC worked to implement the following additional measures in partnership with stakeholders during 2022:

The Council continues to fund and promote the airAlert Pollution warning service to people living and working in the Borough. As of the 6th March 2023, 77 people in Woking were subscribed and a total of 1,029 subscribed across the whole of the County; and WBC continues to work closely across local authority boundaries through the SAA and with the Pollution leads in other districts and boroughs to ensure good communication is upheld on air quality matters and to review and comment on developments in other areas that could have a knock-on impact for Woking. This has helped to address regional air pollution and prevent migration of traffic and emissions to other communities.

WBC anticipates that the measures stated above and in Table 2.2 will help towards achieving compliance in the Guildford Road AQMA.

Whilst the measures stated above and in Table 2.2 will help to contribute towards compliance, WBC anticipates that further additional measures not yet prescribed will be required in subsequent years to achieve compliance and enable the revocation of Guildford Road AQMA.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	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
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. LWCIP 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
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

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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	<p>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.</p> <p>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, including cycle stores for The Marches, residential towers. A bid application was submitted to South Western Railway's Customer and Communities 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.</p>	None. Next phase dependent on success of funding bid

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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 Itp (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 The Broadway Junctions.	None.
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). This four year project will see the widening of the highway	Timescales unknown due to project re-scoping

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														along Guildford Road and Victoria Road, enhance traffic management systems and improve pedestrian and cycle routes to Woking Train Station, the Town Centre and improve join up with other existing off-road routes. in 2022 works were paused so that the project plans could be re-scoped in scale and spend.	
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 87 EV charging points across Town Centre car parks, 70 of which were newly installed as part of the Victoria Place development. 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 CO2 emissions are less than 100 g/km). SCC's On-Street Electric Vehicle Charging Point (EVCP) project has seen the installation 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	Potential barriers identified within the statement

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														<p>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.</p> <p>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. Following a competitive tender process, SCC identified a concession framework operator in December 2022 with the contract to be finalised 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.</p>	
9	EV Charging Points	Promoting Low Emission Transport	Procurring 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	<p>Reduce tailpipe emissions in AQMA.</p> <p>Usage monitoring from 2023 once telemetry system is installed.</p>	<p>Progressed work to expand electric vehicle charging infrastructure and £166,060 funding was successfully secured from Office for Zero Emission vehicles for installation of EV points in the new Red Shoppers Car Park. A back office telemetry system will be connected in 2023 to enable use monitoring.</p>	None

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														<p>SCC using residents suggestions to inform a draft network plan for future EV charging installations. Woking locations were submitted as part of the consultation.</p> <p>Green Infrastructure officers are currently developing a draft Electric Vehicle Strategy</p>	
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	<p>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 proposal has been approved by Defra, but due to the time lapse, new match funding needs to be secured before the project can progress.</p>	New match funding to be obtained before Defra funding can be committed and spent
11	Encourage EV uptake in companies via Business liaison	Promoting Low Emission Transport	Company Vehicle Procurement -Prioritising uptake of low emission vehicles	N/A	On-going	WBC/ SCC/ Woking Works / local businesses / Planet Woking	n/a	NO	n/a	n/a	Implementation	Y	Number of Evs added to company fleets or EV infrastructure installed	<p>WBC actively promotes available Government Grants for low emissions vehicles, including the Workplace Charging Scheme (WCS). Articles to promote electric vehicles and signpost to more information have been published to the Planet Woking website</p>	None

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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. Information about EVs, grants and advice is also available on the Planet Woking website	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 (one car), Victoria Place (one car) and at Quadrant Court (two cars).	None identified
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

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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 hired through the car club operated by Enterprise Rent A Car Ltd.	None
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	None

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															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. Design and planning work for the walking and cycling bridge and Victoria Way cycle schemes are ongoing, with options on how they can be delivered alongside the ongoing Victoria Arch Widening Project being explored.	
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 band B vehicles. Those with a band G rating (the highest band) pay a 25% surcharge.	None	

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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	<p>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.</p> <p>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.</p> <p>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.</p> <p>SAA have submitted a bid on 14 Oct 2020 around the promotion of EV Taxis. The bid was successful and match funding was agreed</p>	None

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														using SCC transformation grant and officer time. The proposals for a rescoped version of the project were agreed by Defra early 2023, and new match funding is now being explored, due to the time lapse since the initial funding agreement.	

