Brighton & Hove City Council

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

June 2025

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Local Responsibilities and Commitment

Regulatory services at Brighton & Hove City Council completed this Annual Status Report (ASR). The regulatory services remit includes environmental health and licencing, air quality, enquiries about dust and smoke, statutory nuisance, licencing of taxis and pubs, permitting of Part B industrial processes such as crematorium, food premises inspections and trading standards. The broader City Infrastructure directorate including, transport & parking support specific measures set out in the Air Quality Action Plan (AQAP), Table 2.2 (update 2025). Air quality has strong cross over to public health, net zero, planning and our communications team. Partnership working is well established across Sussex and with DEFRA. Air quality assessment and associated action planning has been part of more than one directorate at the unitary authority. The Principal Air Quality Officer has experience of writing LAQM reports over eighteen years. Content shared with Sussex Air Quality Partnership throughout the year.

The Director of Public Health (DPH) has previously signed the ASR for air quality and is familiar with the format. Senior public health consultants and our web content team have seen this edition prior to online publication.

If you have any comments on this annual report for air quality, please send them to Regulatory Services

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Executive Summary

This report supports the City Council's aims of being a learning organisation. Evidence-based reports educate and raise awareness. As collaborative behavioural change chooses cleaner options for home heating and travel, this will deliver a healthier environment for all. Longterm trends for a reduction in airborne pollution can help to reduce inherent inequalities between neighbourhoods.

In this report, monitoring evidence of local air up to the end of the 2024 calendar year. Updates to the action plan are to the time of writing. Diesel vehicles dominate concentrations of the toxic pollutant Nitrogen Dioxide (NO_2 gas). Fixed diesel generators and gas boilers also make a significant contribution to gas pollution monitored citywide. Work continues to progress the phasing out relatively polluting emission sources. A comprehensive list of measures in the action plan refresh, table 2.2. Long term (a decade and more) NO_2 levels show substantial improvement. At Coombe Terrace, Lewes Road for example (A270) monitoring indicates constant concentrations since 2020/21; the years influenced by travel restriction associated with the Covid-19 pandemic. Across Sussex, examples show evidence of a slight increase in 2024 NO_2, compared to 2023. Identified locations show an observed increase in the count of certain vehicle types (bus, light commercial and motorbike since that time). Whilst local car counts have increased since 2020/21, they have not exceeded pre-pandemic traffic numbers.

Whilst UK air quality standards and legal limits are met throughout the city, concentrations continue slightly below this threshold adjacent to parts of AQMA1 (Air Quality Management Area), A270-Lewes Road and A23- London Road and close to the Clock Tower slope next to B2066, North Street, bus-ULEZ. Essential to further improve air quality are cleaner alternatives to diesel. Delivery of a healthier local environment can surpass the 2026 air quality target set out in the Air Quality Action Plan and achieve the 2030 European legal limit for NO_2 across a higher proportion of the city.

The local authority has responsibility to reduce fine Particulate Matter ($PM_{2.5}$) including visible smoke. Local sources include ships at dock, domestic solid fuel, and waste burning. Progress during the past twelve months has helped to reduce and avoid emissions harmful to health. The city council has increased the number of regulatory standard automatic analysers monitoring gases and particles from two to six and introduced a regional network of fifty real-time pollutant sensors, forty of which are within Brighton & Hove. For 2024 sixty diffusion tubes monitored NO_2 in around declared Air Quality Management Areas throughout the calendar year.

Air Quality in Brighton & Hove City Council

Breathing in polluted air affects our health and costs the NHS and our society billions of pounds each year. The government recognises that air pollution is 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.

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

Table ES 1 provides a brief explanation of the key pollutants relevant to Local Air Quality Management and the kind of activities they might arise from. In the local environment (real-world) the impact on human health will be a mix of NO_2 and particles. New monitoring installed 2024 & 2025 (action to include results in future year trend charts).

Table ES 1 - Description of Key Pollutants

Pollutant	Description
Nitrogen Dioxide (NO_2)	Nitrogen dioxide is a gas emitted from high-temperature combustion processes such as road transport or energy generation. Effective hot catalysts mitigate emissions to meet stricter emissions standards for vehicles and gas boilers. For Brighton & Hove (urban area) NO_2 is the most plentiful pollutant in the local environment. The reason why, Local Air Quality Management (LAQM) has often targeted efforts and reporting. The main health impact of NO_2 is on the respiratory system. Inhalation through childhood can influence lung tissue growth, lifelong lung capacity and lung function. Dose and exposure to NO_2 can increase the risk of respiratory infection. Nitrous oxides can contribute to acid rain and damage, crops, and protected habitats. The city council started monitoring NO_2 in 1995.
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 and sea salt and human made sources such as smoke from fires (outdoors and in a hearth), emissions from industry, ships and aviation. Dust from demolition, tyres and brakes can be coarser dust compared to the fines and ultra-fine particles emitted due to combustion and smouldering. PM_{10} refers to particles under 10 micrometres. Fine particulate matter or $PM_{2.5}$ are particles under 2.5 micrometres or microns.
Sulphur Dioxide (SO_2)	Sulphur dioxide (SO_2) is a corrosive gas, from the combustion of coal or oil derivatives such as bitumen. Prior to 1995 SO_2 contributed to transboundary acid rain. In 2024 the UK's last coal fired station, ceased to operate. Concentrations are low in Brighton & Hove. During 2024 new monitoring at portside and roadside to compare levels with the South Downs National Park (SDNP) that has Automatic Urban Rural Network (AURN) monitor at Lullington Health.

League Table of Priority Areas (NO_2) compared to background

Highest NO_2 monitoring results 2024 across designated areas compared with locations not at roadside (background that is the environment in parks or on the sea front).

Highest results in each area	Monitor ID (road name where relevant)	Site Type	Valid Data Capture 2024 (%)	SDNP level times how much?	NO2 2024
AQMA1 Lewes Road	A270 E07-2019	Roadside	86.8	7.9	37.9
AQMA1 London Road-Oxford Street	A23 C18-2010	Roadside	86.8	7.6	36.7
AQMA1 North Street	B2066 C11-2012	Roadside	86.8	7.3	35.1
AQMA1 New England Road	A270 C25-2010	Roadside	86.8	6.9	33.2
AQMA1 Viaduct Road	A23 C21-2005	Roadside	86.8	6.4	30.9
AQMA1 Edward Street-Pavilion Parade	C-Link E17-2018	Roadside	86.8	6.4	30.6
AQMA1 Grand Parade	A23 E16-2015	Roadside	78.0	6.4	30.6
AQMA1 Old Shoreham Road East End	A270 W05-2006	Roadside	86.8	6.3	30.0
AQMA1 Dyke Road-Churchill Square	C-Link C13-2014	Roadside	79.3	6.2	29.9
AQMA1 Queens Road	A2010 C12-2010	Roadside	86.8	6.1	29.3
AQMA1 Lewes Road-Coombe Terrace	A270 E15-2012	Roadside	86.8	6.0	29.0
AQMA1 York Place	A23 C16-2013	Roadside	86.8	6.0	29.0
AQMA5 The Drove-South Road	C-Link E02-2012	Roadside	78.5	6.0	28.7
AQMA1 Chatham Place	B2122 W04-2006	Roadside	86.8	5.9	28.2
AQMA1 Terminus Road	A2010 W03-2006	Roadside	86.8	5.7	27.5
AQMA3 South Portslade	A259 W16-2020	Roadside	86.8	5.6	27.1
AQMA3 Trafalgar Road	A293 W19-2009	Roadside	86.8	5.5	26.5
AQMA3 Old Shoreham Road	A270 W20-2021	Roadside	86.8	5.5	26.5
AQMA4 Old Shoreham Road	A270 W22 2024	Roadside	86.8	5.3	25.6
AQMA4 Sackville Road North	A2023 W21-2010	Roadside	86.8	5.3	25.5
AQMA2 Rottingdean	B2123 E23-2010	Roadside	86.8	5.3	25.3
AQMA1 Old Steine West	A23 C02-2022	Roadside	86.8	4.7	22.7
AQMA6 County Hospital	C-Link E18-2021	Roadside	86.8	4.2	20.2
Central Brighton Background	C05-2012	Urban Background	86.8	3.0	14.3
Portslade Vale Park Background	W18-2010	Urban Background	86.8	2.8	13.4
Rottingdean Beach Background	E32-2020	Urban Background	86.8	2.3	10.9
Preston Park Background	BH0	Urban Background	99.1	2.1	10.1
South Downs National Park Background	LL AURN	Regional Background	95.7	1.0	4.8

The South Downs National Park (SDNP) surrounds the Brighton & Hove urban area; it is a helpful "barometer" of regional air quality and local emissions add to this environment. Particulate levels are less geographically variable than NO_2, that said monitored differences detected between the urban area and the SDNP. Further work continues since the installation of additional analysers and real-time sensors, new for 2024. Recorded $PM_{2.5}$ concentrations achieve 2040 UK targets across the city. Continued actions will achieve the World Health Organisation guidelines, published in 2021. Whilst air quality has improved significantly in recent decades, there are areas where local action is required to protect people and the environment from the effects of air pollution.

Priority Areas and Travel Corridors

The following AQMAs declared for NO_2 are priority for reduction in oxide of nitrogen, due to diesel emissions. Along recognised travel corridors source apportionment varies between heavy good vehicles, bus, minibus-taxi, vans, cars and motorbikes. As daily commuting and "rush-hour" diminished from 2020, the contribution

to roadside pollution from service vehicle trips, 24-hours has become more significant. An increasing proportion of deliveries and collections are made with cycles, e-bikes and e-vehicles, with potential for drones to play their part with deliveries and event entertainment. That said in 2025, diesel still account for most road service trips, required to move goods and passengers. Electrified railways are one of the most sustainable ways to move freight and people with minimal emissions.

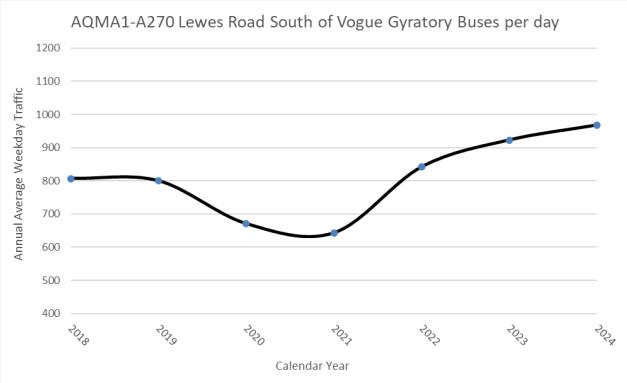
AQMA1 A270 Lewes Road - New England Road and Hollingdean Road

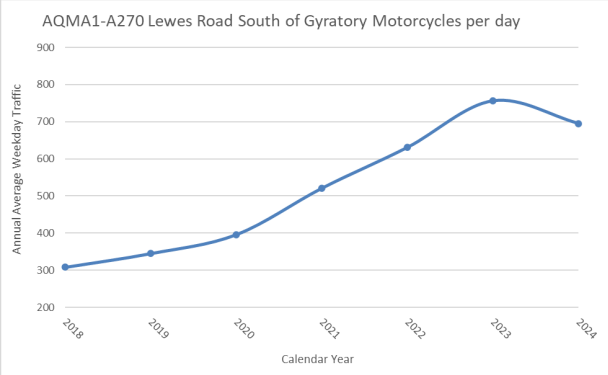
For the first time in 2023 (and 2024), local monitoring suggests UK air quality standards (1995) are achieved in Brighton & Hove. During the past year roadside NO_2 concentrations have levelled at residential sample East-7, near Elm Grove next to Lewes Road (A270). Long term trends in NO_2, presented in section 3.2.1. 2024 NO_2 recorded at 38 µg/m^3, is higher than elsewhere in Brighton & Hove. It is essential that pollution levels continue to improve. Road users are gradually becoming cleaner. Observations regarding the Lewes Road corridor specifically:

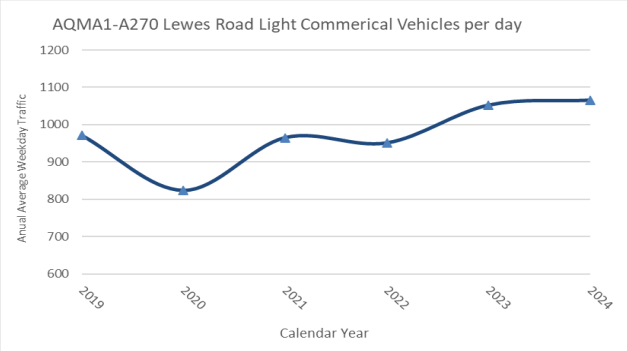
- Shuttle route between City Centre and University campus at Moulsecoomb & Falmer and a key connection with East Sussex, Lewes, Uckfield, Eastbourne and surrounding villages
- An increase in bus numbers using the Lewes Road corridor since 2021, up from 643 per day in that year to 968, 2024 (annual average weekday traffic)
- 2024/2025 not all bus services along the A270 route, met bus-ULEZ standards (all London buses achieved this emission standard as minimum January 2021[1])
- A lack of geo-fenced zero capable or electric buses along the Lewes Road corridor
- An increase in light commercial vehicles using the corridor; 2024 more than the 2019 average
- Whilst car counts have not reached pre-pandemic levels their numbers using the Lewes Road south of the Vogue Gyratory have increased since 2020/21
- Since Covid-19 a doubling in the number of motorbikes along the Lewes Road up from 308 per day 2018 average, to 756 and 695, 2023 & 2024 averages. A high proportion of these are scooters associated with food delivery. Recommended that operators incentivise electrification of the group and advertise this to clients.
- In total 15,532 vehicles using the travel corridor each weekday (2024 average). Changes to bus and light commercial vehicle counts are most significant for emissions (compared to the previous situation) and the requirement to keep improving air quality.

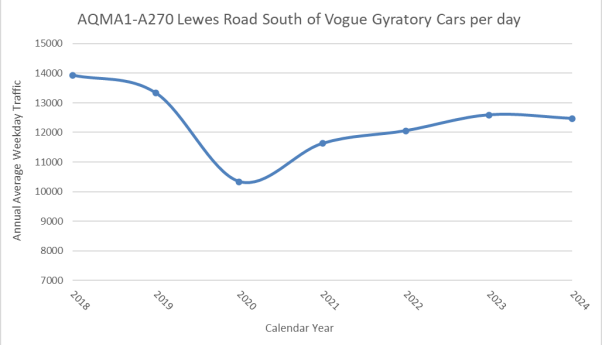
Below trend graphs showing long term daily traffic (Monday to Friday) in AQMA1- A270 Lewes Road, increases for bus, light commercial vehicles, motorcycles, and car.

[1] When did London buses meet ULEZ emission standards? Found at 2021 reference: London's buses now meet ULEZ emissions standards across the entire city - Transport for London









Additional pollutant monitoring (oxides of nitrogen and particles) added to Lewes Road and Hollingdean Road during 2024. This will collect continuous data 2025 and produce complementary results for the annual report, July 2026. New England Road is also part of the A270 east-west route via Preston Circus. This road-link can have long durations of queuing cars and vans. Outside of the covered bridge area (without houses), in 2024 residential façade NO_2, recorded at 33 µg/m^3 annual average.

AQMA1 A23 London Road Viaduct Road - Grand Parade to Edward Street

2024 monitoring indicates the London Road area has the second highest local NO_2 at 37 µg/m^3 annual mean, this is on the façade of Oxford Street next to London Road. Pedestrian footfall is high, the homeless spend time in the area sitting outside shops and hundreds of people wait for buses. London Road has a mix of vehicle types and in 2025 heavy and light diesel vehicles (euro, four, five and euro six) continue to use the corridor. New cameras installed 2024 aim to characterise vehicles in the AQMAs by emission and fuel type. Viaduct Road and Grand Parade are also part of the A23 corridor both-ways, carry general traffic including cars, small vans, and heavier commercial vehicles (no bus routes). Further vehicle emissions reductions to achieve 2026 air quality targets. Further improvements to Valley Gardens aim to make the area more accessible and attractive for active travel (walking, cycling, wheeling and e-bikes). Investment in sub-stations would facilitate vendors and organised events to plug-in and phase out diesel generators.

AQMA1 B2066 Bus-ULEZ North Street

The monitoring undertaken up to 2025 indicates this travel corridor is third highest local area for 2024, NO_2 at 36 µg/m^3 annual average on the building façade opposite Windsor Street, which includes a slight increase since 2023. Higher concentrations, at lower heights (metres) and on the pavement that has thousands of pedestrians every day. Monitoring indicates UK air quality standards achieved in this area, from 2020. Emission reductions including cleaner buses to keep pollutant levels (NO_2) on track with the AQAP 2026 target of 30 µg/m^3 annual mean or three-year average.

AQMA1 A2010 Queens Road and Terminus Road

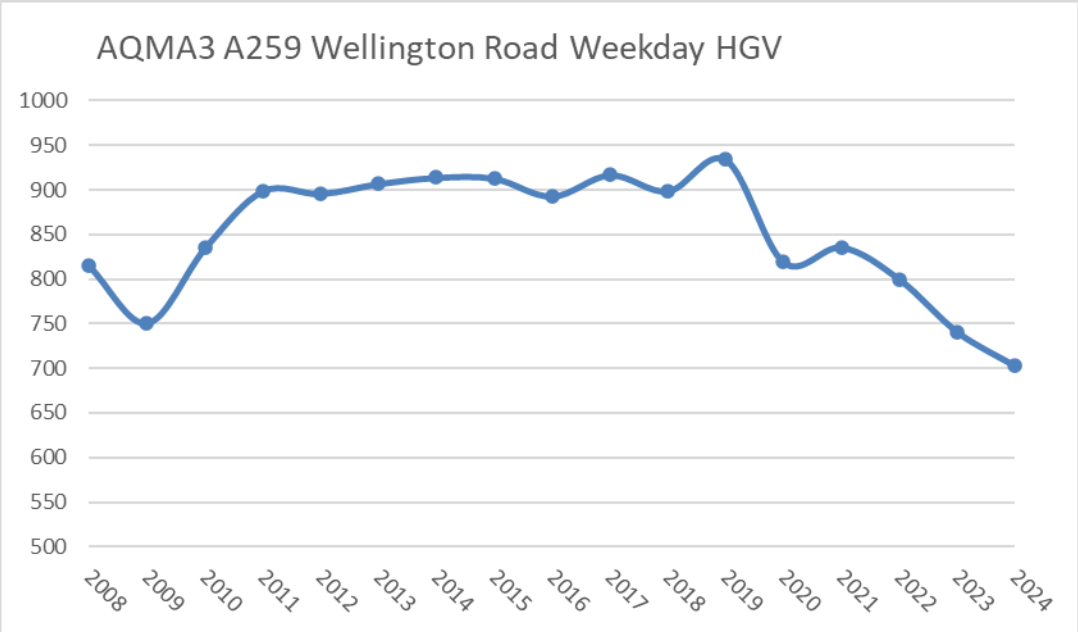
Continuous with bus-ULEZ pollution levels has improved over recent years. 2024 monitoring indicates the fourth highest local area for NO_2 slightly above 29 µg/m^3 annual average. Monitoring indicates UK air quality standards achieved in this area, from 2020 (sustained for two years not including the abnormal 2020-21 years affected by Covid-19 travel restrictions). The rate of improvement in gaseous pollution (twelve year best fit line included) has slowed since 2020. Further improvement to surpass the 2026 target beyond all reasonable doubt, and to be on track with the 2030 target.

