

2025 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 2025

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Local Responsibilities and Commitment

This ASR was prepared by the Environmental Health Department of Spelthorne Borough Council with the support and agreement of the Spelthorne Borough Council Climate Change and Sustainability Team, the Leisure and Wellbeing Team, the Strategic Planning and Development Management Teams, the Strategic Transport Team at Surrey County Council, and the Public Health Team at Surrey County Council.

This ASR has been approved by:



Tracey Willmott-French
Senior Environmental Health Manager

This ASR has been signed off by the most senior Environmental Health specialist within Spelthorne Borough Council, who is a Chartered Environmental Health Practitioner.

The ASR has also been approved by the Head of Regulatory Service. On behalf of the Surrey County Council Director of Public Health.

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

If you have any comments on this ASR, please send them to the Pollution Control Team at:

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Executive Summary: Air Quality in Spelthorne

Air Quality in Spelthorne

Breathing in polluted air affects our health and costs the NHS and our society billions of pounds each year. Air pollution is recognised as a contributing factor in the onset of heart disease and cancer and can cause a range of health impacts, including effects on lung function, exacerbation of asthma, increases in hospital admissions and mortality[1].

Air pollution particularly affects the most vulnerable in society, children, the elderly, and those with existing heart and lung conditions. Low-income communities are also disproportionately impacted by poor air quality, exacerbating health and social inequalities[2].

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

Table ES 1 - Description of Key Pollutants

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

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

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

Air Quality Assessment and Management Areas in Spelthorne

Pollutants in Spelthorne

The principal air pollutant of concern within Spelthorne is Nitrogen Dioxide (NO_2) predominantly from the burning of fuel in cars, Heavy Goods Vehicles, and buses. It is recognised that Particulate Matter (PM_{10} and $PM_{2.5}$) has significant health impacts, and that the World Health Organisation (WHO) Global Air Quality Guideline levels (WHO AQG) are not met in Spelthorne in line with the wider region. In 2021, Spelthorne Borough Council passed a motion to advocate for and work towards meeting the WHO Global Air Quality Guidelines.

Previous assessments of local air quality in Spelthorne have enabled the Council to conclude that concentrations of carbon monoxide, benzene, 1,3-butadiene, lead, sulphur dioxide and PM_{10} are compliant with the relevant national objectives outlined Appendix E.

A borough wide Air Quality Management Area (AQMA) was declared in 2003 for NO_2 air pollution in relation to traffic and an Air Quality Action Plan (AQAP) was published in 2005, to bring about improvements in concentrations of NO_2 within the Spelthorne AQMA. Most of the borough is already compliant with national objectives, therefore in line with the Defra TG22 Local Air Quality Management Guidance the Council reduced the coverage of the AQMA to better reflect the status of air quality within the borough. The relevant order came into effect from 1 April 2024. This work has formed part of the process of producing an updated Air Quality Action Plan (AQAP) in consultation with key stakeholders including the Transport Authority Surrey County Council (SCC), and National Highways who manage the strategic road network within Spelthorne. The Spelthorne Council AQAP was approved for adoption by the Council's Environment and Sustainability Committee in December 2024.

Source of Air pollution in Spelthorne

Air quality in Spelthorne is predominantly influenced by transport emissions and background pollutant concentrations which include emissions from outside the borough. This annual status report has not identified any significant new emissions sources within the Spelthorne Borough Council area, in the reported monitoring year of 2024.

SCC as the Transport Authority reported that over the past year there has been a further recovery in traffic flows on locally managed roads in Surrey (i.e. excluding the strategic road network of motorways & trunk roads), from those experienced during the Covid-19 pandemic, following the national trend. However, while some parts of the country are now experiencing growth, average vehicle flow volumes in Surrey across the whole week (7 days) for the period end of February 2025 through to the end of March 2025 are still 3% below the volumes seen in the equivalent pre-pandemic period. This compares with 6% lower in 2024.

In February/March 2024. Average weekly flows (i.e. across all 7 days of the week) in Surrey were 6% lower compared with the equivalent period pre-pandemic. Therefore, flows were closer to pre-pandemic levels than they were in February/March 2023. There have been changes in the duration of the evening peak which has commenced earlier and has been of a longer duration. Volumes on an average weekday have been slightly lower than pre-pandemic, vehicle flows on Saturdays were higher.

SBC Priority Actions to Deal with Air Pollution

Some of the key priorities for SBC concerning air pollution include but are not limited to: -

- Maintain a comprehensive air quality monitoring network - to understand, where pollution is more acute.
- Effective collaboration with stakeholders to improve air quality.
- To maintain public awareness & encourage behavioural change - SBC will continue to provide an alert service to residents who wish to receive an alert when local air quality is predicted to deteriorate.
- Climate Change & Air Quality. The primary local air pollution source that is contributing to nitrogen dioxide concentrations at the roadside within the Air Quality Management Area is traffic.
- Implementation of traffic programs, interventions & management schemes by the Transport Authority SCC, and the promotion of sustainable travel to reduce emission from traffic. Reducing the use of private vehicles for journeys to school will be necessary to improve air quality, and tackle climate change because journeys to school are a significant proportion of vehicle trips in the morning peak across Surrey.
- Expansion of Smoke Control Areas: Spelthorne will start the process to expand the coverage of Smoke Control Areas to cover the whole borough subject to approval via the Council's Political Committees.

Air Quality Monitoring in Spelthorne

The monitoring network is targeted at the pollutants which are of greatest concern in Spelthorne, these are nitrogen dioxide (NO_2) and particulate matter (PM_{10} and $PM_{2.5}$).

In 2024 there were two automatic monitoring sites in Spelthorne. (i.e. one Council owned automatic monitoring station located at The Haven, Sunbury Cross and another station funded by Heathrow Airport Ltd. located at Oaks Road in Stanwell. In 2024, automatic measurements of PM_{10}, $PM_{2.5}$, and NO_2 were taken at the two automatic monitoring locations. The automatic monitor at The Haven, Sunbury Cross has suffered weather related damage which has affected data capture, the viability of continuing to monitor at this location is under review. Alongside these, SBC has fifty-one (51no) NO_2 non-automatic diffusion tubes across the borough including two triplicate locations.

Trends of Pollutants

Plots given in Appendix F, showing NO_2 trends over the last decade of monitoring demonstrate that air quality in Spelthorne has significantly improved. Monitored NO_2 concentrations have been predominantly complaint with the annual mean objective for the monitoring years 2022 to 2024 since the Covid-19 pandemic related travel restrictions were lifted. This trend includes roadside monitoring locations.

PM_{10} and $PM_{2.5}$ concentrations in data from Oaks Road, Stanwell which has a continuous dataset from 2003 onwards do show a decrease (see Figure A.10 and Figure A.12), however data from 2017 to 2023 when there were 3 automatic monitoring sites in operation in Spelthorne is more variable. During that period there were pandemic related changes in airport operations and travel restrictions that could have influenced sources both locally, and regionally in the case of $PM_{2.5}$ as particulate matter measurements for $PM_{2.5}$ consist of pollutants from local emissions sources, regional pollution and pollution from more remote sources brought in on incoming air masses.

○ Pollutant Concentrations & National Air Quality Objectives

Whilst the requirements of national legislation are met, addressing local sources of particulate pollution remains an important component of local air quality management given the health impacts of particulate pollution.

The air quality in Spelthorne in 2023 and 2024 remained below the limit values set of 40 µg/m^3 for the protection of human health within the Air Quality Standards Regulations 2010 compared to 2021/22, when there was an exceedance of air quality objective at Stanwell Moor Road as detailed in the 2023 Annual Status Report.

Concentrations of PM_{10} also remained below the annual mean objective of 40 µg/m^3 and the 24-hour mean of 50 µg/m^3 not to be exceeded more than 35 times a year.

The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 set two $PM_{2.5}$ targets into law as set out in the Environmental Improvement Plan 2023[3], to reduce population exposure to $PM_{2.5}$ by 35% in 2040 compared to 2018 levels, with a new interim target to reduce by 22% by the end of January 2028, and a target to require a maximum annual mean concentration of 10 micrograms of $PM_{2.5}$ per cubic metre (µg/m^3) by the end of 2040, with a new interim target of 12 µg/m^3 by the end of January 2028.

In Spelthorne, the minimum annual mean $PM_{2.5}$ concentration was 6.9 µg/m^3 (Oaks Road, Stanwell). The maximum annual mean $PM_{2.5}$ concentration was 7.5µg/m^3 (Sunbury Cross), below the new interim target for 2028 of 12 µg/m^3.

○ Pollutant Concentrations & WHO AQG

[3] Defra, 2023, HM Government, Environmental Improvement Plan 2023, available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1133967/environmental-improvement-plan-2023.pdf

In reflection of the Council motion to advocate for the WHO Air Quality Guidelines, (WHO AQG) a comparison is given between the monitored air pollutant concentrations and the WHO AQG. It should be noted that the WHO AQG's are not legally adopted in England, the WHO recommends that before adopting the WHO guideline values as legally based standards, governments should consider their unique, local conditions[4]. SBC and partners will continue to work towards meeting the WHO AQG.

The WHO AQG, for NO_2 is an annual mean concentration of 10 µg/m^3, none of the monitoring locations in Spelthorne met the guideline in 2024, monitoring shows that urban background levels are above 10 µg/m^3 in Spelthorne. Defra background mapping for NO_2 reference year 2021, projected to 2024 provides a total concentration of a pollutant comprising those from local emissions and those that are transported into an area by the wind from further away. The background mapping for Spelthorne demonstrates that the background levels are above the WHO AQG.

At the automatic monitoring stations, annual mean PM_{10} concentrations were 11.9 µg/m^3 (Oaks Road, Stanwell) and 12.8 µg/m^3 (Sunbury Cross). The WHO AQG for PM_{10} is an annual mean concentration of 15µg/m^3, this was not exceeded in 2024.

At the automatic monitoring stations, the $PM_{2.5}$ annual mean concentration was 6.9µg/m^3 at Oaks Road and 7.5 µg/m^3 at Sunbury Cross. The WHO AQG, for $PM_{2.5}$ is an annual mean concentration of 5µg/m^3, this was exceeded at both automatic monitoring stations in 2024.

Spelthorne Borough Council and Partnership Working

Spelthorne Borough Council are working with partners in line with the National Air Quality Strategy towards improving local air quality. Partners within the Surrey Air Alliance technical working group include the Transport Authority Surrey County Council who are responsible for traffic management and infrastructure in Spelthorne, Surrey County Council's Public Health and Safer Travel Teams, the other Surrey districts and boroughs, Surrey Heartland's NHS Integrated Care Board, and National Highways.

Regular collaborative working between other districts and boroughs, including the London Boroughs neighbouring Heathrow Airport, takes place via the Heathrow Strategic Planning Group. Spelthorne Borough Council also work with the Environment Agency regarding nuisance complaints in relation to Environment Agency regulated sites, and regarding Heathrow Airport through the Council for Independent Scrutiny of Heathrow Airport - Air Quality Working Group.

Heathrow Airport Ltd is the owner and operator of Heathrow Airport, which is located immediately to the north of Spelthorne. Whilst the airport is not within the boundaries of the Council, the operation of the airport, particularly in terms of surface access transportation, does impact on the Borough. Heathrow Airport will be making alterations to

[4] World Health Organisation 2021. What are the WHO Air quality guidelines webpage available at: https://www.who.int/news-room/feature-stories/detail/what-are-the-who-air-quality-guidelines

runway operations in response to end of the Cranfield Agreement, and the need for runway resurfacing in addition to upcoming consultations on changes to airspace management in the UK led by the Civil Aviation Authority (CAA). The airport is a destination for traffic regionally that is utilising the local road network close to the airport, and it remains to be seen as to whether there will be potential changes to traffic behaviour. The planning authority is expected to be the London Borough of Hillingdon with Spelthorne as a consultee to Hillingdon amongst other local authorities surrounding the airport.

The consultations regarding airspace changes are still ongoing. The information relevant to version 5 of the CAP 1616[5] (civil aviation publication) airspace change process, which came into force on 2 January 2024 is presented on the consultation page[6]. The Heathrow Strategic Planning Group (HSPG) Environment and Airspace Group made a joint response to the last CAA consultation.

Heathrow Airport Ltd have announced an intention to expand through a phased expansion programme, initially to upgrade infrastructure including terminal buildings. In February 2025 Heathrow announced that plans for a Third Runway would be submitted to the Government in Summer 2025[7]. SBC would be a statutory consultee under the Development Consent Order process for any Third Runway application.

Actions to Improve Air Quality

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

The Environmental Improvement Plan[8] 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[9], published in 2023, provides more information on local authorities' responsibilities to work towards these new targets and reduce $PM_{2.5}$ in their areas. The Road to Zero[10] details the approach to reduce exhaust emissions from

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[5] The document which explains the CAA's regulatory process for changes to airspace design.

[6] https://airspacechange.caa.co.uk/having-your-say/

[7] https://www.heathrow.com/company/about-heathrow/expansion

[8] Defra, 2023, HM Government, Environmental Improvement Plan 2023, available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1168372/environmental-improvement-plan-2023.pdf

[9] Defra, 2023, HM Government, Air Quality Strategy: Framework for Local Authority Delivery, available at:

https://www.gov.uk/government/publications/the-air-quality-strategy-for-england

[10] Department for Transport. The Road to Zero: Next steps towards cleaner road transport and delivering our

road transport through several mechanisms; this is extremely important given that most of the Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

The levels of air pollution that residents are exposed to come from pollution generated within the Borough and 'background' regional pollution from outside of the Borough. For particulate matter (PM_{10} and $PM_{2.5}$), the largest contribution to levels monitored in the Borough comes from background sources, rather than sources within the Borough. This presents a particular challenge for Spelthorne Borough Council to impact and influence local levels of air pollution.

The highways authority for the Spelthorne area is Surrey County Council (SCC). The SCC Local Transport Plan (LTP4)8 includes an objective to improve health and wellbeing through cleaner air within the Planning for Place policy area which can be viewed here:

https://www.surreycc.gov.uk/roads-and-transport/policies-plans-consultations/transport-plan/policy-areas/planning-for-place

The SCC LTP4 is complemented by the Surrey Climate Change Strategy[11] . In addition, Spelthorne Borough Council have published a Climate Change Strategy 2022-2030 which is available here together with a Progress Report and Action Plan published in 2024; https://www.spelthorne.gov.uk/article/21048/Climate-Change-Strategy

The Spelthorne Borough Council Climate Change Strategy identifies that Council vehicles are the predominant source of the organisation's emissions. A key action is to Transition the Council fleet to electric. The Council is committed to converting 50% of its fleet to electric or hydrogen by 2028, and to develop an EV charging strategy to increase the number of chargers in the Borough to promote and aid the transition to EVs. The strategy also contains actions to promote residential development that is sustainably located with access to existing services and transport hubs. This reflects the vision of Surrey County Council to encourage the creation of 20-minute neighbourhoods, where daily services can be accessed within a 20-minute walk.

Industrial Strategy, July 2018. Available at:https://www.gov.uk/government/publications/reducing-emissions-from-road-transport-road-to-zero-strategy

[11] Surrey County Council. 2024. Surrey's Climate Change Strategy. Available at:https://www.surreycc.gov.uk/community/climate-change/what-are-we-doing/carbon-free/climate-change-strategy

Active travel has co-benefits for the health and in reducing air pollutant emissions. The Fingertips public health data profile[12] for Spelthorne indicates that levels of physical inactivity and obesity are high in Spelthorne, in 2023/24 data 55.3% adults were classified as overweight or obese. The Spelthorne Health and Wellbeing Strategy is available here:https://www.spelthorne.gov.uk/article/17592/Health-and-Wellbeing-Strategy

The strategy includes actions to increase awareness of the relationship between poor air quality and health, and to encourage active travel.

Spelthorne Borough Council and Partners: Surrey Air Alliance

The Surrey Air Alliance (SAA) group is made up of officer representatives from all eleven Surrey District and Borough Councils, Surrey County Council's (SCC) Highways, and SCC's Public Health services. The group is also attended by representatives from National Highways.

Spelthorne Borough Council are an active member of the Surrey Air Alliance (SAA) and assist in the delivery of the SAA workplan. Key actions within the workplan include:

- Improving communication so that people who live and work in Surrey have an increased awareness of the health impact of poor air quality.
- Promoting behavioural change to encourage people who live and work in Surrey change their current behaviour to improve air quality.
- Monitoring and modelling air quality across Surrey through joint working across districts and boroughs to enable targeted action and provide a baseline to measure success of interventions.
- Promoting to development planners the need to consider the impact of planning applications on air quality, including measures to improve air quality.
- To encourage and facilitate the involvement of Environmental Health Officers in Transport Development Planning.
- To increase the use of low emission vehicles in Surrey.
- To increase the use of alternative means of travel to the private car.

[12] Office for Health Improvement & Disparities 2024. Available at https://fingertips.phe.org.uk/profile/health-profiles/data#page/1/gid/1938132701/pat/6/par/E12000008/ati/301/are/E07000213/yrr/1/cid/4/tbm/1

- To support and undertake research as opportunities arise to facilitate research into local air quality and air pollutants and to understand how climate change links to local air quality management.

Through the Surrey Air Alliance Group Spelthorne are still working with the Surrey Heartlands Health and Care Partnership between Surrey County Council and the NHS. A focus of this work has been improving health outcomes for children and young people diagnosed with asthma. An online asthma toolkit which gives advice for parent/carers, schools, and medical professionals is available on the Healthy Surrey website. The Asthma Toolkit on Healthy Surrey[13] provides information about asthma management for children, young people, parents and carers and information for schools on becoming an Asthma Friendly School.

Conclusions and Priorities

No exceedance was noted in 2024. The Council remain aware that there may be areas adjacent to the strategic road network where exceedances may still occur without the presence of monitoring, such areas remain within the Spelthorne AQMA.

A comprehensive air quality monitoring protocol will continue as there may be areas that return to exceedance of the NO_2 annual mean objective, should traffic volumes increase. The Council will continue to take measurements close to major/strategic roads to monitor for changes in roadside NO_2 concentrations.

The London Wide Ultra Low Emission Zone borders Spelthorne in the London Boroughs of Richmond, Hounslow and Hillingdon. The London-Wide Ultra Low Emission Zone – Six Months and One Year Reports (Greater London Authority, March 2024 and March 2025) indicate that roadside NO_2 concentrations within 5km of the Greater London boundary

[13] Asthma toolkit by Health Surrey. Available at https://www.healthysurrey.org.uk/children-and-families/asthma-toolkit

were on average, 9% lower in 2023[14] than an estimated no ULEZ scenario and 14% lower in 2024[15]

The Council are taking action to reduce particulate emissions given the known health impacts.

- Actions have included public health campaigns concerning burning and bonfires, targeting resources to respond to construction dust complaints, and to incorporate signposting to best practice regarding construction dust into planning assessment scoping responses and at pre application meetings regarding developments.
- Stakeholder engagement remains a priority: The Council's adopted its 2024-2029 Air Quality Action Plan in December 2024[16]. In developing this AQAP, SBC worked with Surrey County Council, National Highways, Heathrow Airport Ltd, other local authorities (through the Surrey Air Alliance), and the local community to secure measures to improve local air quality.

  Schedule 11 of the Environment Act 1995 requires local authorities to consult the bodies including The Secretary of State, The Environment Agency, the highways authority, all neighbouring local authorities, other public authorities as appropriate, such as Public Health officials, bodies representing local business interests and other organisations as appropriate. A six -week consultation on the draft 2024-2029 AQAP was undertaken between 20 May 2024 to 30 June 2024 and the results of the consultation response (see consultation report available on SBC website[17]) was used to shape the proposed measures to improve air quality across the borough.

A Pollution Control Officer attended the following meetings in 2024:

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[14] Mayor of London 2024 London Wide ULEZ Six Month Report. Available at: https://www.london.gov.uk/programmes-strategies/environment-and-climate-change/environment-and-climate-change-publications/london-wide-ulez-six-month-report

[15] Mayor of London 2024 London Wide ULEZ One Year Report. Available at:

https://www.london.gov.uk/programmes-strategies/environment-and-climate-change/environment-and-climate-change-publications/london-wide-ultra-low-emission-zone-one-year-report

[16] Spelthorne Borough Council Air Quality Action Plan. Available at:

Spelthorne Borough Council - Air Quality Action Plan Consultation Report

- Quarterly Surrey Air Alliance meetings, these meetings include National Highways, Surrey County Councils Safer Travel, Public Health and Transport teams and the Surrey Heartlands NHS Trust;
- The Council for the Independent Scrutiny of Heathrow Airport (CISHA) - Air Quality Working Group[18];
- The Heathrow Strategic Planning Environment and Airspace Change Group (HSPG);

Other actions in 2024 include;

- At the start of 2024, a new Corporate Plan[19] was launched, putting our residents at the heart of everything we do. We are successfully delivering our Corporate Plan which sets out this Council's priorities to deliver services for our residents and businesses, making this community stronger, healthier, safer and greener.



- The Council adopted a Climate Change Supplementary Planning Document[20] to provide guidance to planning applicants on energy, designing for thermal efficiency, the promotion of sustainable travel and transport to reduce emissions, reducing emissions from construction and waste, green infrastructure and conserving water. This SPD is a material consideration in decision making and will be taken into account when determining planning applications.
- Spelthorne Borough Council has launched a new service (airTEXT) designed to send air pollution alerts and health advice to residents and visitors most likely to be affected by air pollution. To date, over 100 people are signed up in Spelthorne.

[18] Council for the Independent Scrutiny of Heathrow Airport (CISHA)

[19] Spelthorne Borough Council - Corporate Plan 2024-2028

[20] Spelthorne Borough Council - Climate Change Supplementary Planning document



- The Council secured £994,883 from Sports England, the single largest award of its type in the UK, for energy efficiency measures (solar and heat pumps) at Sunbury Leisure Centre;
- The Council completed the Local Plan examination, protecting the Borough for future generations, the Local Plan is currently subject to Main Modifications and is expected to be fully adopted in September 2025;
- The Council introduced electric Spelride bus and moped vehicles, adding to the Council's electric fleet of pool cars;



- The Council received national awards for parks and open spaces in the South & Southeast in Bloom awards and Green Flag. Maintaining attractive green spaces helps residents enjoy their local area for leisure and exercise reducing the need to travel to access these facilities;

- £1.3m funding was secured for environmental projects and a groundbreaking solar canopy car park which will create energy directly for the Passivhaus standard Eclipse Leisure Centre;
- The Council completed 98% of Energy Performance Certificate surveys for Council sites in the commercial portfolio;
- A new Citizens Panel was launched to help shape the borough's Design Code;
- Three new inclusive play areas for children were installed along with two new wildflower meadows;
- The Council secured over £300k via the Spelthorne Healthy Communities Partnership to support residents facing health concerns. The Council continuous to offer health and wellbeing activities across its network of Community Centres;
- Implementation of a Public Space Protection Order in Stanwell and Stanwell Moor targeting taxis and private hire vehicles waiting on roads in communities close to Heathrow Airport;
- The Council was accredited as a Carbon Literate Organisation demonstrating a commitment to Carbon Literacy and creating a climate and emissions conscious culture across the organisation. The Council currently hold a bronze award under the scheme and is working towards achieving a silver award;
- Introduction of a Climate Commitment Charter, ensuring carbon impacts are considered in the procurement process;

How to get Involved

Spelthorne residents and Councillors are aware of the issue of areas of poor air quality in Spelthorne. The presence of the AQMA and Smoke Control Areas, the introduction of the London ULEZ extension to three neighbouring boroughs, as well as the nearby Heathrow Airport, the waste gasifier situated within Spelthorne and the level of new development taking place increased awareness of air quality issues.

Information on local air quality is provided via the Councils website here: Monitoring in Spelthorne - Spelthorne Borough Council and automatic air quality monitoring data can be viewed in real time here: Spelthorne Borough Council - Air Quality monitoring service (airqualityengland.co.uk).

More information about what the Council is doing to respond to the development schemes discussed here can be found on our website:

- Proposed Heathrow Expansion: Heathrow - Spelthorne Borough Council
- River Thames Scheme. Information about the project is available from the scheme sponsors including Spelthorne Borough Council and Surrey County Council here: River Thames Scheme

The Pollution Control Team are participants in the now established Heathrow Air Quality Working Group (HAQWG) part of the Council for the Independent Scrutiny of Heathrow Airport (CISHA), the Airport Consultative Committee as set out in Section 35 of the Civil Aviation Act to ensure constructive and effective engagement between Heathrow Airport and those who are impacted by the airport. Further information about HAQWG can be found here: Heathrow Air Quality Working Group (HAQWG) — CISHA. SBC holds regular internal meetings with the Council's senior leadership team regarding activities at Heathrow Airport.

Whilst awareness of increases in emissions in relation to developments, the airport, and industrial sources is high, the contribution that we all make as individuals to local air pollution, and the measures that can be taken regarding health and air quality does not have the same level of awareness. Data from Public Health England indicates that the borough has high levels of obesity and physical inactivity. There are opportunities to benefit the health of residents by encouraging more active travel, which has the co benefit of reducing air pollutant emissions by reducing the use of cars for short journeys.

As most air pollution of concern in the borough is related to traffic, there are some easy changes we can each make personally to reduce emissions and improve local air quality for our community as described on SBC website[21].