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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	On-going	WBC/ Woking Chamber of Commerce / Woking Works	LOCASE	NO	Funded	£100k - £500k	Implementation	Y	Business engagement and ownership of climate and air quality initiatives	WBC continues to work 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 includes 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. WBC's Officers continue to attend the Woking Chamber of Commerce's Environment Committee to engage with the business community on ways they can assist with their own sustainability practices. Woking Works are also developing and building on their 'Go Green' business support and resources, with their online forum which signposts businesses to advice, funding streams and initiatives; including resources like the emissions reporting guide. To date, LoCASE has received 90 enquiries from Woking businesses resulting in nine successful applications so far. In total the initial nine applications will receive £44,077 in LoCASE grants, generating an investment of £134,617 and saving just over 31	None

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														tonnes of CO2 equivalent emissions. The projects will enable a total annual saving of at least £34,243 in energy costs for these businesses. In addition, LoCASE delivered an in-person Net Zero 360: Roadmap to your business Net Zero Journey' course on 23 rd February in Woking at the WWF HQ. The first meeting of the think tank, CREST Consortium, which aims to make Surrey the green hub for UK's business sector. The launch brought together leading international academics with businesses operating and based in the County and the group is supported by Surrey University. It is the latest initiative of the CREST Business Awards programme, which will be officially opened to entries for the CREST23 Business Awards, from Monday 6 th March 2023. In 2022 Woking were the winners of Surrey's green business awards, presented on 19 th May 2022 at the WWF HQ.	
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	Temporary contract for Schools Officer post

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														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 2022 there were 65 schools in the County working on their Travel Plans and 35 schools in the County signed up to the commitment to achieve Net Zero by 2030 under the 'Let's Go Zero' programme. 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.	
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 will take place to identify and prioritise school streets	None

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														for the rollout of this project.	
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. A funding bid was submitted to Defra in 2022, but was not shortlisted. 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 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.	Funding bid could be unsuccessful and therefore additional funding to deliver these programmes will need to be identified
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 16 th June with social media engagement and	None

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														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.	
24	airAlert Subscription	Public Information	Via the Internet	April 2015	On-going	WBC	WBC	NO	Committed	£958 per annum	Implementation	N	Monitoring of numbers subscribed	WBC continue to subscribe to the Surrey airAlert service, to ensure the borough's residents have access to a free service. The service forewarns local residents who have respiratory problems, such as asthma, COPD or emphysema, when air pollution in Woking is going to be high. Throughout 2022 SAA joined forces with the Surrey Heartlands Paediatric Asthma Network to help with the development of their asthma toolkit to provide information on triggers of asthma that are exacerbated by indoor and outdoor air pollution.	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 addition, information is held on the Planet Woking website on how to	None

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														make your own living wall at home. In 2022, WBC took part in National Tree week from 26 th November to 4 th December 2022 and promoted a step-by-step guide on 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 consideration	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	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 conferencing 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 17 th 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	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. The movement of existing monitoring locations has been welcomed. A costing exercise for automatic monitoring stations or	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	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
														indicative monitors was also explored in 2021 to investigate the best monitoring solution for the Borough moving forward, demonstrating the Council's pro-active and dedicated approach to improving Air Quality and finding the best monitoring solutions.	
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	<p>Further to the Council's climate change and ecological emergency declaration in July 2019, the Council continues to deliver climate and biodiversity-focused public engagement through the Planet Woking communications programme, launched in September 2020. Articles, features and promotion of local groups and events are shared via Planet Woking's social media channels, the website and regular e-newsletters.</p> <p>Running in parallel to the climate change strategy review, the Council's Climate Change SPD is under review and out for public consultation from 18th June 2023, ending on 30 June 2023.</p> <p>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</p>	Under review. Lengthy timescales for final implementation.

Measure No.	Measure	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 Health 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, the AQAP for Guildford Road will be reviewed in 2023 and an internal report will be produced outlining progress against the action plan measures, as 2023 will mark 5 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. A full review of the Guildford Road AQAP cannot be carried out until the plans have been confirmed.	Modelling and review of AQAP on hold until the Victoria Arch HIF scheme has been re-scoped and new traffic flows are known. Interim review to be completed in the meantime, against the current actions set in the 2018 AQAP.

Measure No.	Measure	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
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. A review of the Climate Change Strategy is underway and at public consultation stage, which will run from 18 June 2023 – 30 June 2023.	None
33	Climate Change and Biodiversity focused communications	Public Information	Via other mechanisms	2019	On-going	Planet Woking	n/a	NO	n/a	n/a	Implementation	Y		Work continues through the Planet Woking website and regular e-newsletters covering topics with links to Air Quality, such as Better Points scheme, walking and cycling and posts about National Campaigns such as Car Free Day and Cycle to Work Day etc. One example of PW's work, which highlights the cross-over of AQ initiatives was the Sustainable Transport webinar which took place on 18 May 2022.	None

Measure No.	Measure	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
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	Implementation	Y	Improved awareness, profile raising of air quality initiatives promoted by Planet 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 agreed for a further two years to July 2023 of Planet Woking, the council's climate and biodiversity communications programme, helping residents reduce their carbon footprint and impact on the environment. Communications will continue to be managed in-house within existing budgets post-July 2023.	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 points to charitable donation.	None
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 serves 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	To be implemented in line with new guidance, which requires abatement for all new cremators (31 st December 2025 in current draft of PG5/2)

Measure No.	Measure	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
														licence and an agreement reached for the cremators to be replaced by 2025.	
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 and Street Family Framework.	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 under the LTP4.