AQMA5 The Drove-South Street

2024 monitoring indicates the fifth highest local area for NO_2, slightly below 29 µg/m^3 annual average. Monitoring indicates UK air quality standards achieved in this area, from 2023. Further road traffic emission reductions (diesel vans and cars) on the hill climb to work towards pollutant levels (NO_2) below European legal limits, 20 µg/m^3.

AQMA3 A293-A259-A270 South Portslade

2024 monitoring indicates the sixth highest local area for NO_2, 27 µg/m^3 annual average. Monitoring indicates UK standards levels from, 2020 and local targets achieved 2024. HGV and diesel car emission reductions to ensure pollutant levels (NO_2) continue below the AQAP 2026 target of 30 µg/m^3 and achieve the EU level. *Below trend graph since 2008, showing daily (Monday to Friday) Heavy Good Vehicle counts in AQMA3, A259 haulage route to Shoreham Port.*



AQMA4 A2023-A270 Sackville Road-Old Shoreham Road

2024 monitoring indicates the seventh highest local area for NO_2, 26 µg/m^3 annual average. Monitoring indicates UK standards achieved in AQMA4 from 2019 and local targets from 2023. Traffic monitored at the junction as major developments proposals within 1km. Further emission reductions and a continued improving trend to achieve the EU ambient level of 20 µg/m^3, ahead of 2030.

AQMA2 B2123-A259 Rottingdean High Steet

2024 monitoring indicates the eighth highest local area for NO_2, 25 µg/m^3 annual average (worse case monitor). Monitoring records show the confined High Street with housing inches from the carriageway, has sustained improvement in outdoor pollution levels. Long term diffusion tubes indicate UK standards achieved from 2019 (beyond on reasonable doubt) and local targets since 2021. Further diesel emission reductions (heavy and light vehicles) to achieve the EU outdoor level of 20 µg/m^3 ahead of 2030. A slight increase in 2024 compared to 2023 and new monitoring position added 2025, to be considered prior to any revocation of AQMA2.

AQMA6 Eastern Road special case between infirmary buildings

2024 monitoring indicates the ninth highest local area for NO_2, at 20 µg/m^3 annual average. UK standards and local targets achieved since 2019. In 2024 a new traffic camera to assess vehicle emission categories. Buses operate as geo-fence zero in the area. In 2025 a new diffusion tube site put in place, located at the western part of AQMA6. More stringent air quality standards should apply at the infirmary with trauma, cancer unit and neo natal healthcare. Recommendation to retain the existing AQMA, until such time European legal limits, 20 µg/m^3 NO_2 happen for five years. Construction emissions at the hub hospital have influenced local air quality. By 2025 NHS contractors have nearly completed these activities.

Clean Air Park and Gardens

Other areas of the city such as school grounds and most residential areas achieve the 2030 EU legal limit. In Brighton & Hove continuous monitoring indicates that in 2024, larger parks and gardens meet the WHO guideline for NO_2, that is 10 µg/m^3 annual mean.

Conclusions and Priorities

Initially AQMAs declared 2004 in Brighton & Hove. The Council monitors inside and outside the AQMAs. In recent years, BHCC has detected no exceedances outside of the AQMAs (amended 2020). Currently there is no need to declare new areas. During the past twelve months consideration given to the possibility of AQMA4, AQMA2 and AQMA6 revocation. Another year of monitoring at new and existing locations within the current AQMAs will confirm if monitored levels are representative. Improving long term trends are described and presented in charts as part of this ASR. The Environment Act 1995 initially set UK air quality objectives that became legally binding standards in 2010. The council's AQAP aims to achieve interim health-based targets by 2026, followed by levels agreed by the European parliament 2030 target. This level is met in most suburbs and residential areas of BHCC. Parts of AQMA1 require measures set out in the AQAP to keep on track with Key Performance Indicators (KPIs).

Local Engagement and How to get Involved

Everyone can do their little bit to help improve local air quality in their city. For example, the travel and heating choices people make have an adverse or beneficial influence on the air everyone breathes:

Healthy Travel Choice Hierarchy

1. **Active Travel – walking, cycling and wheeling (roller booting)**
2. **Battery assisted bicycles**
3. **Public Transport**

4. **Electric car or van**
5. Battery vehicle with a range extender
6. Petrol-electric hybrid
7. Small Petrol engine
8. Diesel hybrid
9. Diesel with effective exhaust mitigation
10. Diesel without exhaust mitigation

Healthy Heating and Cooling Hierarchy

1. **Building with modernised energy performance to reduce winter energy demand, passive design to assist heating and cooling with street and room ventilation**
2. **Renewably generated electricity without combustion, energy storage and grid-balancing between buildings and vehicles**
3. **National grid complemented with microgeneration such as roof top solar panels, zero emissions to air**
4. Ultralow NOx biogas fuelled boilers
5. Ultralow NOx natural gas fuelled boilers
6. Combined Heat and Power (CHP) gas combustion (emits NOx and CO2, not as clean as the national grid in 2025
7. Exempt stoves and appliances risks smoke with intermittent burning practices
8. Pellet stove (lower emission compared to log burners)
9. Seasoned dry wood or anthracite
10. Aga oil or kerosene burning
11. Fixed diesel generators such as auxiliary back up with risk of smoke
12. Damp wood and open fireplaces
13. Heavy fuel oil with various emissions
14. Waste burning
15. Traditional house coal with sulphurous emissions (illegal to sell in England)

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1 Local Air Quality Management

This report provides an overview of air quality in Brighton & Hove City Council (BHCC) up to and including 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.

Progressive local authorities such as Oxford, Cambridge, BHCC and London Boroughs have pledged to work towards more ambitions air quality targets. This initiative-taking approach considers current understanding of the health risk of airborne pollution, including medical research evidence published in the thirty years since objectives were set out by the Environment Act (1995). At the current time, hourly NO_2 > 150 µg/m^3, is unusually high. Recommended that air the daily air quality index reflects UK ambient levels, as they are in the UK, 2025. BHCC has set out in its accessible real-time portal[2], new since the last ASR.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine if air quality standards and targets can be achieved. Where an exceedance of UK standards 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 to achieve and maintain the standards 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 BHCC to improve air quality and any progress made.

The Brighton & Hove air quality targets are presented in Table E.2 – Air Quality Next Step Targets

Pollutant	Air Quality Objective: Concentration	Air Quality Target: Concentration
Nitrogen Dioxide (NO2)	25µg/m3	24-hour mean
Nitrogen Dioxide (NO2)	30µg/m3 by 2026, 20µg/m3 by 2030	Annual mean
Particulate Matter (PM2.5)	15µg/m3 not to be exceeded more than 3 - 4 times a year	24-hour mean
Particulate Matter (PM2.5)	5µg/m3	Annual mean

Table E.2

[2] Brighton & Hove and Sussex | EarthSense Real-time air quality portal

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 a UK air quality standard (set 1995). 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, providing dates by which measures will be carried out.

A summary of AQMAs declared by BHCC can be found in Table 2.1. The table presents a description of the number of designated AQMAs, currently designated within BHCC. Appendix D: Map of Automatic Monitoring (Active 2024) Locations and Central AQMAs provides maps of air quality monitoring locations in relation to these areas. The air quality objectives pertinent to the current AQMA designations are as follows:

- NO_2 annual mean for all six, AQMAs 1 to 6
- NO_2 hourly mean, AQMA1
- There are no local AQMAs for PM_{10} and the local authority does not have a statutory duty to declare and AQMA for $PM_{2.5}$, monitored locally since 2015
- Policy may wish to consider a more formal approach to AQAPs working towards achieving European legal limits, NO_2 20 µg/m^3 annual mean, published 2024, with a scheduled target for 2030
- Instead of 40 µg/m^3 published 1995, that became legally binding from 2010.

The AQAP (2022 to 2027) sets out commitment to surpass interims guidelines citywide for NO_2 and $PM_{2.5}$ by the calendar year 2026, scheduled to be reported by BHCC 2027.

A single diffusion tube in AQMA6, outside the main hospital, indicates four years of compliance with the UK NO_2 standard 40 µg/m^3 (2019, 2022, 2023 and 2024). Further monitoring added 2025, is justified to determine if existing locations are representative and will help provide stronger evidence of progress. Stricter air quality objectives are most relevant at infirmary buildings and there are no plans to revoke AQMA6, prior to 2026. A slight increase in NO_2 within AQMA2, Rottingdean village requires another year of monitoring at existing and new locations, to determine if an AQMA revocation might be justified.

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Standards	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
Brighton & Hove AQMA1	2013 Amended November 2020 (A23 and A270 declared 2004)	NO_2 Annual Mean	Includes four main arterial routes connecting Brighton & Hove City Centre, that is: B2066-ULEZ and part of the A23, A270, A2010 and adjacent land use.	YES A23 (T) and A27 (T) feed traffic onto the declared main roads	84.6 µg/m^3	38 µg/m^3 at diffusion tube E07 Lewes Road, similar levels London Road and North Street (upper slope opposite Windsor Street)	Within tolerance of 10% (to be beyond all reasonable doubt). Not achieved along three travel corridors.	Brighton & Hove AQAP November 2022	How we manage air quality in the city (brighton-hove.gov.uk)
Brighton & Hove AQMA1	2013, Amended November 2020	NO_2 1 Hour Mean	Includes four main arterial routes connecting Brighton & Hove City Centre, that is: B2066 ULEZ and part of the A23, A270, A2010 and adjacent land use.	YES	115 versus 1-hour guideline of 60 µg/m^3 annual mean	43 µg/m^3 annual mean (1 µg/m^3 increase compared to 2023)	DT Central 11-12 compared against 60 µg/m3, for the hourly standard. Three years compliant since the pandemic travel restrictions	Brighton & Hove AQAP November 2022	As above.

AQMA Name	Date of Declaration	Pollutants and Air Quality Standards	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
Brighton & Hove AQMA2	2013 Amended November 2020	NO_2 Annual Mean	Rottingdean High Street (B2123) from the A259 junction to the T-junction with Vicarage Lane.	YES	47 µg/m^3 annual mean (reduced from the years preceding declaration)	25 µg/m^3 annual mean (1.7 µg/m^3 increase compared to 2023)	At DT E23, three or four years compliant. To be confirmed with new monitoring added 2025.	Brighton & Hove AQAP November 2022	
Brighton & Hove AQMA3	Nov-20	NO_2 Annual Mean	Southwest Portslade including housing surrounding the A259 and A293 haulage route from Shoreham Port Inland. NOx contributions from general traffic, buses, HGV, and wharf side industry.	YES	51 µg/m^3 annual mean	27 µg/m^3 annual mean (some lost data so true value could be higher) 2023: 32 µg/m^3	DT West 17 indicates two years compliant, with UK standards.	Brighton & Hove AQAP November 2022	Further improvement required to work towards WHO guidelines and interims.
Brighton & Hove AQMA4	Nov-20	NO_2 Annual Mean	Premises adjacent with the Old Shoreham Road (A270) and Sackville Road (A2033) Junction.	YES	48 µg/m^3 annual mean year prior to declaration	26 µg/m^3 annual mean	DT West 21 suggests compliance for four years.	Brighton & Hove AQAP November 2022	Further monitoring installed for 2024.

AQMA Name	Date of Declaration	Pollutants and Air Quality Standards	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
Brighton & Hove AQMA5	Nov-20	NO2 Annual Mean	Part of the Drove, South Road Preston Road part of the A23 and adjoining properties.	YES	51 µg/m^3 annual mean	29 µg/m^3 annual mean	DT East 2 indicates compliance with national standards for two years.	Brighton & Hove AQAP November 2022	Further monitoring installed for 2024.
Brighton & Hove AQMA6	Nov-20	NO2 Annual Mean	Eastern Road outside of the Royal Sussex County Hospital. Mixed road traffic, gas combustion and long-term construction.	YES	42 µg/m^3 annual mean	20 µg/m^3 annual mean (1 µg/m^3 increase compared to 2023)	DT East 18 indicates compliance with UK standard for four years. New 2025 monitor added.	Brighton & Hove AQAP November 2022	Further monitoring installed for 2024.

☒ **Brighton & Hove City Council confirm the information on UK-Air regarding their AQMA(s) is up to date**

☒ **Brighton & Hove City Council confirm that all current AQAPs have been submitted to Defra**

2.2 Progress and Impact of Measures to address Air Quality in Brighton & Hove City Council

Defra's appraisal (dated July 2024) of last year's ASR acknowledged AQMA1 declared for the annual and hourly NO_2 UK standards and AQMAs 2 to 6 declared for the NO_2 annual mean. In the past twelve months consideration to potential revocations of AQMA2, AQMA4 and AQMA6. Further monitoring is in place to confirm if this might be a justified action of BHCC, 2026. The latest technical guidance 2022 (TG22) states where (beyond all reasonable doubt) there have been no exceedances of legal limits for five consecutive years, local authorities must proceed to revoke the AQMA. This discounts, 2020 and 2021 that were not representative of normal conditions as travel restrictions (fewer vehicle trips) related to Covid-19 applied at that time.

That said devolved mayoral regions and unitary authorities' may choose to adopt European Parliamentary laws (2024)[3] for stricter air quality standards (published since Technical Guidance 2022). Brighton & Hove voted 68% against Brexit, so arguably there is not a local mandate for less stringent environmental and health protections compared with the European Parliament.

The last DEFRA appraisal acknowledges the automatic and diffusion tube monitoring delivered 2023. Brighton & Hove City Council has taken forward 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. 57 measures are included within Table 2.2, with the type of measure and the progress Brighton & Hove City Council have made during the reporting year of 2024 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.2. BHCC top three priorities for the coming year continue to be:

- Active travel access; including new cycle lanes and landscaping in accordance with the Local Walking and Cycling Infrastructure Plan (LCWIP) and Local Transport Plan (LTP5), supported by Brighton bike share scheme[4], Cycle Hangars[5], e-Cargo Bike Accelerator Project[6]
- Ultra-low and zero emission zone for buses and associated improvements; to achieve bus-ULEZ and pave the way for Zero Emission Bus Regional Area, following the BSIP (Bus Service Improvement Plan) refresh with new (2025) section on emissions and air quality.
- Fast and rapid electric chargers on-street and off-street for vehicles with long term funding from the Local Electric Vehicle Infrastructure (LEVI).

[3] Air pollution: Deal with Council to improve air quality | News | European Parliament

[4] Beryl BTN Bikes found at Brighton & Hove: Beryl BTN Bikes (brighton-hove.gov.uk)

[5] Cycle Hangars, found at Brighton & Hove: Cycle hangars (brighton-hove.gov.uk)

[6] eCargo Bike Accelerator Project found at Brighton & Hove e-Cargo Bike Accelerator Project (brighton-hove.gov.uk)

More detail on these measures to reduce emission and improve local outdoor air quality, found in the 2022 to 2027 Action Plan including red routes, school streets, raising public awareness. Key completed measures include additional monitors and monitoring networks implemented 2024 and 2025.

Brighton & Hove City Council expects the following measures completed over the course of the next reporting year: 100% of bus services to meet bus-ULEZ, that is the Euro-VI emission standard, minimum. Extra awareness of safe school travel, road traffic emissions, cleaner vehicles, and home heating. Brighton & Hove City Council worked to implement these measures in partnership with the following stakeholders during 2024:

- Brighton & Hove bus operators and the Enhanced Partnership with the City Council's Public Transport Team
- Sustrans engagement with schools and events to raise awareness of sustainable travel and zero emission solutions to improve air quality.
- DEFRA
- Bureau Veritas data management contract
- Matts Monitors equipment support.
- Earthsense©, real-time sensor portal
- TES Ltd, ANPR cameras to determine vehicle counts and categories, fuel type and percentages levels of ULEZ and zero
- Tag Master UK, Vehicle data.
- Traffic GB Ltd, Installation of Automatic Traffic Counters (ATCs)

The principal challenges and barriers to implementation that BHCC anticipates facing are sufficient staff resources to manage contractors, ongoing monitoring, and AQAP measures.

Progress on the following measures has been slower than expected due to a delay in all bus operators meeting ultra-low, emission standards. During the past decade more than one petrol station in the city has developed and the land use changed to mixed-use or residential. An example of where new development and homes facilitates mode shift to active travel, reduces daily vehicle trips, improves the urban realm, and benefits local air quality. The repurposing of premises for fewer vehicle trips, sustainable travel, lower energy demand and electrification is set to be positive for air quality. Whilst EV charging infrastructure is making accelerated progress, there is more to come during the term of the current AQAP (to 2027 and beyond). Further work using ANPR cameras will determine the proportion of road users in the AQMAs that are zero emission or without an exhaust pipe.

Local roads tend not to have higher concentrations of particles. Vehicle flow in our local AQMAs declared for NO_2 is 5 or 20 mph. This is a low rate of tyre and brake wear compared to slip roads of a motorway (acceleration-deceleration) or a racetrack. Regenerative braking on new vehicles, including EVs is softer and less likely to emit particles due to sudden braking.

The AQAP targets reductions in NO_2 levels along travel corridors and residential areas. Brighton & Hove City Council has moved on from achieving compliance with objectives set thirty years ago and aims to meet more ambitious targets 2026 and 2030.