[21] https://www.spelthorne.gov.uk/article/22134/Behaviours-to-Reduce-Emissions-and-Improve-Local-Air-Quality-for-Our-Community-FAQs

Table of Contents

Local Responsibilities and Commitment i
Executive Summary: Air Quality in Spelthorne iii
Air Quality in Spelthorne iii
Air Quality Assessment and Management Areas in Spelthorne iv
Actions to Improve Air Quality viii
Spelthorne Borough Council and Partners: Surrey Air Alliance x
Conclusions and Priorities xi
How to get Involved xv
1 Local Air Quality Management 1
2 Actions to Improve Air Quality 2
2.1 Air Quality Management Areas 2
2.2 Progress and Impact of Measures to address Air Quality in Spelthorne 4
2.3 $PM_{2.5}$ – Local Authority Approach to Reducing Emissions and/or Concentrations 22
3 Air Quality Monitoring Data and Comparison with Air Quality Objectives and National Compliance 28
3.1 Summary of Monitoring Undertaken 28
3.1.1 Automatic Monitoring Sites 28
3.1.2 Non-Automatic Monitoring Sites 28
3.2 Individual Pollutants 29
3.2.1 Nitrogen Dioxide (NO_2) 29
3.2.2 Particulate Matter (PM_{10}) 35
3.2.3 Particulate Matter ($PM_{2.5}$) 36
Appendix A: Monitoring Results 37
Appendix B: Full Monthly Diffusion Tube Results for 2024 64
Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC 67
New or Changed Sources Identified Within Spelthorne During 2024 67
Additional Air Quality Works Undertaken by Spelthorne During 2024 67
QA/QC of Diffusion Tube Monitoring 68
Diffusion Tube Annualisation 72
Diffusion Tube Bias Adjustment Factors 72
2024 National Bias Adjustment Factor 72
NO_2 Fall-off with Distance from the Road 75
QA/QC of Automatic Monitoring 76
Site Operation 76
Calibration and Data Ratification 76
PM_{10} and $PM_{2.5}$ Monitoring Adjustment 77

Automatic Monitoring Annualisation 77
Table C.5 – Automatic PM_{10} Annualisation Summary (concentrations presented in µg/m^3 77
Table C.6 – Automatic $PM_{2.5}$ Annualisation Summary (concentrations presented in µg/m^3 78
NO_2 Fall-off with Distance from the Road 78
Appendix D: Map(s) of Monitoring Locations and AQMAs 79
Appendix E: Summary of Air Quality Objectives in England 84
Appendix F: Other Evidence 85
Glossary of Terms 89
References 90

Figures

Figure 1 – Trends in Annual Mean NO_2 at Key Roadside and Kerbside Diffusion Tube Monitoring Locations 31
Figure 2 – Trends in Annual Mean NO_2 at Urban Background Diffusion Tube Monitoring Locations 32
Figure 3 – Trends in Annual Mean NO_2 at Health and Education Diffusion Tube Monitoring Locations 33
Figure 4 – Trends in Exceedance of Annual Mean NO_2 at Diffusion Tube Monitoring Locations 34
Figure A.1 - Trends in Annual Mean NO_2 Concentrations 49
Figure A.2 - Trends in Annual Mean NO_2 Concentrations Non-Automatic Monitoring Sites in Ashford 50
Figure A. 3 - Trends in Annual Mean NO_2 Concentrations Non-Automatic Monitoring Sites in Shepperton and Laleham 51
Figure A.4 – Trends in Annual Mean NO_2 Concentrations Non-Automatic Monitoring Sites in Staines-upon-Thames and South Stanwell 52
Figure A.5 – Trends in Annual Mean NO_2 Concentrations Non-Automatic Monitoring Sites in Sunbury on Thames 53
Figure A.6 – Trends in Annual Mean NO_2 Concentrations Non-Automatic Monitoring Sites in Stanwell and Stanwell Moor 54
Figure A. 7 – Trends in Annual Mean NO_2 Concentrations Automatic Monitoring Stations 55
Figure A.8 – Trends in Number of NO_2 1-Hour Means > 200µg/m^3 57
Figure A.9 - Trends in Annual Mean PM_{10} Concentrations 59
Figure A.10 – Trends in Number of 24-Hour Mean PM_{10} Results > 50µg/m^3 61

Figure A. 11 – Trends in Annual Mean $PM_{2.5}$ Concentrations 63

Figure C.1 - Mobile Monitoring Equipment.....68
Figure C.2 – Stanwell Mobile Monitoring Data – NO_2 68
Figure C.3 – Screenshot of Laboratory summary performance for AIR NO_2 PT rounds AR055 – AR068 (Defra, February 2025).....71
Figure C.4 – National Bias Adjustment Factor (Screenshot).....73

Figure D.1 – Plan of AQMA Boundary and Air Quality Monitoring Sites (Automatic and Non-Automatic) in Spelthorne.....79
Figure D.2 – Plan of Automatic and Non-Automatic Monitoring Sites in Sunbury.....80
Figure D.3 – Plan of Non-Automatic Monitoring Sites in Shepperton 81
Figure D.4 – Plan of Non-Automatic Monitoring Sites in Staines-upon-Thames.....82
Figure D. 5 – Plan of Automatic and Non-Automatic Monitoring Sites in Stanwell and Stanwell Moor 83

Figure F.1 – Reducing Trend in Monitored NO_2 Concentrations Since 2014 for all Monitoring Sites 85
Figure F.2 – Reducing Trend in Monitored NO_2 Concentrations Since 2014 for Roadside Monitoring Sites 86
Figure F.3 – Reducing Trend in Monitored NO_2 Concentrations Since 2014 for Urban Background Monitoring Sites 86
Figure F.4 – AQMA Order 2024 and Map 87

Tables

Table ES 1 – Description of Key Pollutants……iii
Table 2.1 – Declared Air Quality Management Areas.....3
Table 2.2 – Progress on Measures to Improve Air Quality.....8
Table A.1 – Details of Automatic Monitoring Sites 37
Table A.2 – Details of Non-Automatic Monitoring Sites 38
Table A.3 – Annual Mean NO_2 Monitoring Results: Automatic Monitoring (µg/m^3).....43
Table A.4 – Annual Mean NO_2 Monitoring Results: Non-Automatic Monitoring (µg/m^3) 44
Table A.5 – 1-Hour Mean NO_2 Monitoring Results, Number of 1-Hour Means > 200µg/m^3 56

Table A.6 – Annual Mean PM_{10} Monitoring Results (µg/m^3) 58
Table A.7 – 24-Hour Mean PM_{10} Monitoring Results, Number of PM_{10} 24-Hour Means > 50µg/m^3 60
Table A.8 – Annual Mean $PM_{2.5}$ Monitoring Results (µg/m^3).....62
Table B.1 – NO_2 2024 Diffusion Tube Results (µg/m^3) 64
Table C.1 – Rolling average percentage of satisfactory samples in AIR-PT.....70
Table C.2 – Annualisation Summary (concentrations presented in µg/m^3).....72
Table C.3 – Local Bias Adjustment Calculation 73
Table C.4 – Bias Adjustment Factor 75
Table C.5 – Automatic PM_{10} Annualisation Summary (concentrations presented in µg/m^3 77
Table C.6 – Automatic $PM_{2.5}$ Annualisation Summary (concentrations presented in µg/m^3 78

Table E.1 – Air Quality Objectives in England 84

1 Local Air Quality Management

This report provides an overview of air quality in Spelthorne during 2024. 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 Spelthorne Borough Council to improve air quality and any progress that has been made.

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

2 Actions to Improve Air Quality

2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority should prepare an Air Quality Action Plan (AQAP) within 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.

A summary of AQMAs declared by Spelthorne Borough Council can be found in Table 2.1. The table presents a description of the AQMA that is currently designated within Spelthorne. The whole borough wide AQMA was reduced in size in 2024 because of sustained improvements in local air quality, and the new order with the description of the area and a map is given in (Appendix F).

Appendix D: Map(s) of Monitoring Locations and AQMAs provides maps of the AQMA and the air quality monitoring locations within the AQMA. The air quality objectives pertinent to the current AQMA designation is as follows:

- NO_2 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
Spelthorne AQMA	Declared 01/12/2000, amended 01 March 2024	NO_2 Annual Mean	The new AQMA is an area encompassing the majority of the borough excluding a large proportion of Shepperton, Laleham, Knowle Green and parts of Staines-upon-Thames	YES	up to 80 µg/m^3	No exceedance recorded in 2024 monitoring year.	2 years	Spelthorne Air Quality Action Plan, December 2024	https://www.spelthorne.gov.uk/media/27415/Air-Quality-Action-Plan-2024-2029/pdf/Air_Quality_Action_Plan.pdf?m=1733918009983

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

☒ **Spelthorne Borough Council confirm that all current AQAPs have been submitted to Defra.**

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

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

On the basis of the evidence provided by the local authority the conclusions reached in the report are accepted for all sources and pollutants. Following the completion of this report, Spelthorne Borough Council should submit an Annual Status Report in 2025.

A comment was made that "*The Council have provided robust QA/QC measures including detailed calculations and screenshots of the tools used. This is commended and should be carried forward into future ASRs*".

The 2024 ASR report was rejected by Defra in July 2024 due the omission of newly deployed (i.e. in 2023) diffusion tube entries, in Table A.2. A corrected report was resubmitted and the following comment was made regarding the correction of this error. "*Table A.2 is missing diffusion tube entries that have been mentioned in other tables (Tables A.4 and B.1). Diffusion Tubes SP67-SP69 are not included within this table. This comment has since been addressed such that all diffusion tube entries are included in all of the relevant ASR tables. Following resubmission, all major issues have been sufficiently rectified".*

Spelthorne Borough Council's Environment and Sustainability Committee approved the adoption of an Air Quality Action Plan (AQAP) for 2024 - 2029 in December 2024 which can be found on the Council's website[22]. 2024 was a transitional year between the previous AQAP and the current AQAP adopted in December 2024. Actions presented in the new action plan have been replicated in this report for continued progress monitoring.

Spelthorne Borough Council has taken forward a number of direct measures during the current reporting year of 2024 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2.

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[22] Spelthorne Borough Council - Air Quality Action Plan

32 measures are included within Table 2.2, with the type of measure and the progress Spelthorne Borough Council and partners have made during the reporting year of 2024 presented.

Where there have been, or continue to be, barriers affecting the implementation of the measure, these are also presented within Table 2.2.

More detail on these measures can be found in the current AQAP. Key completed measures referenced in the 2024 ASR are:

- 5: Improvements to signalling at Sunbury Cross Roundabout Capacity and cycle safety improvements. Surrey County Council are undertaking improvements to the A308 and investigating Liveable Neighbourhood Zones.
- 20: Surrey wide Air Quality Modelling. Air quality modelling for Spelthorne was completed for the AQAP process.
- 24: Low-cost sensor air quality monitoring for public awareness. The project to provide small sensors to schools and scout premises has ended.

The following actions as referenced in the 2024 ASR were carried forward into the newly adopted AQAP:

- 1: Prevention of air pollution from new development
- 2: Reduce emissions from road vehicles used around Heathrow
- 3: Reduce emissions from Heathrow related freight traffic.
- 7/8/9: Reducing Emissions – AQAP action 6.1 Promote the use of “cleaner technology”
- 12: Promoting Alternative Travel – Delivery of bus priority measures, cycle parking and interchange opportunities
- 16: Cycling for Health
- 17: Walking for Health
- 21: Raising awareness of poor air quality and the associated health implications. NHS Ask About Asthma campaign
- 23: Local Walking and Cycling Infrastructure Plan
- 26: Establishment of a Climate Change Working Group

Spelthorne Borough Council expects the following measures as listed in Table 2.2 to be completed over the course of the next reporting year:

- 15: Raising awareness of poor air quality and the associated health implications. NHS Ask About Asthma campaign.

Spelthorne Borough Council's priorities for the coming year are: -

1) **Priority 1** – to maintain air pollutant concentrations below current air quality objectives and where practicable, reduce emissions further to work towards WHO Guideline Values[5].
2) **Priority 2** – Continue to effectively collaborate with all stakeholders including:
   - **Transport Authority Surrey County Council:** to ensure that wider transport measures are delivered, in particular to increase the use of active travel and public transport, reduce the use of private vehicles, and to increase the proportions of low and zero emission vehicles where modal shift is not feasible.
   - **Heathrow Airport Ltd:** to address emissions associated with the airport operations.
   - **Other stakeholders:** to continue to work with neighbouring London Boroughs and with wider stakeholders such as National Highways and the Environment Agency to reduce emissions of particulate matter and NO_x from a range of sources within and out of the borough.
3) **Priority 3** – Air Quality Monitoring. Maintain and review our monitoring network in accordance with guidance from Defra then report on an annual basis to Defra the implementation of the measures set out in this report, as well as monitored concentrations within the Air Quality Management Areas (AQMAs).
4) **Priority 4** – Health Education & Awareness. To continue to provide a service to residents who wish to receive an alert when local air quality is predicted to deteriorate. The alert service helps individuals with health vulnerabilities to air pollution, to understand when the air quality will worsen which can help with avoiding strenuous activity during these periods, and with management of medication.

Table 2.2 presents the descriptions of the measures including the partners, barriers to Implementation and some additional comments where relevant.

Spelthorne Borough Council anticipates that the measures stated above and in Table 2.2 will help achieve compliance within the Spelthorne AQMA. Table 5.2 of the Council's Air

Quality Action Plan 2024-2029 presents the assumptions related to air quality impact in air quality impact in the AQMA.

The measures stated above and in Table 2.2 will help to contribute to continued compliance, with the goal to achieve revocation of the AQMA where compliance is sustained in accordance with the parameters set out in the Air Quality Action Plan.

It should be noted that Surrey Districts and Boroughs are subject to Local Government Reorganisation within the priority wave, from the information published to date the new structure would be expected to be live in April 2027. This process will undoubtedly have implications for local air quality management, in its most basic form in terms of the geographical areas that are covered by the new structure, but also in the decision-making process and structure and in relation to funding and staff resources. The form and implications of these changes are not yet known but are expected to take effect during the period covered by the Spelthorne AQAP.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Funding Source/ Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date 2024	Comments / Potential Barriers to Implementation
1	Continue work within the structure of the planning system to reduce emissions of pollutants from new development. This will include implementing any new requirements for reducing $PM_{2.5}$ through planning which are likely to be in place within the timeframe of this plan.	Policy Guidance and Development Management	Air Quality Planning and Policy Guidance	2012	2032	SBC Environmental Health, SBC Development Planning, SBC Building Control, SCC Transport Strategic Transport Team	Each department and organisation has officers in post funded by the respective Council budgets	NO	Fully funded	£100k - £500k	Implementation	Reduced vehicle emissions, heat and energy plant emissions and construction dust emissions.	Measured concentration of NO_2 at monitoring locations.	Ongoing implementation through regulatory and planning and development functions. At a meeting on Tuesday 3 December 2024, the Council's Environment and Sustainability Committee approved the new Local Development Scheme 2018-2025[23] Further information about the examination process can be found on SBC website[24].The examination will assess whether the plan has been prepared in accordance with legal and procedural requirements and if it is sound. The four tests of soundness are set out in the new National Planning Policy Framework (NPPF), that was revised in 12 December 2024. 2025 Hearing Statements were published on 15 January as noted on SBC website[25]	The Emerging Local Plan includes updated planning policy regarding air quality that will not be effective until the Plan is adopted. Planning conditions relating to air quality cannot be applied to some change of use applications and permitted developments. Required amount of EV charging is now stipulated in Part S of the Building Control Regulations (2022) – conditions no longer required. Both Spelthorne and SCC have new guidance with air quality benefits[11]
2	Establishment of a Climate Change Working Group.	Policy Guidance and Development Management	Air Quality Planning and Policy Guidance	2021	2032	SBC	SBC	NO	Funded - within staffing budgets	n/a	Implementation	Ultimate target is reductions in greenhouse gas emissions which have associated air pollutant emissions reductions	To promote sustainable transport amongst the staff. Support residents and businesses to adopt clean vehicles and car-sharing. Promoting sustainable travel[13]. Working Group meets every 2 months to track	The Council has an established Climate Change Strategy. A key action is to Transition the Council fleet to electric. The Council is committed to converting 50% of its fleet to electric or hydrogen by 2028, and to develop an EV charging strategy to increase the number of chargers in the Borough to promote and aid the transition to EVs A key climate related project for the Council is the River Thames Scheme Flood Relief Development Consent Order (DCO) consultation on Environment Statement (ES) chapters was carried out in 2024.The applicant set up meetings to	The River Thames Scheme Development Consent Order is a project to create additional flood capacity along the River Thames in Spelthorne and neighbouring boroughs which is required due to climate change. The Environmental Health team are a regulatory consultee to this DCO and the DCO process is expected to take significant resource to respond to from the Pollution Control team,

[23] available at https://spelthornelocalplan.info/wp-content/uploads/2024/12/CD026-Local-Development-Scheme-Dec-2024-Update.pdf.

[24] https://www.gov.uk/guidance/local-plans

[25] https://spelthornelocalplan.info/hearing-sessions/

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Funding Source/ Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date 2024	Comments / Potential Barriers to Implementation
													progress of actions.	go through supplementary documents and agree assessment approaches. The council has consultation support from Stantec. The project is currently undergoing a mid-project review to ensure it is delivered to budget. This means no further design/assessment work will be conducted during this period. The applicant has said a light touch analysis will be conducted of the FML supp con, but no response to comments provided in case of abortive work. In turn, no further data or documents will be shared for our review. Our role is to finish off the work that we were conducting on the issues log (and the short ES chapter review summary email) and then wait for the project to re-mobilise (Jan/Feb 2025). This is likely to have an impact on the total programme and a DCO submission is now unlikely next year.	who manage the Councils LAQM duties. Actions are dependent on funding being available.
3	Update the Surrey-wide Air Quality Modelling which was completed in 2019 to incorporate up to date input data.	Policy Guidance and Development Management	Other policy	2026	2027	SCC, Surrey Public Health and SBC (via Surrey Air Alliance)	SCC, Surrey Public Health and SBC (via Surrey Air Alliance)	Possibly	Not Funded	£10-£50k (for Spelthorne)	Planning	N/A	Receipt of updated Surrey-wide air quality modelling of NOx, PM_{10} and $PM_{2.5}$	The plan now is to run the model looking at 2025 in the year 2026/27, as the traffic model is on track for completion in spring 2026. Thus you need to be making sure there is money in the 2026/27 budget.	Action depends on suitable traffic data being available from SCC and funding being available from SBC in a timely manner to join in with the wider modelling exercise. At Spelthorne funding needs to clear Committee which is a long process compared with other Surrey Boroughs and can present challenges when joint working. Local Government Reorganisation may impact upon the process of funding and achieving updates to both transport and air quality modelling.
4	Lobby for and support any future measures by Transport	Promoting Low Emission Transport	Public Vehicle Procurement - Prioritising uptake of low	Ongoing	Ongoing	Spelthorne Borough Council, SCC, TfL	Within staff resources for lobbying, funding sources for low	NO	Not funded	Unclear	Planning	Unclear at this stage	Proportion of Low Emission Buses in Spelthorne	Introduction of electric buses in Sunbury (235 & 290) on both London United routes. First bus[16] are ISO 14001:2015 certified for Environmental Management	Funding. Bus companies have no requirement to upgrade

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Funding Source/ Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date 2024	Comments / Potential Barriers to Implementation
	Authorities to encourage and facilitate the use of low emission buses in Spelthorne.		emission vehicles				emission buses unclear							and are committed to achieve a 100% zero emission bus fleet by 2035. TFL requires buses on its routes to comply with the LEZ including via retrofitting older vehicles. SCC Bus Service Improvement Plan outlines improvements required to increase patronage, reliability, journey speed and customer satisfaction. .	fleet. Charging capacity is also a challenge. The Bus Services Bill may have implications for how local bus services are managed in the future.
5	Develop a Green Infrastructure strategy to support the Local Plan.	Policy Guidance and Development Management	Other policy	2025	2026	SBC (Strategic Planning)		NO				Very difficult to quantify	Delivery of Green Infrastructure Strategy	Some consultant work is to be carried out by Association for Public Service Excellence 'Work on the GI strategy has been delayed, as progressing the emerging Local Plan has been the priority for the Strategic Planning Team. Now that the Examination has finished work on the GI strategy is programmed for 25-26. The growth bid to fund the work has been approved for 25-26 and work is underway on the procurement process'	The local Plan is subject to Main Modifications
6	Promote access to grant funding for renewable energy installations for residents including Solar Together.	Promoting Low Emission Plant	Emission control equipment for small and medium sized stationary combustion sources / replacement of combustion sources	Ongoing	Ongoing	SCC	Solar Together	NO	Funded	£10-£50k (for Spelthorne) for implementation of any future scheme	Implementation	Households with solar energy are likely to utilise generated electricity for heating the home, which can reduce boiler and domestic solid fuel burning emissions. Very difficult to quantify	Households joining the Solar Together scheme.	Solar Together Surrey is a group-buying scheme that leverages homeowners' collective purchasing power to access quality installations of solar photovoltaic (PV) panels at discounted prices[17]. Phase 2 of Solar Together Surrey launched in 2023 and is managed by SCC in partnership with independent experts, iChoosr, who will administer and deliver the scheme. The scheme is currently closed to new applications at the present time[18].	This relies on homeowners to sign up for the scheme. At the time of writing the scheme was no longer open to new applications.
7	Incorporate energy efficiency measures and renewables into conversions, refurbishments, and maintenance of Council	Promoting Low Emission Plant	Low Emission Fuels for stationary and mobile sources in Public Procurement	Ongoing	ongoing	SBC (Assets/Facilities/Climate & SustainabilityTeam)	Public Sector Low Carbon Skills Fund	NO	Partially Funded	>£10 million	Implementation	Difficult to quantify in terms of local air pollutant emissions	Delivery of specific Council building schemes - Knowle Green Office LED lighting upgrade. Increase in EPC ratings	LED lighting upgrade for Knowle Green Council Offices is 90% complete. Improvement of EPC (inefficient rating to a more efficient rating) has not been progressed due to budget. Three contractors have submitted quotations for solar panel system installation at Sunbury Leisure Centre which is	Budget Solar PV now on all 3 main operational buildings. Knowle Green Office in line for LED lighting upgrade. Subject to budgets there

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Funding Source/ Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date 2024	Comments / Potential Barriers to Implementation
	buildings and housing developments.													scheduled for completion on 13/08/2025. Design of Air Source Heat Pump for Sunbury Leisure Centre is scheduled to be finalised by 14/03/2025.	are plans to increase EPC ratings[19]. SBC has been awarded £994,883 by the Government and Sport England to decarbonise Sunbury Leisure Centre by adding solar panels to the roof and replacing the old gas boilers with heat pumps. Gas usage at the centre will be reduced to zero as a result of the work.
8	Converting 50% of the Council fleet to electric or hydrogen by 2028 as stated in SBC's response to the Climate Emergency.	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	Ongoing	2029	SBC (Neighbourhood Services/ Climate & Sustainability Team)	From Council budget (currently no other potential sources of funding)	NO	Partially Funded	£500k-£1 million for vehicles plus £300k to £400k for infrastructure in the depot to increase the power supply	Implementation	Difficult to quantify in terms of overall local air pollutant emissions	50% of the Council fleet to electric or hydrogen by 2028	The proposal to move to HVO will progress in 2025 as and when new tanks are installed at the depot and nursery.	There are some challenges in replacing some specialist Council vehicles such as refuse trucks, the Council has trialled electric vehicles and unfortunately experienced reliability issues to date. Also funding issues for EVs. Power supply to depot locations requires upgrading to facilitate adequate charging facilities.
9	To investigate the feasibility of producing annual emissions data for the Councils fleet vehicles in line with the Council's Climate Change Strategy.	Promoting Low Emission Transport	Other	Ongoing	Early 2024	SBC Pollution Control/ Neighbourhood Services/Climate Change & Sustainability Team	From Council budget	NO	Partially Funded	£35k per annum	Planning	Emissions savings will be quantified	No KPI set currently	A pilot study of the baseline emissions for the refuse vehicles in the fleet was undertaken in 2023 by the Surrey Environment Partnership. Weekly mileage data is collected by Neighbourhood Services which could be used for further studies. This would require additional within the Neighbourhood Services department to action further.	Funding for staff resource required to action further.
10	Investigate the feasibility of introducing emissions-based parking tariffs.	Promoting Low Emission Transport	Priority parking for LEV's	2025 (for feasibility)	2026	Spelthorne Borough Council/ SCC		NO	Not funded	£10-£50K	Planning	n/a for feasibility work	No KPI set currently	Feasibility study complete This is not an option for consideration by Neighbourhood Services. Regulation of	Funding, staff resource. SBC can no longer enforce on street parking.

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Funding Source/ Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date 2024	Comments / Potential Barriers to Implementation
														on street parking has changed and it is now covered by SCC.	Potential barrier to implementation of Equalities and Diversity impacts and impacts on the recovery of retail in the town centres following the pandemic.
11	Continue to promote the use of "cleaner technology and fuels" within Spelthorne.	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2019	2025	SCC and SBC (via Surrey Air Alliance), planning applicants and developers	Enterprise M3 Local Enterprise Partnership & SBC (including S.106), Developers via the Planning regime, ORCS and LEVI funding for charge points	NO	Partially Funded	-	Implementation	A reduction in NOx pollution from traffic through the uptake of low emission vehicles and reduced private car ownership	Suitable Charging Locations identified, and Preferred Supplier selected. Provision of car club vehicles at new developments in Spelthorne. Number of charge points delivered.	As per the previous comment we will be moving to HVO in larger vehicles and electric for smaller vans in 2024 within the Councils fleet.	Future developments in Staines-upon-Thames may present an opportunity to fund and introduce improvements. There is not suitable SBC owned land in the area of the Borough closest to Heathrow Airport and Stanwell Moor Road where the 2022 NO^2 exceedance occurred to facilitate off - road charging. Increasing on road charging facilities in that area requires resource from SCC.
12	Deliver EV taxi programme to encourage taxi companies and drivers to invest in electric fleets.	Promoting Low Emission Transport	Taxi emission incentives	2020	2026	SBC (Climate & Sustainability Team, projects Team, Environmental Health), Surrey Air Alliance, Guildford Borough Council	Pilot scheme funding from DEFRA via a joint project with the Surrey Air Alliance. Match funding from SCC and a small contribution from Environmental Health budget at some of the participating Local Authorities	YES	Partially Funded	£100k - £500k	Planning	A reduction in NOx and particulate pollution from taxi and private hire vehicles.	Increased number of licensed EV taxi and private hire vehicles.	SBC amended the taxi and private hire vehicle licencing policy to accommodate fully electric vehicles in 2022. The policy was also amended to allow electric London Style cabs or those with Euro 6 standard engines to operate in Spelthorne to improve accessibility of the taxi fleet for disabled customers. SBC have implemented the new Hackney Carriage and Private Hire Licencing Policy 2024-2029 that mandates new licences will only be given to taxi drivers of London ULEZ complaint vehicles from October 2025. Lack of legal resource in local authorities to support the procurement process has led to repeated delays to the EV Taxi Project. Guildford Borough Council are currently leading on the project procurement process after SCC were unable to provide the agreed project	Lack of legal resource in local authorities to support the procurement process, and rapid staff turnover with procurement teams has led to repeated delays.

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Funding Source/ Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date 2024	Comments / Potential Barriers to Implementation
														management and procurement resource to the project, without additional funding.	
13	Supporting air quality research and providing public information regarding air quality, including an air alert for vulnerable members of the population.	Public Information	Other	2021	2023 2029	Spelthorne Borough Council, Surrey Air Alliance and CISHA Air Quality Working Group	Project dependant	NO	Funded	< 10k	Implementation	Provision of air quality information to the public. Input to air quality related research	Data available to the Council and other parties in projects	Spelthorne Borough Council has joined a new service called airTEXT which warns residents when pollution levels are likely to be higher than usual. The service is particularly useful for people who suffer from respiratory or cardiovascular conditions like asthma, emphysema, bronchitis or heart disease. Residents can choose to receive the alerts by text, email or voicemail. The service has replaced the airAlert service which closed on 30 September 2024.	Maintaining a collaborative relationship with the local University helps to train future air quality professionals and scientists, whilst enhancing knowledge about local air quality. The local University are undergoing restructuring which may impact on collaborative working as the Masters programme on Environmental Diagnosis and Management has been put on hold. Provision of air quality alerts is reliant on the funding of the service by multiple Surrey districts and boroughs, and the provision on offer by service providers.
14	Continue to lobby at national /regional level for the legislation changes needed and on the big strategic infrastructure decisions such as Heathrow Airport's third runway and changes to the regulation and operation of UK airspace.	Public Information	Other	Ongoing	Ongoing	Spelthorne Borough Council Management Team/ SCC	Within staffing budgets (staff time only)	NO	Funded (staff time only)	<£10K	Implementation	Will depend on specific proposals, but potential for sizeable emission reductions in the long term	n/a	Ongoing. SBC is active on Heathrow Strategic Planning Group (HSPG) Environment Group and THE Council for the Independent Scrutiny of Heathrow Airport (CISHA).	Competing resource priorities
15	Raising awareness of poor air quality and the associated health	Public Information	Via other mechanisms	2022	2025	Surrey and Heartlands Health and Care partnership, SCC and	NHS and Spelthorne Borough Council	NO	Funded	-	Implementation	n/a - measure about reducing exposure not	Training of healthcare professionals including GPs and	Ask About Asthma initiative: Surrey Heartlands Health and Care Partnership have worked with the Surrey Air Alliance to understand where there are schools	The NHS funding is of a limited timescale, but the project will leave a legacy of online resources and

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	implications. NHS Ask About Asthma campaign. Engaging with the charity and voluntary sector to align efforts on tackling the climate emergency and improving air quality.					SBC (via the Surrey Air Alliance)						reducing emissions	Pharmacists Support of Clean Air Day and Clean Air Night established by the charity Global Action Plan	located in areas of potential poor air quality and to understand how the air pollution forecasts can help asthma patients prepare for deteriorating air quality to help best manage their health condition. Healthy Surrey have produced an online asthma toolkit which gives advice for parent/carers, schools, and medical professionals. In June 2023 SBC attended NHS training to provide information about air pollution alert services. SBC supports Clean Air Day and Clean Air Night, a bid has been made to the Defra Air Quality Fund by Surrey Trading Standards and the Surrey Air Alliance in cooperation with a wider group of Local Authorities for funding to carry out activities to promote Clean Air Night more widely.	staff training. The Surrey Public Health and Environmental Health Teams will continue to share data and work with Surrey Heartlands Health and Care Partnership via the Surrey Air Alliance
16	Implement further Local Street Improvements (LSIs), or similar schemes.	Traffic Management	Strategic highway improvements, Re-prioritising Road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	2022	Ongoing	SCC, Spelthorne Borough Council	SCC	NO	Partially Funded	-	Planning	Very difficult to quantify as will be dependent on specific scheme - will reduce emissions where a modal shift to active travel is successful.	Improved public health indicators, improved facilities for walking and cycling	No progress. Previously called Liveable Neighbourhoods. There are 27 Liveable Neighbourhood Zones/ Local Street Improvements across SBC.	Currently at the design stage. Subject to funding bids and allocations.
17	Junction improvements to increase capacity and improve road layouts linked to new developments.	Transport Planning and Infrastructure	Other	2020	2025	SCC, planning applicants and developers	Developers via the Planning regime	NO	Funded	£500k - £1 million	Implementation	Very difficult to quantify as dependent on specific scheme - will reduce emissions where a modal shift to active travel is successful.	Reduced congestion on Borough roads reduced journey times, reduced emissions	Shepperton Studios: two junctions have been completed, with another junction improvement in progress (due for completion August 2024). Another 4 junction improvements are planned with all due to be completed by September 2026.	There are a number of concurrent roadworks taking place in SBC which collectively cause temporary traffic congestion, longer journey times, and interrupt public transport such as bus routes.