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

As detailed in Policy Guidance LAQM.PG22 (Chapter 8), local authorities are expected to work towards reducing emissions and/or concentrations of PM_{2.5} (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that PM_{2.5} has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

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/m³ 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. The sub-group will remain 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. 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 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 2022 by WBC and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2018 and 2022 to allow monitoring trends to be identified and discussed.

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 NO₂ at 38 sites during 2022. 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.

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.

3.1.3 Nitrogen Dioxide (NO₂)

Table A.2 in Appendix A compare the ratified and adjusted monitored NO₂ annual mean concentrations for the past five years with the AQO of 40µg/m³. 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 2022 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

3.1.4 Particulate Matter (PM₁₀)

WBC does not undertake any PM₁₀ monitoring.

3.1.5 Particulate Matter (PM_{2.5})

WBC does not undertake any PM_{2.5} monitoring.

3.1.6 Sulphur Dioxide (SO₂)

WBC does not undertake any SO₂ 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	NO ₂	NO	6.0	2.0	NO	2.5
TW	Tresta Walk	Roadside	498435	159451	NO ₂	NO	9.5	1.5	NO	2.7
AH	Anchor Hill 1	Kerbside	496618	158699	NO ₂	NO	0.0	1.0	NO	2.7
AH2	Anchor Hill 2	Roadside	496615	158696	NO ₂	NO	0.0	5.0	NO	2.4
AH3	Anchor Hill 3	Roadside	496646	158750	NO ₂	NO	0.0	5.0	NO	2.8
AH4	Anchor Hill 4	Roadside	496679	158767	NO ₂	NO	6.0	2.0	NO	2.5
AH5	Anchor Hill 5	Roadside	496594	158698	NO ₂	NO	0.0	5.0	NO	2.6
AH6	Anchor Hill 6	Roadside	496586	158686	NO ₂	NO	0.0	2.0	NO	2.7
LGR	Lower Guildford Rd	Roadside	496601	158668	NO ₂	YES	0.0	3.0	NO	2.6
BR	Bagshot Road	Kerbside	495821	157793	NO ₂	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	NO ₂	NO	21.0	1.5	NO	2.6
GR	Goldsworth Road	Kerbside	499952	158545	NO ₂	NO	6.0	1.0	NO	2.6
YR	York Road	Kerbside	500450	158278	NO ₂	NO	12.0	1.0	NO	2.6
YR1	York Road	Kerbside	500447	158256	NO ₂	NO	18.0	1.0	NO	2.8
LTK	Constitution Hill 1	Kerbside	500437	158120	NO ₂	NO	3.0	1.0	NO	2.5
LT1	Constitution Hill 1	Kerbside	500453	158100	NO ₂	NO	15.0	1.0	NO	2.8
CH	Constitution Hill 4	Roadside	500417	158102	NO ₂	YES	4.0	1.5	NO	2.7
CH2	Constitution Hill 5	Kerbside	500367	158073	NO ₂	YES	12.0	1.0	NO	2.3
CH3	Constitution Hill 6	Roadside	500330	158012	NO ₂	YES	14.0	1.5	NO	2.5
CH4	Constitution Hill 7	Kerbside	500332	157983	NO ₂	NO	17.0	1.0	NO	2.6
RC	Rosebery Crescent	Kerbside	500946	157110	NO ₂	NO	10.0	1.0	NO	-
LD	Lincoln Drive	Kerbside	503244	159659	NO ₂	NO	12.0	1.0	NO	2.7

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)
PR	Dartnell Avenue (previously Parvis Road)	Kerbside	504926	161063	NO ₂	NO	12.0	1.0	NO	2.3
M25	M25	Other	505611	161180	NO ₂	NO	n/a	0.0	NO	2.6
TC	The Cedars	Roadside	506731	161229	NO ₂	NO	24.0	4.0	NO	2.9
CR	Church Road	Kerbside	506401	160504	NO ₂	NO	6.0	1.0	NO	2.5
WL	Woodham Lane	Kerbside	502854	161062	NO ₂	NO	31.0	1.0	NO	2.7
MR	Monument Road	Roadside	501611	159645	NO ₂	NO	4.0	2.0	NO	2.4
MR2	Monument Road	Roadside	501613	159646	NO ₂	NO	18.0	2.0	NO	2.7
OR	Oriental Road	Roadside	501679	159148	NO ₂	NO	26.0	3.0	NO	2.5
VW	Victoria Way	Kerbside	500510	159030	NO ₂	NO	20.0	1.0	NO	2.5
VW2	Victoria Way 2	Roadside	500281	158827	NO ₂	NO	44.5	8.0	NO	2.7
VW3	Victoria Way 3	Roadside	500270	158731	NO ₂	NO	6.5	3.0	NO	2.7
VW4	Victoria Way 4	Roadside	500425	158584	NO ₂	NO	30.0	5.5	NO	2.5