Extra benefits for reducing particles and smoke in urban and rural areas is set out in the following section.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure Title	Category	Classification	Year in AQAP	Estimated Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
1a	Active Travel Access	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2018	2027	BHCC City Services	Active Travel England (DfT), BHCC	NO	Funded	£1 million - £10 million	Implementation	Estimated 1 to 5 µg/m3 reduction in NO2 long term (measured as an annual mean at roadside)	Increases in walking and cycling levels, aim for safer active travel environments reduced collisions /casualties, increased active travel kms.	Local Cycling and Walking Infrastructure Plan approved in 2022. Construction underway for Valley Gardens Phase 3, Review of design for A259 active travel scheme. Design for Phase 1 of A23 active travel scheme finalised.	Aim is to reduce numbers of vehicle trips on the road. The Public Health team are currently delivering a Let's Get Moving Strategy. Aim to increase food deliveries by push bike or e-bike.
1b	Expanded bikeshare scheme and inclusion of e-bikes with the scheme	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2018	2027	BHCC City Services, Beryl Bikes	DfT, BHCC, Beryl Bikes and sponsor	NO	Funded	£500k - £1 million	Completed	Estimated to be 1µg/m3 based on medium uptake, rising to more with high uptake and encouragement of lasting behavioural and lifestyle change	Increased usage and kms, cross-boundary connectivity Access to push bike and e-bike share scheme, for short journeys with options to ride outside the local authority, connecting with the national cycle network	The BTN Bike share scheme was relaunched on 31 March 2023. In the past year, 1.5 million kilometres have been travelled by users. The total fleet is now 780, with 60% being e-bikes and 40% pedal-only bikes. Consultation continues additional bike hubs.	Planned to expand scheme to West Sussex including through B&H AQMA3 in Portslade.
1c	On street bike storage	Alternatives to private vehicle use	Other	2018	2027	BHCC City Services	BHCC	NO	Funded	£100k - £500k	Completed	Estimated to be <1µg/m3 city centre. Assuming a reduction in diesel vehicle trips.	Increased secure bicycle parking facilities. More local trips by active travel.	150 cycle hangars now installed. Providing 900 secure spaces for residents. Hangars provide on-street parking for up to 6 bikes in a covered, secure and accessible facility.	The contractor will manage 150 hangars.
1d	Encourage and facilitate home working and remote access to health, services and education	Promoting Travel Alternatives	Encourage / Facilitate homeworking	2019	2027	Citywide Businesses and public sector bodies	Various	NO	Funded	£50k - £100k	Implementation	Estimated to be 1µg/m3 to 2µg/m3 NO2 avoided, depending on the number of diesel trips saved and the timing of peak road demand that risks congestion, if working shift patterns are not spread out.	Less travel overall, reduced number of vehicle trips and kms	Changes in working and commuting patterns continue since Covid-19.	Brighton's 24-hour economy is not limited to one shift pattern. This helps to spread the demand for travel and reduce the risk of congestion and simultaneous road traffic emissions, happening at the same time.

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1e	Lift share and car club /hire	Alternatives to private vehicle use	Car & lift sharing schemes	2018	2027	Citywide Businesses and local communities	Commercial, developers	NO	Funded	£500k - £1 million	Implementation	Car clubs need to increase percentage of zero emission vehicles, to further reduce NO2 and secondary PM nitrates	Increased use of car club vehicles, reduced car ownership. Electric Brighton car share.	Positive uptake with SMEs and households	Ongoing and established car club operated by Enterprise, with approx. 90 bays/vehicles
1f	Bus access improvements	Transport Planning and Infrastructure	Bus route improvements	2015	2027	BHCC City Services, Bus Operators.	BHCC, BSIP (DfT), Bus Operators	NO	Funded	> £10 million	Implementation	Progress beyond bus-ULEZ to a higher percentage of zero capable is required.	Cleaner buses, resulting in lower emissions from end of tail pipe. Increase passenger numbers, increase bus passenger kms, increase customer satisfaction.	Bus Service Improvement Plan (BSIP) refresh. Enhanced Bus Partnership between bus operators, BHCC City Transport. Successful £2.9m Tranche 2 Zero Emission Bus Regional Area (ZEBRA2 and ZEBRA3) Red Routes for Lewes Road and London Road approved in December 2023. Red routes also planned for Western Road	Aim to achieve at least pre-Covid passenger usage levels by 2025. Essential to achieve minimum euro-VI buses throughout the city by mid-2025.
1g	Transport Interchanges	Transport Planning and Infrastructure	Public transport improvements-interchanges stations and services	2018	2025	BHCC City Services, Bus Operators, Train operators, Network Rail	BHCC, BSIP (DfT), Bus Operators, Network Rail	NO	Funded	£1 million - £10 million	Completed	Substantial decreases in NO_2 outside Brighton railway station, that is part of AQMA1-A2010.	Increased public transport use, reduced vehicle trips	Brighton railway station bus connections completed. Air quality improved faster than the city and UK average	Achieving pre-Covid bus usage levels. Taxi pick moved from station frontage saving vehicle trips Surrey Street Queens Road and AQMA1-A2010.
1i	School Travel Plans	Promoting Travel Alternatives	School Travel Plans	2018	2027	BHCC City Services, Sussex Partners and Sustrans working with Education providers	BHCC	YES	Partially Funded	£100k - £500k	Implementation	Estimated to be <1µg/m3.	Fewer car trips and emissions, increased active travel journeys	Ongoing	Long term schemes involving schools, colleges and universities.
1j	Workplace Travel Plans	Promoting Travel Alternatives	Workplace Travel Planning	2022	2027	BHCC City Services working with Businesses	BHCC and local businesses	NO	Funded	£100k - £500k	Implementation	Estimated to be <1µg/m3.	Fewer car trips and emissions, increased active travel journeys	Ongoing	Helped by flexible working at home since 2019/20 and spreading of journeys to diminish AM PM peak flows linked to rush hour.

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1k	School Streets	Promoting Travel Alternatives	Workplace Travel Planning	2018	2027	BHCC City Services working with schools and Children, Families & Learning	BHCC	NO	Funded	£100k - £500k	Implementation	Minor benefit where air quality is currently good	Increased active travel, aims to reduce vehicle trips, reduce collisions/casualties and emissions	Six schemes per year, help to deliver safer and improved environments around schools	Ensure active and ongoing engagement with local communities. Extra monitoring planned. Most local schools have good air quality
1l	Continue emission-based charges for resident parking permits	Environmental Permits	Introduction/increase of environment charges through permit systems and economic instruments	2022	2027	BHCC City Services, including Parking	BHCC Parking and income	NO	Funded	£100k - £500k	Implementation	Trace levels	Aim for a higher number of ultralow and zero vehicle permits purchased	Controlled parking zones are focussed on central/busy areas concurrent with AQMA reduces risk of vehicles circulating to find parking	Decisions on vehicle type are dependent on behaviour change and financial circumstances.
1m	Explore Park and stride. Park and ride and travel interchange.	Alternatives to private vehicle use	Bus based Park & Ride using existing routes	2022	2027	City Services including transport planning, air quality and parking, working with planning and bus operators and landowners	BHCC City Services	NO	Partially Funded	£50k - £100k	Planning	Estimated to be 3 to 5µg/m^3 NO2 along shuttle routes if diesel vehicles are not used.	Identification of potential sites, reduced vehicle trips and emissions, improved roadside air quality in AQMAs	Feasibility of sites ongoing.	Identifying and establishing suitable site(s). Use existing bus routes. Lack of suitable land to develop within geographical confines of city
1n	Explore Workplace Parking Levy	Promoting Travel Alternatives	Workplace Travel Planning	2022	2027	City Services and local businesses	BHCC City Services	NO	Not Funded	£10k - 50k	Planning	Estimated to be <1µg/m3.	Reductions in vehicle commuting to increase in active travel and public transport usage	None.	
1o	Liveable City Centre (LCC)	Policy Guidance and Development Control	Other policy	2022	2027	BHCC City Services	BHCC City Services & Planning	NO	Partially Funded	£100k - £500k	Planning	Trace levels	Development of design codes to identify requirements for the physical development of area to deliver improved public realm.	Baseline analysis underway	Could includeAQMA1-A2010 and bus-ULEZ but not proposed for AQMA1 A23 & A270
1p	Twenty-minute or fifteen-minute neighbourhood	Other	Other	2022	2027	BHCC City Services	BHCC City Services & Planning	NO	Partially Funded	£50k - £100k	Planning	Trace levels. Could help manage movement of vehicles and prioritisation of space.	Less vehicle movements reduced emissions, increased active travel.	Pilot project	
1q	Develop re-wilding and tree planting areas and parklets, reduce fire and smoke risk of the habitat	Other	Other	2022	2027	BHCC City Services	Sustainability and Planning	NO	Funded	£100k - £500k	Implementation	Trees and habitats more likely to help mitigate particles and dust than nitrogen dioxide.	Increased tree and vegetation planting, improved natural environment and safer more attractive places for walking and cycling	Valley Gardens, Waterhall rewilding, Carden Hill tree planting and parklets	Trees and ecosystems likely to benefit from clean air. Roadside summer foliage unlikely to mitigate nitrous pollution at roadside where >10,000 vehicles pass a day.

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2a	Working towards a zero-exhaust council fleet for vehicles and machinery	Vehicle Fleet Efficiency	Other	2022	2027	BHCC Fleet Management	BHCC	NO	Funded	£1 million - £10 million	Implementation	Estimated 1 to 2 µg/m3 long term reduction in roadside NO2 along some roads in AQMAs. Exemplar to other operators to explore and implement a cleaner fleet without emissions.	Increased proportion of Zero Emission vehicles in council fleet	2023 included 2 additional refuse vehicles, 4 communal bin lorries, 1 top loader and 6 cars. Fleet now includes 72 EVs.	Investment required to continue. Upgrade to power required at the Hollingdean Depot to add more electric vehicles
2b	Ultralow and zero emission zone for buses and associated improvements	Vehicle Fleet Efficiency	Other	2019	2027	BHCC City Transport, Public Transport Team, Bus Operators	BSIP (DfT), DEFRA AQ grant, BHCC and bus operators	YES	Funded	£1 million - £10 million	Implementation Bus and Minibus Exhaust Retrofits completed	Monitored 79 µg/m3 reduction in NO_2 at North Street kerbside past ten years. 32 µg/m3 reduction at façade during the same period. Estimated at least 25µg/m3 reduction at North Street façade due to ultra-low or zero vehicles (buses and taxis).	Promoting ultralow and zero emission public transport	Last few remaining euro-V buses operated on time-tabled bus routes, scheduled to be retired by September 2024 at the latest. Confirmation required this applies for the bus-ULEZ and citywide. ZEBRA2 funding bid for 16 electric buses was successful. ZEBRA3 adds to this.	Buses and coaches not used for time-tabled routes, such as tourist services, rail replacement and driver training could be older and have higher emission rates that do not comply with zero or bus-ULEZ. This is a small proportion compared to the regular 300+ buses used on frequent time-tabled routes.
2c	Exhaust retrofit of middle age buses (oldest vehicles retired first)	Vehicle Fleet Efficiency	Promoting Low Emission Public Transport	2013	2023	BHCC City Transport, Public Transport Team, Bus Operators	DfT Clean Bus Transport Fund, DEFRA Air Quality grant	YES	Funded	£1 million - £10 million	Completed Late 2023	Contributory factor in the above measured improvement	Improved air quality, bus-ULEZ compliant bus fleet.	150 double-deck and minibuses retrofitted. Series of projects completed.	Next step is to increase percentage of the fleet (buses and taxis) that are zero emission (without exhaust). Essential to cease further procurement of diesel buses.
2d	Better aligned wheel tracking	Vehicle Fleet Efficiency	Fleet efficiency and recognition schemes	2022	2027	BHCC City Services and Imperial University of London	University	NO	Partially Funded	£50k - £100k	Planning	1 to 2 µg/m3 PM2.5	Reduced particulate emissions.	Preliminary discussion with bus operator and university no resource to take further since 2024, to be reviewed	Monitoring potential benefits causality hard to prove.

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2e	Ultralow or zero emission zone for all vehicle types	Promoting Low Emission Transport	Other	2023	2027	BHCC City Services	BHCC	NO	Not Funded	£1 million - £10 million	Monitoring compliance with ULEZ	Target: 100% compliance with bus-ULEZ Euro-VI emission standard and increasing proportion of zero emission vehicles	Improved air quality, reduced vehicle journeys, increased active travel journeys	Network of vehicle category cameras installed 2024 indication of current and changing pattern of fuel types.	Benefit diminishes as a higher proportion of vehicles achieve ULEZ standards without direct intervention
2f	Promoting e-cargo bikes	Freight and Delivery Management	Other	2020	2027	BHCC City Services	BHCC (Carbon Neutral Fund)	NO	Funded	£100k - £500k	Implementation	1 to 2 µg/m3 depending on the number of diesel vehicle trips saved	Reduced vehicle use in AQMAs and increased cycle use	More than thirty businesses switched from petrol and diesel delivery vehicles	Continuation of funding required, as cost and benefit improve.
2g	Geo-referenced hybrid buses	Vehicle Fleet Efficiency	Promoting Low Emission Public Transport	2018	2027	BHCC City Services, Bus Operators, Ricardo, University of Sussex	Bus Operators and Innovate UK	NO	Funded	£1 million - £10 million	Completed	Estimated 1 to 7 µg/m3 NO2 saved in areas targeted for hybrid zero capable	AQMA NO2 reduction along bus scheduled bus routes	54 double deck buses zero capable since late 2019. Used in AQMAs except the Lewes Road corridor. Also used on Upper North Street during the 2023 eastbound diversion.	Not available for the full regular bus fleet about 300 vehicles. Further zero emission buses scheduled for 2026.
2h	Fast and rapid electric chargers for vehicles (taxis, cars and vans)	Transport Planning and Infrastructure	Public transport improvements-interchanges stations and services	2019	2027	BHCC City Services, Parking	Office of Zero Emission Vehicles and City Services, Parking	NO	Funded	£130 million	Implementation	Estimated 1 to 3 µg/m3 NO2 as the proportion of vehicle trips that are zero increases	Inclusive on-street facilities.	Secured Local Electric Vehicle Infrastructure (LEVI) funding the largest level 1 contract	Funding committed to 2040. BHCC progressing to one of the top authorities in the UK for EV charging facilities.
2i	Zero exhaust emissions for last mile deliveries	Freight and Delivery Management	Freight Partnerships for city centre deliveries	2022	2027	BHCC City Services, Planning	SMEs	NO	Not Funded	£500k - £1 million	Implementation	Estimated 1 to 5 µg/m3 where roadside NO2 is high.	Reduced diesel emissions from lorries in AQMAs	Increased use of e-bikes and e-vans for deliveries.	Funded e-cargo bike project helps to facilitate this measure.
2j	Anti-idling	Environmental Permits	Introduction/increase of environment charges through permit systems and economic instruments	2023	2027	BHCC Environmental Enforcement	BHCC Environmental Enforcement	NO	Funded	£50k - £100k	Completed	1 to 2 µg/m3 NO2 long term much more short term	Increased public awareness re: cleaner vehicles and impacts on health	Committee approved enforcement in June 2023 to start January 2024. Signage updated. Enforcement Team ask vehicles to be switched off. Regulatory enforcement in place via FPN's.	Barriers to implementation overcome. At least one fine issued to a persistent offender.
2k	Explore emissions-based parking charges	Environmental Permits	Introduction/increase of environment charges through permit systems and economic instruments	2022	2027	BHCC City Services, Parking	BHCC City Services, Parking	NO	Partially Funded	£50k - £100k	Planning	1 to 2 µg/m3 NO2 long term	Fewer high NOx vehicle trips in the city	Citywide parking review underway	Requires consideration of Euro emission standards and zero emission capability, rather than be solely based on vehicle taxation band and CO_2.

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3a	Air quality monitoring and public reports.	Public Information	Via the Internet	2012	2027	BHCC City Services, Air Quality	BHCC City Services (Carbon Neutral Fund), DEFRA AQ grant	YES	Funded	£100k - £500k	Implementation	1 µg/m3 NO2 long term	Increased awareness of air quality and progress in improvements	BHCC Annual Status Reports submitted to DEFRA on time every year and regular communications/messaging issued. Real-time new for 2024	Requires earlier issue of ASR templates than April to start drafting and engaging on reports sooner. Contractors to complete data ratification earlier in the year
3b	Real-time sensors	Public Information	Via the Internet	2022	2027	BHCC City Services, Air Quality	BHCC City Services, Air Quality	YES	Funded	£100k - £500k	Completed	1 to 2 µg/m3 PM2.5 long term	Increased awareness of AQ levels and forecasts e.g. number of website hits	Procurement completed and network operational since August 2024	Fifty sensors installed as planned. Additional costs of installing sockets on lamp columns/installing new posts and solar panels
3c	Community Engagement at schools and events	Public Information	Other	2019	2024	Sussex Partnership and Sustrans	DEFRA AQ grant and AQ officer	YES	Funded	£50k - £100k	Completed	1 µg/m3 NO2 long term	Improved awareness of children and adults	Engagement with schools and events countywide, final report delivered	No funding to continue. Further engagement relates to measure 3b.
3d	Communication on reducing domestic smoke	Public Information	Via the Internet	2012	2027	BHCC City Services, AQ and communications	BHCC City Services, AQ, Regulatory Services and Communications	NO	Partially Funded	£10k - 50k	Implementation	1 µg/m3 PM2.5 long term	Reduced smoke complaints, improved air quality, greater use of cleaner home heating	Seasonal communications and officer training. Clean Air night promoted – each year. Active engagement by Regulatory Officers within SCA's	Seek cleaner options without emissions to air.
3e	Public information campaign on air quality and health	Public Information	Via the Internet	2022	2027	BHCC City Services and public health	BHCC City Services, AQ and public health	NO	Funded	£10k - 50k	Implementation	1 µg/m3 PM2.5 long term	Improved awareness of children and adults	Feedback to Sussex asthma children's network, health protection screening forum and the health and wellbeing board and input to JSNA	Regular partnership working with public health consultants and the DPH team
3f	Promote Air-alert	Public Information	Via the Internet	2012	2024	Sussex AQ Partnership	Sussex Air	NO	Funded	< £10k	Completed	relates to avoiding exposure	Number of subscribers	Established	AQ index and colour scheme requires modernisation to align with AQAP targets
3g	Move for change campaign	Public Information	Other	2019	2027	BHCC City Services, Transport Planning	BHCC City Services, Transport Planning	NO	Funded	£10k - 50k	Implementation	Encourages active travel as an alternative for some journeys	Increased walking, wheeling and cycling	Continued public engagement via the Betterpoints app	Opportunity to tie in with real-time project measure 3b
4a	Ensure development has positive influence on AQ	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2022	2027	BHCC City Services, Air Quality and Planning	BHCC as Local Planning Authority	NO	Partially Funded	£1 million - £10 million	Implementation	1 to 7 µg/m3 NO2	Design that achieves better than negligible impact and avoids emissions	Reduced parking spaces, increased charging points, electric heating systems for communal and domestic developments	Development needs to continue to improve the city's environment