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18	Promoting Alternative Travel – Delivery of bus priority measures, cycle parking and interchange opportunities.	Transport Planning and Infrastructure	Public transport improvements-interchanges stations and services	2016	2030	SCC	SCC	NO	Partially Funded	-	Planning	Very difficult to quantify as dependent on specific scheme - will reduce emissions where a modal shift to active travel or public transport is successful.	Increased uptake in public transport journeys, and cycle journeys	SCC have a dedicated webpage summarising the travel discounts available in Surrey Some attractions in Surrey offer admission discounts when travelling to the attraction with an eligible bus ticket The SCC webpage lists the bus operators who allow free bus pass holders to travel before 9.30am and the London Bus Services which are cashless and accept Oyster. Includes several services that route through Spelthorne including notably some services between Ashford Hospital and Staines-upon-Thames. SBC Local Cycling and Walking Infrastructure Plan (LCWIP) has been produced[28].	Public transport by rail and bus remains costly in SBC when compared with neighbouring London Boroughs. Connectivity by public transport to common places of work across Surrey is poor. To date the campaign to get Spelthorne included in transport zone 6 which would substantially reduce public transport fares and allow the implementation of the Oyster scheme on rail in Spelthorne has not yet been successful. Railway nationalisation may present a new opportunity to address the disparity of rail costs compared with other areas so close to London. Car parking charges have to achieve a balance of providing economic activity in the town centres which are recovering from the economic impacts of the Covid-19 pandemic balanced with the need to improve air quality and reduce carbon emissions in line with the climate emergency.
19	The Council will work with Knowle Green Estate and other suppliers to promote retrofit, insulation, energy efficiency and adaptation measures.	Promoting Low Emission Plant	Shift to installations using low emission fuels for stationary and mobile sources		2027	SBC Housing/Climate & Sustainability Team/ Knowle Green Estates	Social Housing Decarbonisation Fund	No	Not Funded	Not costed at present	Planning	Unquantifiable, energy efficiency measures can reduce emissions from boiler use and the use of Combined Heat and Power	Installation of energy efficiency measures on social housing	Potential for working with Surrey CC on joint bid in the future. Knowle Green Estate is a housing company owed by SBC. The council does not however own any housing directly. Housing is provided via social housing providers e.g. A2 Dominion (A2D), a housing association[34] A meeting	Would need buy in and support from A2 Dominion, the social housing provider. 50% match funding requirement.

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												Plant which creates emissions to air.		with A2 D (Q4, 2023) highlighted the importance of work needed on social housing.	
20	To investigate the feasibility of introducing Air Quality Supplementary Planning Guidance.	Policy Guidance and Development Management	Air Quality Planning and Policy Guidance	2025 (for feasibility)	2026	Spelthorne Borough Council	Unclear - potentially planning budgets if professional services are required to deliver the measure.	No	Not Funded	£10-50K (including internal staff time)	Planning	Unquantifiable, but any emissions reduction will be long term	Increased consistency in air quality assessments	No progress	Resourcing. Co-ordination in with Local Plan update/ process.
21	Increase Spelthorne Smoke Control Area to cover the whole borough.	Policy Guidance and Development Management	Other policy	2025	2026	Spelthorne Borough Council	Unclear - within staffing budgets	Potential for grant funding	Not Funded	<£10K	Planning	Unquantifiable, likely to have more effect in raising awareness of effects of solid fuel burning	Order approved for whole borough SCA	In 2024, officers from Pollution Control attended Defra Webinars in May 2024 on revocation of CA and October 2024 on enforcement of SCA rule. A drat policy is being progressed.	Requires Committee approval and a public consultation exercise.
22	To continue to fund a comprehensive air quality monitoring network including automatic monitoring of PM_{10} and $PM_{2.5}$.	Public Information	Other	Ongoing	2029 (ie to the end of the plan and beyond)	SBC	Council budgets[35], have used Defra grant funding for sensors	Yes (historically)	Funded on annual basis	£10-50K	Implementation	n/a	Annual Reporting of monitoring Data through the ASR	The feasibility of including some riverside monitoring to consider River Transport will be explored. In 2024, an Air Quality Monitoring Feasibility Study was undertaken to assess four options for air quality monitoring in the Borough given the Sunbury Cross automatic monitoring site has suffered weather related damage and is coming to the end of its operational life without installing new infrastructure on site, that being a construction project requiring external specialist resource and management under the Construction Design and Management Regulations. The feasibility report includes relevant background information, technical specifications, legislation and available literature. It is the conclusion of the study that a combination of an automatic monitoring site and small sensors offers the greatest benefits relative to costs. This is be brought forward to the E & S	Funding, staff resource, H&S training and equipment for monitoring sites close to the river. Restructuring of Local Government may impact upon this work due to the timescales involved in installing automatic monitoring and associated infrastructure.

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														committee for approval and implementation in due course.	
23	Refresh bonfires and anti-idling campaign.	Public Information	Other	2024	2026	SBC	SBC	No	Not funded	<£10K	Planning	Will reduce PM, rather than NOx	Reduction in complaints of bonfires / idling	Complaints regarding bonfires and idling increased post-COVID. Councils cannot ban bonfires but can enforce when statutory nuisance is demonstrated. Increased public awareness that bonfires and idling cause unnecessary emissions may help to reduce the incidence. The SBC Communications team circulate campaign materials on social media.	
24	Continue to implement Cycling for Health.	Promoting Travel Alternatives	Promotion of cycling	2016	2032	SBC and SCC	SBC	NO	Funded	<£10K	Implementation	Very difficult to quantify but will reduce emissions where a modal shift to active travel is successful.	Increased uptake in active travel and local leisure opportunities	Guided cycle rides once a week continued to be offered. Cycle leaders course delivered in Spring 2024 to train up more volunteers. Celebrated 10 years of Cycling for Health in 2024. The Coordinated Approach to Cycling Working Group takes place quarterly involving local stakeholders such as Talking Tree, SCC, SBC officers and Councillors to promote and develop opportunities to increase the uptake of cycling in Spelthorne. Walking for Health celebrated 20 years in 2023 and continues to offer at least three walks per week including evening and weekend walks. Volunteer leaders training course delivered in January 2024 to train up more volunteers.	Cycling for Health is an established volunteer led scheme which depends on the community kindly giving their time to run the guided cycle rides. The River Thames Flood Relief Scheme should the Development Consent Order be granted and the scheme constructed will include extensive new active travel infrastructure including potentially 2 new non vehicle crossings over the River Thames into neighbouring boroughs. Cycle storage difficulties present a barrier to the uptake of cycle ownership. This is a challenge to address both via planning policy for new developments, and in supporting storage provision more widely in the borough.
25	Bikeability School Cycling Proficiency training and Feet First Walking Training.	Promoting Travel Alternatives	Promotion of cycling	2012	2032	SCC	SCC	NO	Funded	-	Implementation	Very difficult to quantify but will reduce emissions where a modal	Increased uptake in cycle and walking journeys made to schools	SCC offers subsidised Bikeability cycle training to all year 2, year 5 and year 6 pupils in the Borough and offers customised cycle training for all ages.	Charged for service paid for by school or parents/carers.

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												shift to active travel is successful.		Guided cycle rides once a week continued to be offered. Cycle leaders course delivered in Spring 2024 to train up more volunteers. Celebrated 10 years of Cycling for Health in 2024. Walking for Health celebrated 20 years in 2023 and continues to offer at least three walks per week including evening and weekend walks. Volunteer leaders training course delivered in January 2024 to train up more volunteers.	
26	Continue to implement Walking for Health.	Promoting Travel Alternatives	Promotion of walking	2016	2032	SBC and SCC	Spelthorne Borough Council	NO	Funded	-	Implementation	Very difficult to quantify but will reduce emissions where a modal shift to active travel is successful.	Increased uptake in active travel and local leisure opportunities	The Spelthorne Walking for Health Scheme, supported by The Ramblers Association, has run for 17 years. SBC has substantial length of Thames Path which passes through scenic areas and is suitable for walking and cycling. There is also a large Site of Special Scientific Interest at Staines Moor which includes walking paths and linkages to the South West London Waterbodies Special Protection Area and the wider Colne Valley Regional Park. Guided cycle rides once a week continued to be offered. Cycle leaders course delivered in Spring 2024 to train up more volunteers. Celebrated 10 years of Cycling for Health in 2024. Walking for Health celebrated 20 years in 2023 and continues to offer at least three walks per week including evening and weekend walks. Volunteer leaders training course delivered in January 2024 to train up more volunteers.	Volunteer led scheme which depends on the community kindly giving their time to run the guided walks. The River Thames Flood Relief Scheme should the Development Consent Order be granted and the scheme constructed will include extensive new active travel infrastructure including potentially 2 new non vehicle crossings over the River Thames into neighbouring boroughs.
27	Continue to implement School and Business Travel Plans.	Promoting Travel Alternatives	School Travel Plans	2012	2032	SCC	SCC Greener Futures and the Surrey Air Alliance	NO	Funded	-	Implementation	Reduce NOx and $PM_{2.5}$ emissions and traffic congestion from school related journeys. Very difficult to	100% of schools to implement travel plans	SCC are supporting schools to reduce their emissions through 3 schemes. The Eco Schools Green Flag scheme, the Mode Shift Stars Travel Plan scheme and Lets Go Zero. Schools sign up to a Memorandum of Understanding to get funding to implement a Mode Shift Stars Travel	Most schools opt to use the funding via the Memorandum of Understanding to improve scooter and cycle parking facilities for the pupils. Engagement with private schools has

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												quantify but will reduce emissions where a modal shift to active travel is successful.		Plan or an Eco Schools Green Flag. The SCC Safer Travel Team have completed 170 site assessments of Road Safety Outside Schools. In 2022, £3 million was assigned by SCC to deliver infrastructural improvements outside schools in Surrey, with the aim to install new infrastructure outside 50 schools over the next 3 years.	improved compared with prior to the pandemic. Private schools can have very large catchment areas for pupils.
28	Continue to support work on the Health and Wellbeing Strategy.	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2020	2032	SCC and SBC	SCC and SBC	NO	Funded	£100k - £500k	Implementation	Reduce NOx and $PM_{2.5}$ emissions from traffic. Very difficult to quantify but will reduce emissions where a modal shift to active travel is successful.	n/a	Ongoing. The Spelthorne Health and Wellbeing Strategy 2022 to 2027 has been adopted by Members at Committee. Active travel will be encouraged to support people's physical health but also positively contribute to reducing air pollution[45] SCCs Health and Wellbeing Strategy includes a commitment that the benefits of healthy environments for people are valued and maximised (including through transport/land use planning) and to support people to reach their potential by addressing the wider determinants of health.	
29	Continue to promote sustainable transport/ homeworking with staff to reduce travel and explore schemes offering Council employees alternatives to private vehicle use.	Promoting Travel Alternatives	Encourage / Facilitate home-working	Ongoing	Ongoing	SBC (Neighbours Services/ CCT)	Within Council budgets	NO	Not funded	£10K-£50K	Implemented		Proportion of trips to work for SBC employees by private vehicle	Ongoing. Hybrid Working Policy which supports a degree of home working is in place reducing commuting mileage, a salary sacrifice scheme for EVs and bicycles already in place. SBC provide Carbon Literacy Training which encourages staff and Councillors to consider their emissions and travel as an aspect of that. The electric pool vehicles including cars and bikes are promoted to staff regularly and staff are encouraged to use them for site visits/attending meetings. SCC offer the Better Points App to all residents, and this could be promoted to staff, Councillors and residents as part of this action (accrue points on the app towards vouchers or charity donations for	Additional work needed on exploring schemes offering Council employees incentives to avoid car use, and other alternatives to flying such as Climate Perks. Numerous carbon literacy pledges have included a change to travelling to work via active travel.

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														choosing active travel, or public transport over car use).	
30	Continue collaboration with Heathrow Airport Ltd to reduce emissions arising from the operation of Heathrow Airport.	Policy Guidance and Development Management	Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduce emissions and improve air quality	2024	2030	Spelthorne Borough Council, in collaboration with Heathrow Airport Limited, Heathrow Air Quality Working Group and CISHA Heathrow Area Transport Forum, HSPG	Various	No	Various	Various	Implementation	Heathrow 2.0 Goals for 2030: Reduce Nox emissions airside by 18% compared to 2019; at least a 45% cut in ground carbon emissions.	Achievement of target emissions reductions	Heathrow is actively involved in improving public transport including capital measures to support rail connectivity, subsidised public transport for colleagues and other measures as set out in it's Surface Access Strategy. All conventional vehicles owned by Heathrow Airport Ltd are in transit to become carbon zero emission by 2030, with incentives and infrastructure to help other companies make the transition, including the use of HVO. Investment is being made into making buildings low carbon. Sustainable Travel Zone implemented in 2022 to encourage travel to Heathrow by public transport. Providing infrastructure to support zero emission cars and buses. Implementation planning for airside ULEZ in 2025. Continuing to monitor air quality.	Heathrow Airport Ltd does not own all the vehicles and buildings that operate at the airport, and as such it does not have direct control over many of the emission sources associated with the airport operation. However, the company is committed to reducing carbon and NOx emissions (see Heathrow 2.0) and working with the surrounding Local Authorities on potential measures and information sharing. Heathrow Airport Ltd recognises that Spelthorne BC is one of the most exposed areas to emissions from airport freight movements due to the location of the cargo area, but has no direct control over the freight operators and therefore it seeks to influence improvements.
31	Support Traffic Management interventions to reduce road traffic emissions either through smoothing traffic flow or reducing vehicle use.	Traffic Management	Strategic highway improvements	2024	2029	SCC, National Highways,	Various	No	Many schemes dependent on outcomes of other processes	various	Implementation	Dependent on intervention	Delivery of Interventions	Check Improvements to signalling at Sunbury Cross Roundabout Capacity and cycle safety improvement not yet funded.	Sunbury Cross: changes to the signals are the responsibility of National Highways and so will need to be approved by them. The proposals will need to ensure that any changes to the operation of the off-slips will need to enhance the safety for vehicles exiting the M3/A316 as these are high speed roads.

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32	Support and help implement the Spelthorne Local Cycling and Walking Infrastructure Plan	Promoting Travel Alternatives	Promotion of cycling	Ongoing	Ongoing	SCC, SBC	Unclear at this stage, but LCWIP used to bid for funding	No	Partially funded	Costs vary from £2.5 to 11.9 million for the cycle routes and from £3.1 to 4.6 million for the CWZ/ walking routes.	Implementation	Very difficult to quantify but will reduce emissions where a modal shift to active travel is successful	Delivery of schemes within the LCWIP	The Spelthorne Local Cycling and Walking Infrastructure Plan (LCWIP) is the primary plan for implementing walking and cycling improvements in Spelthorne. It will be used by SCC as the primary document for securing funding for walking and cycling infrastructure in the borough. It is much more wide reaching than the Local Street Improvements programme, whose schemes are much smaller and more local in scale. It is important that, as the key vehicle for implementing cycling and walking infrastructure in the borough, the LCWIP is named as a standalone measure. This is consistent with other AQAPs from districts and boroughs across the county that have an LCWIP in place, as Spelthorne does.	There are a number of potential sources of funding available to deliver improvements identified in a LCWIP including Integrated Transport and Maintenance Block Funding, government grants, developer funding as well as surplus parking income and Local Economic Partnership (LEP) and / or internal funding.

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

As detailed in Policy Guidance LAQM.PG22 (Chapter 8) and the Air Quality Strategy[26], local authorities are expected to work towards reducing emissions and/or concentrations of fine particulate matter ($PM_{2.5}$)). There is clear evidence that $PM_{2.5}$ (particulate matter smaller than 2.5 micrometres) has a significant impact on human health, including premature mortality, allergic reactions and cardiovascular diseases.

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

- Consideration is being given to potentially locating a small/low-cost sensor for particulate measurement as an alternative to the Sunbury Cross automatic station, where the cabin housing the continuous analyser has suffered weather related damage;
- Provision of a Council run green waste disposal collection service at the kerbside via a low-cost subscription[27]. The Surrey Environment Partnership offer a low-cost garden composter that residents can order online[28]. These measures help to reduce the burning of garden waste;
- The Council requires developments that trigger an Air Quality Assessment to assess the impact of construction dust emissions. The Local Planning Authority applies planning conditions to the developments requiring the developer to follow best practice guidance from the Institute of Air Quality Management (IAQM) to mitigate particulate impacts;
- Working with Heathrow Airport through the CISHA Air Quality Working Group to scrutinise Heathrow Airport related air quality policy, monitoring provisions and modelling studies;

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

[27] Spelthorne Borough Council 2023. Garden Waste Collections web pages available at: https://www.spelthorne.gov.uk/gardenwaste

[28] Surrey Environment Partnership 2023. Home Composting web pages available at: https://www.surreyep.org.uk/reduce-reuse-recycle/garden-waste/composting/ and https://www.surreyep.org.uk/reduce-reuse-recycle/garden-waste/composting/compost-bin-sales/

- Participating in the Heathrow Strategic Planning Group (HSPG), an independently chaired group which provides collective consultee feedback to planning proposals and policy initiatives from Heathrow Airport on behalf of Local Authorities.
- Supporting active travel measures to reduce the miles driven by car to access places of work, leisure, and education to reduce tyre wear, road surface wear and exhaust emissions that produce $PM_{2.5}$. Spelthorne has been working with Surrey County Council to improve the borough's cycle lanes and pedestrian facilities such as crossings through the Local Walking and Cycling Infrastructure Plan[29].
- Through the Surrey Air Alliance, Spelthorne have participated in joint working to raise awareness of air pollution and the benefits of active travel with schools via the Surrey County Council Safer Travel Team.
- Publicising anti engine idling messaging within the borough through a digital and poster campaign. Engine idling creates unnecessary emissions often in particularly sensitive locations such as outside schools, nurseries and medical facilities.
- Most of the borough is covered by 13 Smoke Control Areas where the burning of unauthorised fuel in non-exempt appliances and production of smoke from a chimney (a source of $PM_{2.5}$), is subject to enforcement action where it can be sufficiently evidenced. The enforcement policy in relation to Smoke Control Area's is being updated following changes to Schedule 1A of the Clean Air Act as amended by the Environment Act 2021. The Surrey Air Alliance share intelligence with Surrey County Council Trading Standards regarding fuel retailers.
- The Council will investigate and take enforcement action where open burning of commercial waste, a source of $PM_{2.5}$ is sufficiently evidenced.
- Environmental Health is currently working with the Council's legal team to introduce an enforcement policy which should allow the application of the most recent smoke control legislation. An enforcement procedure for Smoke Control Area and Smoke Control Policy for Fixed Penalty Notices that sets the levels of fine in accordance with the legal advice received is being written by the Pollution Control team.

[29] Surrey County Council 2023. Spelthorne Local Cycling and Walking Infrastructure Plan. Available at: https://www.surreycc.gov.uk/roads-and-transport/cycling-and-walking/plans

- The Council will continue to investigate and take enforcement action where dust emissions can be sufficiently evidenced as to constitute a statutory nuisance.
- Working with the Planning Department to create guidance for kitchen extraction applicants. The Pollution Control team are a consultee on kitchen extraction planning applications and apply the principles of the EMAQ Control of Odour and Noise from Commercial Kitchen Exhaust Systems guidance[30].
- Continuation of the promotion of air pollution alert services (airTEXT) to provide air quality information for residents with health conditions that are impacted by poor air quality.
- Environmental Health continue to emphasise the health issues related to burning when investigating complaints of nuisance arising from burning or investigating complaints about bonfires.
- Defra application for Clean Air Night project funding: In February 2024 DEFRA notified SBC that while the application scored higher than the previous application, the bid was unsuccessful on this occasion. The Surrey Air Alliance was a founder supporter for Global Action's Clean Air Night campaign in January 2024, Clean Air Night | Global Action Plan (https://www.actionforcleanair.org.uk/). The Surrey Air Alliance support the Clean Air Day and Clean Air Night campaigns with members circulating the campaign materials via the Councils Communications teams. Clean Air Day 2025 coincides with the Cycling UK Bike Week. SBC are holding an event to promote the Recycle your Bike initiative Staines upon Thames will also be hosting the Thrive Festival of activities based around sustainability in association with the Council, the Talking Tree community group which promotes action for a greener Spelthorne [31]and Royal Holloway University of London.
- The Surrey Air Alliance meetings are held quarterly allowing Officers to share knowledge regarding local air quality. The group is attended by a representative for each of the Surrey Borough Environmental Health Teams, Surrey County Council Transport Planners, Surrey County Council Safer Travel Team, Surrey County Council

[30] Ricardo EMAQ, 2022. Control of Odour and Noise from Commercial Kitchen Exhaust Systems Available from Ricardo EMAQ https://emaq.ricardo.com/course/view.php?id=231

[31] Talking Tree information about the community group can be found here: https://talkingtree.org.uk/

Public Health, National Highways, Surrey Heartlands NHS Trust and regular guest speakers.

- Defra Funded EV Taxi Project with the Surrey Air Alliance: Guildford Borough Council's legal/procurement team is carrying out research to determine if the project is still viable.
- In partnership with the Surrey Air Alliance an Officer from Spelthorne co presented to the Surrey Public Health team on the need to address building sites as a source of $PM_{2.5.}$ A proposal to adopt the London Construction Guidance across Surrey was presented to the Development Planning working group for Surrey, unfortunately no agreement was reached to adopt the guidance however in the case of DCO developments where London Boroughs are also a consultee, SBC Officers are signposting to the London Construction Guidance to push for agreement from applicants to meet those standards across the whole construction footprint, as DCOs are subject to Statements of Common Ground.
- The Environmental Health team have taken a proactive approach to undertaking ongoing spot checks at large construction sites where observations of poor practice that are generating dust have been made by officers, or where the public have reported this to the Council.

Through the planning consultation process the Environmental Health team recommend that conditions are applied to planning permissions for construction sites in line with the IAQM guidance on the assessment of dust from demolition and construction[32] classifications, requiring large or high-risk construction sites to submit a Construction Management Plan incorporating dust management measures. Where there are sensitive receptors located adjacent to high-risk construction and demolition sites the Council requests continuous dust monitoring with an appropriate trigger level to notify the site management when dust is arising, enabling them to take action to improve dust suppression. The Council discourages the use of Heras fencing with debris netting only for construction and demolition activities, as this is ineffective in preventing dust migration off site when compared with a solid boundary hoarding.

[32] Institute of Air Quality Management, 2023. Guidance on the assessment of dust from demolition and construction. Available at: https://iaqm.co.uk/guidance/

A barrier to installing a solid hoarding can be the need for a licence. Spelthorne Borough Council endeavour to notify applicants of the licence requirement[33] at pre application meetings where these have been arranged.

The level of development in the borough and the number of construction projects taking place concurrently remains a challenge for Spelthorne. These include not only large developments such as the Shepperton Studios Expansion, but also nationally significant infrastructure granted planning permission via the Development Consent Order (DCO) process. There are two potential DCO projects, the River Thames Scheme and expansion at Heathrow Airport which may result in concurrent construction programmes should they be granted planning permission from the Secretary of State.

The borough has a very high assessed housing need which leads to concurrent construction projects which, alongside the minerals and waste sites across the borough, generate heavy duty vehicle traffic on the local roads that are both a source of particulates and mobilise particulates from the road surface. Council road sweepers are regularly deployed along the borough highways to routinely control road dust. The larger developments and minerals and waste sites have their own road sweepers and wheel washing facilities.

Environmental Health endeavour to contact sites as soon as any track out to the highway is observed and/ or reported. The pollution implications of resuspended dust are emphasised to the site and should the dust arising from the site constitute a statutory nuisance enforcement applies. Resources are prioritised to the most high-risk sites and to those that have received complaints of potential nuisance against them. Where a planning condition is in place requiring dust management, Environmental Health will work alongside Planning Enforcement to achieve compliance with conditions from the site. Where a site is subject to regulation by another body such as the Environment Agency or Surrey County Council, Environmental Health will pass evidence that is gathered or submitted onto them for investigation.

The popularity of wood burners is a challenge for Spelthorne. When the Council are contacted for advice regarding the installation of wood burners residents are reminded that

[33] Surrey County Council, 2023. Requirements for a hoarding license. Available at: https://www.surreycc.gov.uk/roads-and-transport/permits-and-licences/scaffolding-and-hoarding#:~:text=A%20scaffolding%20and%20hoarding%20licence%20is%20required%20for,building%20materials%20licences%20to%20be%20issued%20by%20them.

even a perfectly installed device will still lead to some emissions in the home where it is installed, which can have health implications. Marketing of woodburning devices is strong in Surrey where they are sold as part of a nature friendly sustainable lifestyle and cosy addition to the home, despite the devices contributing to poor air quality.

The Ask About Asthma campaign with the Surrey Heartlands Health and Care partnership, and the Surrey Air Alliance (see measure 21 in Table 2.2), working in collaboration aims to improve public health outcomes regarding asthma in line with the Public Health Outcomes Framework.

The Spelthorne Borough Council Health and Wellbeing Strategy and LCWIP, also aims to improve health outcomes in line with the Public Health Outcomes Framework. The Fingertips data[14] provided by the Public Health Outcomes Framework indicates that Spelthorne has some of the lowest activity levels and highest obesity levels in Surrey. The Council has invested in a new Passivhaus standard Leisure Centre that provides additional capacity for youth sports via a roof housing sports pitches. Spelthorne is one of the least economically affluent boroughs in Surrey (based on Census household depravation data[34]),and faces the challenge of poorer comparative health outcomes to neighbouring Surrey boroughs mixed with economic challenges, which could be exasperated by the cost-of-living crisis.

[34] Office for National Statistics 2021 Census data as accessed in 2025 to view household deprivation and age standardised general health metrics. Available here: https://www.ons.gov.uk/census/maps/choropleth

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

This section sets out the monitoring undertaken within 2024 by Spelthorne and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2020 and 2024 to allow monitoring trends to be identified and discussed.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Spelthorne undertook automatic (continuous) monitoring at two sites during 2024. **Error! Reference source not found.** in Appendix A shows the details of the automatic monitoring sites. Maps showing the location of the monitoring sites are provided in Appendix D. Further details on how the monitors are calibrated and how the data has been adjusted are included in Appendix C.

In accordance with Defra TG22 guidance, paragraph 1.37 Spelthorne does not have to report annually on the following pollutants: 1,3 butadiene, benzene, carbon monoxide and lead, unless local circumstances indicate there is a problem. National monitoring results are available: For carbon dioxide and lead at https://uk-air.defra.gov.uk/networks/network-info?view=aurn; For hydrocarbons including 1,3 butadiene and benzene at https://uk-air.defra.gov.uk/networks/network-info?view=hc

The Air Quality England page presents automatic monitoring results for Spelthorne, with automatic monitoring results also available through the UK-Air website.

3.1.2 Non-Automatic Monitoring Sites

Spelthorne undertook non - automatic (i.e. passive) monitoring of NO_2 at 51 sites during 2024. Table A.2 in Appendix A presents the details of the non-automatic sites.

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

3.2 Individual Pollutants

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

3.2.1 Nitrogen Dioxide (NO_2)

Table A.3 and Table A.5 in Appendix A compare the ratified (Oaks Road only) and adjusted monitored NO_2 annual mean concentrations for the past five years with the air quality objective of 40µg/m^3. Data capture at the Sunbury Cross monitoring station was severely impacted during 2024 (<25%) due to deteriorating conditions within the monitoring compound due to weather damage, the data is therefore not suitable for annualisation.