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
TL	Triggs Lane	Roadside	499555	157846	NO ₂	NO	14.0	1.3	NO	2.3
WH1	Wych Hill 1	Roadside	499624	157664	NO ₂	NO	12.5	1.1	NO	2.2
WH2	Wych Hill 2	Roadside	499029	157667	NO ₂	NO	12.5	2.3	NO	2.5
OW	Old Woking High Street	Roadside	501092	157006	NO ₂	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 NO₂ Monitoring Results: Non-Automatic Monitoring (µg/m³)

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 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
BD	498025	158949	Roadside	92.3	92.3	16.1	14.4	11.0	12.1	14.3

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 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
TW	498435	159451	Roadside	100.0	100.0	16.2	12.7	11.2	11.6	14.3
AH	496618	158699	Kerbside	100.0	100.0	39.0	38.0	28.4	35.3	36.4
AH2	496615	158696	Roadside	58.2	58.2	31.2	30.9	25.7	30.5	25.8
AH3	496646	158750	Roadside	100.0	100.0	23.9	23.0	18.8	20.6	21.4
AH4	496679	158767	Roadside	90.4	90.4	28.6	22.0	23.0	28.7	30.2
AH5	496594	158698	Roadside	100.0	100.0	31.1	25.7	20.2	22.4	23.6
AH6	496586	158686	Roadside	100.0	100.0	34.0	37.2	20.1	23.1	25.2
LGR	496601	158668	Roadside	100.0	100.0	27.0	26.7	21.6	20.6	23.0
BR	495821	157793	Kerbside	90.4	90.4	28.5	26.8	24.0	23.3	25.4
BR1	495852	157188	Roadside	100.0	100.0	26.5	21.6	23.0	21.2	20.3
GR	499952	158545	Kerbside	100.0	100.0	26.2	25.1	21.0	22.6	22.6
YR	500450	158278	Kerbside	100.0	100.0	30.0	27.5	22.0	24.6	27.6
YR1	500447	158256	Kerbside	100.0	100.0	31.2	29.5	23.6	24.4	25.8

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 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
LTK	500437	158120	Kerbside	100.0	100.0	28.3	28.5	27.9	25.1	27.8
LT1	500453	158100	Kerbside	100.0	100.0	35.0	23.7	15.0	16.1	18.9
CH	500417	158102	Roadside	100.0	100.0	41.8	37.2	26.8	30.2	34.5
CH2	500367	158073	Kerbside	100.0	100.0	43.5	40.0	34.1	38.1	33.0
CH3	500330	158012	Roadside	90.4	90.4	38.6	35.2	31.7	34.3	34.4
CH4	500332	157983	Kerbside	91.8	91.8	38.5	34.3	28.6	32.0	33.8
RC	500946	157110	Kerbside	92.3	92.3	18.0	15.0	11.9	12.5	13.5
LD	503244	159659	Kerbside	100.0	100.0	22.3	17.9	12.4	13.1	15.4
PR	504926	161063	Kerbside	100.0	100.0	26.5	22.2	18.5	18.5	20.7
M25	505611	161180	Other	100.0	100.0	53.9	46.7	37.0	40.5	43.5
TC	506731	161229	Roadside	100.0	100.0	31.3	26.2	23.8	24.8	23.9
CR	506401	160504	Kerbside	100.0	100.0	22.9	19.6	15.2	17.1	20.3
WL	502854	161062	Kerbside	100.0	100.0	25.0	21.9	18.0	20.3	21.9

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 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
MR	501611	159645	Roadside	100.0	100.0	31.6	30.7	23.4	30.6	30.9
MR2	501613	159646	Roadside	82.7	82.7	37.0	28.6	23.4	26.8	25.7
OR	501679	159148	Roadside	100.0	100.0	27.7	22.7	19.9	23.8	26.4
VW	500510	159030	Kerbside	100.0	100.0	35.9	34.9	28.2	28.1	31.2
VW2	500281	158827	Roadside	100.0	100.0	27.9	24.1	19.5	23.2	23.4
VW3	500270	158731	Roadside	100.0	100.0	26.8	27.1	19.8	23.4	22.9
VW4	500425	158584	Roadside	92.3	92.3	32.8	28.0	22.2	24.4	23.9
TL	499555	157846	Roadside	100.0	100.0	-	-	-	26.8	26.4
WH1	499624	157664	Roadside	100.0	100.0	-	-	-	28.4	29.8
WH2	499029	157667	Roadside	100.0	100.0	-	-	-	30.0	29.9
OW	501092	157006	Roadside	34.1	34.1	-	-	-	-	23.7

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 $\mu\text{g}/\text{m}^3$.