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4b	Improve street air flow (ventilation) entrain fresh air and avoid enclosure of emissions	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2022	2027	BHCC City Services, Air Quality and Planning	BHCC as Local Planning Authority	NO	Partially Funded	£1 million - £10 million	Implementation	2 to 5 µg/m3 NO2	Air quality mitigation on developments is standard.	Ensuring good design avoids creating or reinstating street canyons by designing gaps and setbacks	Delivering high density development in constrained locations and providing public amenity space
4c	Construction Environmental Management Plans (CEMPs)	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2021	2027	BHCC City Services, Transport & Highway Development and Planning	BHCC as Local Planning Authority and Local Highway Authority	NO	Funded	£100k - £500k	Implementation	1 to 2 µg/m3 PM2.5 and NO2	Reduction of HGV emissions in the AQMA and reduced use of diesel generators	Ensuring use of Euro-VI HGVs, and route plans take account of AQMAs	Ensuring compliance with CEMP requirements
4d	Improved emission standards for Non-Road Mobile Machinery	Policy Guidance and Development Control	Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduce emissions and improve air quality	2022	2027	BHCC City Services and Planning, Sussex Air	BHCC	NO	Partially Funded	£100k - £500k	Implementation	1 to 4 µg/m3 PM2.5 and NO2	Reduced emissions, reduced complaints	Conditions applied to major planning applications	Funding required to enforce more stringent standards in 2025. More ambitious comments on planning applications.
4e	Adoption and application of planning policy	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2022	2027	BHCC City Services, Air Quality and Planning	BHCC as Local Planning Authority and Local Highway Authority	NO	Funded	£50k - £100k	Completed	1 to 3 µg/m3 NO2, especially development areas and special areas	Adoption of City Plan Part1 and Part 2 and planning polices	Review of city design code paused due to City Council's Financial Position	A number of policy hooks to reduce development control impacts and achieve positive benefits to reduce emissions and local air quality
4f	Development provides facilities to promote active and zero emission travel	Policy Guidance and Development Control	Other policy	2022	2027	BHCC City Services and Planning, Sussex Air	Developer	NO	Funded	£100k - £500k	Completed	1 to 2 µg/m3 NO2	Reduced emissions, increased active travel journeys	Facilities to mitigate impacts and support active travel are secured on-site or via Section 278 Agreements and CIL for off-site works	Typically, new developments include bicycle parking
4g	Ensure certain developments produce a travel plan	Policy Guidance and Development Control	Other policy	2022	2027	BHCC City Services and Planning, Sussex Air	Developer	NO	Funded	£100k - £500k	Implementation	1 µg/m3 NO2	Reduced emissions, increased active travel journeys	Travel plans secured as part of planning permissions	Ensuring compliance with planning conditions and monitoring requirements
4h	Ensure development meets Part S of the Building Regulations for electric vehicle charging points	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2022	2027	BHCC City Services and Planning, Sussex Air	Developer	NO	Funded	£100k - £500k	Implementation	1 to 2 µg/m3 NO2, rising to more as uptake of EV increases and diesel diminishes	Reduced emissions, increased uptake of EVs	Conditions applied to planning permissions	Legislation introduced in 2021

Measure No.	Measure Title	Category	Classification	Year in AQAP	Estimated Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
4i	Ensure major developments avoid emissions in accordance with energy hierarchy for net carbon and avoid oxide of nitrogen emissions in and around AQMAs	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2022	2027	BHCC City Services, Air Quality, Sustainability and Planning	Developer	NO	Funded	£500k - £1 million	Implementation	1 to 2 µg/m3 NO2	Continued reduction in emissions and air quality indoors and outdoors	Provision secured to ensure cleaner developments for vehicles and energy prioritise non combustion renewables Indoor and outdoor ventilation. Improve energy efficiency with building fabric upgrades. decarbonisation of home heating.	Work towards 2025 Future Home Standards
4j	Smoke control, cleaner home heating and waste disposal to avoid burning	Public Information	Via the Internet	2022	2027	BHCC Regulatory Services and Environmental Enforcement	Regulatory Services	NO	Partially Funded	£10k - 50k	Implementation	1 to 4 µg/m3 PM10 short term	Reduced particulate levels, increased awareness of smoke	Discussions with DEFRA. Legal and Trading Standards DEFRA survey on public perceptions	New legislation in 2021, followed by further guidance.
4k	Better citywide smoke control, training for officers to enforce domestic smoke	Policy Guidance and Development Control	Other policy	2022	2027	BHCC Regulatory Services and Environmental Enforcement	DEFRA for LAs with SCAs	NO	Partially Funded	£10k - 50k	Planning	1 to 4 µg/m3 PM10 short term	Reduced particulate emissions, reduced smoke complaints	Officer participation in DEFRA training. Promotion of clean air night. Cosy killer campaign to discourage solid fuel burning amongst highest density housing.	Limited funds available from 2023 to 2025
4l	Reduce or avoid emissions due to events and street vendors in the city	Environmental Permits	Other	2022	2027	BHCC Event Management	Permit process	NO	Partially Funded	£50k - £100k	Implementation	1 µg/m3 NO2 and 1 to 2 µg/m3 PM2.5 short term	Reduced complaints, reduced lorry and van emissions and firework use	Infrastructure installed in event locations (plugged-in places that do not have emissions to air). Drone displays instead of fireworks (which include smoke and metals)	Grants required for larger events for example increased sub-station capacity The Level and Preston Park

Measure No.	Measure Title	Category	Classification	Year in AQAP	Estimated Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
4m	Alternatives to gas, diesel, biomass, oil, and coal combustion including ultra-low NOx gas boilers. Avoid the impacts of chimneys and flues.	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2018	2027	BHCC City Services, Air Quality and Planning	Development Control	NO	Funded	£50k - £100k	Completed	2 to 5 µg/m3 NO2 citywide (less in the South Downs National Park)	Increased number of ultralow emission boilers and zero emission alternatives such as electric	Seek avoidance of gas, biomass, oil, diesel, coal combustion in and around AQMAs.	Opportunities for residents and non-domestic properties to come off fossil fuel. School conversion from gas boilers to air source heat pumps. No new planning permissions for biomass or fossil fuel combustion. Swimming pool upgrade, aiming to be without combustion.
4n	Shoreham gas fired power station EPR part-A permit to control emissions	Environmental Permits	Large Combustion Plant Permits and National Plans going beyond BAT	2012	2027	Environment Agency	Permit fee	NO	Funded	£50k - £100k	Completed	1 to 2 µg/m3 NO2 West Portslade	Permit renewed	Established permit process (pre-dates 2012 the earliest date in the DEFRA table).	Permit conditions for NOx. Consultation on investment to extend life of major gas combustion near AQMA3
4o	Two Crematorium EPR, part B permits to control emissions	Environmental Permits	Measures to reduce pollution through IPPC Permits going beyond BAT	2012	2027	BHCC Regulatory Services	Permit fee	NO	Funded	< £10k	Completed scope for further improvement	1 µg/m3 NO2 & >1 µg/m3 PM2.5 in the vicinity of Woodvale crematorium	Permit renewed annually. Reduced mercury emissions. Woodvale seeking to install abatement plant to align with BAT and GN	Established annual process.	Include contributions in detailed AQ assessment. Aim to explore electrification of crematoria.
5a	Partnership Working Internal	Other	Air Quality Planning and Policy Guidance	2022	2027	BHCC Air Quality, Transport, Communications, Education, Regulatory Services, Public Health, Environmental Enforcement	BHCC, Air Quality	NO	Funded	£50k - £100k	Implementation	N/A	Successful collaborative working that achieves the relevant goals in the Council Plan 2023-2027 and reduces emissions.	Continuation of regular meetings BHCC Transport, Air Quality and Public Health officers	Availability of resources required to deliver continuous improvement and undertake air quality assessment

Measure No.	Measure Title	Category	Classification	Year in AQAP	Estimated Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
5b	Partnership Working External	Other	Via the Internet	2022	2027	BHCC Air Quality, Contractors, Universities, Sussex Air, Bus Operators, Environment Agency, DEFRA, DfT, National Highways, NHS	Sussex AQ Partnership	NO	Funded	£10k - 50k	Implementation	N/A	Regular Sussex Air Quality Partnership meetings, successful DEFRA funding bids	Delivered at a local authority level since the mid-1990s Joint ventures help to support and deliver economies of scale and funded projects. New data management contract scheduled for later 2025	Requires revenue for officer time, to access and manage funding and collaborate with partners
5c	Continue to lobby government to adopt 2021 WHO guidelines for $PM_{2.5}$ and NO_2 or EU interim targets in order to continue progressive improvement in air quality where people live.	Other	Other	2022	2027	BHCC, Air Quality leading Sussex partners. Working with DEFRA's local authority advisory group on air quality.	BHCC, Air Quality	NO	Funded	< £10k	Implementation	N/A	Adoption of health-based EU and WHO guidelines and health protections by government. Cleaner air for infirmaries recommended for devolved administrations	Responses to consultations on future air quality standards and reporting processes. Real-time network will provide awareness of most recent concentrations and daily variations.	Requirement for reporting long term air quality to compare against health protections. Exemplar authorities include GLA, Greater Oxford and Cambridge.

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

As detailed in Policy Guidance LAQM.PG22[7] (Chapter 8) and the Air Quality Strategy for England[8], local authorities are expected by DEFRA to work towards reducing emissions and/or concentrations of fine particulate matter ($PM_{2.5}$). There is 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. For the urban area $PM_{2.5}$ is less concentrated than NO_2. At regional background monitoring stations such as the SNDP, prevailing levels of NO_2 and $PM_{2.5}$ show closer agreement. In that scenario the gram for gram health impact of $PM_{2.5}$ will be greater. The mix of gases and particles in air, including smoke will be most influential for respiratory health, underlying health conditions, overall wellbeing, and athletic performance.

Microscopic airborne particles are defined by size, not composition or toxicology. When inhaled they can be drawn deep into the respiratory tract, crossing over into the blood stream and vital body parts. $PM_{2.5}$ is reffered to in section 6.49 of the Joint Strategic Needs Assessment (JSNA)[9] and is linked with the Public Health[10] Outcomes Framework (PHOF)[i]. PHOF sets out a vison for public health "to protect the nations health and improve the health of the poorest fastest".

Once emitted to air $PM_{2.5}$ travels long distances. Brighton & Hove City Council in conjunction with partners and national initiatives supports the following multidisciplinary measures to reduce $PM_{2.5}$ Citywide and further afield:

- Funds won to deliver an expanded Sussex particulate monitoring network for $PM_{2.5}$ and PM_{10}, and related pollutants and to support real-time sensors across the city. Supported by DEFRA air quality grant and internal Brighton & Hove funds.
- In the interests of communal health, the council issued a series of public statements discouraging indoor and outdoor domestic burning during the Covid-19 pandemic[11]. The new hard hitting cosey killer campaign that run for the 2024/25 heating season similarly to cigarette cessation campaigns[12]. Since ultra-low sulphur fuel, diesel particulate traps and petrol three-way catalysts, reduce the particulate and dust impact of road traffic, solid fuel has become one of the most important sources of particles in residential areas.

[7] LAQM-Policy-Guidance-2022.pdf

[8] The air quality strategy for England - GOV.UK

[9] Health and wellbeing needs in Brighton & Hove Joint Strategic Needs Assessment (JSNA)

[10] Public Health | LAQM

[11] Please think twice about fires - indoors or outdoors!

[12] Wood burners and open fires – the cosy killer

- BHCC responds to smoke complaints with consideration of statutory nuisance[13], for more severe cases, consideration of five smoke control areas. It is an offence to emit persistent visible smoke from a building chimney in a smoke control area.
- Members have requested that officers research the advantages of Smoke Control Areas (SCA). Parliament approved amendments to the Environment Act (2021) sets out stronger powers for Local Authorities. Over three years DEFRA has allocated modest funds to Brighton & Hove, Environmental Health for awareness raising or enforcement of its existing SCAs. Officer training on smoke control is available. Workshop and consultation engagement continues with DEFRA and the Local Authority Air Quality Advisory Board
- Further press releases on reducing seasonal burning outlining the risks of air pollutants due to bonfires in the city. High particulate episodes have recorded on around November bonfire night, especially in Lewes, East Sussex
- The Berth Zero project[14] at Shoreham-by-Sea, allows trawlers to plug into to scaled up charging facilities avoiding the particulate emissions to Aldington Basin and West Portslade near the boundary of West Sussex and Brighton & Hove
- The phasing out of pre-euro-V emission standard buses (registered before October 2008) reduces particulate emissions from frequent buses. Limited older buses continue including, Metrobus and rail replacement services, driver training or heritage days. City council, taxi and haulage fleets have also made progress in phasing our pre-euro five vehicles.
- At the time of 2024 monitoring 85% of regular bus services meet or surpass the ULEZ, euro-VI emission standard that targets reduction in oxides of nitrogen that are precursors to the formation of nitrate particles in the atmosphere, help reduce N2O a potent greenhouse gas. Our aim is for 100% of buses on scheduled routes to a minimum of euro-VI mid-2025.
- The electrification of bus fleets, will progress with funding from ZEBRA II[15] and III in 2026
- National initiatives to reduce ammonia from agriculture[16]
- 20mph, smooth flow and prioritised road surface help reduce tyre, brake, and road wear in the AQMAs amongst high population density.
- Improved pavement footways to facilitate urban walking, inclusive access to the national park for fresh air.
- New cycle lanes to promote cycling.

[13] Statutory nuisances: how councils deal with complaints - GOV.UK

[14] Shoreham Port secures £500,000 grant for innovative 'Berth Zero' project - Shoreham Port

[15] Zero Emission Bus Regional Areas (ZEBRA) 2 scheme

[16] £3m support scheme launched to reduce air pollution from farming - GOV.UK

- New ANPR cameras will determine fuel type and characterise vehicles by emission type, for example: low, ultralow, hybrid and zero. The AQMA camera network can also determine vehicle weights: one of the main influences in the rate of road wear.
- The Council is in talks with University of London regarding improving wheel alignment and tyre pressure to reduce tyre and road wear and particulate releases to air.
- Construction Environment Management Plans have progressively more stringent emissions standards for Non-Road Mobile Machinery (NRMM) that includes bulldozers, dumpers and cranes. Emissions standards enforced with planning conditions, especially on major projects in development areas, and in AQMAs. For long-term construction projects spanning winter-summer seasons and full calendar years, stricter emission conditions are recommended NRMM, HGV and LGV. Examples of electric cranes at construction sites in Brighton & Hove
- Aim is to avoid static diesel generators at buildings, roadworks, and events, especially those in the city centre that are likely to last days.
- To complement Defra's automatic urban rural monitoring network (site at Preston Park) the City Council has monitored $PM_{2.5,}$ since 2025. PM_{10} has been reintroduced 2024, to provide data for long term trends in the future.

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

This section sets out the monitoring undertaken within 2024 by Brighton & Hove City Council and how it compares with the relevant air quality standards. In addition, monitoring results 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

Brighton & Hove City Council undertook automatic (continuous) monitoring at four sites during 2024, up from two the previous year to six connected early 2025. Table A.1 in Appendix A shows the details of the automatic monitoring sites, active in 2024. The Sussex Air page[17] presents automatic monitoring results for Sussex with Automatic Urban Rural Network results available through the UK-Air website[18].

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

3.1.2 Non-Automatic Monitoring Sites

Brighton & Hove City Council undertook non-automatic (i.e. passive) monitoring of NO_2 at sixty-one diffusion tube sites during 2024, three of these were triplicate co-located studies. There were 55 separate locations. A real-time network of fifty sensors installed during 2024, and fully operational by August of that year. Forty of the sensors are within Brighton & Hove City Council with additional sites close to the boundary, for example Falmer Village, Newhaven, Shoreham by Sea and other parts of the SNDP. Whilst a detailed look at the first few months is not part of the scope of this report, analyses of particulate levels during the heating season, is included. 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 and Brighton & Hove and Sussex Real-Time Air Quality Portal . 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.

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[17] Sussex-air :: Promoting better Air Quality in Sussex :: sussex-air.net :: Home

[18] Data Archive - DEFRA UK Air - GOV.UK

3.2.1 Nitrogen Dioxide (NO_2)

Table A.3 and Table A.4 in Appendix A compare the ratified and adjusted monitored NO_2 annual mean concentrations for the past five years with the air quality standard of 40µg/m^3 and further targets. 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 by DEFRA technical guidance TG22 (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 provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant. Monitoring indicates AQMA1, namely: A270, A23 and B2066 comply with UK standards, however these travel corridors are “near miss” (within 10%) and at this stage. To achieve beyond all reasonable doubt long established NO_2 legal levels, concentrations will need to surpass 36 µg/m^3. Both 2023 and 2024 monitoring results indicate concentrations are less than 40 µg/m^3, with certain parts of AQMA1 within 10% of that level. Since 2020 (and after the influence of Covid-19 on travel patterns) better news elsewhere, full details and accessible explanations, provided in the trend charts set out below. Since thousands of people live at roadside there are still substantial health benefits from reducing long term roadside concentrations of pollutants. Levelling up will reduce inequalities compared to clean air monitored across suburbs and the countryside (referred to background in the technical guidance because locations are not adjacent to a port, industry, or road).

Not included this year is the table of hourly NO_2 exceedances; there have been none for five years. We progress onto refreshed hourly and 24-hour targets as set out by the World Health Organisation (WHO). Comparisons with these in the Sussex network report published by Bureau Veritas[19].

3.2.2 Particulate Matter (PM_{10})

Between 2015 and 2023 Brighton & Hove has monitored $PM_{2.5}$ instead of PM_{10}. PM_{10} monitoring has resumed 2024. This course fraction of airborne particulate was more likely to comply with national standards. Local emissions tend not to travel far, falling out of the atmosphere and depositing near to the source. The preference for $PM_{2.5}$ monitoring aligned more closely with Public Health Outcome Framework. Since funding has been allocated, BHCC and Sussex are scheduled from 2024 onwards to monitor both:

- PM_{10} throat and upper respiratory impacts with contributions from local emission sources
- $PM_{2.5}$ influence on the blood stream when inhaled with contributions from local, regional, and international emission sources (direct particles and gases)
- Analysers have dual filters that enables calculations of both PM_{10} and $PM_{2.5}$
- Real-time sensors (local network from 2024) with monitoring certification (MCERTS) can detect indicative PM_{10} and $PM_{2.5}$ and the even smaller PM_1

[19] https://sussex-air.net/wp-content/uploads/2025/04/AIR13115731-Sussex-Annual-Air-Quality-Monitoring-Report-2024_v1.1.pdf

Early indications suggest PM_{10} 15 µg/m^3 at Lewes Road near the bottom of Elm Grove and 10 µg/m^3 at Preston Park. Further information on long term $PM_{2.5}$ given in the next section.

3.2.3 Particulate Matter ($PM_{2.5}$)

Table A.6 in Appendix A presents the ratified and adjusted monitored $PM_{2.5}$ annual mean concentrations for the past five years. Recorded annual means in 2024 are between 8 and 9 µg/m^3. Lewes Road near the bottom of Elm Grove shows slightly higher concentrations. It anticipated further annual results (to compare with targets) will be available in twelve months.