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 2024 dataset of monthly mean values is provided in Appendix B. Data presented in Table B.1 includes distance corrected values, only where relevant.

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

Figure A.1 in Appendix A shows the long-term trend in NO_2 annual mean levels at the continuous monitoring stations at Oaks Road (BAA Oaks) and (Sunbury Cross (SUN_01). The long-term trend at Oaks Road indicates a downward trend in background levels from the peak in the early 2000's.

Figure 1 shows that after falling from a peak in 2005, annual mean NO_2 at key roadside monitoring locations in Spelthorne did not mirror the downward trend in UK background

NO_2 levels over the next decade[35]. Results between 2014 and 2018 had suggested a possible downward trend starting to emerge, however in 2019 concentrations increased.

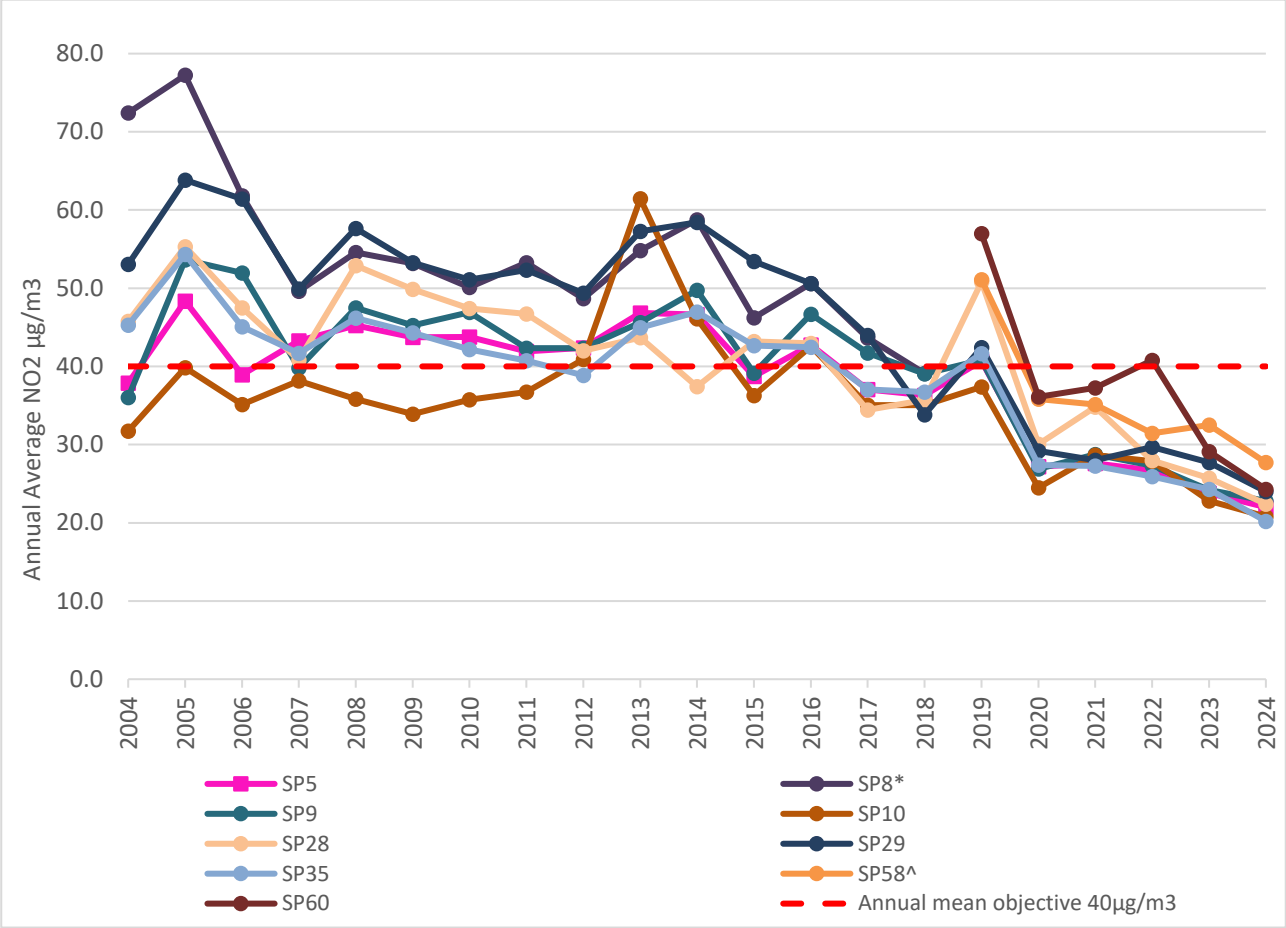
The implementation of measures to address the Covid-19 pandemic represent a period in which a significant reduction in concentrations were recorded. Post pandemic conditions indicate a fluctuating but generally reducing trend.

Figure 1 and Table A.5 show that concentrations of NO_2 annual mean concentrations at roadside and kerbside monitoring locations generally decreased during 2024 compared with 2023. SP50 Waterside Close Shepperton and SP61 Horton Road, Stanwell experienced a minor increase of <0.5µg/m^3 (see Table A.5).

Since 2020 there has been only 1 monitoring location (SP60) where the annual average NO_2 levels slightly exceeded the national air quality objective of 40µg/m^3 (recorded in 2022). This location is adjacent to a heavily trafficked road leading up to the Heathrow Southern Perimeter Road, Terminal 5 and the M25.

[35] Defra 2025. National statistics Nitrogen dioxide (NO_2) as updated April 2024. Available here: https://www.gov.uk/government/statistics/air-quality-statistics/ntrogen-dioxide

Figure 1 – Trends in Annual Mean NO_2 at Key Roadside and Kerbside Diffusion Tube Monitoring Locations

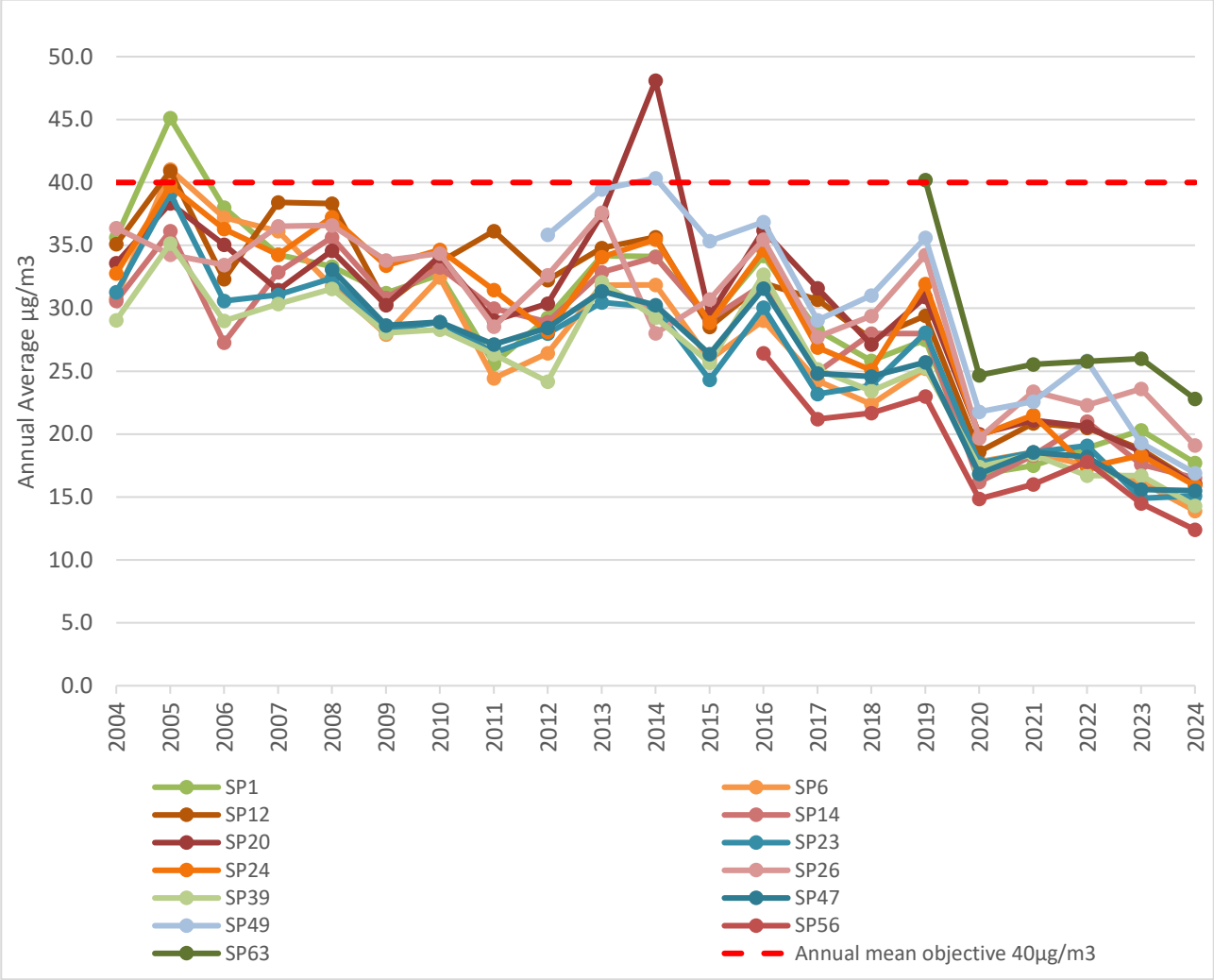


Note: ^SP58 was introduced in 2019 to replace the discontinued SP8. SP58 is located on the east side of the Sunbury Cross junction roundabout.

Figure 2 shows that NO_2 concentrations at key urban background monitoring locations in Spelthorne have been variable since 2004. The influence of the extensive strategic road network coverage within the borough may be a factor in this variability compared with the wider national dataset that reflects a downward trend in measurements from automatic analysers, and corresponding data from the automatic analyser in Spelthorne as presented in Figure A.1 which also demonstrates a downward trend for the automatic analyser Oaks Road, Stanwell which has the longest uninterrupted dataset.

In 2024, although a slight increase of 0.2µg/m^3 can be noted at SP23, Greeno Crescent Shepperton, the concentrations of NO_2 have generally reduced when compared with data from 2023.

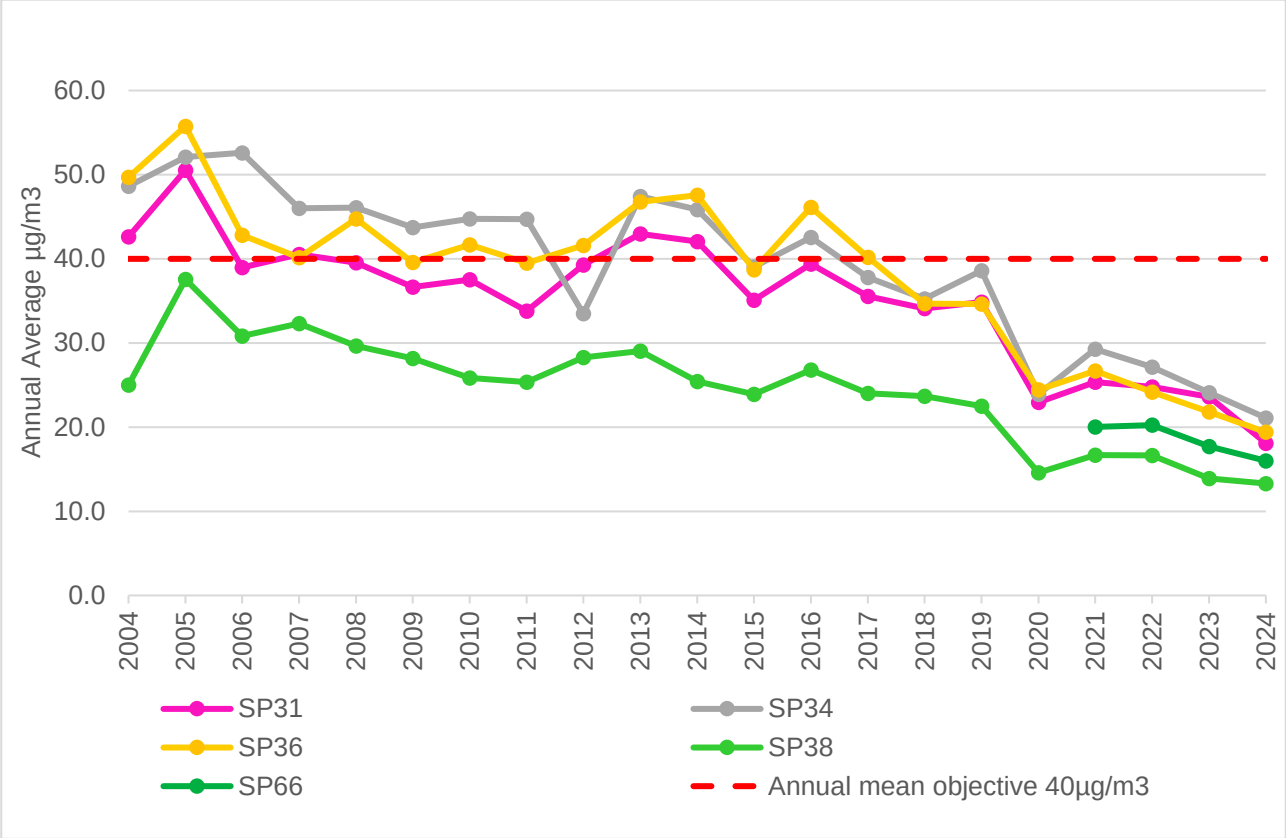
Figure 2 – Trends in Annual Mean NO_2 at Urban Background Diffusion Tube Monitoring Locations



Note: SP1 is situated in a pedestrianised shopping area.

Figure 3 illustrates roadside locations that are close to schools or hospitals. From 2018 onwards there has not been an exceedance of the annual mean NO_2 objective at these locations with a generally decreasing trend in annual mean NO_2 concentrations.

Figure 3 – Trends in Annual Mean NO_2 at Health and Education Diffusion Tube Monitoring Locations



The reduction in concentrations due to the restrictions implemented during the 2020 and 2021 Covid-19 pandemic years, behavioural change impacting upon traffic flows and improved fleet emissions can still be seen and is sustained in 2024.

Figure 4 shows the long-term trend in NO_2 exceedance of the national air quality objective for NO_2 in Spelthorne. No exceedance has been recorded for the 2023 and 2024 monitoring periods.

Figure 4 – Trends in Exceedance of Annual Mean NO_2 at Diffusion Tube Monitoring Locations

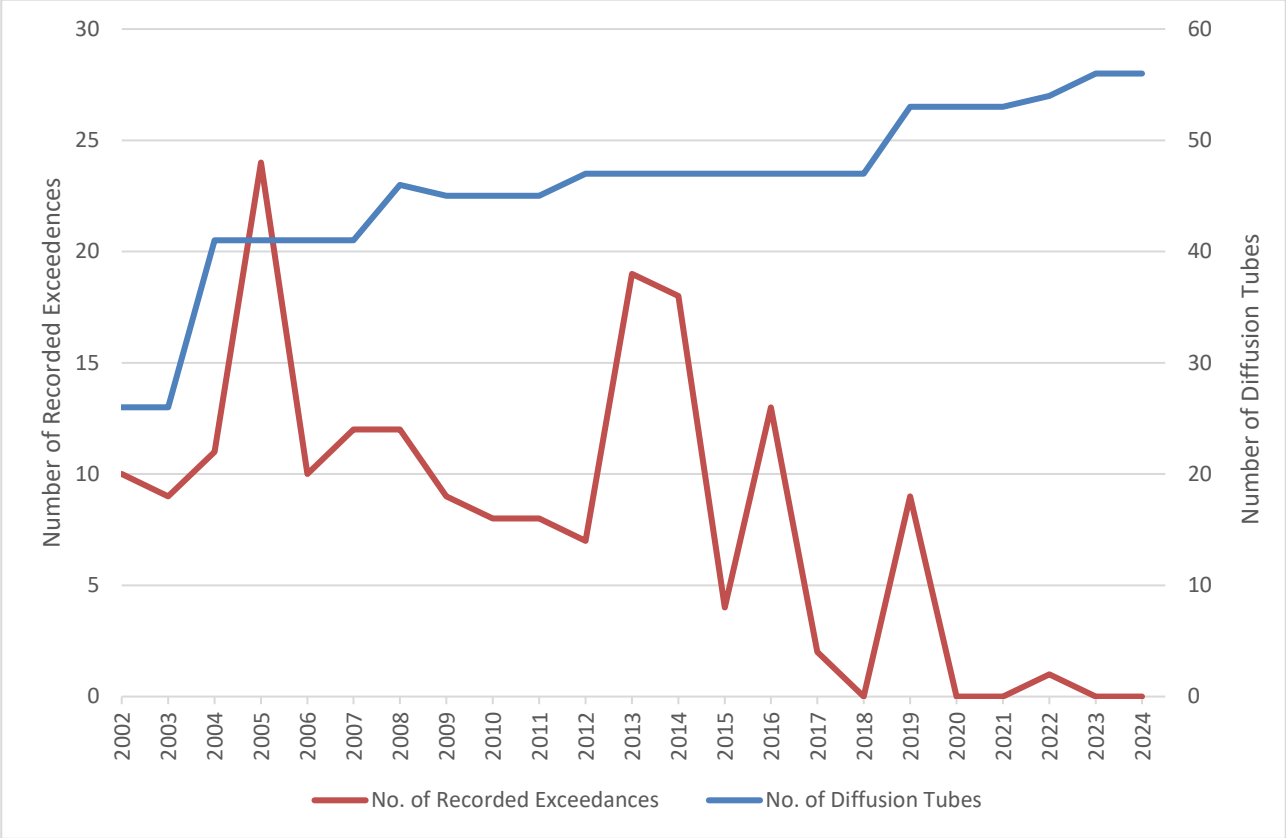


Table A.5 in Appendix A compares the ratified (Oaks Road data only) automatic monitored NO_2 hourly mean concentrations for the past five years with the air quality objective of 200µg/m^3, not to be exceeded more than 18 times per year. There were no recorded exceedances of the NO_2 hourly mean objective during 2024, at the Oaks Road continuous monitoring station. None of the diffusion tube locations on the regular Spelthorne network, nor the automatic analyser recorded annual means greater than 60µg/m^3, which indicates that an exceedance of the 1-hour mean objective is unlikely at these sites.

In 2019 diffusion tube NO_2 monitoring for a 6-month period was deployed on behalf of National Highways on the Pollution Climate Mapping Road link 28076, at the kerbside on the A316. One triplicate monitoring site was established in each direction adjacent to the eastbound and westbound carriageway. An annualised annual mean NO_2 concentration for one of the tubes within the triplicate sample adjacent to the eastbound carriageway of 60.3 µg/m^3 was indicative of a potential exceedance of the 1-hour mean objective. All the triplicates at both the east and westbound A316 sites exceeded the annual mean NO_2 objective. The results were published in the Spelthorne Borough Council 2020 ASR. On an annual basis National Highways coordinate with Spelthorne Borough Council and the

Transport Authority Surrey County Council to obtain planning data for developments that may influence traffic flows on the A316 PCM link, which is reviewed by National Highways.

National Highways publish audit reports in relation to PCM link 28076 online[36]. The PCM link is situated to the east of the Sunbury Cross junction where the A316 begins London bound after the M3 J1. The most recently available National Highways Annual Evaluation Report published in October 2024 predicts compliance with the annual mean NO_2 objective from 2023, based upon a 2023 distance corrected monitored concentration of 34µg/m^3 [37]. It should be noted that the data in the latest report for National Highways demonstrates that there was an exceedance of 41µg/m^3 at a distance of 4m from the carriageway between the A316 carriageway and the Costco car park (without distance correction) for the 2022 data collected by National Highways. No National Highways monitoring data for 2024 has been published to date.

Levels of NO_2 were monitored at the Oaks Road and Sunbury Cross automatic analysers in 2024 with an annual average concentration of 18.2 µg/m^3 (Oaks Road). Conditions at the Sunbury Cross monitoring compound severely affected monitoring at this location with the analyser removed in the early part of 2024 and not yet reinstated. This led to a data capture for 2024 of less than 25%. The data from location has therefore (in accordance with LAQM TG(22)) not been annualised.

3.2.2 Particulate Matter (PM_{10})

Table A.6 in Appendix A: Monitoring Results compares the ratified and adjusted monitored PM_{10} annual mean concentrations for the past five years with the air quality objective of 40µg/m^3.

[36] National Highways 2023. Audit Summary Report for PCM link 28076. Available at: https://s3.eu-west-2.amazonaws.com/assets.nationalhighways.co.uk/Air+quality+progress+update/Index/Annual+Evaluation+Report+2023/Appendix+A+-+Analysis+and+PCM+link+summary_v3-clean.pdf

[37] National Highways 2023. Audit Summary Report Appendix B – Air Quality Monitoring. Available at: https://s3.eu-west-2.amazonaws.com/assets.nationalhighways.co.uk/Air+quality+progress+update/Index/Annual+Evaluation+Report+2023/Appendix+B+-+Monitoring_v3-clean.pdf

Table A.7 in compares the ratified continuous monitored PM_{10} daily mean concentrations for the past five years with the air quality objective of 50µg/m^3, not to be exceeded more than 35 times per year.

Results of monitoring over the past twenty-one years (Oaks Road) indicate that there has been a noticeable trend of reducing concentrations of particulate matter (as PM_{10}) from 2003 to 2010, as an annual average until 2016. From 2011 to 2017 measurements were only taken at Oaks Road where concentrations generally decreased until 2016. Since 2016 the particulate matter trend has been variable as an annual average with a noticeable upturn in concentrations in 2022. Levels of PM_{10} were monitored at the Oaks Road and Sunbury Cross automatic analysers in 2024 with an annual average concentration of 11.9µg/m^3 and 12.8µg/m^3 respectively, Table A.6.

The number of days per year where the mean concentration of PM_{10} was over 50µg/m^3 has reduced from the early 2000's however in recent years the number has been observed as variable. PM_{10} monitoring within Spelthorne was compliant with the 24 hour mean objective during 2024, with no exceedance of the permitted 35 times a year when mean concentrations of PM_{10} are over 50µg/m^3, as demonstrated by Table A.7, Figure A.10 and A.11 respectively in Appendix A.

3.2.3 Particulate Matter ($PM_{2.5}$)

Table A.8 in Appendix A presents the ratified and adjusted monitored $PM_{2.5}$ annual mean concentrations for the past five years.

The Environmental Improvement Plan 2023 for England set interim targets that by January 2028 an annual average of 12µg/m^3 for $PM_{2.5}$ is not exceeded. The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 set an annual mean concentration target of 10µg/m^3 to be achieved by the end of the 31st December 2040.

Levels of $PM_{2.5}$ were monitored at the Oaks Road and Sunbury Cross (annualised due to reduced data capture) automatic analysers in 2024 with an annual average concentration of 6.9µg/m^3 and 7.5µg/m^3 respectively.

Long term levels at Oaks Road have declined since 2003 as illustrated in Appendix A, Figure A.11, though this trend has been very much moderated since 2010.

The annual mean concentrations of $PM_{2.5}$ at both Oaks Road and Sunbury Cross were below the 2040 target and the interim 2028 target.

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA?	Which AQMA? (1)	Monitoring Technique	Distance to Relevant Exposure (m) (2)	Distance to kerb of nearest road (m) (1)	Inlet Height (m)
BAA_OAKS	Heathrow Oaks Road	Urban Background	505729	174496	NO_2, PM_{10}, $PM_{2.5}$	Yes	Spelthorne AQMA	Chemiluminescent; FIDAS	25.0	1.0#	3.5
SUN_01	Sunbury Cross, The Haven	Urban Background	510063	170204	NO_2, PM_{10}, $PM_{2.5}$	Yes	Spelthorne AQMA	Chemiluminescent; FIDAS	29.0	19.0	2.1

Notes:

(1) N/A if not applicable

(2) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

This is not a 'main road'. Rather a suburban residential street. The nearest main road is the Southern Perimeter Road 205m to the north of the monitor.

Table A.2 – 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)
SP1	Staines High Street	Urban Centre	503529	171619	NO_2	Yes	0.0	n/a	No	2.4
SP4*	Benwell Centre, Downside, Sunbury	Roadside	510032	169802	NO_2	Yes	9.8	0.5	No	2.2
SP5	Church Road, Ashford	Roadside	506967	171562	NO_2	Yes	11.0	1.1	No	2.4
SP6	Goffs Road, Ashford Common	Urban Background	508763	170900	NO_2	Yes	8.0	0.7	No	2.4
SP9	Staines Road West, Sunbury	Kerbside	509166	170260	NO_2	Yes	12.4	1.8	No	2.3
SP10	Walton Bridge Road	Roadside	509125	166862	NO_2	Yes	22.6	3.3	No	1.9
SP11	Halliford Bypass	Kerbside	509033	168146	NO_2	Yes	14.8	1.4	No	2.2
SP12	Stanwell New Road, Stanwell North	Urban Background	504538	172318	NO_2	Yes	7.0	1.4	No	2.3
SP14	Flintlock Close, Stanwell	Urban Background	504228	175098	NO_2	Yes	12.0	1.6	No	2.3
SP16 SP17 SP18	Oaks Road, Stanwell	Urban Background	505729	174496	NO_2	Yes	25.0	0.5	Yes	2.0
SP19	Bedfont Road, Stanwell	Roadside	506856	174247	NO_2	Yes	21.0	1.9	No	2.0
SP20	Greenlands Rd, Staines	Urban Background	504334	171845	NO_2	Yes	9.0	0.5	No	2.4

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)
SP23	Greeno Crescent, Shepperton	Urban Background	507525	167662	NO_2	Yes	22.0	2.7	No	2.3
SP24	Yeoveney Close, Staines	Urban Background	502577	172777	NO_2	Yes	6.5	1.4	No	2.2
SP26	St Mary's Crescent, Staines	Urban Background	505635	173949	NO_2	Yes	10.0	0.7	No	2.2
SP27	Church Street, Staines	Roadside	503287	171744	NO_2	Yes	0.5	1.8	No	2.3
SP28	London Road, Staines	Roadside	504291	171926	NO_2	Yes	12.4	2.3	No	2.3
SP29	London Road, Staines	Kerbside	504381	171975	NO_2	Yes	7.9	1.4	No	2.1
SP31	Ashford Hospital, Stanwell	Roadside	506265	172681	NO_2	Yes	4.0	3.1	No	2.2
SP32	Feltham Road, Ashford	Kerbside	507349	171461	NO_2	Yes	16.0	1.8	No	2.1
SP33	Ford Close, Ashford	Roadside	506340	170926	NO_2	Yes	21.0	3.1	No	2.3
SP34	School Road, Ashford	Roadside	507936	170518	NO_2	Yes	12.5	2.4	No	2.0
SP35	Vicarage Road, Sunbury	Roadside	510028	170200	NO_2	Yes	17.4	0.6	No	2.2
SP36	St Ignatius School, Sunbury	Roadside	510104	169508	NO_2	Yes	29.0	1.6	No	2.2
SP38	Laleham C of E primary, Laleham	Roadside	505289	168995	NO_2	Yes	17.0	2.8	No	2.0

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)
SP39	Knowle Green, Staines	Urban Background	504508	171200	NO_2	No	17.0	37.0	No	2.2
SP41	Green Street, Sunbury	Kerbside	510404	168675	NO_2	Yes	4.0	0.5	No	2.2
SP43 SP44 SP45	The Haven, Sunbury	Urban Background	510063	170201	NO_2	Yes	19.0	21.0	Yes	2.1
SP46	South Street, Staines	Roadside	503759	171423	NO_2	Yes	0.0	1.0	No	2.2
SP47	Hadrian Way, Stanwell	Urban Background	506194	173445	NO_2	Yes	8.0	1.6	No	2.1
SP48	Riverside Road, Stanwell	Kerbside	506010	174516	NO_2	Yes	16.0	0.2	No	2.2
SP49	Runnymede Cottages, Moor Lane, Staines	Urban Background	502605	173274	NO_2	Yes	0.0	7.5	No	2.3
SP50	Waterside Close, Shepperton	Roadside	508364	169648	NO_2	Yes	12.8	3.3	No	2.3
SP51**	Fairfield Avenue, Staines	Roadside	504106	171826	NO_2	Yes	0.0	2.5	No	2.1
SP52	Staines Road East, Sunbury	Roadside	510512	170012	NO_2	Yes	22.0	1.7	No	2.2
SP53	Chertsey Bridge Road	Roadside	505791	166791	NO_2	Yes	7.5	1.6	No	2.4
SP54	Russell Road, Shepperton	Kerbside	508493	166841	NO_2	Yes	6.0	0.5	No	2.0

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)
SP55	Green Lane, Shepperton	Kerbside	508994	167573	NO_2	Yes	20.0	1.8	No	2.5
SP56	Shepherds Close	Urban Background	507587	167445	NO_2	Yes	7.5	1.6	No	2.2
SP58	Sunbury Cross (east)	Kerbside	510090	170100	NO_2	Yes	N/A	2.3	No	2.3
SP59*	High Street, Shepperton	Roadside	508007	167444	NO_2	Yes	9.1	0.6	No	2.0
SP60**	Stanwell Moor Road	Roadside	504736	174338	NO_2	Yes	N/A	4.0	No	2.2
SP61	Horton Road	Roadside	504426	174580	NO_2	Yes	13.8	1.6	No	2.2
SP62	Park Road, Stanwell	Roadside	505397	174237	NO_2	Yes	8.8	1.4	No	2.3
SP63	Northumberland Close	Urban Background	506442	174275	NO_2	Yes	8.4	1.8	No	2.3
SP64	London Road (junction with Short Lane)	Roadside	506924	172968	NO_2	Yes	N/A	3.6	No	2.3
SP65	Spout Lane	Kerbside	504469	175169	NO_2	Yes	N/A	1.5	No	2.4
SP66	Springfields School, Nursery Road, Sunbury on Thames	Roadside	509622	169438	NO_2	Yes	18.0	5.9	No	2.3
SP67	Thames Street, Sunbury on Thames	Roadside	511004	168701	NO_2	Yes	0.0	1.8	No	2.1

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)
SP68	Laleham Road, Shepperton	Roadside	506679	168085	NO_2	Yes	22.0	2.5	No	2.1
SP69	Squires Bridge Road	Roadside	507310	168695	NO_2	No	10.0	2.1	No	2.1

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.