Exceedances of the NO_2 annual mean objective of $40\mu\text{g}/\text{m}^3$ are shown in **bold**.

NO_2 annual means exceeding $60\mu\text{g}/\text{m}^3$, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

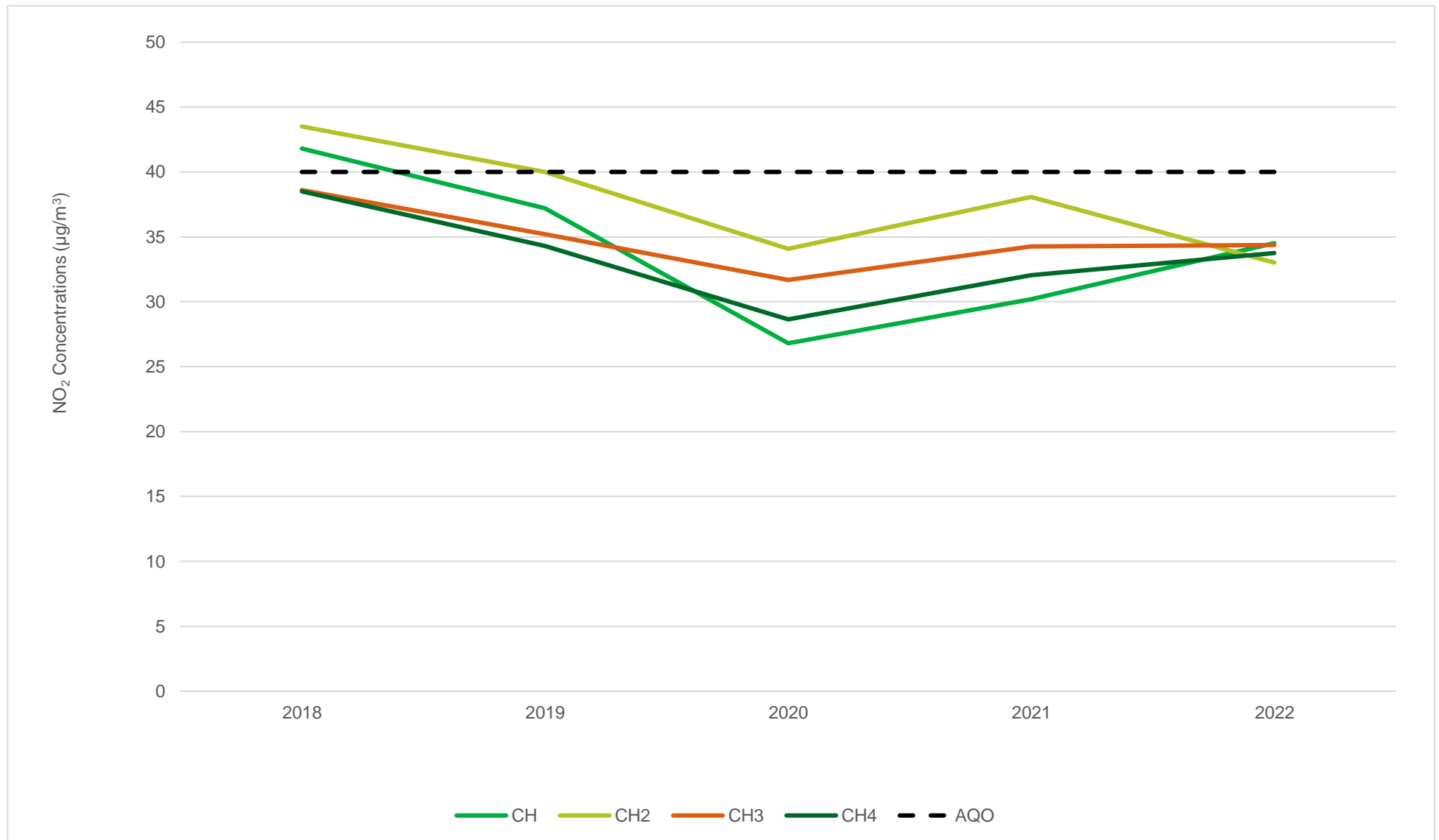
Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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 NO₂ Concentrations within Guildford Road AQMA



Appendix B: Full Monthly Diffusion Tube Results for 2022

Table B.1 – NO₂ 2022 Diffusion Tube Results (µg/m³)