3.2.4 Sulphur Dioxide (SO_2)

Sulphur Dioxide levels have been found to comply with national standards and world health guidelines across the Greater Brighton area. New monitoring towards the end of 2024 suggests city and portside levels are not higher than the county generally. Reduced coal burning, ultralow sulphur petrol and diesel road fuel (2007) and fewer diesel trains have helped bring down levels of sulphurous gas and particles. Cleaner ship fuels and electrification will also help. The University of Brighton received a £250K research fund for monitoring. Results for SO_2, particles and other pollutants can be found at: Air Quality - last 24 hours (brighton.ac.uk). The monitoring station is in a field at Falmer (south of the A27 road and Brighton to Lewes railway) and included in the summary appendix of Brighton & Hove automatic analysers.

New for 2024 BHCC has introduced SO_2 monitoring in AQMA1 (Hollingdean Road) and AQMA3 (set back from the A259 and Aldrington Basin, part of Shoreham Port). This can monitor progress in the reduction of marine emissions set out in the national air quality strategy and local zero emission projects. Results can be compared to the Automatic Rural Network (AURN) monitor at Lullington Health, in the South Downs National Park.

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)
BH0	Preston Park	Urban Background	530523	106226	NO2, PM2.5, PM10	No	N/A	Chemiluminescent for NOx, BAM for Particles	225.0	180.0	4.0
BH10	North Street near Ship Street	Roadside	530995	104271	NO2, PM2.5, PM10	Yes	AQAM1-B2066	Chemiluminescent for NOx, TEOM for Particles	0.0	6.0	3.0
BH11	Lewes Road near Elm Grove	Roadside	531845	105333	NO2, PM2.5, PM10	Yes	AQMA1-A270	Chemiluminescent for NOx, FDMS DF for PM	0.0	2.0	3.0
BH12	Hollingdean Road	Roadside	532028	105942	NO2, SO2, CO2	Yes	AQMA1--C Link	As above for NOx, UV fluorescence for SO2	0.0	3.0	3.0

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).

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)
A23 C01-2020	Old Steine St James Street	Roadside	531361	104040	NO2	No Valley Gardens III Project not in AQMA	0.0	8.0	No	4.0

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)
A23 C02-2022	Old Steine West	Roadside	531255	104062	NO2	AQMA1 B2066 Bus-ULEZ	0.0	7.0	No	2.5
B2066 C04-2010	Castle Square	Roadside	531228	104088	NO2	AQMA1 B2066 Bus-ULEZ	0.0	5.7	No	3.0
C05-2012	Pavilion Gardens	Urban Background	531230	104260	NO2	Central Brighton Background not in AQMA	0.0	102.0	No	2.0
B2066 C10-2012	North Street Ship Street	Roadside	530995	104271	NO2	AQMA1 B2066 Bus-ULEZ	0.0	6.1	No	3.5
B2066 C11-2007	North Street Central	Roadside	530947	104284	NO2	AQMA1 B2066 Bus-ULEZ	0.0	6.5	No	3.0
B2066 C11-2012	North Street Windsor	Kerbside	530890	104302	NO2	AQMA1 B2066 Bus-ULEZ	3.5	1.5	No	2.5
A2010 C12-2010	Queens Road South	Roadside	530900	104451	NO2	AQMA1 A2010	0.0	4.2	No	3.0
A2010 W01-2005	Queens Road North	Roadside	530969	104785	NO2	AQMA1 A2010	0.0	4.2	No	2.5
C-Link C13-2014	Lower Dyke Road	Roadside	530770	104363	NO2	AQMA1 B2066 Bus-ULEZ	0.0	4.5	No	3.0
A23 C09-2005	Marlborough Place	Roadside	531302	104392	NO2	AQMA1 A23	0.0	4.3	No	2.5
A23 C16-2013	York Place	Roadside	531400	104844	NO2	AQMA1 A23	0.0	4.9	No	2.5

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
A23 C17-2012	Cheapside	Roadside	531364	104982	NO2	AQMA1 A270	0.0	3.4	No	2.5
A23 C18-2019	London Road Brunswick Row	Roadside	531369	105042	NO2	AQMA1 A23	2.0	2.0	No	2.5
A23 C18-2010	Oxford Street London Road	Roadside	531373	105136	NO2	AQMA1 A23	0.0	3.0	No	2.5
A23 C19-2021	Oxford Street Ditchling Road	Roadside	531472	105161	NO2	AQMA1 A23	0.0	3.3	No	2.5
A23 C20-2005	Ditchling Road Viaduct Road	Roadside	531496	105315	NO2	AQMA1 A23	0.0	4.7	No	3.0
A23 C21-2005	Viaduct Terrace	Roadside	531451	105356	NO2	AQMA1 A23	0.0	3.6	No	3.0
A23 C23-2005	London Road Rose Hill	Roadside	531189	105375	NO2	AQMA1 A23	0.0	5.4	No	2.5
A270 C24-2015	New England Road Elder Place	Roadside	531101	105443	NO2	AQMA1 A270	0.0	3.6	No	3.0
A270 C25-2010	New England East	Roadside	530985	105419	NO2	AQMA1 A270	0.0	3.5	No	3.5
B2199 C28-2010	Frederick Place North Laine	Suburban	531032	104843	NO2	AQMA1 B2199	0.0	2.8	No	3.5
A23 E01-2016	Preston Road Preston Circus	Roadside	531101	105498	NO2	AQMA1 A23	0.0	2.5	No	2.5
A23 E02-2009	Preston Road Preston Drove	Roadside	530233	106515	NO2	AQMA5 A23	0.0	4.0	No	2.5

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube Co-located with a Continuous Analyser?	Tube Height (m)
C-Link E02-2012	The Drove South Street	Roadside	530063	106368	NO2	AQMA5 C-Link	0.0	2.6	No	2.5
A23 E06-2020	Beaconsfield Road	Roadside	531107	105595	NO2	AQMA1 A23	0.0	3.8	No	2.0
A270 E07-2019	Lewes Road north Elm Grove	Roadside	531838	105349	NO2	AQMA1 A270	0.0	2.9	No	2.4
A270 BH11	Lewes Road New Co-Location	Kerbside	531845	105333	NO2	AQMA1 A270	2.0	1.5	No	2.5
A270 E08-1996	Lewes Road Inverness Road	Roadside	532090	105752	NO2	AQMA1 A270	0.0	4.4	No	2.5
A270 E10-2015	Vogue Gyratory Island	Roadside	532126	105838	NO2	AQMA1 A270	0.0	3.0	No	2.5
A270 E14-2019	Lewes Road Pelham Terrace	Roadside	532377	106314	NO2	AQMA1 A270	0.0	3.4	No	2.5
A270 E15-2012	Lewes Road Coombe Terrace	Roadside	532300	106159	NO2	AQMA1 A270	0.0	3.7	No	2.5
A23 E16-1996	Grand Parade North	Roadside	531465	104629	NO2	AQMA1 A23	0.0	4.4	No	2.5
A23 E16-2015	Grand Parade Middle	Roadside	531426	104514	NO2	AQMA1 A23	0.0	3.6	No	2.5
A23 E17-2003	Grand Parade South	Roadside	531394	104338	NO2	AQMA1 A23	0.0	5.0	No	2.0
C-Link E17-2018	Edward Street South Side	Roadside	531408	104233	NO2	AQMA1 C-Link	0.0	1.6	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)
C-Link E18-2021	Eastern Road Sudley Place	Roadside	532759	103810	NO2	AQMA6 C-Link	0.0	2.4	No	2.0
B2123 E22-2009	Rottingdean High Street East	Roadside	536970	102280	NO2	AQMA2 B2123	0.0	0.2	No	2.0
B2123 E23-2010	Rottingdean High Street West	Roadside	536966	102273	NO2	AQMA2 B2123	0.0	0.2	No	2.0
A259 E25-2018	Rottingdean Marine Drive	Roadside	537014	102238	NO2	AQMA2 A259	0.0	2.7	No	2.0
B2123 E30-2020	Rottingdean High Street Mid	Roadside	536947	102341	NO2	AQMA2 B2123	0.0	1.8	No	3.5
E32-2020	Rottingdean Sea Front	Urban Background	537011	102099	NO2	Rottingdean Background not in AQMA	0.0	112.0	No	3.0
A2010 W03-2006	Terminus Road Terrace	Roadside	530963	104994	NO2	AQMA1 A2010	0.0	3.5	No	3.5
A2010 W04-2006	Chatham Place	Roadside	530808	105340	NO2	AQMA1 B2122	0.0	3.4	No	2.5
A270 W05-2006	Old Shoreham Road Terrace	Roadside	530778	105362	NO2	AQMA1 A270	0.0	3.6	No	2.5
B2066 W10-2023	Western Road Sillwood Road	Roadside	530302	104415	NO2	AQMA1 B2066 Bus-ULEZ	0.0	4.5	No	2.4
B2066 W11-2020	Western Road	Roadside	530154	104444	NO2	AQMA1 B2066 Bus-ULEZ	0.0	4.0	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)
A259 W16-2020	Wellington Road East	Roadside	526233	104860	NO2	AQMA3 A259	0.0	3.0	No	3.0
2024 BH14	Next to 2025 Analyser installed later	Roadside	526235	104877	NO2	AQMA3 A259	3.0	3.0	No	2.5
A259 W17-2009	Wellington Road Church Road	Roadside	525931	104961	NO2	AQMA3 A293	0.0	3.0	No	3.0
A259 W18-2010	Vale Park	Urban Background	525970	105230	NO2	Portslade Background not in AQMA	0.0	97.0	No	3.0
A259 W19-2009	Trafalgar Road Portslade	Roadside	525658	105695	NO2	AQMA3 A293	0.0	3.9	No	2.5
A270 W20-2021	Old Shoreham Road Portslade	Roadside	525651	105870	NO2	AQAMA3 A270	1.0	2.5	No	2.5
A2023 W21-2010	Sackville Road North	Roadside	528388	105936	NO2	AQMA4 A2023	0.0	3.4	No	2.5
A270 W22 2024	Old Shoreham Sackville Road	Roadside	528421	105947	NO2	AQMA A270	1.0	3.0	No	2.5
LN2-2022	Lower Elm Grove Lewes Road	Roadside	531823	105287	NO2	For LTN pilot not in AQMA	0.0	2.5	No	2.5
LN4-2022	Roadside Elm Grove School	Roadside	532278	105233	NO2	AQMA1 A270	2.5	1.5	No	2.5

Notes:

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

(2) N/A if not applicable.

Table A.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
BH0	530523	106226	Urban Background	99.1	99.1	10.9	12.3	12.3	11	10.1
BH10	530995	104271	Roadside	99.6	99.6	32.6	29.3	Data not passed	26.9	26.3
BH11	531845	105333	Roadside	99	73.9				New for 2024	34
BH12	532028	105942	Roadside	99	46.1				New for 2024	24.1

☒ **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%).

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
A23 C01-2020	531361	104040	Roadside	75.8	75.8	25.1	26.0	25.6	22.1	22.6
A23 C02-2022	531255	104062	Roadside	86.8	86.8			28.9	24.2	22.7
B2066 C04-2010	531228	104088	Roadside	86.8	86.8	33.6	30.6	31.9	28.3	29.2
C05-2012	531230	104260	Urban Background	86.8	86.8	16.9	16.3	17.0	14.5	14.3
B2066 C10-2012	530995	104271	Roadside	86.8	86.8	32.3	29.9	31.2	28.7	27.4
B2066 C11-2007	530947	104284	Roadside	86.8	86.8	35.0	35.8	37.9	34.8	36.4
B2066 C11-2012	530890	104302	Kerbside	86.8	86.8	**51.2**	**47.6**	**49.4**	**41.7**	**42.6**
A2010 C12-2010	530900	104451	Roadside	86.8	86.8	30.4	29.1	31.8	27.3	29.3
A2010 W01-2005	530969	104785	Roadside	86.8	86.8	25.8	28.3	31.8	23.7	23.9
C-Link C13-2014	530770	104363	Roadside	79.3	79.3	31.2	29.1	29.4	27.7	29.9
A23 C09-2005	531302	104392	Roadside	86.8	86.8	27.5	28.1	26.8	25.4	26.2

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
A23 C16-2013	531400	104844	Roadside	86.8	86.8	26.6	28.5	29.8	27.8	29.0
A23 C17-2012	531364	104982	Roadside	86.8	86.8	37.5	35.0	34.4	33.6	31.0
A23 C18-2019	531369	105042	Roadside	86.8	86.8	**44.8**	39.1	37.5	36.2	36.3
A23 C18-2010	531373	105136	Roadside	86.8	86.8	39.7	36.6	39.1	35.1	36.7
A23 C19-2021	531472	105161	Roadside	40.1	40.1	29.0	31.2	29.9	25.3	26.3
A23 C20-2005	531496	105315	Roadside	86.8	86.8	31.0	29.9	30.5	24.8	24.2
A23 C21-2005	531451	105356	Roadside	86.8	86.8	36.5	36.3	34.3	31.0	30.9
A23 C23-2005	531189	105375	Roadside	86.8	86.8	30.6	28.3	28.5	24.5	25.0
A270 C24-2015	531101	105443	Roadside	86.8	86.8	38.3	37.5	36.9	33.4	32.6
A270 C25-2010	530985	105419	Roadside	86.8	86.8	38.6	37.5	37.9	33.8	33.2
B2199 C28-2010	531032	104843	Suburban	77.2	77.2	33.5	33.1	30.4	26.2	26.7
A23 E01-2016	531101	105498	Roadside	86.8	86.8	30.2	28.9	27.8	24.4	24.3
A23 E02-2009	530233	106515	Roadside	86.8	86.8	31.4	28.3	28.6	26.1	25.0

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
C-Link E02-2012	530063	106368	Roadside	78.5	78.5	35.7	34.4	32.8	28.4	28.7
A23 E06-2020	531107	105595	Roadside	86.8	86.8	27.5	27.0	28.4	25.6	25.6
A270 E07-2019	531838	105349	Roadside	86.8	86.8	**46.5**	**45.8**	**42.3**	38.3	37.9
A270 BH11	531845	105333	Kerbside	86.8	86.8					39.3
A270 E08-1996	532090	105752	Roadside	86.8	86.8	**42.5**	**41.1**	39.9	36.2	34.6
A270 E10-2015	532126	105838	Roadside	86.8	86.8	33.5	31.3	30.0	27.9	29.2
A270 E14-2019	532377	106314	Roadside	86.8	86.8	31.7	28.6	30.3	27.8	27.8
A270 E15-2012	532300	106159	Roadside	86.8	86.8	34.0	29.2	27.3	28.0	29.0
A23 E16-1996	531465	104629	Roadside	86.8	86.8	37.4	35.3	34.6	29.8	29.4
A23 E16-2015	531426	104514	Roadside	78.0	78.0	**41.4**	38.3	37.2	32.6	30.6
A23 E17-2003	531394	104338	Roadside	86.8	86.8	34.0	33.2	33.6	30.4	29.7
C-Link E17-2018	531408	104233	Roadside	86.8	86.8	36.2	33.8	31.7	31.5	30.6
C-Link E18-2021	532759	103810	Roadside	86.8	86.8		23.6	23.0	19.2	20.2

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
B2123 E22-2009	536970	102280	Roadside	86.8	86.8	28.4	26.6	26.9	23.9	24.3
B2123 E23-2010	536966	102273	Roadside	86.8	86.8	31.7	27.8	27.6	23.6	25.3
A259 E25-2018	537014	102238	Roadside	86.8	86.8	27.2	27.5	27.1	24.7	23.2
B2123 E30-2020	536947	102341	Roadside	86.8	86.8	26.0	25.8	26.3	23.1	21.0
E32-2020	537011	102099	Urban Background	86.8	86.8	13.5	12.2	13.3	11.6	10.9
A2010 W03-2006	530963	104994	Roadside	86.8	86.8	31.4	31.7	31.2	27.3	27.5
A2010 W04-2006	530808	105340	Roadside	86.8	86.8	31.8	28.6	31.5	28.7	28.2
A270 W05-2006	530778	105362	Roadside	86.8	86.8	34.0	34.0	34.7	31.0	30.0
B2066 W10-2023	530302	104415	Roadside	86.8	86.8				19.3	27.3
B2066 W11-2020	530154	104444	Roadside	86.8	86.8	26.7	26.6	27.0	24.4	22.8
A259 W16-2020	526233	104860	Roadside	86.8	86.8	35.9	30.6	32.5	27.7	27.1
2024 BH14	526235	104877	Roadside	86.8	86.8					19.9

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
A259 W17-2009	525931	104961	Roadside	78.2	78.2	35.4	34.2	36.4	32.1	25.4
A259 W18-2010	525970	105230	Urban Background	86.8	86.8	17.0	15.0	14.9	12.3	13.4
A259 W19-2009	525658	105695	Roadside	86.8	86.8	34.4	31.7	30.5	26.3	26.5
A270 W20-2021	525651	105870	Roadside	86.8	86.8		31.8	33.3	27.8	26.5
A2023 W21-2010	528388	105936	Roadside	86.8	86.8		28.3	30.0	25.1	25.5
A270 W22 2024	528421	105947	Roadside	86.8	86.8					25.6
LN2-2022	531823	105287	Roadside	78.5	78.5			38.4	27.5	27.7
LN4-2022	532278	105233	Roadside	78.5	78.5			23.5	19.4	18.5

☒ **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.

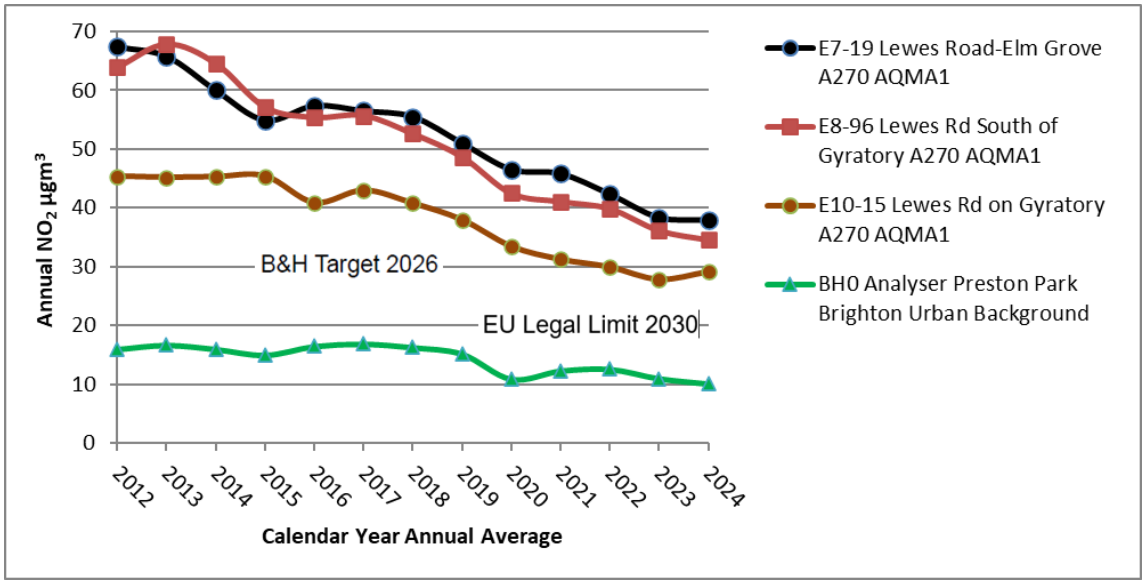
(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(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%).