* Tubes SP4 and SP59 relocated due to consistent absence during changeover

** Tubes SP51 and SP60 relocated due overgrown vegetation at monitoring location

Table A.3 – Annual Mean NO_2 Monitoring Results: Automatic Monitoring (µg/m^3)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
BAA_OAKS	505729	174496	Urban Background	99.6	99.6	16.8	18.1	20.3	20	18.2
SUN_01	510063	170204	Urban Background	95.2	20.5	23	22.9	24.1	19.6	20.7(3)
SCC_ECO(4)	509155	169228	Urban Background	-	-	17.6	15.2	16.6	13	-

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

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

☐ **Where exceedances of the NO_2 annual mean objective occur at locations not representative of relevant exposure, the fall-off with distance concentration has been calculated and reported concentration provided in brackets for 2024**

Notes:

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

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

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%).

(3) Data not annualised due to overall data capture recorded as <25%.

(4) Automatic monitor decommissioned by SCC in September 2023 (see 2024 ASR for further information).

Table A.4 – Annual Mean NO_2 Monitoring Results: Non-Automatic Monitoring (µg/m^3)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
SP1	503529	171619	Urban Centre	56.7	56.7	16.8	17.5	18.9	20.3	17.7
SP4	510032	169802	Roadside	68.0	68.0	19.5	20.9	20.7	23.3	21.3
SP5	506967	171562	Roadside	90.6	90.6	27.2	27.6	26.7	23.8	22.0
SP6	508763	170900	Urban Background	100.0	100.0	17.8	16.8	17.5	16.2	13.9
SP9	509166	170260	Kerbside	83.3	83.1	26.9	28.8	27.3	24.2	23.1
SP10	509125	166862	Roadside	100.0	100.0	24.5	28.7	27.9	22.8	20.8
SP11	509033	168146	Kerbside	100.0	100.0	23.6	25.4	25.2	23.5	20.3
SP12	504538	172318	Urban Background	100.0	100.0	18.6	20.9	20.5	18.8	16.1
SP14	504228	175098	Urban Background	90.6	90.6	16.2	18.3	21.0	17.6	16.5
SP16 SP17 SP18	505729	174496	Urban Background	100.0	100.0	17.4	18.5	20.3	19.7	18.5
SP19	506856	174247	Roadside	100.0	100.0	22.6	23.1	24.7	21.8	21.2
SP20	504334	171845	Urban Background	100.0	100.0	20.0	21.1	20.6	18.6	16.0

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 2024 (%) (2)	2020	2021	2022	2023	2024
SP23	507525	167662	Urban Background	100.0	100.0	16.6	17.0	19.1	14.9	15.1
SP24	502577	172777	Urban Background	100.0	100.0	17.7	18.6	17.3	18.3	15.9
SP26	505635	173949	Urban Background	90.6	90.6	19.9	21.5	22.3	23.6	19.1
SP27	503287	171744	Roadside	90.6	90.6	19.7	23.4	21.9	22.4	18.9
SP28	504291	171926	Roadside	100.0	100.0	29.2	28.0	28.0	25.7	22.3
SP29	504381	171975	Kerbside	100.0	100.0	30.1	34.8	29.7	27.7	24.0
SP31	506265	172681	Roadside	66.6	66.1	23.0	25.3	24.8	23.6	18.1
SP32	507349	171461	Kerbside	100.0	100.0	21.8	22.4	22.5	19.2	17.1
SP33	506340	170926	Roadside	100.0	100.0	22.7	22.7	24.1	21.1	17.8
SP34	507936	170518	Roadside	100.0	100.0	23.9	29.1	27.1	24.1	21.1
SP35	510028	170200	Roadside	100.0	100.0	27.4	27.3	25.9	24.3	20.2
SP36	510104	169508	Roadside	100.0	100.0	24.4	26.7	24.2	21.8	19.4
SP38	505289	168995	Roadside	100.0	100.0	14.6	16.7	16.7	13.9	13.3

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 2024 (%) (2)	2020	2021	2022	2023	2024
SP39	504508	171200	Urban Background	90.6	90.6	17.4	18.4	16.7	16.7	14.5
SP41	510404	168675	Kerbside	58.6	58.6	20.7	21.4	20.2	18.3	16.7
SP43 SP44 SP45	510063	170201	Urban Background	100.0	100.0	22.7	22.4	23.5	20.2	17.8
SP46	503759	171423	Roadside	100.0	100.0	23.2	22.6	23.1	21.3	19.2
SP47	506194	173445	Urban Background	100.0	100.0	16.8	18.5	18.2	15.6	15.5
SP48	506010	174516	Kerbside	68.0	68.0	21.3	23.0	24.1	25.3	19.3
SP49	502605	173274	Urban Background	92.5	92.5	21.8	22.6	25.8	19.3	16.9
SP50	508364	169648	Roadside	90.6	90.6	24.6	25.1	29.8	18.4	18.8
SP51	504106	171826	Roadside	92.5	92.5	26.1	30.1	30.3	26.2	20.4
SP52	510512	170012	Roadside	100.0	100.0	24.1	24.5	25.0	23.1	19.3
SP53	505791	166791	Roadside	100.0	100.0	23.4	23.6	23.5	21.3	17.8
SP54	508493	166841	Kerbside	100.0	100.0	20.0	21.4	25.3	19.1	18.9
SP55	508994	167573	Kerbside	100.0	100.0	25.2	25.9	27.0	25.3	20.3

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 2024 (%) (2)	2020	2021	2022	2023	2024
SP56	507587	167445	Urban Background	92.5	92.5	14.9	16.0	17.8	14.5	12.4
SP58	510090	170100	Kerbside	92.5	92.5	35.8	35.1	31.4	32.5	27.7
SP59	508007	167444	Roadside	100.0	100.0	20.4	20.5	20.5	24.7	19.9
SP60	504736	174338	Roadside	100.0	100.0	36.1	37.2	**40.8**	29.1	24.3
SP61	504426	174580	Roadside	100.0	100.0	18.9	19.6	20.4	16.7	16.9
SP62	505397	174237	Roadside	100.0	100.0	18.2	20.0	22.2	20.6	19.5
SP63	506442	174275	Urban Background	100.0	100.0	24.7	25.5	25.8	26.0	22.8
SP64	506924	172968	Roadside	100.0	100.0	23.5	23.2	23.4	19.7	18.6
SP65	504469	175169	Kerbside	100.0	100.0	21.2	22.5	23.4	22.5	18.7
SP66	509622	169438	Roadside	100.0	100.0	-	20.0	20.2	17.7	16.0
SP67	511004	168701	Roadside	65.9	65.9	-	-	-	22.0	16.9
SP68	506679	168085	Roadside	100.0	100.0	-	-	-	18.2	15.4
SP69	507310	168695	Roadside	100.0	100.0	-	-	-	18.3	17.4

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

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

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

Notes:

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

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

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

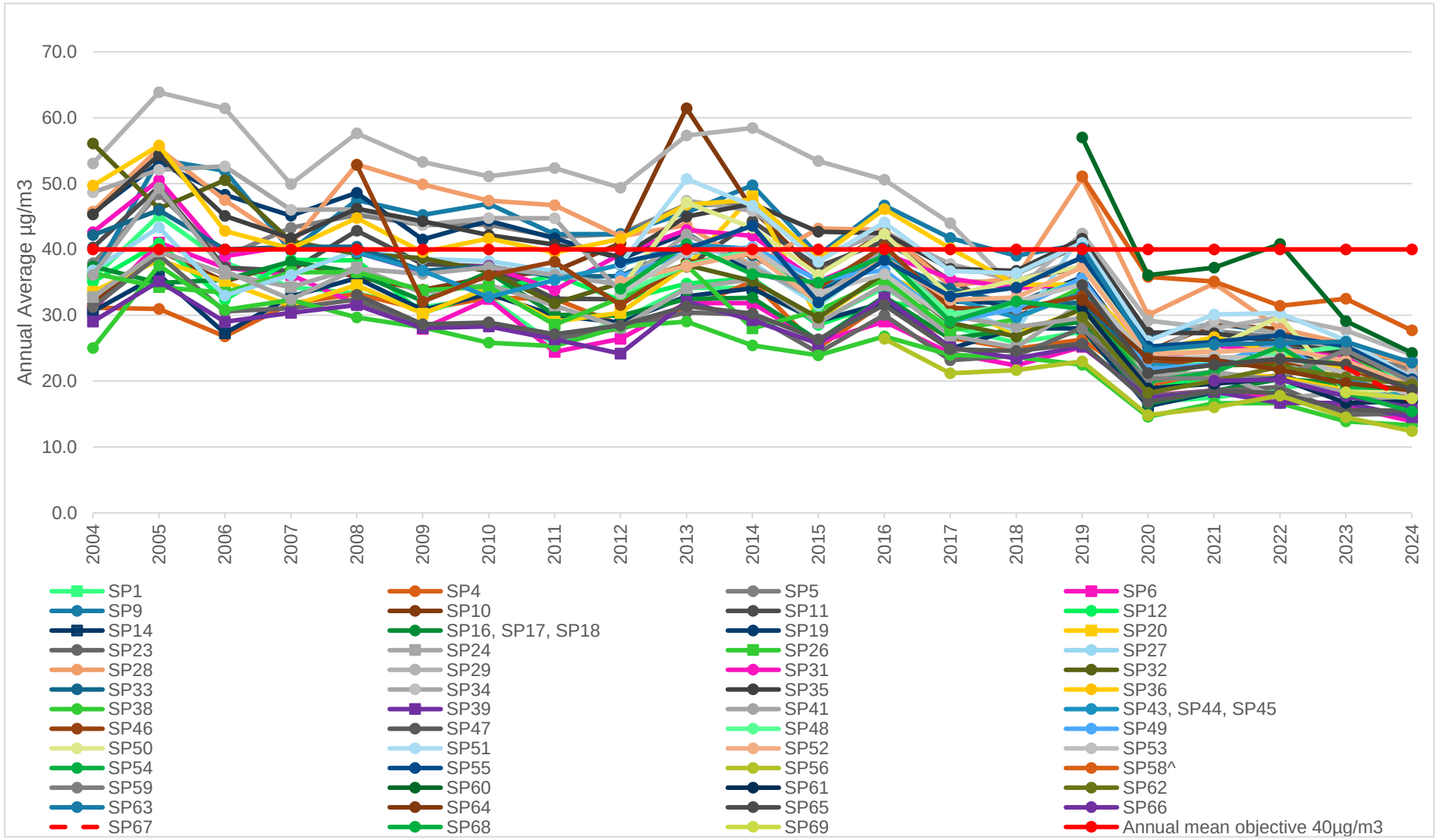
Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

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

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

Figure A.1 - Trends in Annual Mean NO_2 Concentrations



^SP58 was introduced in 2019 to replace the discontinued SP8. SP58 is now located on the Sunbury Cross (east side) roundabout.

Figure A.2 - Trends in Annual Mean NO_2 Concentrations Non-Automatic Monitoring Sites in Ashford

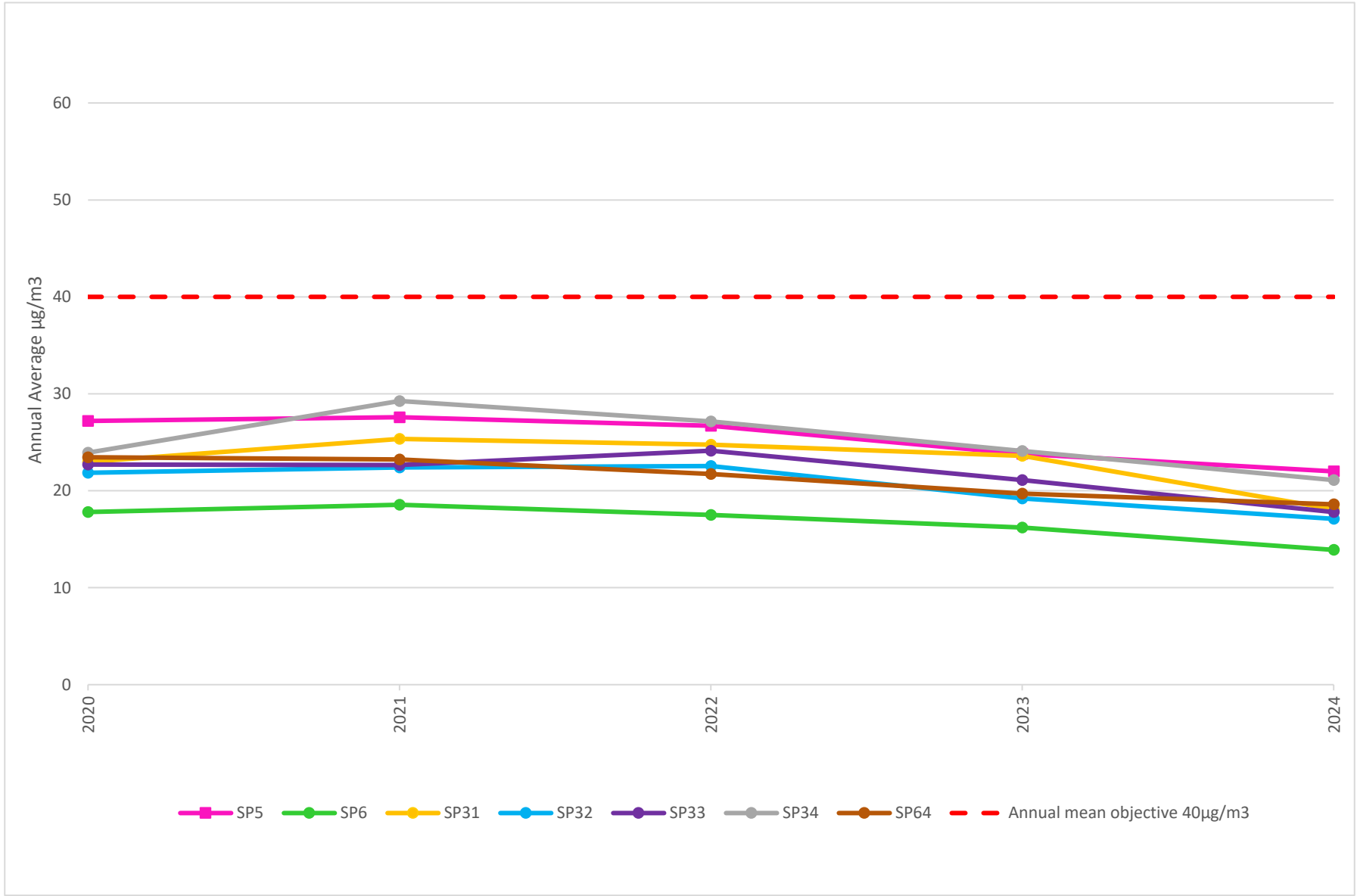


Figure A.3 - Trends in Annual Mean NO_2 Concentrations Non-Automatic Monitoring Sites in Shepperton and Laleham

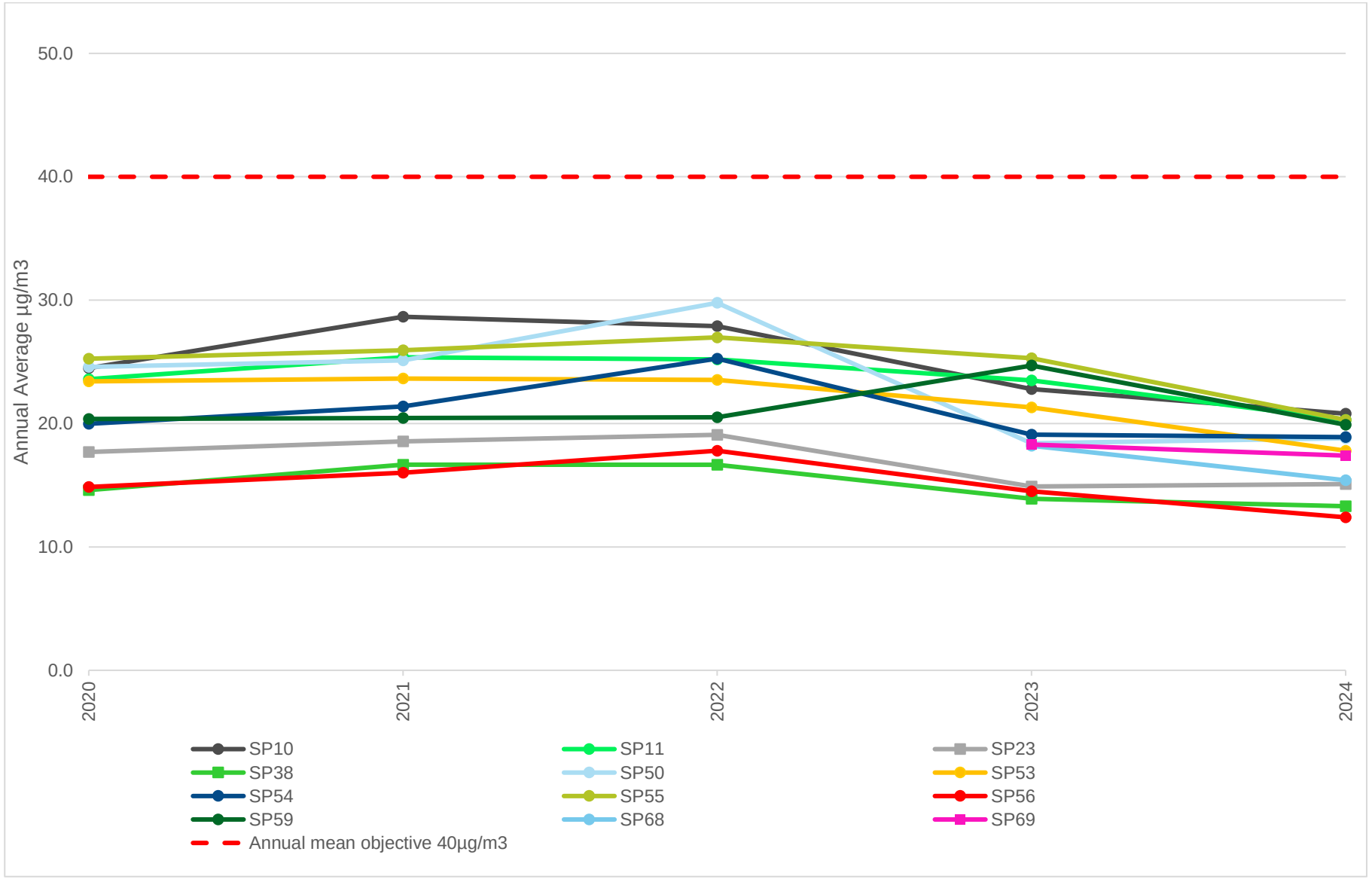


Figure A.4 – Trends in Annual Mean NO_2 Concentrations Non-Automatic Monitoring Sites in Staines-upon-Thames and South Stanwell

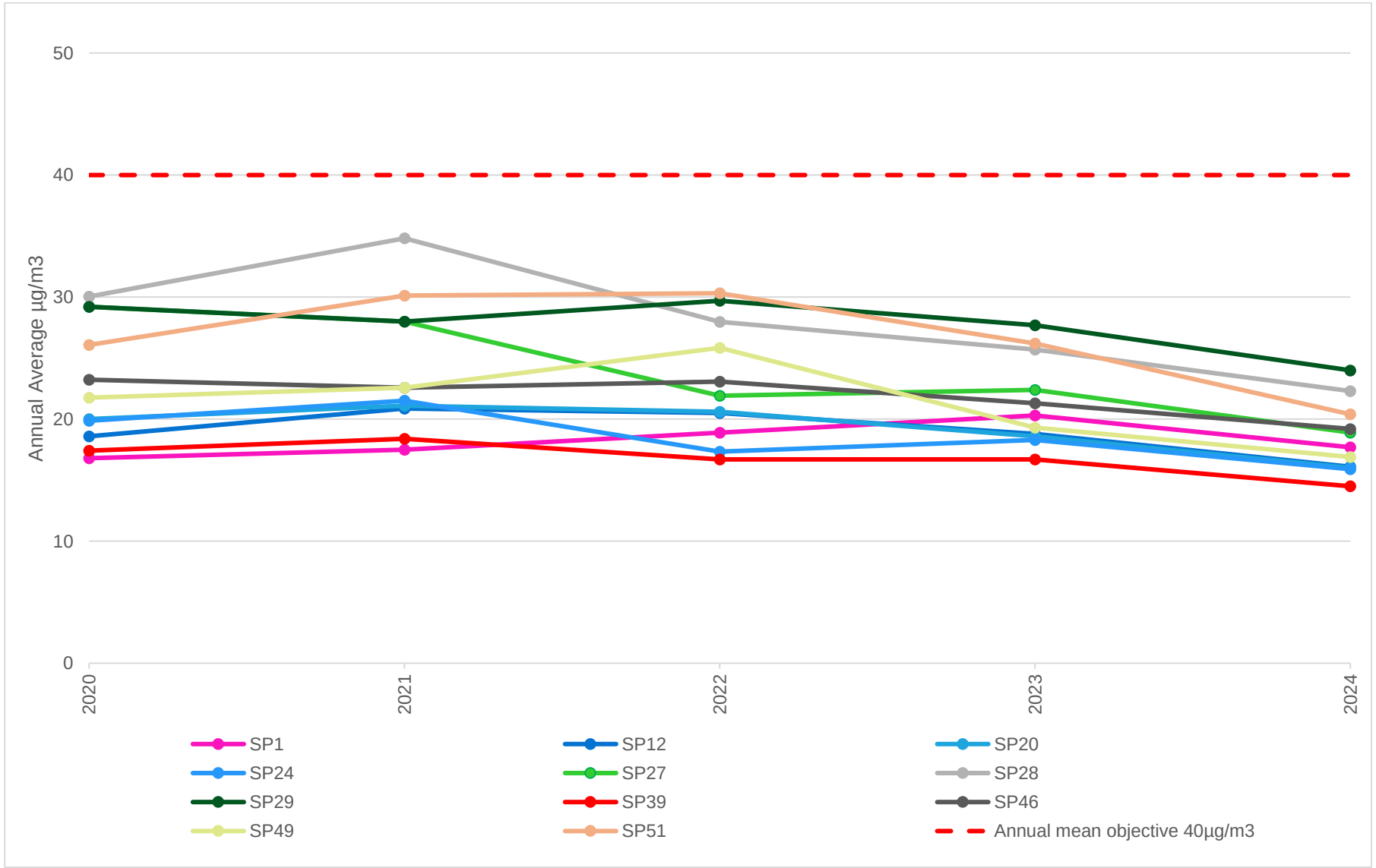
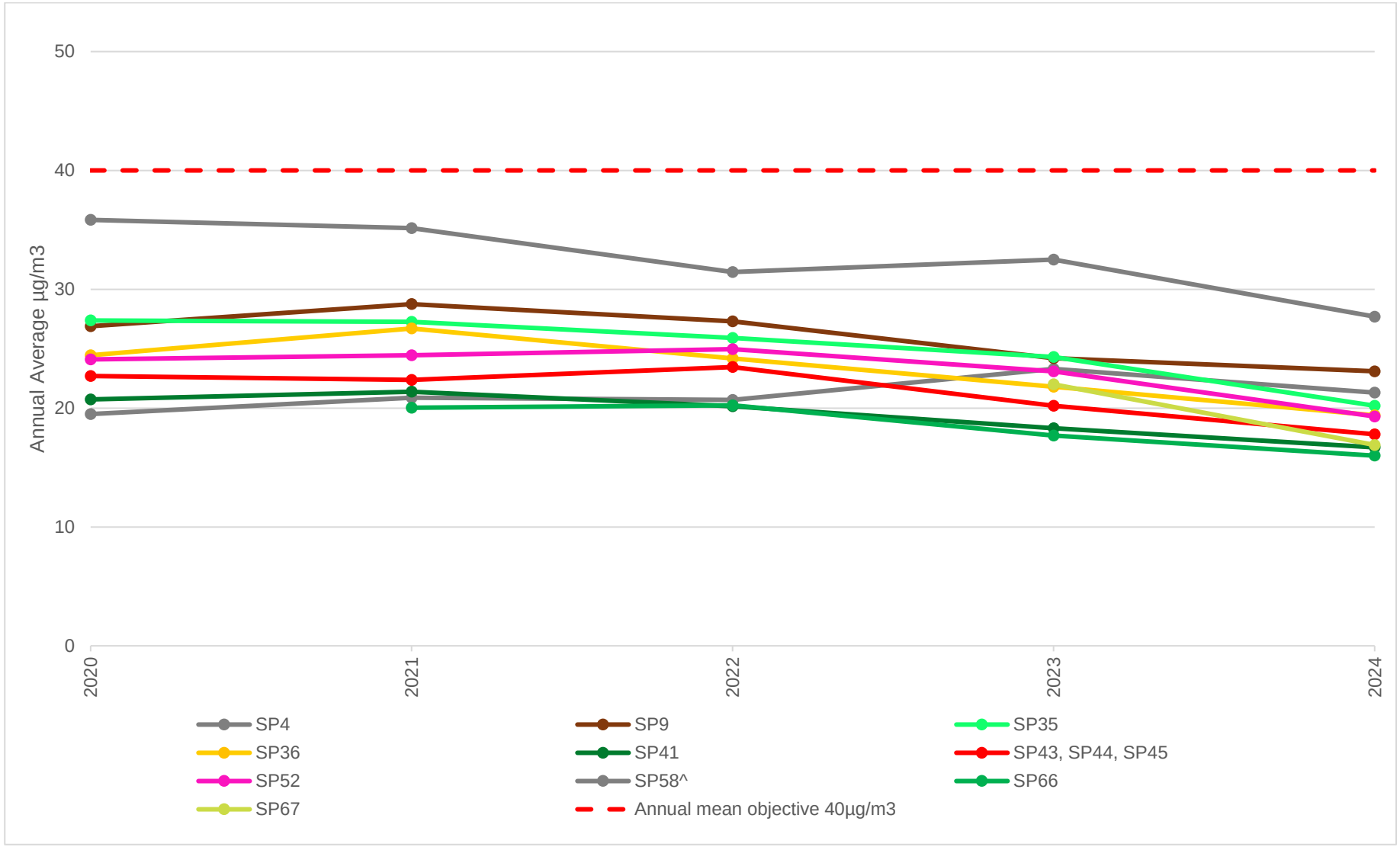


Figure A.5 – Trends in Annual Mean NO_2 Concentrations Non-Automatic Monitoring Sites in Sunbury on Thames



Note: ^SP58 was introduced in 2019 to replace the discontinued SP8. SP58 is located on the east side of the Sunbury Cross junction roundabout.