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 <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
BD	498025	158949	16.0	-	18.0	10.0	10.0	13.0	21.0	14.0	15.0	13.0	15.0	20.0	15.0	14.3	-	
TW	498435	159451	14.0	22.0	20.0	11.0	8.0	11.0	25.0	11.0	13.0	12.0	14.0	19.0	15.0	14.3	-	
AH	496618	158699	41.0	39.0	42.0	24.0	35.0	33.0	47.0	37.0	38.0	38.0	45.0	41.0	38.3	36.4	-	
AH2	496615	158696	35.0	34.0	33.0	21.0	-	-	12.0	29.0	-	-	-	33.0	28.1	25.8	-	
AH3	496646	158750	24.0	25.0	22.0	17.0	19.0	22.0	22.0	24.0	23.0	22.0	23.0	27.0	22.5	21.4	-	
AH4	496679	158767	33.0	41.0	40.0	-	21.0	26.0	32.0	37.0	27.0	26.0	34.0	33.0	31.8	30.2	-	
AH5	496594	158698	28.0	22.0	28.0	20.0	17.0	23.0	25.0	26.0	25.0	25.0	27.0	32.0	24.8	23.6	-	
AH6	496586	158686	28.0	32.0	31.0	17.0	19.0	23.0	25.0	27.0	28.0	26.0	29.0	33.0	26.5	25.2	-	
LGR	496601	158668	25.0	27.0	25.0	20.0	20.0	24.0	23.0	30.0	24.0	20.0	24.0	28.0	24.2	23.0	-	
BR	495821	157793	28.0	39.0	39.0	17.0	20.0	18.0	26.0	30.0	15.0	-	30.0	32.0	26.7	25.4	-	
BR1	495852	157188	29.0	19.0	22.0	17.0	20.0	21.0	24.0	29.0	24.0	18.0	24.0	10.0	21.4	20.3	-	
GR	499952	158545	25.0	27.0	25.0	16.0	18.0	17.0	24.0	26.0	27.0	23.0	26.0	32.0	23.8	22.6	-	
YR	500450	158278	31.0	35.0	34.0	19.0	22.0	24.0	28.0	30.0	31.0	28.0	32.0	34.0	29.0	27.6	-	
YR1	500447	158256	37.0	29.0	28.0	22.0	21.0	21.0	30.0	28.0	27.0	23.0	31.0	29.0	27.2	25.8	-	
LTK	500437	158120	36.0	26.0	27.0	17.0	23.0	21.0	31.0	31.0	36.0	29.0	37.0	37.0	29.3	27.8	-	
LT1	500453	158100	25.0	26.0	23.0	12.0	15.0	14.0	15.0	20.0	26.0	18.0	19.0	26.0	19.9	18.9	-	
CH	500417	158102	36.0	38.0	47.0	18.0	25.0	29.0	41.0	38.0	40.0	41.0	43.0	40.0	36.3	34.5	-	
CH2	500367	158073	45.0	35.0	45.0	27.0	28.0	34.0	31.0	39.0	37.0	28.0	43.0	25.0	34.8	33.0	-	