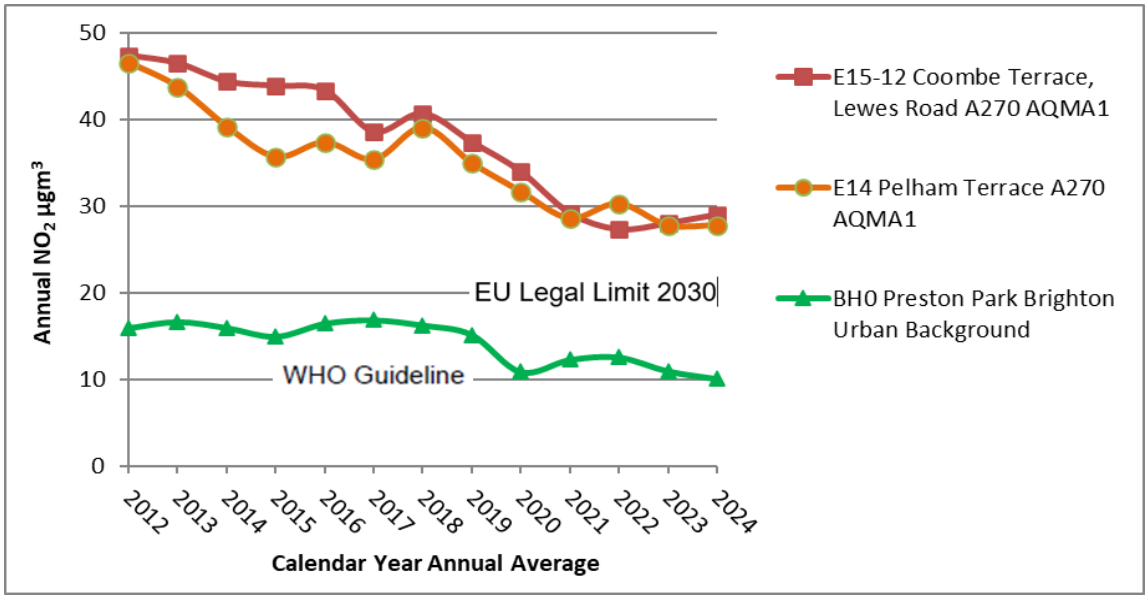
Figure A.1 – Longterm Trends in Annual Mean NO_2 Concentrations

Explanations of graphs in italics. A series of charts showing monitored Nitrogen Dioxide (NO_2 diffusion tubes) since 2012. Comparison with legal limits and staged targets. Areas or travel corridors with the highest concentrations first.

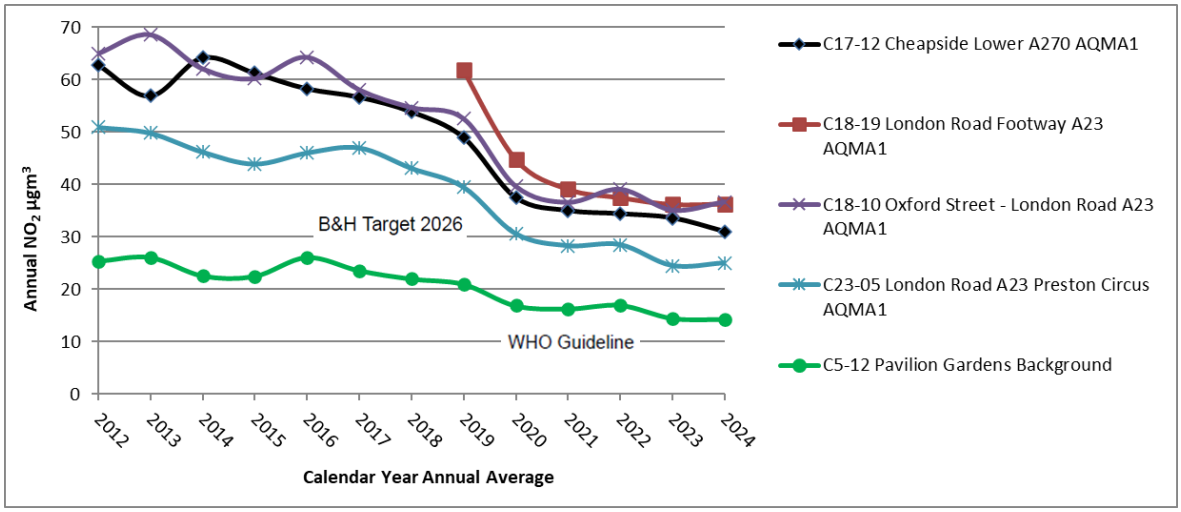
Trend graph presenting NO_2 AQMA1-A270 ***Lewes Road southwest of Gyratory.*** *2023 is the first year indicating compliance with UK standards throughout Brighton & Hove to be beyond all reasonable doubt levels must sustain for five years of -10% compared to the limit, <35.5* µg/m^3. *Improvement in pollution levels monitored along the Lewes Road since 2013.*



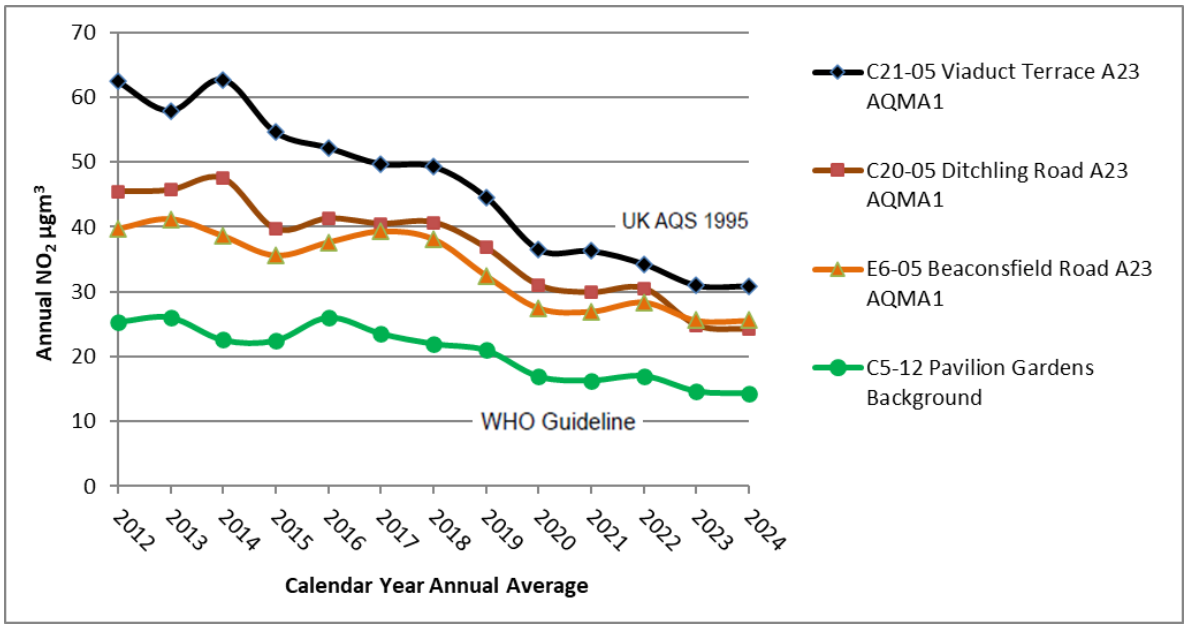
Northeast of the Vogue Gyratory recorded concentrations suggest no improvement in NO_2 annual averages since 2021. Further emission reductions (diesel vehicles and gas boilers) required to keep pollutant levels (NO_2) below UK standards and to achieve the AQAP target of 30 µg/m3, at all exposure locations (dwelling place where people spend time by 2026. Roadside results compared with background monitor at Preston Park.



Trend graph showing monitored NO_2 AQMA1-A23 ***London Road*** *showing long term improvement since 2014. 2021 was the first year UK air quality standards met in this area. Monitors suggest levelling in roadside concentrations 2023 & 2024. Emission reductions required to keep pollutant levels (NO_2) below UK standards and to meet the AQAP 2026 target of 30 µg/m³ at all locations. Results from roadside compared with local background. Traffic and pollution monitoring increased throughout the AQMAs 2024 and 2025.*



Trend graph showing monitored NO_2 AQMA1-A23 ***Viaduct Road area****, showing long term improvement since 2014. 2020 was the first year UK air quality standards met in this area. Monitors suggest levelling in roadside concentrations 2023 & 2024.*



*Trend chart in NO_2 in the **bus-ULEZ**, AQMA1-B2066 showing substantial improvement since 2013. Close to North Street-Windsor Street (southside) a smaller increase since 2020. 2020 was the first year UK air quality standards met in this area. Emission reductions including cleaner buses required to keep pollutant levels (NO_2) below UK standards and the more ambitious AQAP 2026 target of 30 µg/m³. Roadside concentrations compared to Pavilion Gardens, background.*

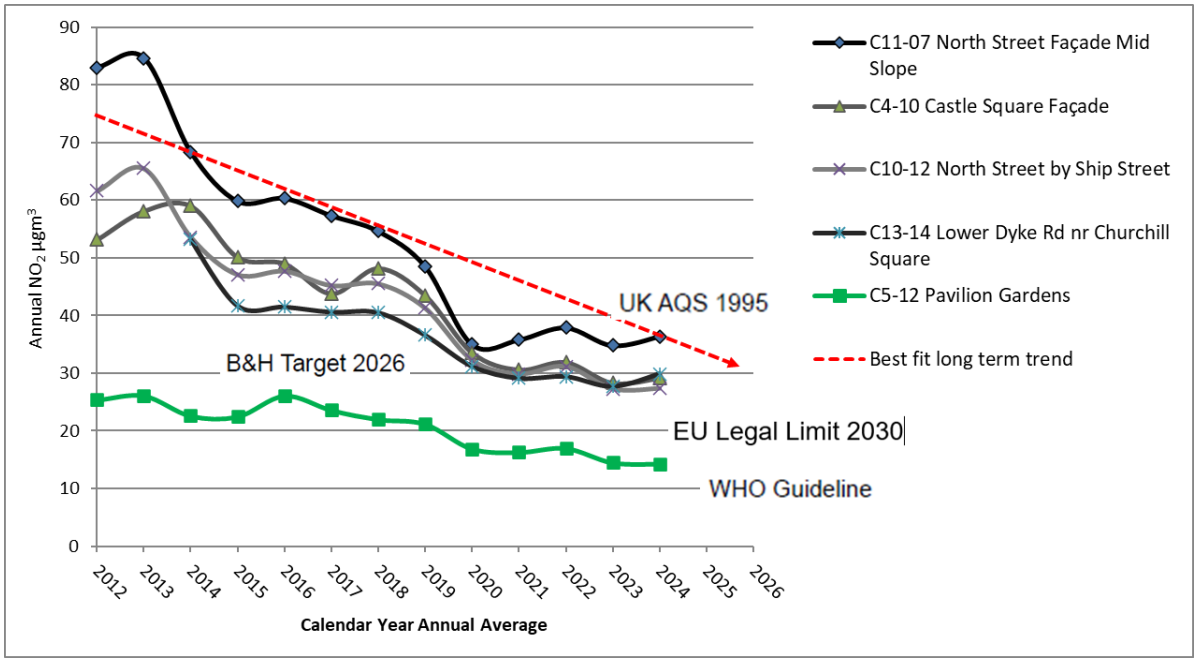
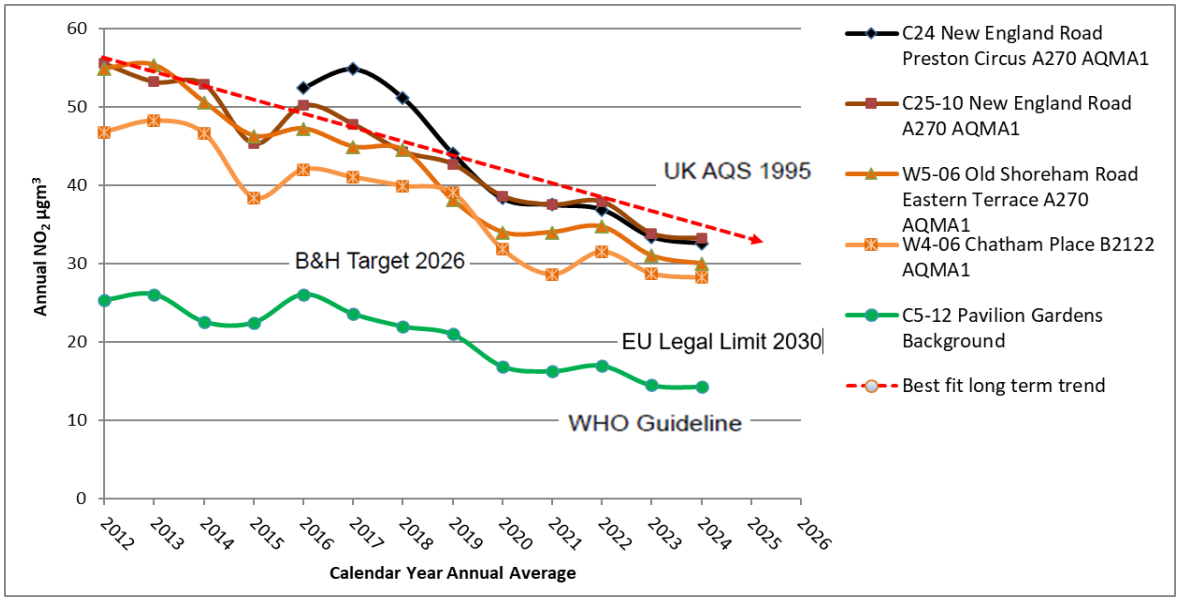
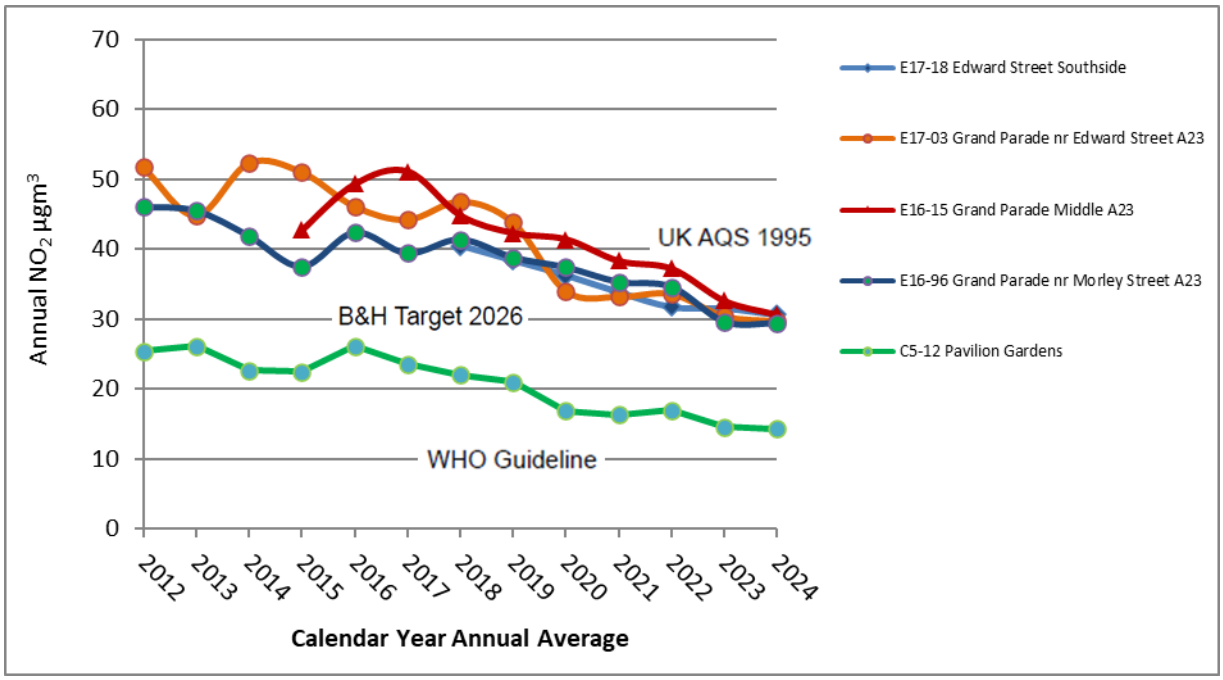


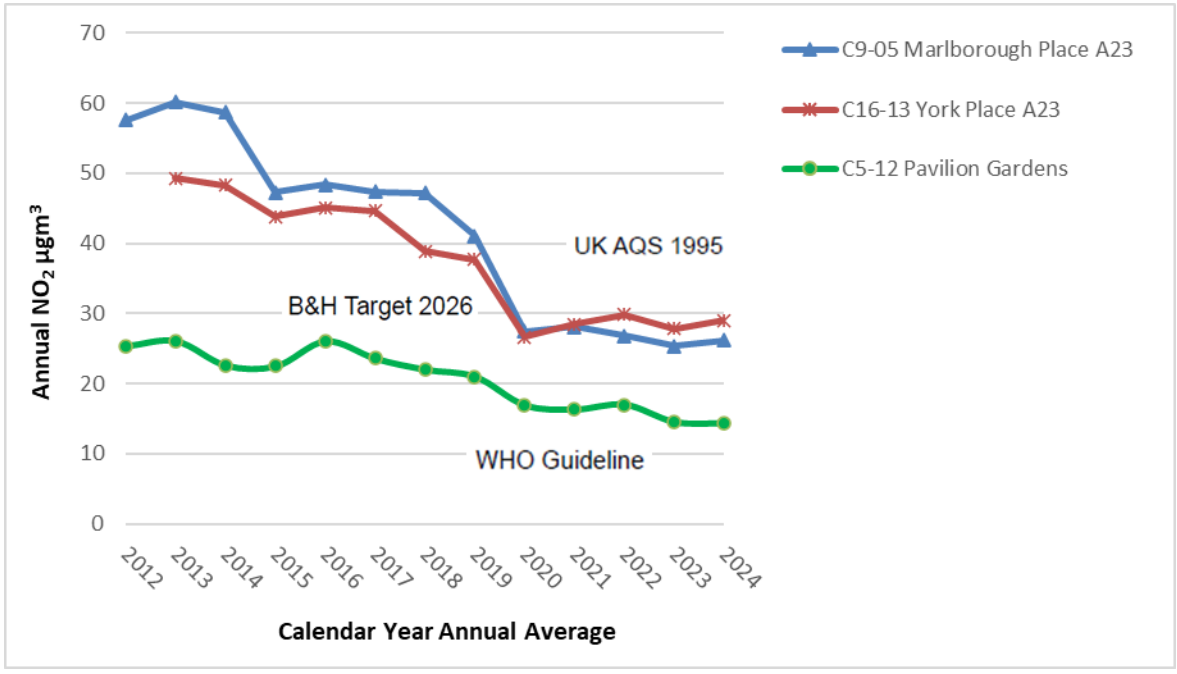
*Chart showing trend in NO_2 AQMA1-A270 & B2122, **New England Road** and Old Shoreham Road East and Chatham Place. 2020 was the first year UK air quality standards met in this area. Best fit trend indicates gradual improvement over twelve years. Further diesel car and van emissions reduction required to achieve the 2026 target at all sample sites.*