Figure A.6 – Trends in Annual Mean NO_2 Concentrations Non-Automatic Monitoring Sites in Stanwell and Stanwell Moor

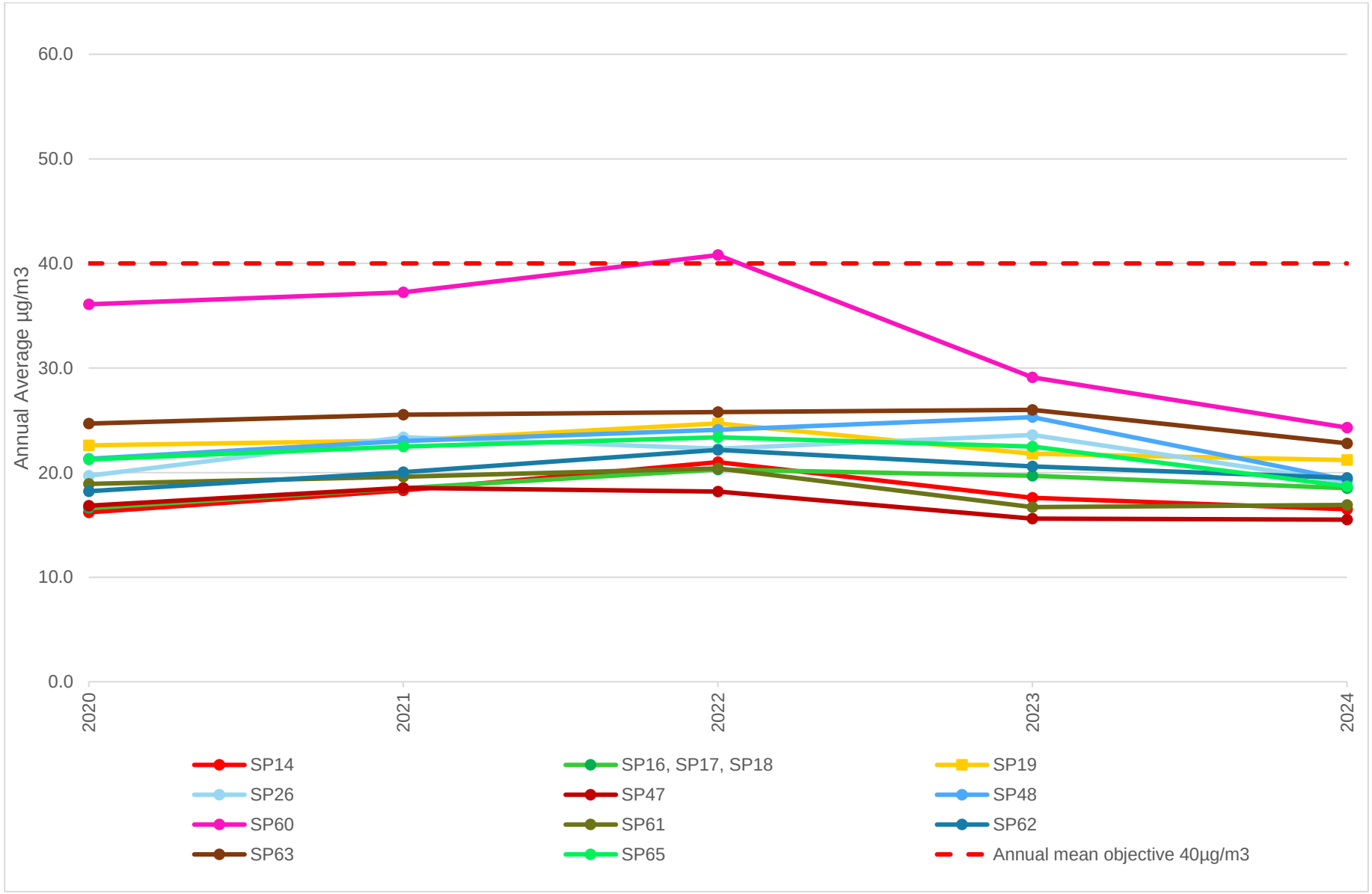
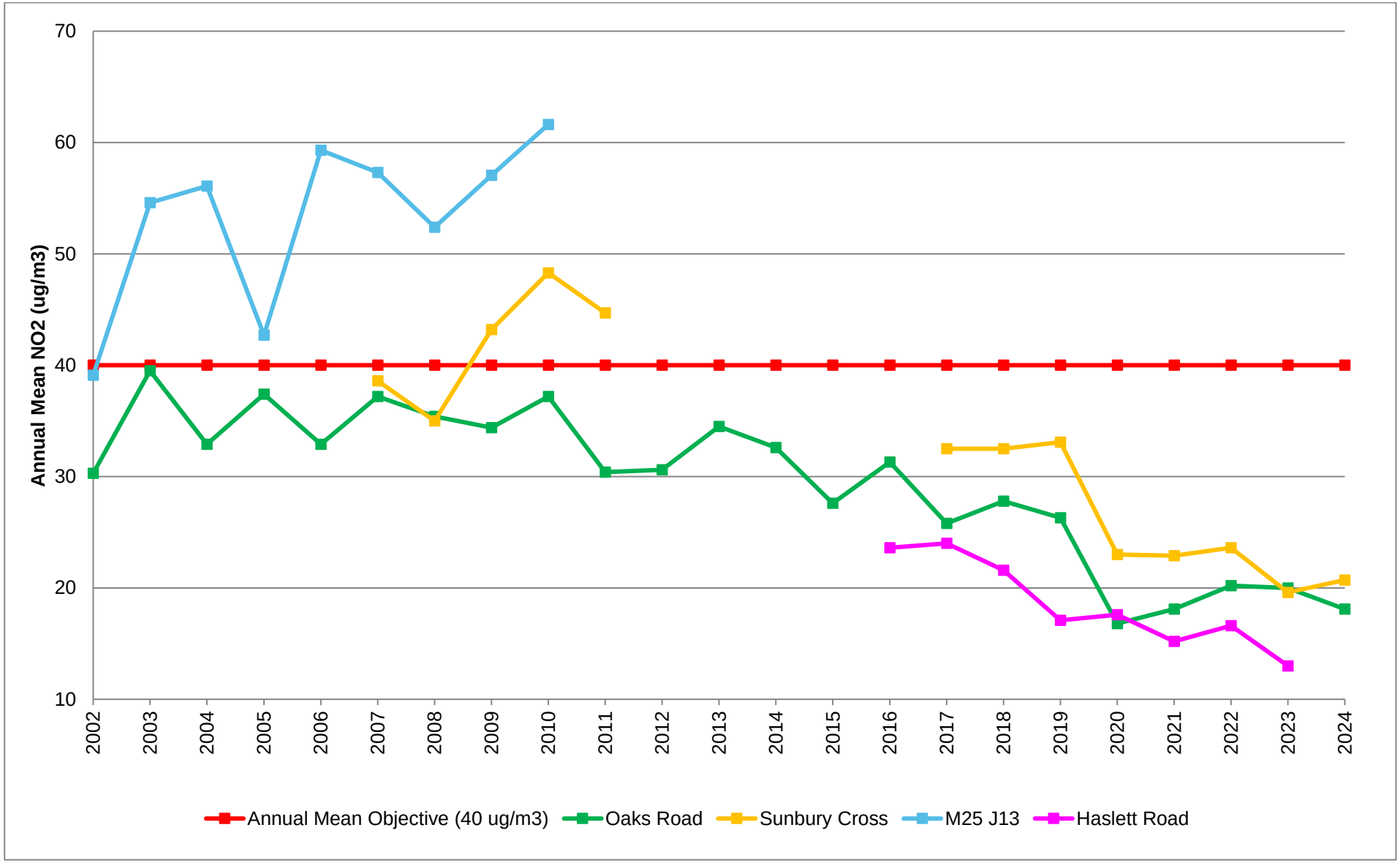


Figure A.7 – Trends in Annual Mean NO_2 Concentrations Automatic Monitoring Stations



Note: Sunbury Cross 2024 NO_2 data capture <25%

Table A.5 – 1-Hour Mean NO_2 Monitoring Results, Number of 1-Hour Means > 200µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
BAA_OAKS	505729	174496	Urban Background	99.6	99.6	0	0	0	0	0
SUN_01	510063	170204	Urban Background	95.2	20.5	0	0	0	0	0 (77)(3)
SCC_ECO(4)	509155	169228	Urban Background	-	-	1	0	7	0	-

Notes:

Results are presented as the number of 1-hour periods where concentrations greater than 200µg/m^3 have been recorded.

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

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

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

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

(3) Data capture <25% therefore in accordance with LAQM TG (22) site not suitable for annualisation.

(4) Automatic monitor decommissioned by SCC in September 2023 (see 2024 ASR for further information)

Figure A.8 – Trends in Number of NO_2 1-Hour Means > 200µg/m^3



Note: 2024 NO_2 data capture <25% at Sunbury Cross

Table A.6 – Annual Mean PM_{10} Monitoring Results ($\mu g/m^3$)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
BAA_OAKS	505729	174496	Urban Background	99.7	99.7	12.7	12.3	13.2	12.1	11.9
SUN_01	510063	170204	Urban Background	49.8	49.8	14.2	13.2	15.7	13.9	12.8(3)
SCC_ECO(4) (5)	509155	169228	Urban Background	-	-	20.7	19.2	23.8	17.7	-

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

Notes:

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

Exceedances of the PM_{10} annual mean objective of 40$\mu g/m^3$ are shown in **bold**.

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.

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

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

(3) Annual mean has been adjusted using local continuous monitoring (Oaks Road and London Hillingdon AURN) Average Ratio (Ra) 0.996.

(4) Automatic monitor decommissioned by SCC in September 2023 (see 2024 ASR for further information).

(5) BAA_Oaks and SUN_01 data was collected on a FIDAS instrument, SCC_ECO data was collected on a BAM instrument.

Figure A.9 - Trends in Annual Mean PM_{10} Concentrations

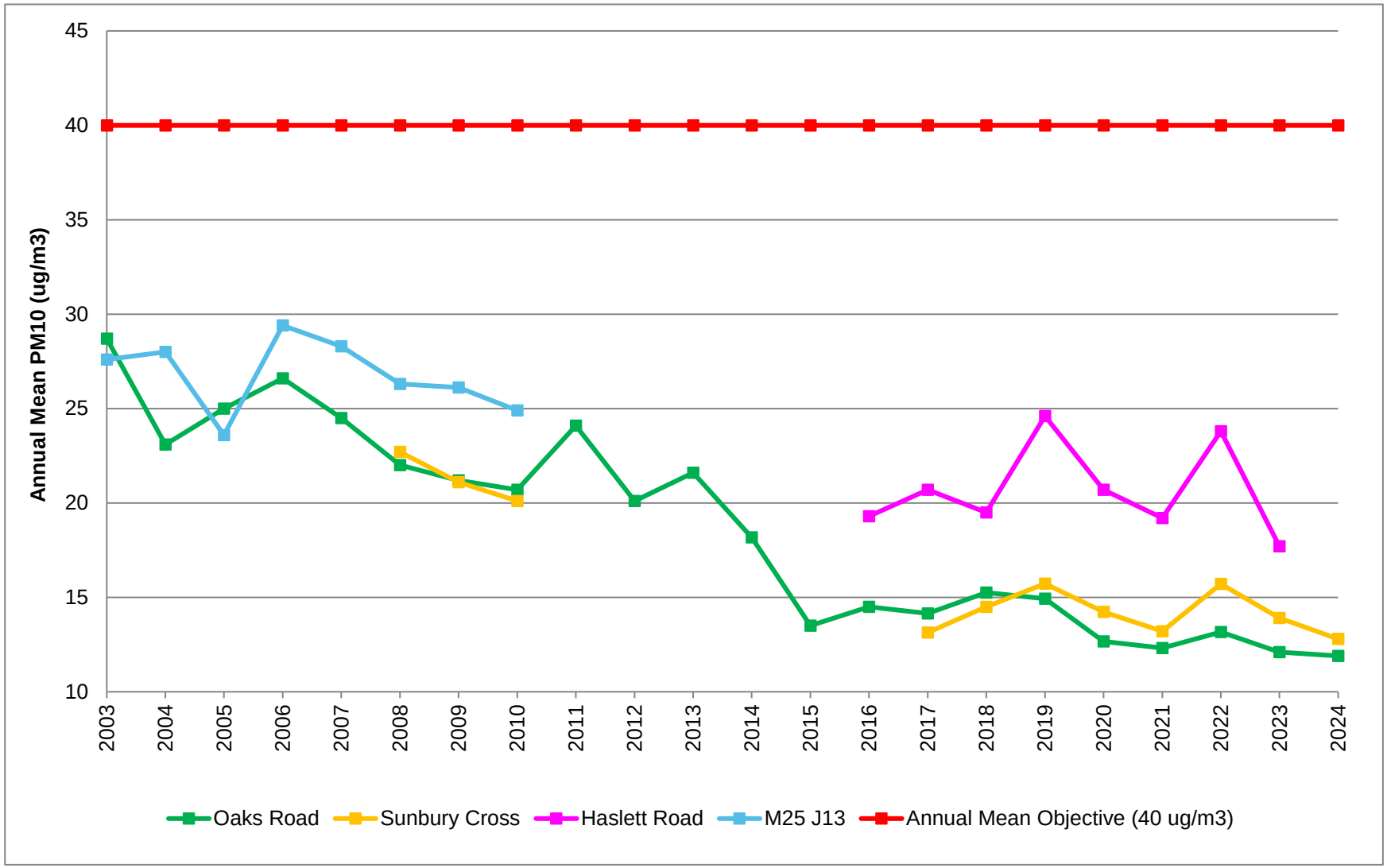


Table A.7 – 24-Hour Mean PM_{10} Monitoring Results, Number of PM_{10} 24-Hour Means > 50µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
BAA_OAKS	505729	174496	Urban Background	99.7	99.7	0	0	2	0	0
SUN_01	510063	170204	Urban Background	49.8	49.8	1	0	3	2	0 (25)
SCC_ECO(3)	509155	169228	Urban Background	-	-	7	3	6	2	-

Notes:

Results are presented as the number of 24-hour periods where daily mean concentrations greater than 50µg/m^3 have been recorded.

Exceedances of the PM_{10} 24-hour mean objective (50µg/m^3 not to be exceeded more than 35 times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 90.4th percentile of 24-hour means is provided in brackets.

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

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

(3) Automatic monitor decommissioned by SCC in September 2023 (see 2024 ASR for further information)

Figure A.10 – Trends in Number of 24-Hour Mean PM_{10} Results > 50µg/m³

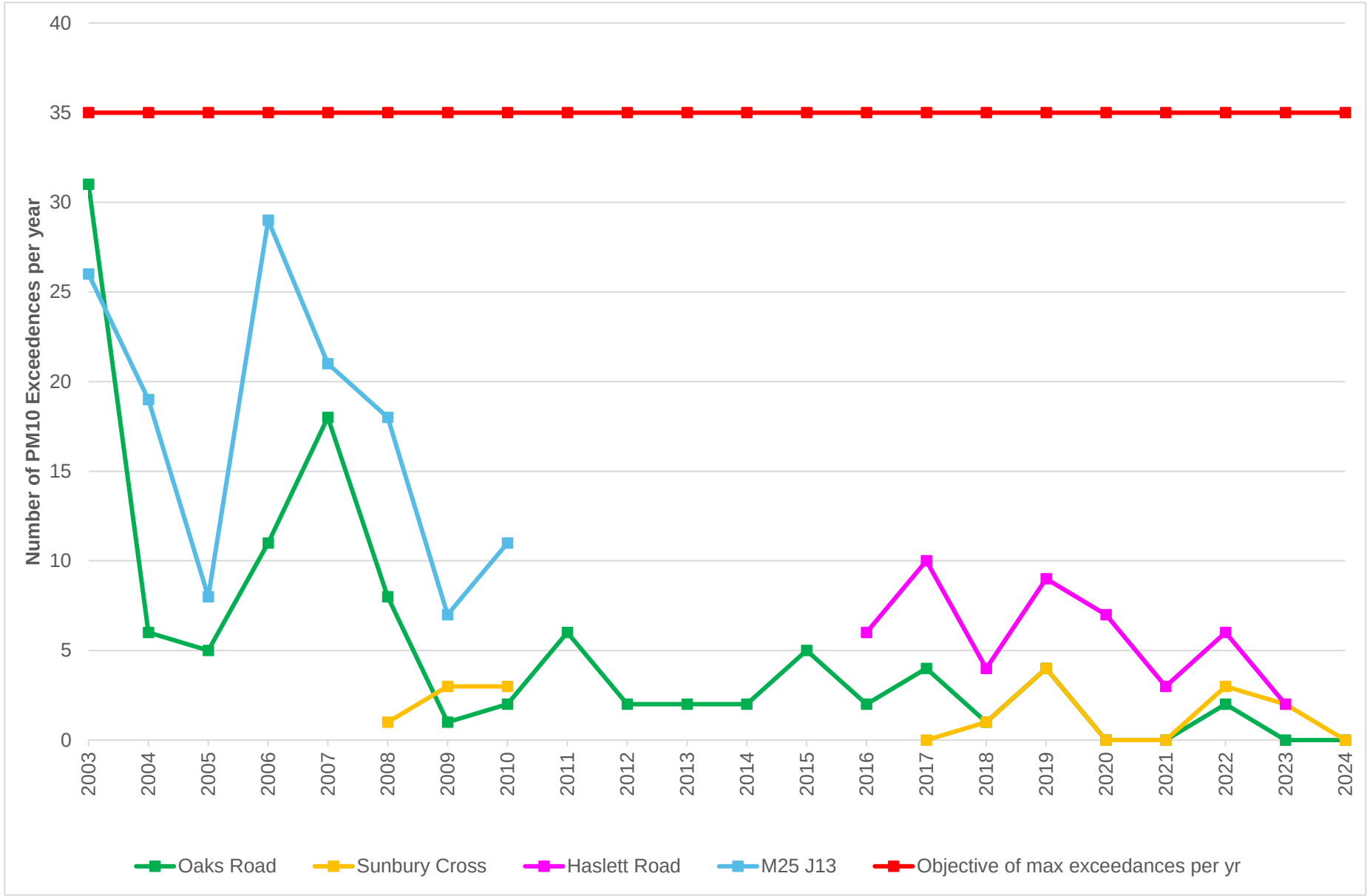


Table A.8 – Annual Mean $PM_{2.5}$ Monitoring Results (µg/m^3)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
BAA_OAKS	505729	174496	Urban Background	99.7	99.7	7.2	7.5	7.8	7.2	6.9
SUN_01	510063	170204	Urban Background	49.8	49.8	8.3	8.1	9.2	8.0	7.5(3)
SCC_ECO(4) (5)	509155	169228	Urban Background	-	-	12.2	11	12.4	9.3	-

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

Notes:

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

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.

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

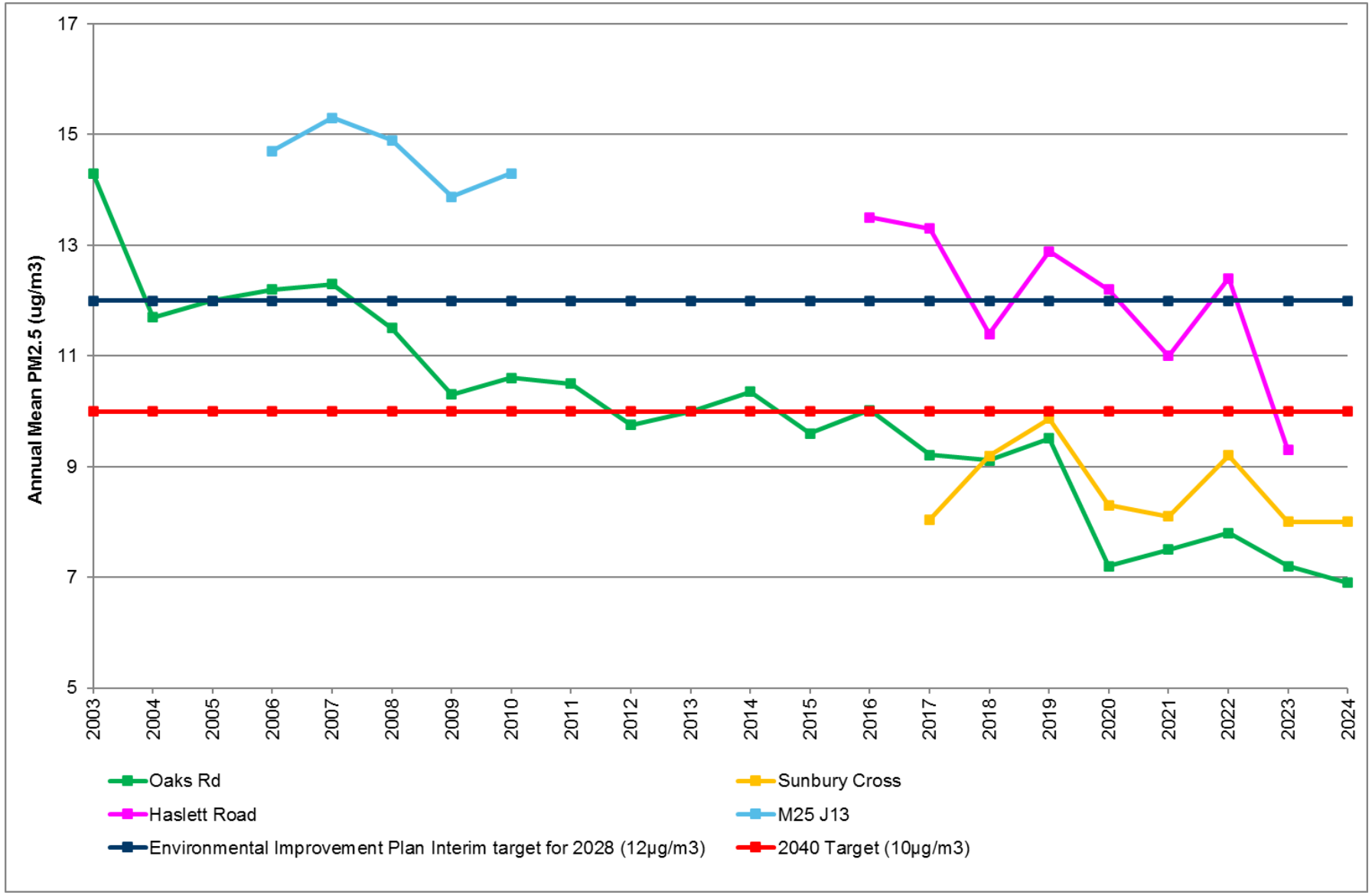
(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

(3) Annual mean has been adjusted using local continuous monitoring (Oaks Road and London Hillingdon AURN) Average Ratio (Ra) 0.932.

(4) Automatic monitor decommissioned by SCC in September 2023 (see 2024 ASR for further information)

(5) BAA_Oaks and SUN_01 data was collected on a FIDAS instrument, SCC_ECO data was collected on a BAM instrument.

Figure A.11 – Trends in Annual Mean $PM_{2.5}$ Concentrations



Appendix B: Full Monthly Diffusion Tube Results for 2024

Table B.1 – NO_2 2024 Diffusion Tube Results (µg/m^3)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.84)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
SP1	503529	171619	28.0	20.0	20.0	-	-	18.0	17.0	-	-	-	29.0	19.0	21.6	17.7		Annualised
SP4	510032	169802	31.0	24.0	27.0	25.0	22.0	-	20.0	17.0	-	-	-	20.0	23.3	21.3		Annualised
SP5	506967	171562	32.0	28.0	28.0	26.0	25.0	23.0	25.0	19.0	27.0	-	31.0	24.0	26.2	22.0		
SP6	508763	170900	24.0	18.0	19.0	17.0	15.0	14.0	13.0	9.0	16.0	17.0	21.0	15.0	16.5	13.9		
SP9	509166	170260	34.0	28.0	27.0	25.0	25.0	36.0	26.0	-	-	26.0	25.0	23.0	27.5	23.1		
SP10	509125	166862	29.0	26.0	26.0	26.0	26.0	24.0	23.0	19.0	27.0	26.0	25.0	20.0	24.8	20.8		
SP11	509033	168146	28.0	23.0	30.0	28.0	21.0	27.0	23.0	19.0	25.0	24.0	21.0	21.0	24.2	20.3		
SP12	504538	172318	30.0	21.0	19.0	19.0	18.0	17.0	14.0	12.0	22.0	19.0	22.0	17.0	19.2	16.1		
SP14	504228	175098	22.0	18.0	25.0	23.0	-	16.0	16.0	15.0	21.0	22.0	22.0	16.0	19.6	16.5		
SP16	505729	174496	30.0	20.0	23.0	22.0	22.0	18.0	15.0	15.0	27.0	22.0	22.0	17.0	-	-		Triplicate Site with SP16, SP17 and SP18 - Annual data provided for SP18 only
SP17	505729	174496	31.0	19.0	22.0	22.0	22.0	-	19.0	16.0	28.0	25.0	24.0	16.0	-	-		Triplicate Site with SP16, SP17 and SP18 - Annual data provided for SP18 only
SP18	505729	174496	28.0	23.0	22.0	23.0	20.0	22.0	22.0	19.0	29.0	24.0	23.0	19.0	22.0	18.5		Triplicate Site with SP16, SP17 and SP18 - Annual data provided for SP18 only
SP19	506856	174247	33.0	22.0	26.0	29.0	27.0	22.0	19.0	16.0	32.0	24.0	29.0	24.0	25.3	21.2		
SP20	504334	171845	28.0	21.0	23.0	21.0	18.0	16.0	16.0	14.0	18.0	17.0	22.0	15.0	19.1	16.0		
SP23	507525	167662	23.0	16.0	19.0	17.0	16.0	17.0	15.0	14.0	18.0	24.0	22.0	14.0	17.9	15.1		
SP24	502577	172777	26.0	18.0	20.0	19.0	15.0	16.0	12.0	13.0	18.0	30.0	23.0	17.0	18.9	15.9		
SP26	505635	173949	32.0	21.0	27.0	24.0	21.0	22.0	16.0	12.0	30.0	-	25.0	20.0	22.7	19.1		
SP27	503287	171744	30.0	25.0	25.0	22.0	17.0	20.0	18.0	-	21.0	29.0	23.0	18.0	22.5	18.9		
SP28	504291	171926	35.0	30.0	32.0	29.0	27.0	25.0	26.0	22.0	25.0	21.0	25.0	22.0	26.6	22.3		
SP29	504381	171975	36.0	32.0	31.0	29.0	25.0	25.0	28.0	23.0	31.0	21.0	33.0	29.0	28.6	24.0		
SP31	506265	172681	30.0	-	-	-	-	24.0	18.0	16.0	26.0	22.0	25.0	19.0	22.5	18.1		Annualised
SP32	507349	171461	25.0	23.0	23.0	20.0	20.0	21.0	15.0	12.0	23.0	25.0	21.0	16.0	20.3	17.1		
SP33	506340	170926	28.0	20.0	21.0	19.0	22.0	19.0	16.0	14.0	23.0	28.0	26.0	18.0	21.2	17.8		
SP34	507936	170518	30.0	28.0	26.0	26.0	22.0	26.0	25.0	26.0	25.0	20.0	26.0	21.0	25.1	21.1		
SP35	510028	170200	29.0	30.0	25.0	24.0	21.0	25.0	25.0	19.0	27.0	16.0	27.0	20.0	24.0	20.2		