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 <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
CH3	500330	158012	37.0	33.0	35.0	25.0	37.0	34.0	39.0	37.0	32.0	-	43.0	46.0	36.2	34.4	-	
CH4	500332	157983	32.0	35.0	34.0	26.0	31.0	34.0	40.0	-	42.0	40.0	41.0	36.0	35.5	33.8	-	
RC	500946	157110	-	19.0	17.0	11.0	8.0	12.0	14.0	15.0	13.0	13.0	14.0	20.0	14.2	13.5	-	
LD	503244	159659	19.0	23.0	21.0	12.0	8.0	13.0	17.0	17.0	15.0	12.0	16.0	22.0	16.3	15.4	-	
PR	504926	161063	22.0	28.0	29.0	16.0	17.0	19.0	19.0	22.0	21.0	20.0	23.0	26.0	21.8	20.7	-	
M25	505611	161180	42.0	49.0	55.0	27.0	30.0	46.0	56.0	49.0	48.0	43.0	53.0	52.0	45.8	43.5	-	
TC	506731	161229	33.0	34.0	31.0	27.0	17.0	21.0	24.0	22.0	29.0	22.0	23.0	19.0	25.2	23.9	-	
CR	506401	160504	22.0	23.0	24.0	16.0	15.0	18.0	25.0	25.0	21.0	18.0	19.0	30.0	21.3	20.3	-	
WL	502854	161062	27.0	28.0	27.0	16.0	20.0	16.0	22.0	26.0	23.0	19.0	24.0	29.0	23.1	21.9	-	
MR	501611	159645	33.0	23.0	46.0	26.0	23.0	29.0	37.0	40.0	32.0	19.0	32.0	50.0	32.5	30.9	-	
MR2	501613	159646	32.0	-	29.0	21.0	23.0	31.0	19.0	29.0	26.0	-	29.0	32.0	27.1	25.7	-	
OR	501679	159148	30.0	23.0	22.0	19.0	20.0	37.0	35.0	31.0	27.0	27.0	28.0	34.0	27.8	26.4	-	
VW	500510	159030	31.0	43.0	41.0	15.0	27.0	25.0	39.0	33.0	33.0	28.0	40.0	39.0	32.8	31.2	-	
VW2	500281	158827	23.0	33.0	31.0	18.0	16.0	16.0	28.0	34.0	25.0	20.0	26.0	26.0	24.7	23.4	-	
VW3	500270	158731	18.0	36.0	36.0	19.0	17.0	15.0	23.0	33.0	21.0	20.0	22.0	29.0	24.1	22.9	-	
VW4	500425	158584	26.0	-	25.0	19.0	24.0	20.0	29.0	26.0	29.0	24.0	29.0	26.0	25.2	23.9	-	
TL	499555	157846	32.0	30.0	31.0	21.0	21.0	26.0	20.0	29.0	29.0	27.0	31.0	36.0	27.8	26.4	-	
WH1	499624	157664	38.0	43.0	48.0	19.0	24.0	27.0	33.0	30.0	33.0	33.0	33.0	16.0	31.4	29.8	-	
WH2	499029	157667	32.0	29.0	34.0	22.0	30.0	35.0	39.0	27.0	32.0	30.0	36.0	32.0	31.5	29.9	-	
OW	501092	157006	-	-	-	-	-	-	-	-	23.0	20.0	27.0	28.0	24.5	23.7	-	

- ☒ All erroneous data has been removed from the NO₂ 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 2022 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.

Notes:

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **bold and underlined**.

See Appendix C for details on bias adjustment and annualisation.

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

New or Changed Sources Identified Within WBC During 2022

WBC has identified the following development proposals as sources which could have an impact on the local air quality in the area:

- PLAN/2014/0881 - Victoria Place development completed in 2022, but the Hilton Hotel remediation works are due to be completed at the end of 2023;
- PLAN/2018/0374 - Sheerwater Regeneration. Leisure Centre and Purple phase now complete. Red Phase demolition and preparatory work complete and copper and yellow phase now underway; and,
- The planning application for the Victoria Arch widening scheme is due to be submitted in the next calendar year. Impact surveys will be conducted to support the initial temporary and permanent planning applications and will include an Air Quality Assessment.

Additional Air Quality Works Undertaken by WBC During 2022

WBC undertook the following additional works within the reporting year of 2022:

- 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). This four-year project will see the widening of the highway along Guildford Road and Victoria Road, enhance traffic management systems and improve pedestrian and cycle routes to Woking Train Station, the Town Centre and improve./ join up with other existing off-road routes. The project is currently under review for re-scoping as of 2022/23;
- WBC will continue to use the planning regime to encourage adoption of good design principles in new developments; i.e. low emission boilers, EV charging points, good spatial planning in line with the EPUK/IAQM Planning for Air Quality Guidance;

- Guidance has been created by The Surrey Planning and Health Forum (not a publicly available document) which helps to inform local planning policies, including health planning principles, to improve air quality and active travel; and
- Woking's Housing Infrastructure Fund (HIF) project is currently under review, therefore the full extent of any air quality impacts, and details surrounding infrastructure improvements and other measures introduced under this scheme cannot be confirmed at this stage. It will remain under review and once confirmed, fed back into the Guildford Road AQMA and Air Quality Action Plan review.

QA/QC of Diffusion Tube Monitoring

The diffusion tubes for 2022 were supplied by Lambeth Scientific Services and prepared using a 50% triethanolamine (TEA)/Acetone method).

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 AH and OW as data capture was below 75%.

Data from Reading London Road, Chilbolton Observatory, London Hillington and Horley automatic monitoring stations were used to derive the adjustment factors. All monitors are in background locations and had data capture above 85% in 2022. They were managed by the Automatic Urban and Rural Network (AURN), and ratified data was downloaded from the Air Quality England website¹⁶. Table C.2 details the calculations used to derive the annualisation factors.