Trend chart AQMA1-A23 ***Valley Gardens east side****. Continuous and gradual improvement in gaseous pollution since 2017, slowed in the past two years. 2021 was the first year UK air quality standards were met in this area. Further diesel emissions reduction required to achieve the 2026 AQAP target at all sample sites.*

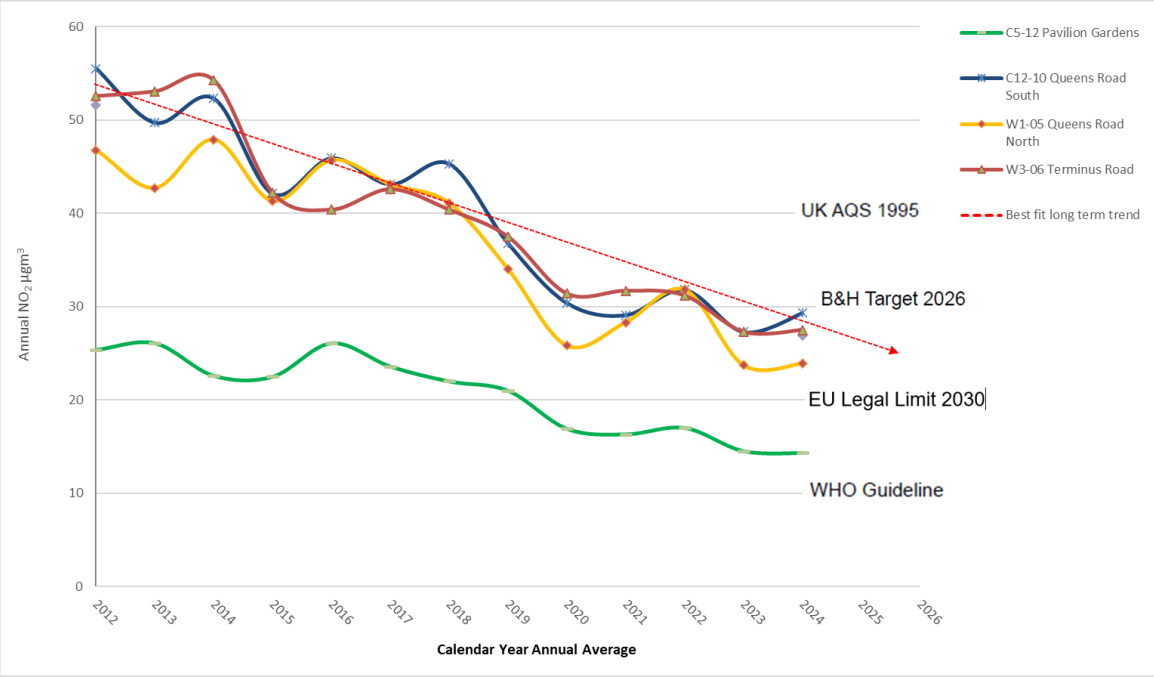


Trend chart AQMA1-A23 ***Valley Gardens west side****. Abrupt improvement in gaseous pollution when general traffic switched to the other side of Valley Gardens 09/2019. 2020 was the first year UK air quality standards and the 2026 annual target met in this area. Recorded concentrations have been consistent in recent years. An increase in NO_2 since 2020 (travel restriction related to Covid-19). Since the area does not have general traffic air quality will benefit from cleaner buses and other vehicle servicing the area such as deliveries and taxis. Comparison with local background.*

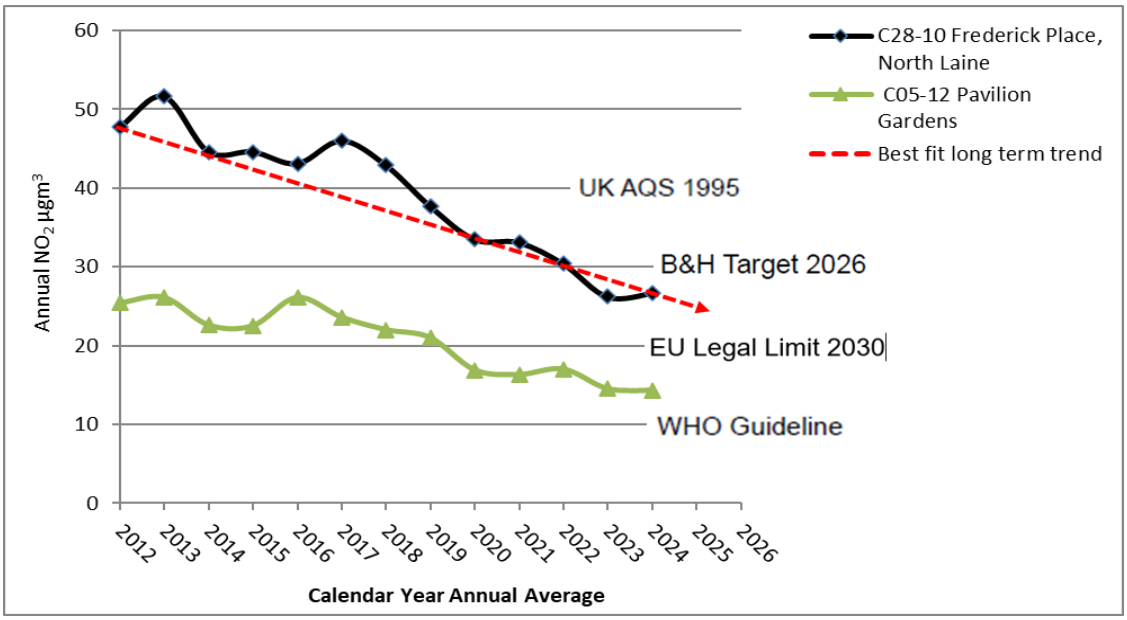


Graph shows good agreement at three sample sites close to ***Brighton railway station*** *designated as, AQMA1-A2010 (joined with other travel corridors that make up AQMA1 radiating from the City Centre).*

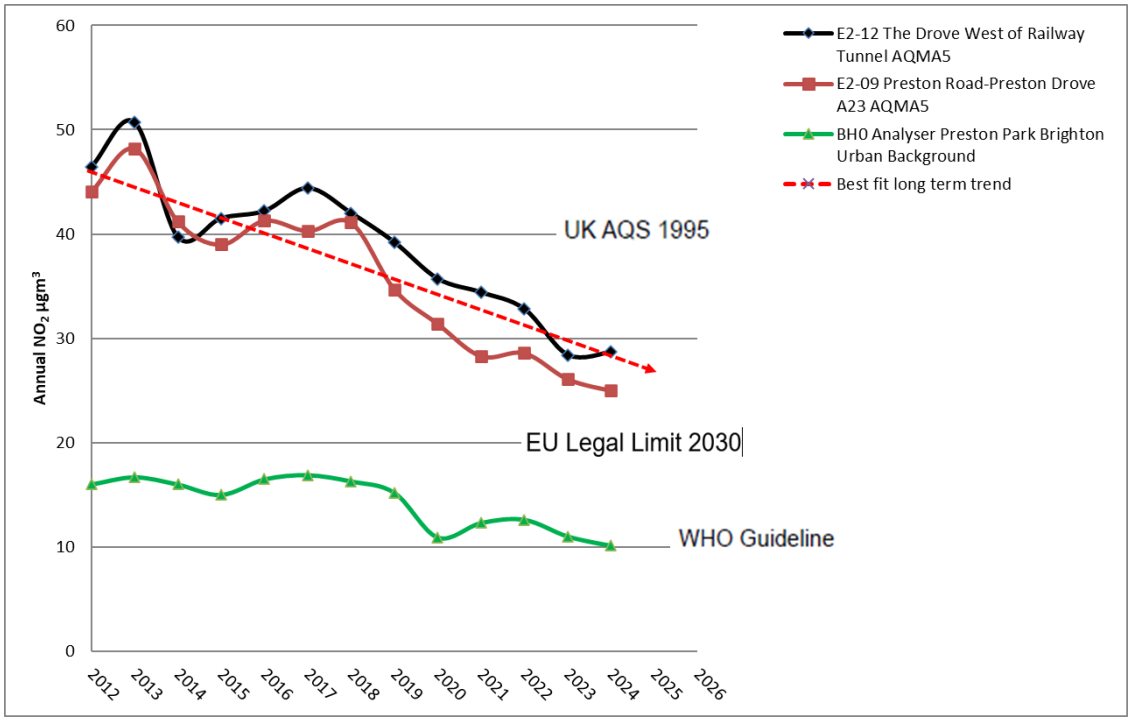
Evidence indicates substantial improvement in local air quality between 2012 and 2020 (Covid-19 travel restrictions). Monitoring in this area suggests UK legal limits met since 2020 (sustained for two years not including the abnormal 2020-21 years affected by Covid-19 travel restrictions). The rate of improvement in gaseous pollution (twelve year best fit line included) has slowed since 2020. Further emission reductions required to keep pollutant levels (NO_2) below the 2026 AQAP target of 30 µg/m^3 and progress to EU and WHO levels. Roadside results compared with local background (Pavilion Gardens, not at roadside or in an AQMA).



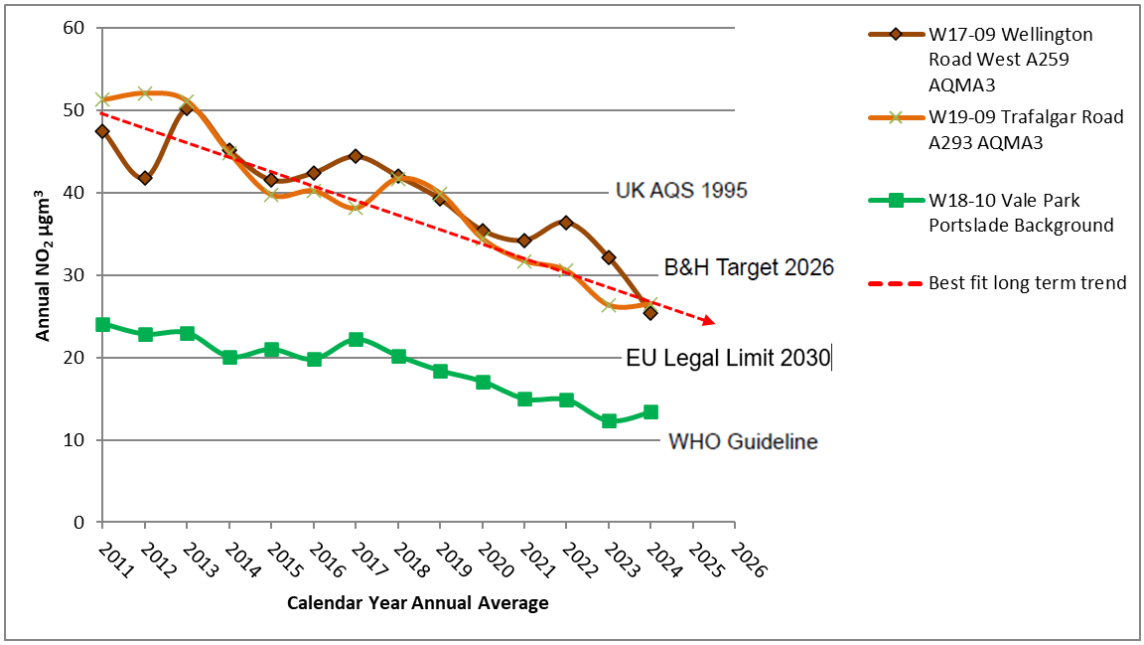
Also in the vicinity of Brighton railway station trend at Frederick Place, AQMA1-B2119 situated in the ***North Laine.*** *Long term decline in pollution and a slight increase 2024 compared to 2023.*



Trend graphs in NO_2 AQMA5, ***The Drove-South Road.*** *Monitoring indicates UK standards met 2020 and local targets achieved since 2023. Further road traffic emission reductions (diesel vans and cars) on the hill climb required to work towards pollutant levels (NO_2) below European legal limits, 20 µg/m3. Roadside monitoring results compared with background.*

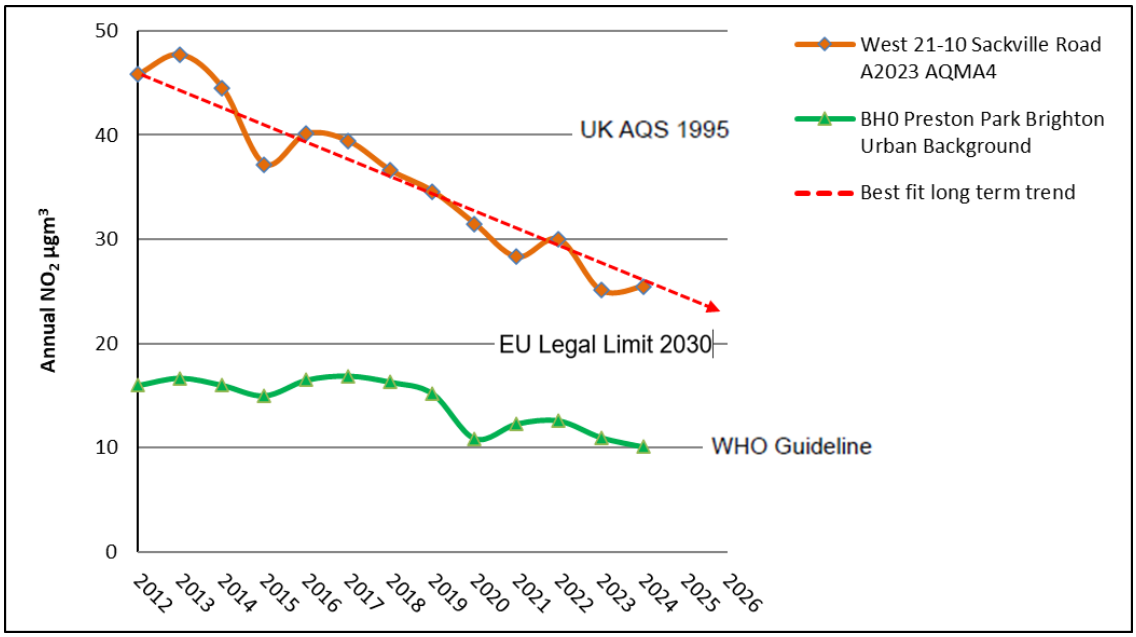


Trend graphs in NO_2 AQMA3-A293 & A259 ***South Portslade*** *showing gradual improvement long term. Monitoring indicates UK standards met since, 2020 and local targets achieved 2024. HGV and diesel car emission reductions required to ensure pollutant levels (NO_2) continue below the AQAP 2026 target of 30 µg/m3 and achieve the EU level. Roadside compared with Portslade background, Vale Park.*

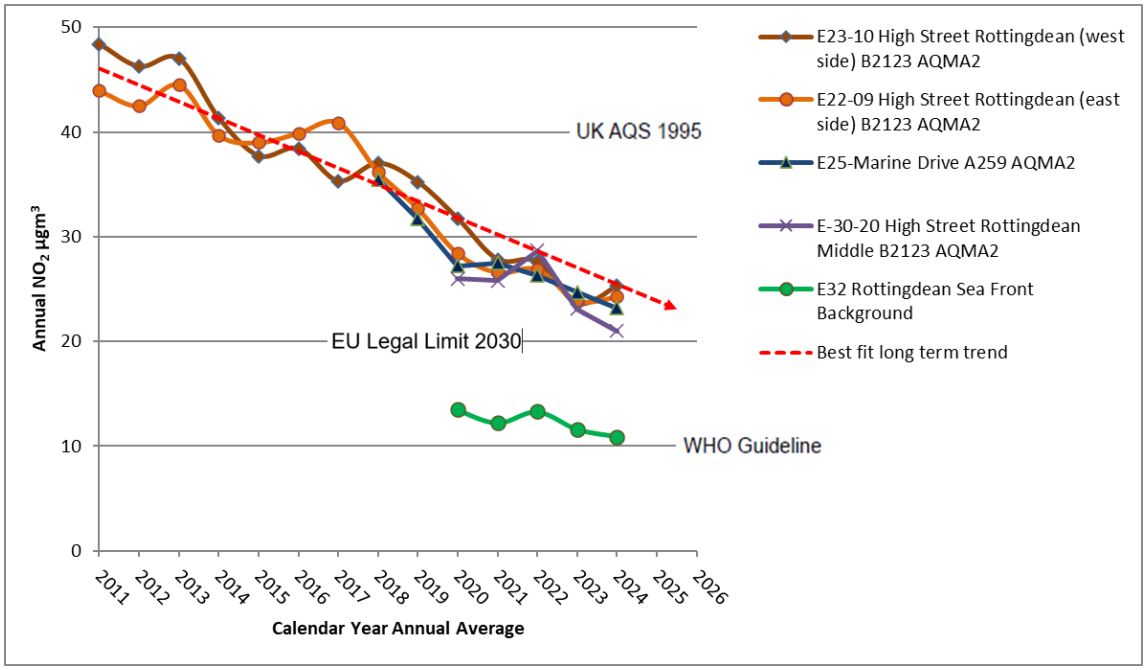


Trend graphs in Nitrogen Dioxide AQMA4, ***Sackville Road junction area*** *showing improvement long term. Monitoring indicates UK standards are met since 2019 and local targets achieved 2023. Traffic monitored at*

the junction as major developments proposed within 1km. Further emission reductions and a continued improving trend required to achieve the EU ambient level of 20 µg/m³ ahead of 2030. Roadside compared with Preston Park background (DEFRA monitor).