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.84)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
SP36	510104	169508	32.0	24.0	26.0	22.0	19.0	23.0	20.0	18.0	26.0	18.0	27.0	22.0	23.1	19.4		
SP38	505289	168995	22.0	17.0	17.0	16.0	13.0	13.0	12.0	10.0	18.0	18.0	19.0	15.0	15.8	13.3		
SP39	504508	171200	26.0	18.0	19.0	19.0	-	17.0	14.0	10.0	16.0	17.0	20.0	14.0	17.3	14.5		
SP41	510404	168675	-	21.0	14.0	18.0	-	19.0	-	14.0	21.0	-	-	17.0	17.7	16.7		Annualised
SP43	510063	170201	26.0	20.0	26.0	23.0	19.0	22.0	22.0	18.0	22.0	23.0	20.0	18.0	-	-		Triplicate Site with SP43, SP44 and SP45 - Annual data provided for SP45 only
SP44	510063	170201	25.0	24.0	24.0	20.0	20.0	18.0	19.0	17.0	21.0	24.0	19.0	19.0	-	-		Triplicate Site with SP43, SP44 and SP45 - Annual data provided for SP45 only
SP45	510063	170201	25.0	23.0	23.0	21.0	19.0	20.0	20.0	18.0	21.0	24.0	24.0	15.0	21.2	17.8		Triplicate Site with SP43, SP44 and SP45 - Annual data provided for SP45 only
SP46	503759	171423	30.0	24.0	22.0	24.0	24.0	24.0	18.0	13.0	24.0	28.0	24.0	19.0	22.8	19.2		
SP47	506194	173445	25.0	18.0	18.0	19.0	19.0	15.0	16.0	14.0	20.0	19.0	24.0	14.0	18.4	15.5		
SP48	506010	174516	-	22.0	-	-	-	21.0	22.0	19.0	24.0	27.0	26.0	22.0	22.9	19.3		Annualised
SP49	502605	173274	24.0	24.0	-	22.0	18.0	19.0	25.0	19.0	15.0	22.0	19.0	14.0	20.1	16.9		
SP50	508364	169648	24.0	20.0	22.0	20.0	23.0	26.0	26.0	20.0	29.0	-	21.0	15.0	22.4	18.8		
SP51	504106	171826	-	26.0	27.0	26.0	25.0	24.0	20.0	21.0	27.0	25.0	27.0	19.0	24.3	20.4		
SP52	510512	170012	30.0	24.0	25.0	22.0	20.0	24.0	22.0	19.0	23.0	22.0	25.0	19.0	22.9	19.3		
SP53	505791	166791	23.0	20.0	26.0	24.0	19.0	19.0	20.0	18.0	19.0	25.0	22.0	19.0	21.2	17.8		
SP54	508493	166841	27.0	22.0	25.0	23.0	23.0	19.0	20.0	17.0	23.0	22.0	28.0	21.0	22.5	18.9		
SP55	50994	167573	27.0	26.0	26.0	24.0	25.0	23.0	26.0	21.0	19.0	26.0	27.0	20.0	24.2	20.3		
SP56	507587	167445	-	22.0	16.0	15.0	14.0	16.0	12.0	10.0	12.0	15.0	17.0	13.0	14.7	12.4		
SP58	510090	170100	38.0	37.0	38.0	34.0	32.0	36.0	25.0	27.0	37.0	30.0	-	28.0	32.9	27.7		
SP59	508007	167444	31.0	24.0	26.0	21.0	21.0	21.0	24.0	20.0	27.0	26.0	23.0	20.0	23.7	19.9		
SP60	504736	174338	36.0	27.0	30.0	33.0	34.0	26.0	27.0	22.0	33.0	31.0	26.0	22.0	28.9	24.3		
SP61	504426	174580	28.0	22.0	23.0	20.0	20.0	16.0	18.0	16.0	23.0	18.0	21.0	16.0	20.1	16.9		
SP62	505397	174237	32.0	24.0	23.0	24.0	23.0	19.0	18.0	15.0	29.0	23.0	28.0	21.0	23.3	19.5		
SP63	506442	174275	37.0	25.0	29.0	30.0	25.0	25.0	20.0	18.0	35.0	28.0	32.0	22.0	27.2	22.8		
SP64	506924	172968	27.0	19.0	23.0	21.0	23.0	20.0	22.0	19.0	25.0	24.0	23.0	19.0	22.1	18.6		
SP65	504469	175169	26.0	20.0	29.0	27.0	23.0	20.0	19.0	17.0	24.0	26.0	21.0	15.0	22.3	18.7		
SP66	509622	169438	24.0	22.0	22.0	19.0	16.0	15.0	13.0	10.0	32.0	18.0	22.0	15.0	19.0	16.0		
SP67	511004	168701	23.0	20.0	-	20.0	-	-	19.0	16.0	22.0	20.0	26.0	-	20.8	16.9		Annualised
SP68	506679	168085	26.0	19.0	21.0	19.0	15.0	15.0	17.0	15.0	20.0	18.0	20.0	15.0	18.3	15.4		

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.84)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
SP69	507310	168695	27.0	24.0	23.0	20.0	19.0	18.0	19.0	16.0	21.0	21.0	25.0	16.0	20.8	17.4		

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

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

☒ **Local bias adjustment factor used.**

☐ **National bias adjustment factor used.**

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

☒ **Spelthorne Borough Council confirm that all 2024 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.**

Notes:

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

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

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 Spelthorne During 2024

Spelthorne Borough Council has not identified changes in sources relating to air quality within the reporting year 2024.

In 2025 extraction of sand and gravel has started at a new quarry located at Watersplash Farm Shepperton. The activity is covered by a permit from the Environment Agency, there are are existing diffusion tube monitoring locations nearby on the A244 and Upper Halliford Bypass.

Additional Air Quality Works Undertaken by Spelthorne During 2024

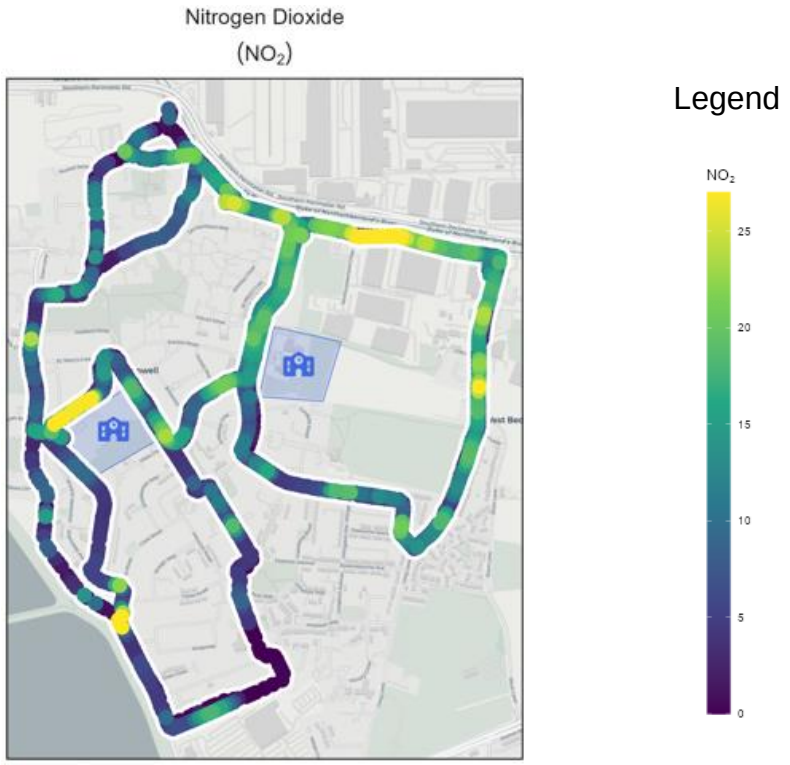
In collaboration with Heathrow Airport Limited, Spelthorne Borough Council put forward proposals to undertake mobile air quality monitoring around the walking routes to two Primary Schools located in Stanwell. The aims of the exercise were to monitor air quality along pre-determined routes and identify routes that would avoid more polluted areas to safeguard children's health by reducing their exposure to harmful pollutants, promoting cleaner air and ensuring healthier and safer journeys to and from school.

The monitoring was carried out on Clean Air Day (20 June) 2024, and consisted of representatives from Heathrow Airport Limited (HAL) and specialist consultants Ricardo Energy & Environment, walking pre mapped routes carrying two South Coast Science Praxis Cube Air Quality sensors (connected to lithium ion batteries to ensure constant power) installed within backpacks. The Praxis Cubes chosen were capable of monitoring NO_2, PM_{10} and $PM_{2.5}$. The chosen routes included a busier and quieter route to and from the two identified Primary Schools. The routes were also chosen on typical 20 minute duration/ 1 mile distance walk to school.

Figure C.1 - Mobile Monitoring Equipment



Figure C.2 – Stanwell Mobile Monitoring Data – NO_2



QA/QC of Diffusion Tube Monitoring

All tubes used by Spelthorne Borough Council are prepared using 50% TEA in acetone and are supplied and analysed by Lambeth Scientific Services Ltd. Diffusion tubes were changed over each month within +/- 2 days of the Defra diffusion tube changeover

calendar dates. As Spelthorne have a comprehensive diffusion tube network the changeover process takes 2 calendar days.

Lambeth participates in the AIR Proficiency Testing (PT) external proficiency testing scheme run by the Government[38]. Four spiked diffusion tubes are distributed to participating laboratories on a quarterly basis to assess the analytical performance of those laboratories supplying diffusion tubes to Local Authorities for use in the context of LAQM.

Table C.1 shows the results of the most recent 9 rounds of proficiency testing under AIR-PT. The table gives the % of samples where results returned by the laboratory were considered satisfactory – i.e., 1 out of 4 = 25%, and 4 out of 4 = 100%. The guidance specifies that a single round is a snapshot in time, and thus it is more informative to consider performance over several rounds. It is further stated that over a rolling five round AIRPT window, 95% of results (i.e., 19 out of 20 samples) should be considered satisfactory. The AIR-PT performance has been poor in comparison to other laboratories.

An enquiry was sent to Lambeth Scientific Services Ltd on 13 May 2024 by a third-party local authority about their AIR-PT performance. The laboratory confirmed on 20 May 2024, that their analytical procedures are in accordance with DEFRA guidance and remained unchanged. Continued quality assurance exercises are undertaken throughout the laboratory testing protocol to correct any errors noted.

[38] WASP – Annual Performance Criteria for NO2 Diffusion Tubes

Table C.1 – Rolling average percentage of satisfactory samples in AIR-PT

Laboratory	Rolling average over 5 rounds								
	AR055	AR056	AR058	AR059	AR062	AR063	AR065	AR066	AR068
Lambeth Scientific Services	69	75	69	58	58	56	50	50	60
Gradko	100	100	100	100	100	100	100	100	90
Staffordshire County Council	100	100	100	100	100	100	100	100	100

Figure C.3 lists those UK laboratories undertaking LAQM activities that have participated in recent AIR NO_2 PT rounds and the percentage (%) of results submitted which were subsequently determined to be satisfactory based upon a z-score of ≤ ± 2 as defined above.

Figure C.3 – Screenshot of Laboratory summary performance for AIR NO_2 PT rounds AR055 – AR068 (Defra, February 2025)

The following table lists those UK laboratories undertaking LAQM activities that have participated in recent AIR NO_2 PT rounds and the percentage (%) of results submitted which were subsequently determined to be **satisfactory** based upon a z-score of ≤ ± 2 as defined above.

AIR PT Round	AIR PT AR055	AIR PT AR056	AIR PT AR058	AIR PT AR059	AIR PT AR062	AIR PT AR063	AIR PT AR065	AIR PT AR066	AIR PT AR068
Round conducted in the period	January – February 2023	May – June 2023	July – August 2023	September – October 2023	January – February 2024	April – June 2024	July – August 2024	September – October 2024	January – February 2025
Aberdeen Scientific Services	0 %	100 %	100 %	75 %	100 %	100 %	100 %	100 %	100 %
Cardiff Scientific Services	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Edinburgh Scientific Services	100 %	75 %	100 %	50 %	100 %	100 %	100 %	100 %	100 %
SOCOTEC	100 % [1]	100 % [1]	100 % [1]	100 % [1]	100 % [1]	100 % [1]	100 % [1]	100 % [1]	87.5 % [1]
Exova (formerly Clyde Analytical)	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Glasgow Scientific Services	100 %	100 %	100 %	100 %	75 %	100 %	100 %	100 %	100 %
Gradko International	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	50 %
Kent Scientific Services	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Kirklees MBC	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Lambeth Scientific Services	0 %	75 %	50 %	0 %	50 %	50 %	50 %	50 %	100 %
Milton Keynes Council	50 %	75 %	100 %	100 %	100 %	NR [2]	50 %	100 %	100 %
Northampton Borough Council	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Somerset Scientific Services	100 %	75 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
South Yorkshire Air Quality Samplers	NR [2]	NR [2]	NR [2]	NR [2]	NR [2]	NR [2]	NR [2]	NR [2]	NR [2]
Staffordshire County Council, Scientific Services	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Tayside Scientific Services (formerly Dundee CC)	NR [2]	100 %	NR [2]	NR [2]	NR [2]	NR [2]	100 %	NR [2]	NR [2]
West Yorkshire Analytical Services	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]

[1] Participant subscribed to two sets of test results (2 x 4 test samples) in each AIR PT round.
[2] NR, No results reported.
[3] Cardiff Scientific Services, Exova (formerly Clyde Analytical), Kent Scientific Services, Kirklees MBC, Northampton Borough Council and West Yorkshire Analytical Services; no longer carry out NO2 diffusion tube monitoring and therefore did not submit results.

Diffusion Tube Annualisation

In accordance with LAQM TG (22) annualisation was required at SP1, SP4, SP31, SP41, SP48 and SP67 due to data capture below 75% but greater than 25%. The calculation method undertaken is provided in Table C.2. Data capture at Sunbury Cross was less than 25% therefore the site was not suitable for the annualisation process. To ensure a robust assessment the review has identified appropriate continuous analysers within the distances stated within the LAQM TG (22) guidance and which are classed as background sites for comparison purposes. The annualisation was therefore undertaken using the Oaks Road, Hounslow – Feltham and Hounslow – Hatton Cross continuous analysers. These nearby, long-term, continuous monitoring sites each had data capture of at least 85%.

Table C.2 – Annualisation Summary (concentrations presented in µg/m^3)

Site ID	Annualisation Factor Oaks Road	Annualisation Factor Hounslow – Hatton Cross	Annualisation Factor Hounslow - Feltham	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
SP1	0.9926	0.9525	0.9865	0.9772	21.6	21.1
SP4	1.0608	1.0846	1.1324	1.0926	23.3	25.4
SP31	0.9787	0.9682	0.9249	0.9573	22.5	21.5
SP41	1.1251	1.0978	1.1357	1.1195	17.7	19.8
SP48	1.0487	1.0105	0.9574	1.0055	22.9	23.0
SP67	0.9619	0.9869	0.9663	0.9717	20.8	20.2

Diffusion Tube Bias Adjustment Factors

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

2024 National Bias Adjustment Factor

The national bias adjustment factor for 2024 is available from the Defra website. The results of multiple co-location studies are collated, and the average bias adjustment factor is taken for studies using the 50% TEA/ acetone preparation method, analysed by

Lambeth Scientific. The national bias adjustment factor for 2024 (Figure C.4) is 0.81, based on 2 studies only including only Oaks Road (due to <25% data capture at Sunbury Cross).

Figure C.4 – National Bias Adjustment Factor (Screenshot)

National Diffusion Tube Bias Adjustment Factor Spreadsheet — Spreadsheet Version Number: 03/25

Follow the steps below **in the correct order** to show the results of **relevant** co-location studies
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods
Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet
This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.

This spreadsheet will be updated at the end of June 2025
LAQM Helpdesk Website

The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.

Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.

Step 1:	Step 2:	Step 3:	Step 4:								
Select the Laboratory that Analyses Your Tubes from the Drop-Down List	Select a Preparation Method from the Drop-Down List	Select a Year from the Drop-Down List	Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor[3] shown in blue at the foot of the final column.								
If a laboratory is not shown, we have no data for this laboratory.	If a preparation method is not shown, we have no data for this method at this laboratory.	If a year is not shown, we have no data[2]	If you have your own co-location study then see footnote[4]. If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953								
Analysed By[1]	Method To undo your selection, choose (All) from the pop-up list	Year[2] To undo your selection, choose (All)	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m³)	Automatic Monitor Mean Conc. (Cm) (µg/m³)	Bias (B)	Tube Precision[4]	Bias Adjustment Factor (A) (Cm/Dm)
Lambeth Scientific Services	50% TEA in acetone	2024	KS	Marylebone Road Intercomparison	10	44	35	26.5%	G	**0.79**
Lambeth Scientific Services	50% TEA in acetone	2024	UB	Spelthorne Borough Council	12	22	18	20.1%	G	**0.83**
Lambeth Scientific Services	50% TEA in acetone	2024		**Overall Factor[3] (2 studies)**				**Use**		**0.81**

Bias Adjustment Factor from Local Co-location Studies

Spelthorne Borough Council has two co-location sites (Oaks Road and Sunbury Cross) where triplicate tubes are co-located adjacent to the inlet of the continuous monitor, so that diffusion tube concentrations can be adjusted for bias by comparing to the more accurate continuous monitoring dataset. A spreadsheet tool for calculating the locally derived bias adjustment factor for triplicate tubes co-located at a continuous monitor is available from the Defra website.

The local bias adjustment factor for 2024 was 0.84 (Oaks Road).

Table C.3 – Local Bias Adjustment Calculation

	Local Bias Adjustment Oaks Road
Periods used to calculate bias	12
Bias Factor A	0.84 (0.77-0.92)
Bias Factor B	19% (8%-29%)
Diffusion Tube Mean (µg/m³)	22.0
Mean CV (Precision)	7.9%
Automatic Mean (µg/m³)	18.5
Data Capture	100%
Adjusted Tube Mean (µg/m³)	18 (17-20)

Notes: A single local bias adjustment factor has been used to bias adjust the 2024 diffusion tube results.

The diffusion tube data presented for 2024 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/NO_2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method. LAQM TG(22), box 7-13 sets out the reasoning as to when it is appropriate to use a local bias adjustment factor. The national factor was not chosen in this ASR. In the past five years the local bias adjustment factor has been used to reflect the local conditions in accordance with TG22 Box 7-13 as follows:

The following points apply to Spelthorne:

- If the co-location site is unusual in some way: for example, affected by specific large NO_x sources other than road traffic, such as local industrial installations. (This is a strong indication in favour of using a locally-derived factor). There are industrial NO_x sources present in Spelthorne (Heathrow Airport and a waste gasifier);
- Where the Review and Assessment Helpdesk spreadsheet contains data from fewer than five other studies using the same laboratory and preparation. There are only 2 data sets within the national factor spreadsheet for the applicable laboratory and analysis method (Lambeth 50% TEA in acetone), one of which is a dataset from within Spelthorne;
- For co-location sites with ‘good’ precision for the diffusion tubes and with high quality chemiluminescence results i.e. to national AURN standards. The Oaks Road and Sunbury Cross automatic analysers are calibrated and serviced to AURN standards by the same specialist contractor.

LAQM TG(22) advises that care should be taken to avoid applying a bias adjustment factor derived from a local co-location study carried out for concentrations that are very different to those being measured in the wider survey. In other words, co-location results from a low concentration site (typically a background site) should not be used to derive a bias adjustment factor for survey results from high concentration sites (typically roadside sites).

Spelthorne does not have a roadside automatic analyser, however, the national bias adjustment factor data set for the laboratory analysis that Spelthorne uses for diffusion

tubes includes only 2 data sets, one of which is derived from Spelthorne. The other is a kerbside location for Marylebone Road. The local bias adjustment factor for Spelthorne is in general agreement with the Marylebone Road data within the tool.

Spelthorne have applied a local bias adjustment factor of 0.84 to the 2024 monitoring data derived from the Oaks Road automatic analyser co-location data. For comparison, the national bias adjustment factor from version 03/25 of the national spreadsheet was 0.81 for Lambeth Scientific Services 50% TEA in acetone. This national bias adjustment factor was lower than the local bias adjustment factor. Since 2003 the Council have used the local bias adjustment factor. This decision has been based on a low number of studies available in the national bias adjustment factor spreadsheet and consistency of approach.

A summary of bias adjustment factors used by Spelthorne over the past five years is presented in Table C.4.

Table C.4 – Bias Adjustment Factor

Monitoring Year	Local Factor	If National, Version of National Spreadsheet	Adjustment Factor
2024	0.84	-	Local
2023	0.84	-	Local
2022	0.90	-	Local
2021	0.99	-	Local
2020	1.04	-	Local

NO_2 Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure has been estimated using the Diffusion Tube Data Processing Tool/NO_2 fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO_2 concentrations corrected for distance.

No diffusion tube NO_2 monitoring locations within Spelthorne required distance correction during 2024.

QA/QC of Automatic Monitoring

Site Operation

Spelthorne Borough Council manages an automatic station at Sunbury Cross, in Sunbury upon Thames. There is one further automatic monitoring station within Spelthorne situated at Oaks Road, Stanwell, that is under the management of Heathrow Airport Limited (HAL).

The data management and Local Site Operator (LSO) duties for the automatic monitoring stations at Oaks Road and Sunbury Cross are undertaken by Ricardo Energy and Environment.

Calibration and Data Ratification

The instruments at both the Oaks Road and Sunbury Cross locations are subject to routine zero and span check calibrations every 4 weeks and servicing every 6 months. Independent QA/QC audits are conducted annually to AURN standards.

Both historic and live monitoring data for both Sunbury Cross and Oaks Road is hosted online on the Air Quality England website Spelthorne Sunbury Cross Latest Data - Air Quality monitoring service and Heathrow Oaks Road Latest Data - Air Quality monitoring service.

The data from the Oaks Road and Sunbury Cross automatic monitors is ratified the following calendar year. Following the Defra diffusion tube monitoring calendar, the December monitoring period ends in early January each new year (08 January 2025 for the December 2024 monitoring period), this is important for practical reasons so that Council Officers are available to collect the samples, and the receiving laboratories are operational again following the Christmas shut down period. This means that there is a short period of unratified data from the automatic analyser, from January 2025 of 8 days within the automatic analyser data sets from Oaks Road used to bias adjust the diffusion tube monitoring results.

The automatic monitoring sites are ‘Urban Background’, both measure NO_2, PM_{10}, $PM_{2.5}$ using the chemiluminescent monitoring technique for NO_2. Both are located within the Spelthorne AQMA. The 2024 data sets have been ratified following AURN standard QA/QC and ratification processes, with LAQM TG(22) guidelines, on a quarterly basis. Maps showing the location of the monitoring sites are provided in Appendix D.

PM_{10} and $PM_{2.5}$ Monitoring Adjustment

PM_{10} and $PM_{2.5}$ are measured using a Palas Fidas 200 according to the certified Method 11 at both the Oaks Road and Sunbury Cross locations. As such no correction has been applied to the particulate measurements other than a correction for slope by a division of 1.06 in accordance with LAQM TG(22) paragraph 7.174. Data sets are ratified following AURN standard QA/QC and ratification processes, within LAQM TG(22) guidelines, on a quarterly basis. Data is processed and scaled using all available manual and automatic calibrations.

Automatic Monitoring Annualisation

Oaks Road - Automatic monitoring at Oaks Road (NO_2, PM_{10}, $PM_{2.5}$) recorded a data capture of greater than 75% therefore it was not required to annualise monitoring data at this location.

Sunbury Cross - Automatic monitoring at Sunbury Cross (NO_2) recorded a data capture of less than 25% and annualisation was therefore not required for NO_2 data at this location.

Data capture for PM_{10} and $PM_{2.5}$ at Sunbury Cross was recorded at 50% (less than 75% and greater than 25%) and therefore required annualisation, see Table C.5 and C.6.

Table C.5 – Automatic PM_{10} Annualisation Summary (concentrations presented in $\mu g/m^3$)

Background Site	Annual Data Capture (%)	Annual Mean (A_m)	SUN_01	
			Period Mean (P_m)	Ratio (A_m / P_m)
BAA_OAKS	99.7	11.9	11.8	1.011
LON_HILL (Hillingdon AURN)	99.7	12.9	13.1	0.982
Average (R_a)			**0.996**	
Raw Data Annual Mean (M)			**12.8**	
Annualised Annual Mean (M x R_a)			**12.8**	

Table C.6 – Automatic $PM_{2.5}$ Annualisation Summary (concentrations presented in $\mu g/m^3$)

Background Site	Annual Data Capture (%)	Annual Mean (A_m)	SUN_01	
			Period Mean (P_m)	Ratio (A_m / P_m)
BAA_OAKS	99.7	6.9	7.4	0.934
LON_HILL (Hillingdon AURN)	99.7	7.3	7.8	0.930
Average (R_a)			**0.932**	
Raw Data Annual Mean (M)			**8.0**	
Annualised Annual Mean (M x R_a)			**7.5**	

NO_2 Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure has been estimated using the NO_2 fall-off with distance calculator available on the LAQM Support website.

None of the automatic or diffusion tube monitoring locations within Spelthorne required distance correction.