Table C.1 – Annualisation Summary (concentrations presented in $\mu\text{g}/\text{m}^3$)

Site ID	Annualisation Factor Reading London Road	Annualisation Factor Chilbolton Observatory	Annualisation Factor London Hillington	Annualisation Factor Horley	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
AH2	0.8906	0.8368	0.9674	0.9717	0.9166	28.1	25.8
OW	1.0890	0.9986	0.8931	0.8903	0.9678	24.5	23.7

¹⁶ <https://www.airqualityengland.co.uk/>

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2022 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.TG(22) 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/NO₂ 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 0.95 to the 2022 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
2022	National	03/23	0.95
2021	National	03/22	0.97
2020	National	03/21	0.96
2019	National	09/20	0.85
2018	National	06/19	1.03

NO₂ Fall-off with Distance from the Road

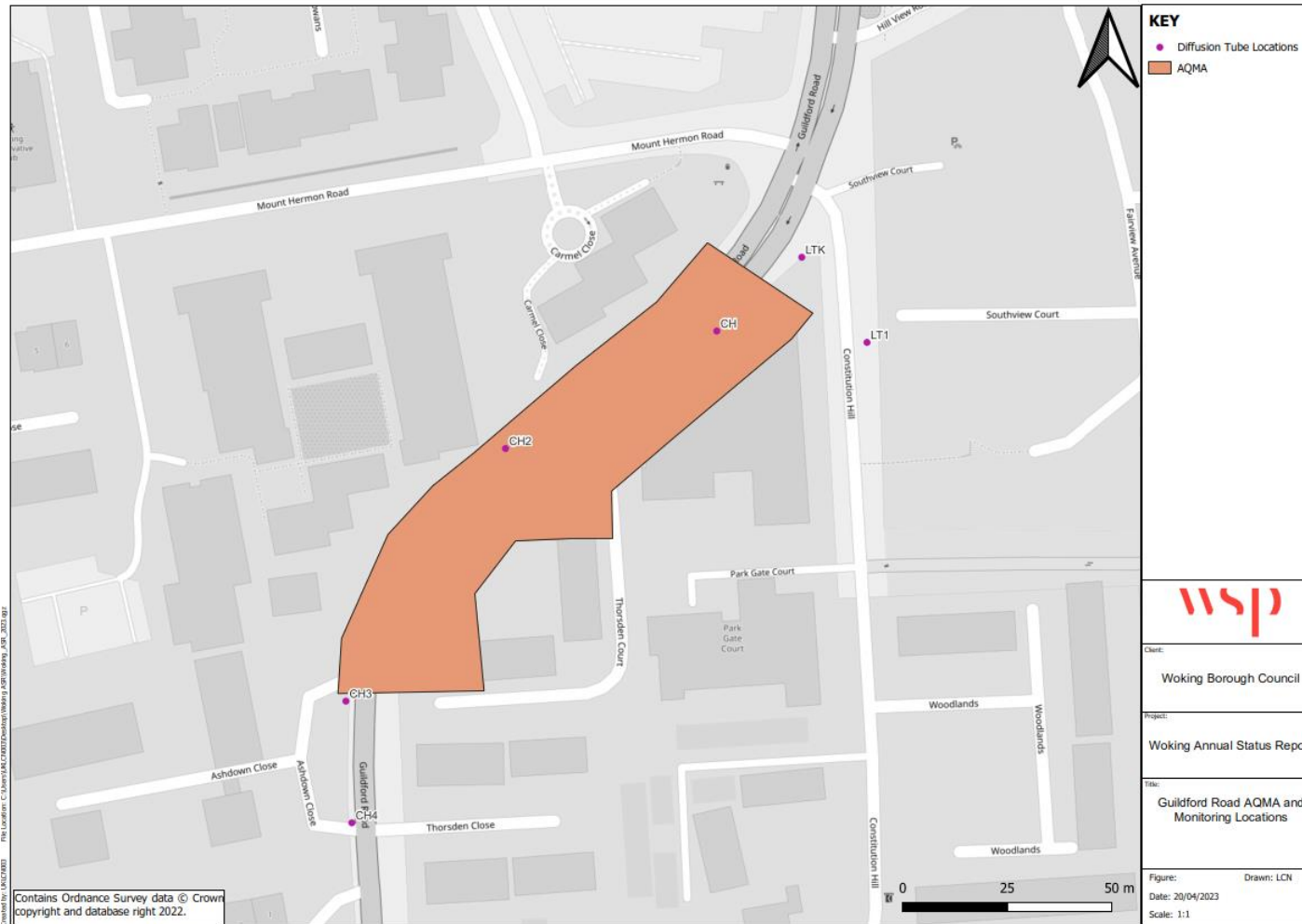
Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO₂ concentration at the nearest location relevant for exposure has been estimated using the Diffusion Tube Data Processing Tool/NO₂ fall-off with distance calculator available on the LAQM Support website. NO₂ fall-off with distance from the road has not been included.

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

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



Figure D.2 – Map of Guildford Road AQMA and diffusion tube monitoring locations



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England¹⁷

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

¹⁷ The units are in microgrammes of pollutant per cubic metre of air (µg/m³).

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
AQO	Air Quality Objective
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by 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
SO ₂	Sulphur Dioxide

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