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

Figure D.1 – Plan of AQMA Boundary and Air Quality Monitoring Sites (Automatic and Non-Automatic) in Spelthorne

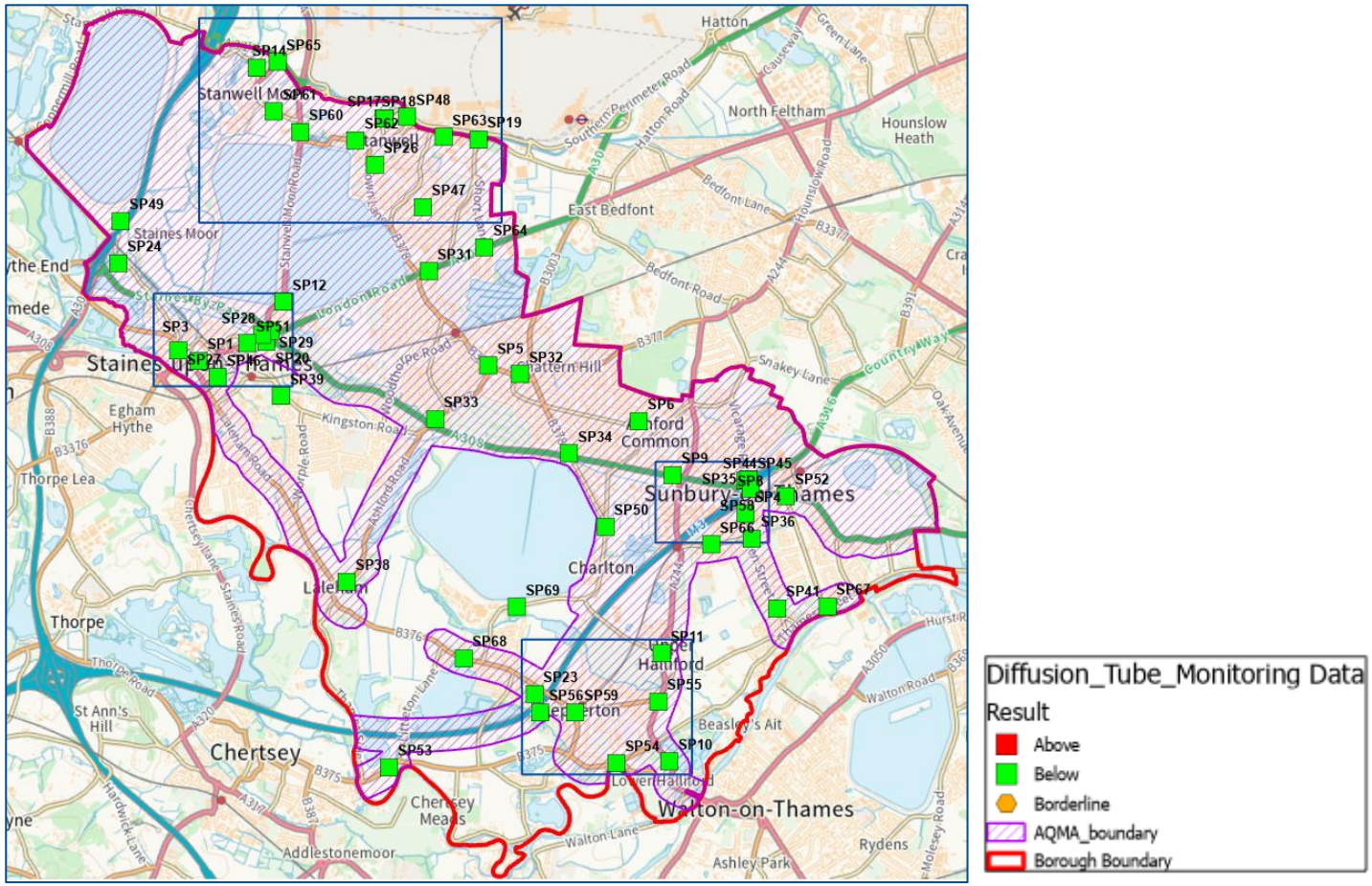


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Figure D.2 – Plan of Automatic and Non-Automatic Monitoring Sites in Sunbury

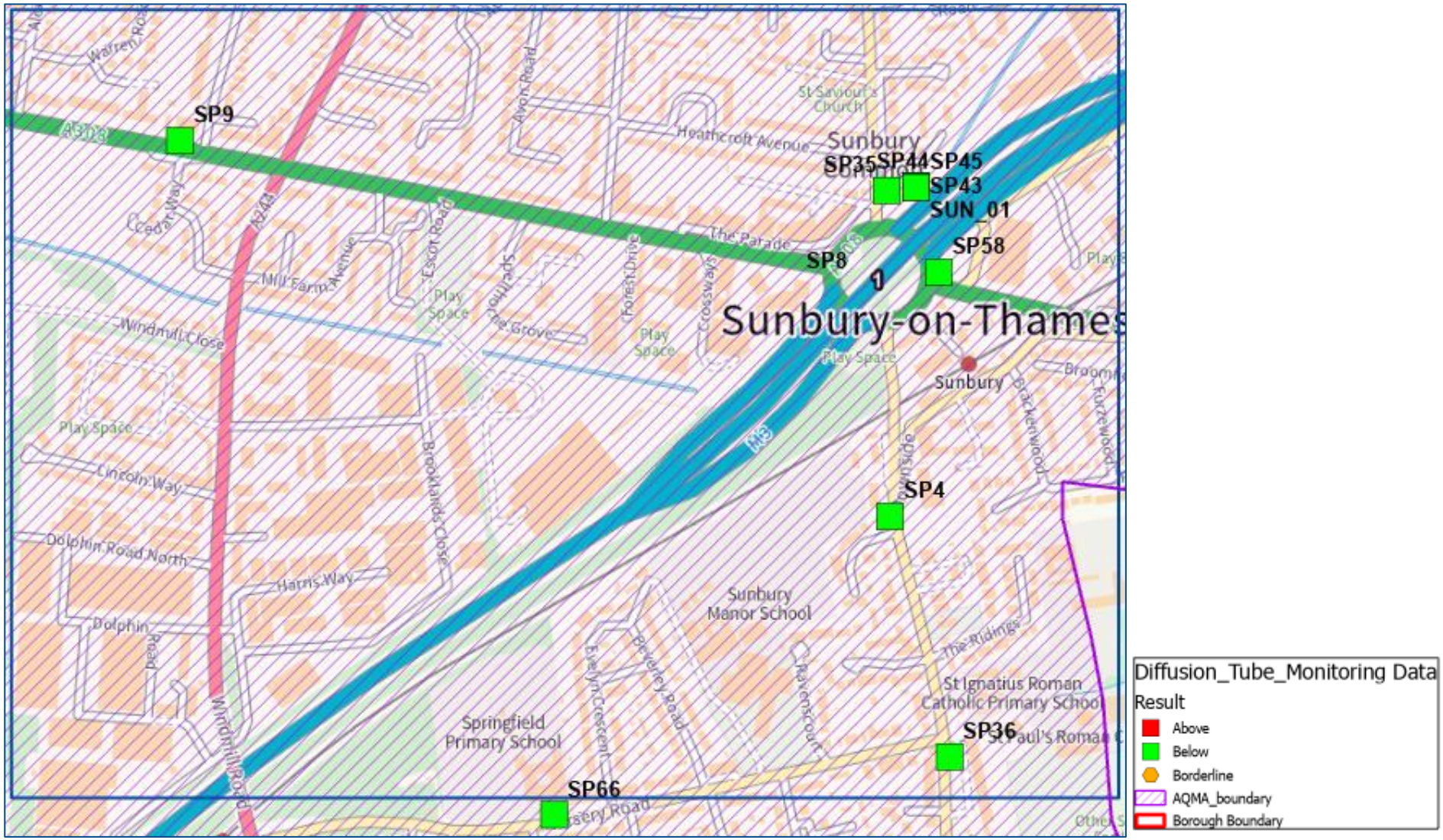

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Figure D.3 – Plan of Non-Automatic Monitoring Sites in Shepperton

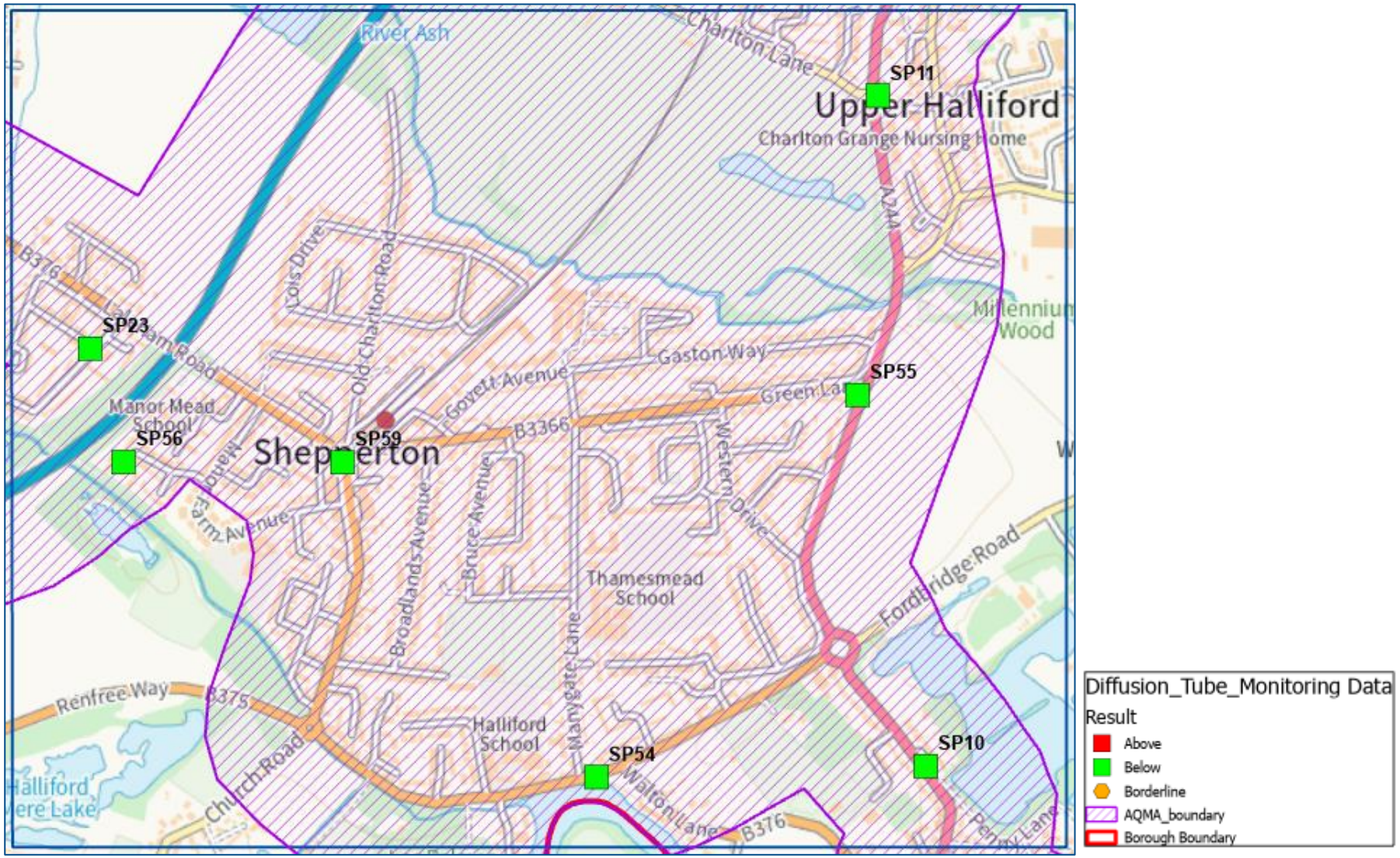

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Figure D.4 – Plan of Non-Automatic Monitoring Sites in Staines-upon-Thames

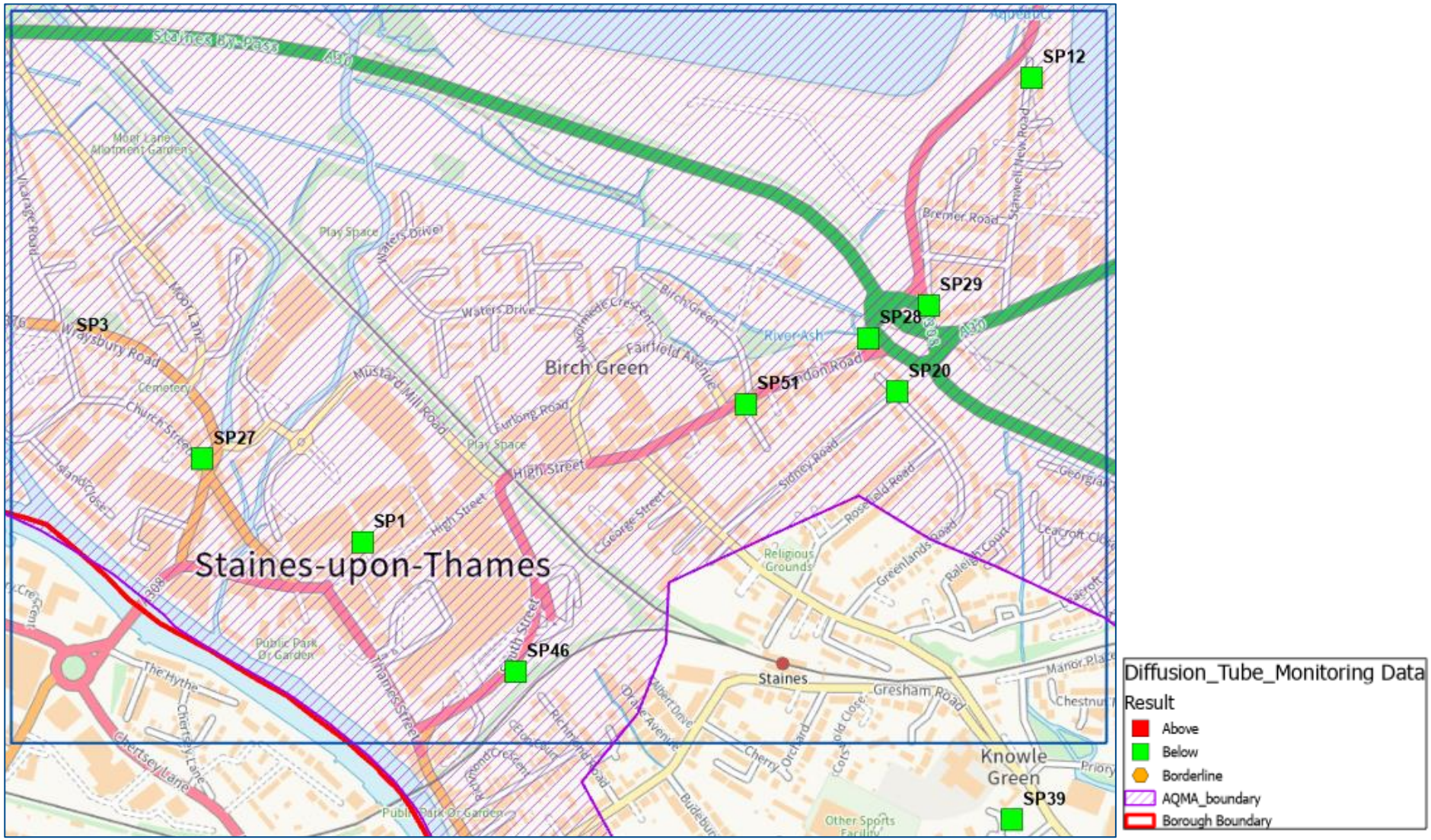

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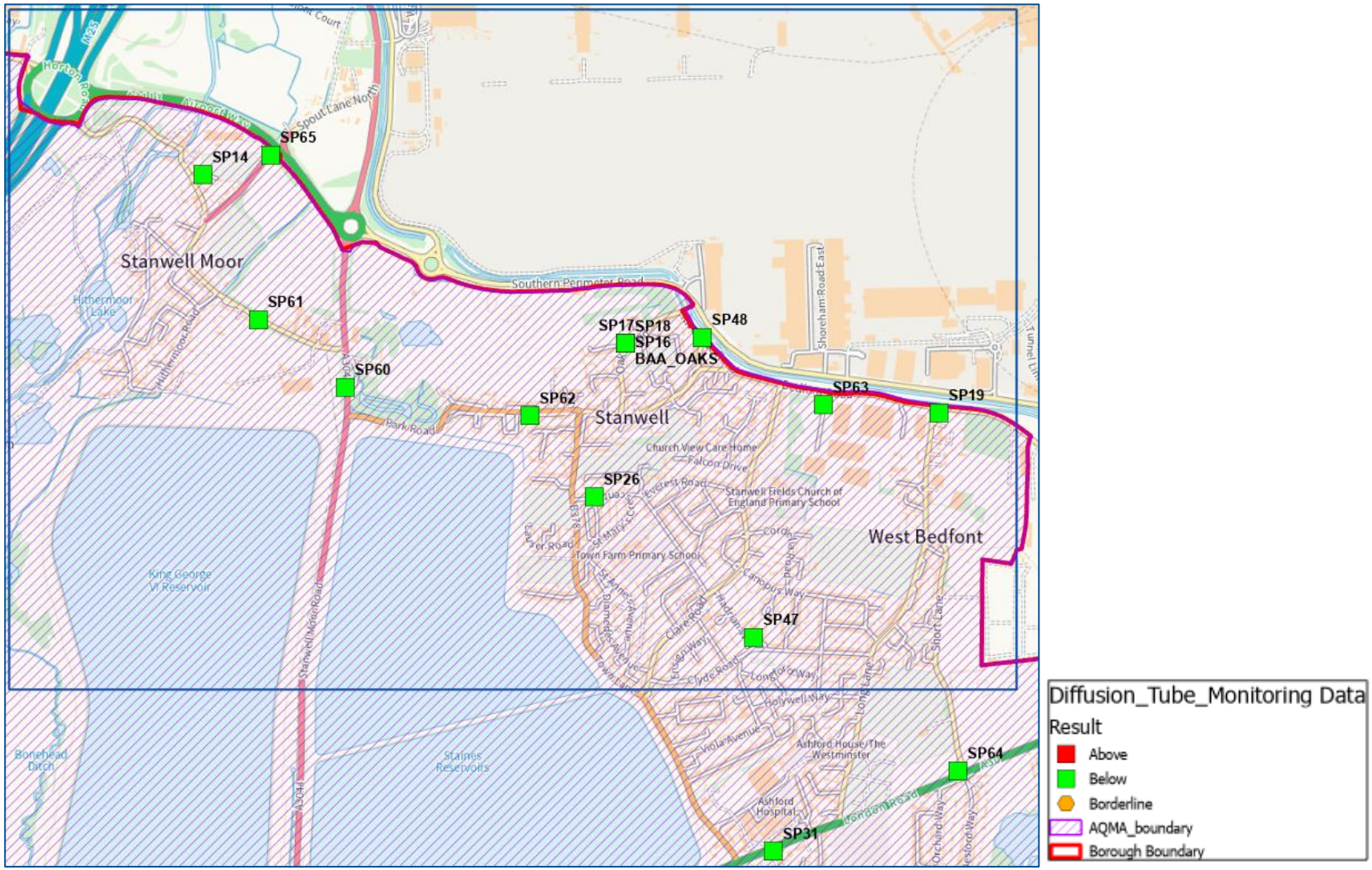
Figure D. 5 – Plan of Automatic and Non-Automatic Monitoring Sites in Stanwell and Stanwell Moor



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Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England[39]

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

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

Appendix F: Other Evidence

Plots showing average monitored NO_2 concentrations from the diffusion tube-based monitoring network. Plots show a trend of reducing average concentrations for all monitoring site types and for roadside and urban background sites. The effect of the Covid-19 pandemic related travel restrictions and associated emission reductions can be seen in the 2020 and 2021 data.

Figure F.1 – Reducing Trend in Monitored NO_2 Concentrations Since 2014 for all Monitoring Sites

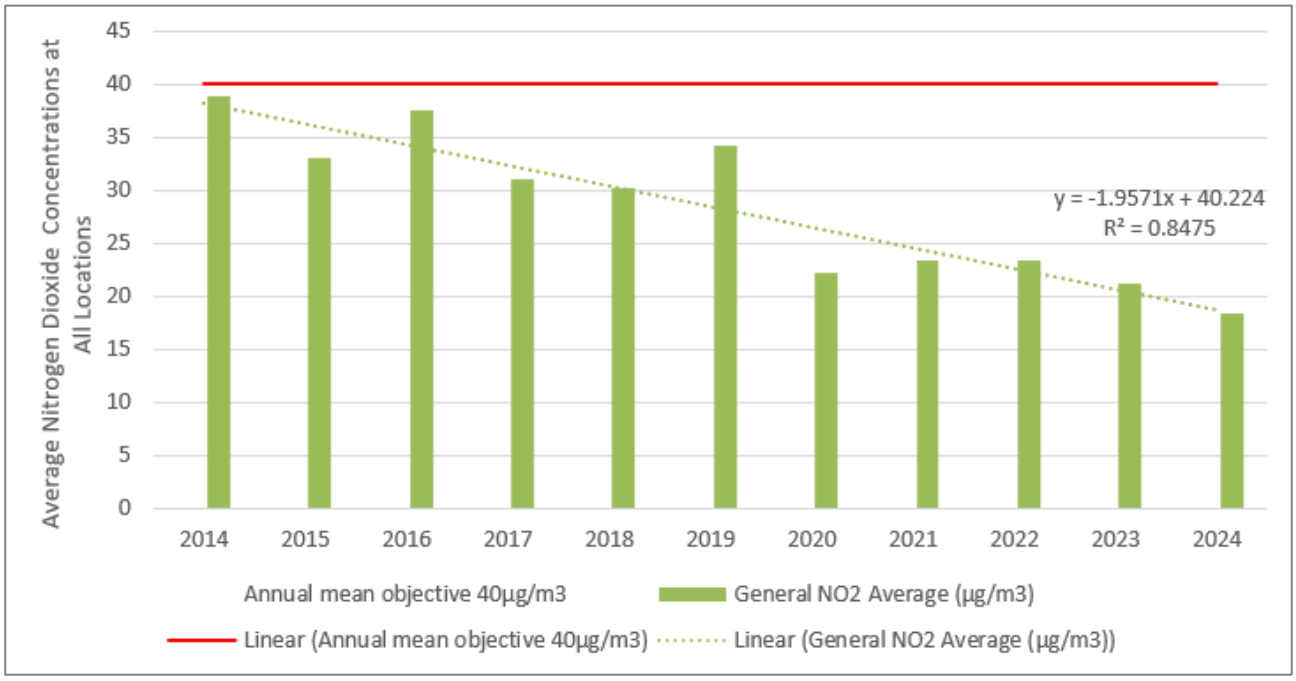

Figure F.2 – Reducing Trend in Monitored NO_2 Concentrations Since 2014 for Roadside Monitoring Sites

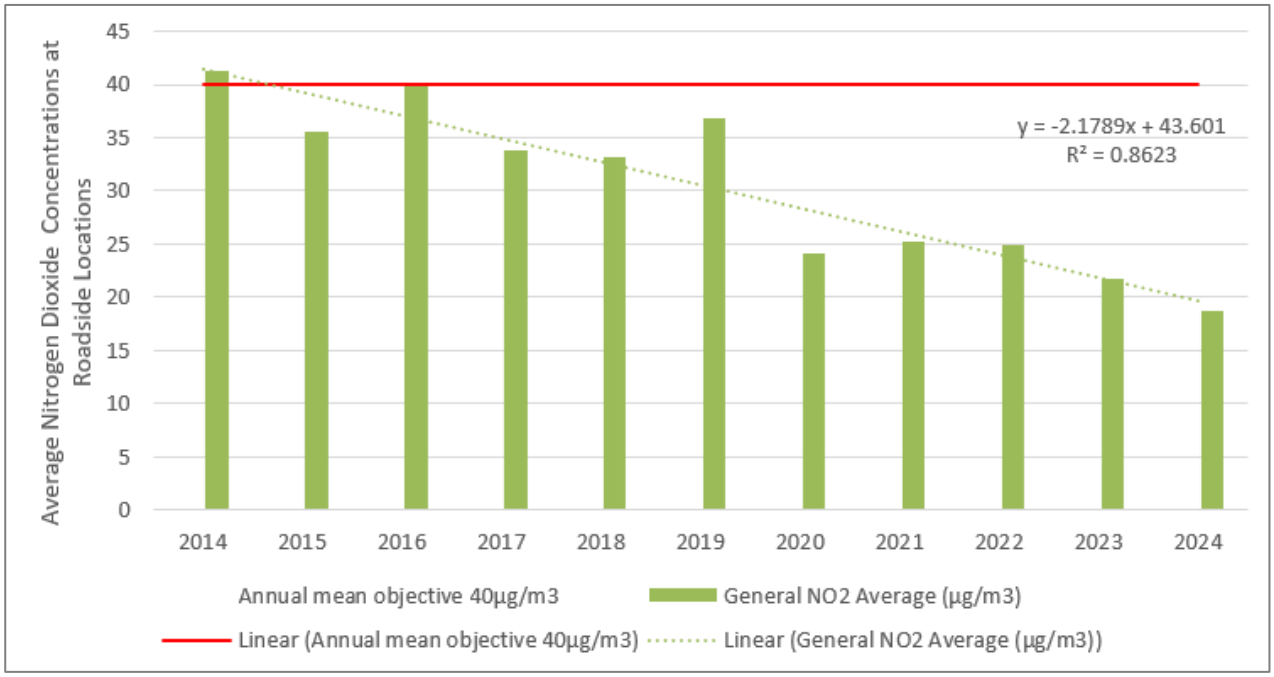

Figure F.3 – Reducing Trend in Monitored NO_2 Concentrations Since 2014 for Urban Background Monitoring Sites

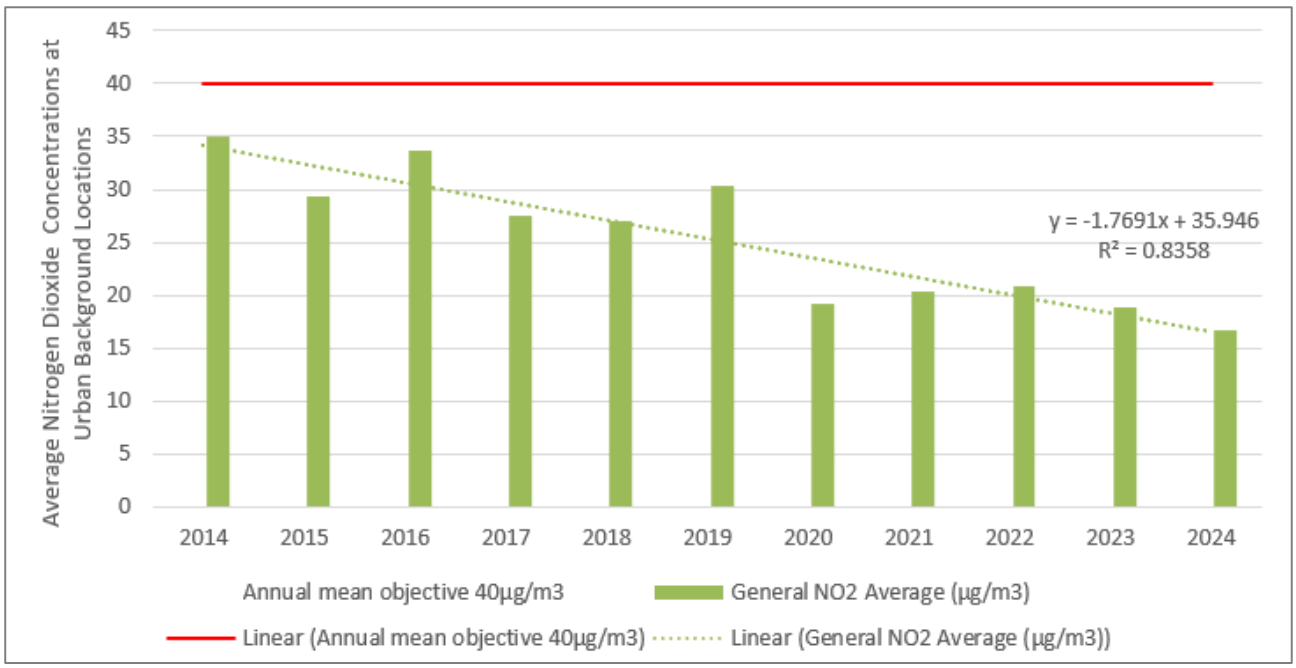

Figure F.4 – AQMA Order 2024 and Map

SPELTHORNE
BOROUGH COUNCIL

Environment Act 1995 Part IV Section 83(1)

SPELTHORNE BOROUGH COUNCIL
AQMA No. 1 Order 2024

Spelthorne Borough Council, in exercise of the powers conferred upon it by Section 83(1) of the Environment Act 1995, hereby makes the following Order.

This Order may be cited/referred to as the Spelthorne Borough Council Air Quality Management Area No1 Order 2024 and shall come into effect on 1st April 2024.

The area shown on the attached map in red is to be designated as an air quality management area (the designated area). The designated area incorporates an area encompassing the north of the borough and the strategic roads throughout the borough. The area extends south to sections of the B376 and B377 in Staines-upon-Thames, Shepperton and Laleham, including the boroughs highstreets and extending to Thames Street in Sunbury on Thames. The area covers the road network giving access to bridges over the River Thames.

This Area is designated in relation to a likely breach of the nitrogen dioxide (annual mean) objective as specified in the Air Quality Standards Regulations 2010.

This Order shall remain in force until it is varied or revoked by a subsequent order.

This Order revokes the Spelthorne Borough Council Air Quality Management Area Order made on 1st August 2003.

The Common Seal of Spelthorne Borough Council was hereto affixed on 14 March 2024 and signed in the presence of

LINDA HERON
LEGAL SERVICES MANAGER AND DEPUTY MONITORING OFFICER

Authorised Signatory on behalf of said Council.

Seal Number: 12836


Harmondsworth
Colnbrook
Poyle
London Heathrow Airport
Harlington
Stanwell Moor
Stanwell
FELTHAM
ASHFORD
STAINES-UPON-THAMES
SPELTHORNE DISTRICT
Queen Mary Reservoir
SUNBURY
Littleton
Thorpe
CHERTSEY
RUNNYMEDE DISTRICT
WALTON-ON-THAMES
WEYBRIDGE
ADDLESTONE
EGHAM
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N
Licence Number AC0000812047
Date: 28/02/2024
SPELTHORNE
BOROUGH COUNCIL
Spelthorne Air Quality Management Area.
Scale 1:60,000

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
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
SBC	Spelthorne Borough Council
SCC	Surrey County Council
SO_2	Sulphur Dioxide
WHO AQG	World Health Organisation Air Quality Guideline

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