Long term trend in and around AQMA2-B2123 & A259, ***Rottingdean*** *shows sustained improvement in NO_2. Monitoring indicates UK standards met, 2019 (beyond on reasonable doubt) and local targets achieved since 2021. Further diesel emission reductions required to achieve the EU ambient level of 20 µg/m³ ahead of 2030. A slight increase in 2024 compared to 2023 and new monitoring position added 2025 needs considered prior any revocation of AQMA2. More than one roadside site compared with Rottingdean background monitor.*



Trend graphs in NO_2 AQMA6 ***Eastern Road (Main Hospital)*** *showing sustained improvement long term. In terms of pollutant levels St James Street previously showed good agreement with parts of Eastern Road. Construction emissions at the hospital have influenced local air quality and most of these activities are completed. Monitoring indicates UK standards met since, and local targets achieved since 2019. More stringent air quality standards should apply at the infirmary with trauma, cancer unit and neo-natal healthcare and the AQMA kept by BHCC until such time European legal limits (20 µg/m³ NO_2 for five years). Slight increase detected 2024 compared to 2023. Roadside NO_2 compared with central Brighton background and fortunately less of a disparity compared to other areas.*

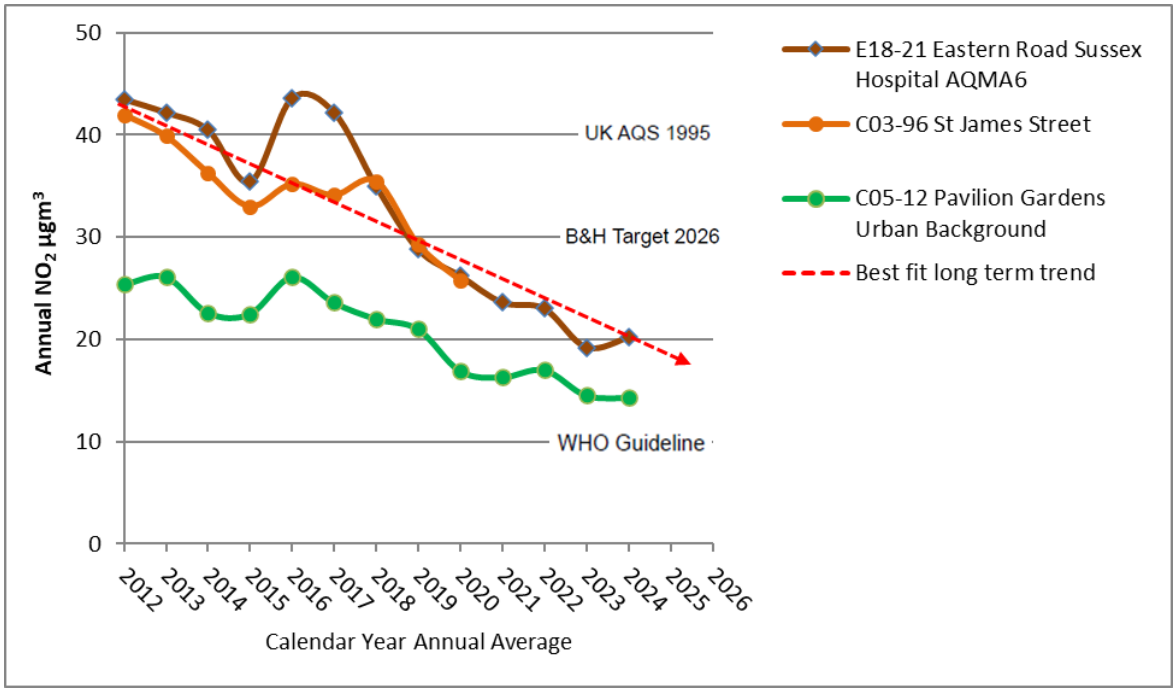


Table A.5 – Annual Mean PM_{10} Monitoring Results (µg/m^3)

For the first time since 2014 a resumption of PM_{10} monitoring in Brighton & Hove. As it stands there is no evidence of exceedance of UK standards. After 2025 when a full year of data is collected the intention is to compare results with WHO guidelines. The aim is to extend monitoring contracts for sufficient time to plot trends across future years. Particulate monitoring methodology is dual filter to deliver results for PM_{10} and $PM_{2.5}$ simultaneously.

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
BH0	530523	106226	Urban Background	100	35.6				New for 2024	10.4
BH11	531845	105333	Roadside	100	71.1				New for 2024	15

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

Notes:

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

Exceedances of the PM_{10} 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.

(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%).

Table A.6 – Annual Mean $PM_{2.5}$ 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
BH0	530523	106226	Urban Background	86.2	86.2	9.6	9.9	11.1	9	8.1
BH10	530995	104271	Roadside	100	99.9	8.4	10.2	9.4	9	8.3
BH11	531845	105333	Roadside	99	71.1					8.8

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

Notes:

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

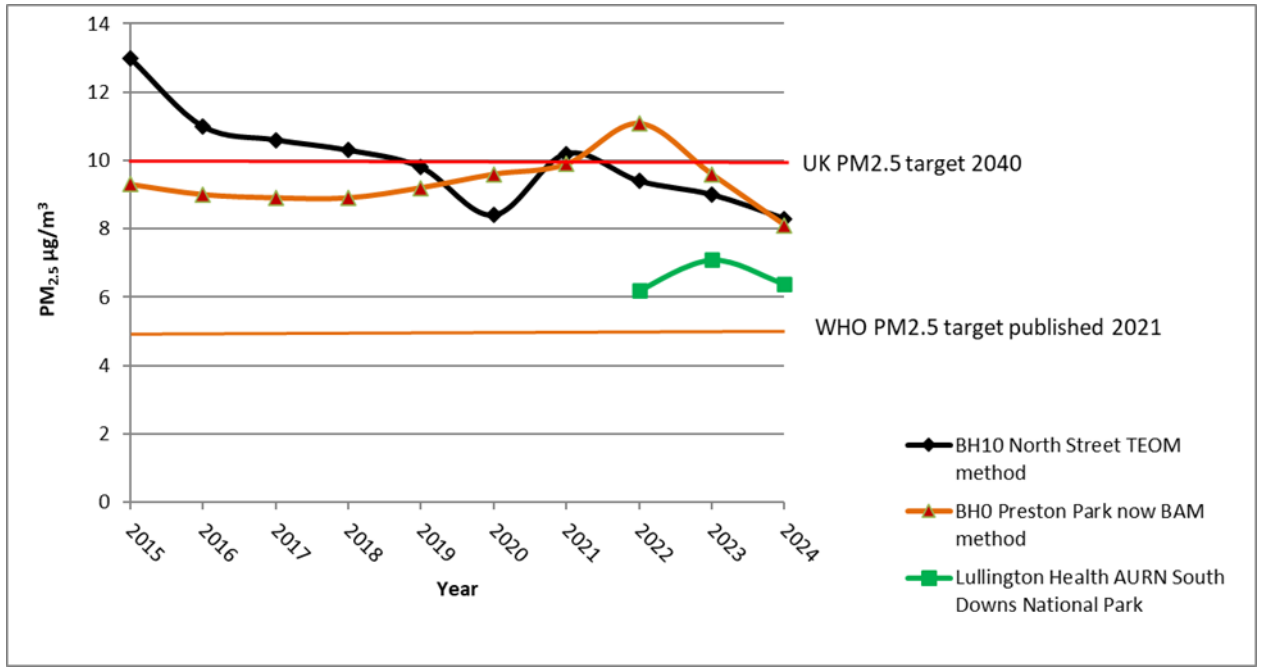
All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(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%).

Figure A.2 – Trends in Annual Mean $PM_{2.5}$ Concentrations

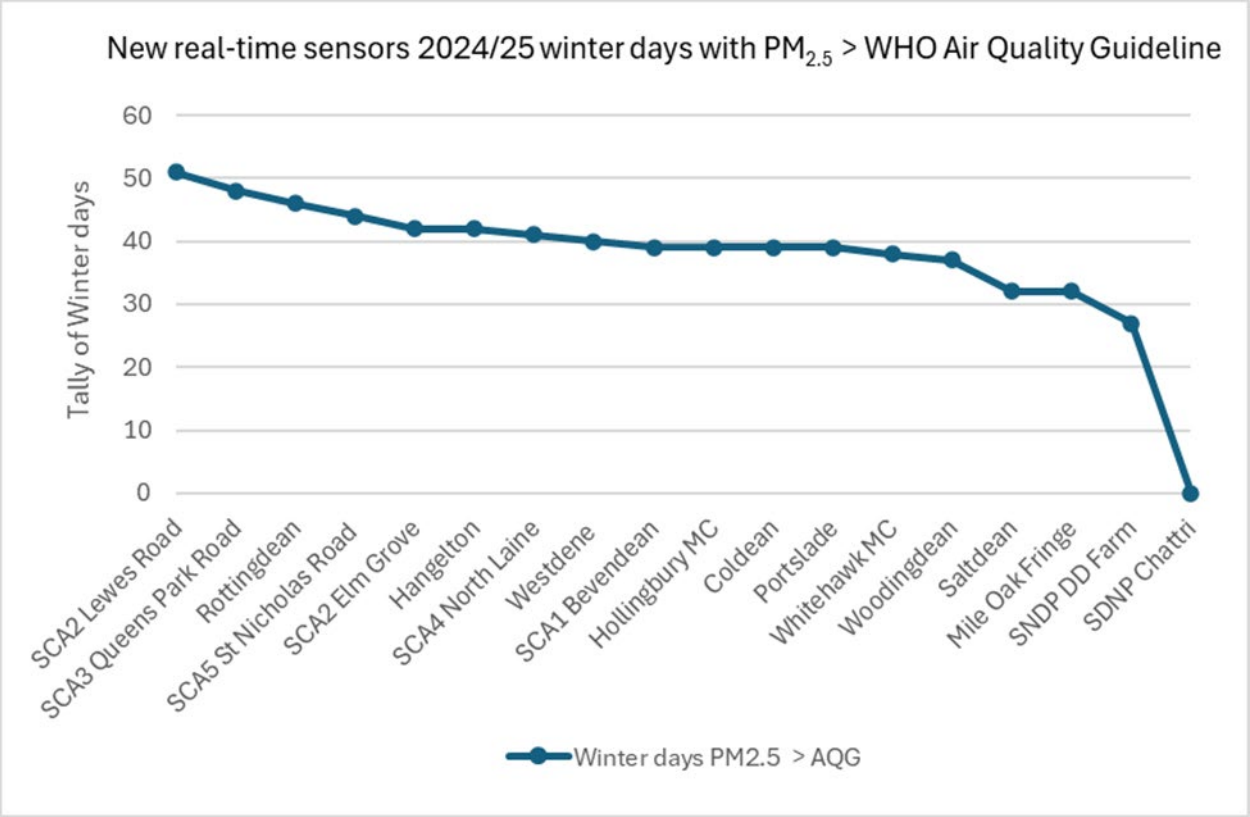
Trend graph showing trends in monitored PM2.5 since (local records started 2015). An indication of some improvement 2015 to 2019. Peaks 2021 and 2022 could be associated with stay-at-home messages, bonfires, fires to dispose of waste and solid fuel burning to keep warm or fireplace feature added to the home. An improvement since 2022 could be due to greater awareness related to the health risks of particles and smoke domestically.



Real-time sensor results number of winter days more than WHO 24-hour guideline

Chart shows multiple sites and the tally of days in the2024/25 heating season when real-times sensors suggest $PM_{2.5}$ levels exceed WHO guidelines.

Indicates lowest levels of particles in the SDNP, highest in urban area, including five SCAs Smoke Control Areas. Further look at real-time in next year's report.



SO_2 2024 Monitoring Results, Number of Relevant Instances

Initial data is given in the Sussex network report. There are no exceedances of limits. The aim is to report complete data in 2025.

Appendix B: Full Monthly Diffusion Tube Results for 2024

Table B.1 – NO_2 2024 Diffusion Tube Results ($\mu g/m^3$)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted 0.84	Annual Mean: Distance Corrected to Nearest Exposure
A23 C01-2020	531361	104040	29.6	23.7	25.0	25.7	31.0	21.8			25.3		32.7	28.3	26.9	22.6	
A23 C02-2022	531255	104062	31.9	27.6	25.0	27.6	26.1	20.7	Period dropped because more than six weeks		23.4	24.2	36.0	30.1	27.0	22.7	-
B2066 C04-2010	531228	104088	36.0	40.4	35.8	32.3	36.9	34.8			30.9	30.3	39.3	32.7	34.8	29.2	-
C05-2012	531230	104260	24.2	14.3	17.4	14.7	16.5	11.9			14.5	16.5	22.0	19.9	17.1	14.3	-
B2066 C10-2012	530995	104271	35.3	35.9	34.3	32.0	38.3	32.3			33.0	31.6	22.4	31.8	32.6	27.4	-
B2066 C11-2007	530947	104284	45.9	47.9	50.2	44.7	48.1	43.6			41.6	38.2	34.6	40.9	43.3	36.4	-
B2066 C11-2012	530890	104302	54.1	47.5	56.2	51.1	60.1	56.5			43.8	42.6	48.4	50.8	50.7	**42.6**	35.1
A2010 C12-2010	530900	104451	37.3	36.2	35.2	35.3	39.3	29.1			27.3	33.6	50.2	27.6	34.9	29.3	-
A2010 W01-2005	530969	104785	32.3	31.1	29.8	26.8	30.5	25.4			24.7	27.7	32.4	24.6	28.4	23.9	-
C-Link C13-2014	530770	104363	38.3	33.0	36.5	36.8		37.6			32.2	32.4	37.4	37.5	35.6	29.9	-
A23 C09-2005	531302	104392	33.2	33.8	30.1	32.1	32.2	28.3			30.2	30.0	34.8	28.1	31.2	26.2	-
A23 C16-2013	531400	104844	36.2	34.9	31.7	36.2	36.6	33.0			35.1	30.7	39.9	32.2	34.5	29.0	-
A23 C17-2012	531364	104982	44.0	38.4	39.7	39.4	40.3	36.0			34.6	24.3	41.5	36.3	36.9	31.0	-
A23 C18-2019	531369	105042	44.8	50.2	44.5	47.3	44.5	43.9			42.1	38.8	42.8	35.9	43.3	36.3	32.8
A23 C18-2010	531373	105136	45.0	44.8	45.8	43.8	45.6	38.0			40.8	44.0	50.6	39.5	43.7	36.7	-
A23 C19-2021	531472	105161	37.2	34.8	30.4	31.9	30.4								32.9	26.3	-

A23 C20-2005	531496	105315	31.1	29.0	31.0	28.9	31.9	25.4			28.5	29.3	30.8	22.9	28.8	24.2	-
A23 C21-2005	531451	105356	37.0	38.1	40.2	35.7	44.0	37.5			35.8	31.8	37.3	32.7	36.8	30.9	-
A23 C23-2005	531189	105375	31.8	34.7	31.3	30.5	30.3	24.9			26.9	26.7	34.2	27.7	29.7	25.0	-
A270 C24-2015	531101	105443	38.5	40.5	38.0	43.0	41.8	38.5			37.3	36.0	43.4	32.9	38.8	32.6	-
A270 C25-2010	530985	105419	37.8	40.1	38.8	42.3	39.6	40.7			39.8	35.1	41.0	40.9	39.5	33.2	-
B2199 C28-2010	531032	104843	34.8	35.9	35.7	32.6	28.2	27.7				24.3	38.1	30.8	31.8	26.7	-
A23 E01-2016	531101	105498	29.6	27.3	30.5	29.0	32.2	23.4			27.4	31.1	33.7	24.9	28.9	24.3	-
A23 E02-2009	530233	106515	33.4	32.2	32.1	27.3	30.2	25.9			27.6	27.6	30.5	31.5	29.7	25.0	-
C-Link E02-2012	530063	106368	34.3	36.7	33.8	32.1	39.8	29.5			29.4	35.1	38.2		34.2	28.7	-
A23 E06-2020	531107	105595	30.9	29.4	31.3	30.0	34.3	26.9			31.2	28.8	34.0	28.4	30.4	25.6	-
A270 E07-2019	531838	105349	45.1	46.8	45.3	47.1	45.2	42.9			42.1	44.2	51.7	41.5	45.1	37.9	-
A270 BH11	531845	105333	45.1	48.4	50.2	44.0	49.8	45.9			44.5	46.2	52.9	40.5	46.7	39.3	34.6
A270 E08-1996	532090	105752	43.7	46.5	43.9	43.9	41.5	39.1			43.3	38.6	36.7	35.8	41.2	34.6	-
A270 E10-2015	532126	105838	35.1	38.3	33.9	32.7	32.0	32.3			34.9	33.8	45.8	29.2	34.8	29.2	-
A270 E14-2019	532377	106314	34.3	35.3	37.8	30.4	36.7	26.7			34.5	36.7	32.5	25.7	33.1	27.8	-
A270 E15-2012	532300	106159	35.0	39.6	41.2	33.8	37.2	27.6			32.7	33.7	36.3	28.7	34.5	29.0	-
A23 E16-1996	531465	104629	36.6	34.6	39.1	34.6	41.2	31.6			35.3	36.2	31.0	30.4	35.0	29.4	-
A23 E16-2015	531426	104514	36.6	33.7		36.1	44.0	31.4			38.2	37.1	38.6	32.5	36.4	30.6	-
A23 E17-2003	531394	104338	37.6	39.0	38.6	34.0	42.6	29.7			35.3	35.0	35.0	27.7	35.3	29.7	-
C-Link E17-2018	531408	104233	37.7	39.1	37.9	34.2	41.1	35.8			35.1	33.0	37.4	34.4	36.4	30.6	-

C-Link E18-2021	532759	103810	29.2	22.3	23.0	25.3	26.3	22.2			21.8	22.0	27.7	23.1	24.1	20.2	-
B2123 E22-2009	536970	102280	32.1	26.0	27.5	29.1	35.0	24.9			30.2	27.3	33.2	24.9	28.9	24.3	-
B2123 E23-2010	536966	102273	34.2	30.6	34.2	30.7	34.4	28.3			26.9	27.5	30.8	25.1	30.1	25.3	-
A259 E25-2018	537014	102238	29.8	23.6	27.5	29.5	32.3	20.9			29.0	29.2	30.4	24.8	27.6	23.2	-
B2123 E30-2020	536947	102341	32.3	22.5	26.7	24.7	28.7	19.3			24.5	24.1	30.8	18.1	25.0	21.0	-
E32-2020	537011	102099	17.7	9.5	15.6	11.4	11.9	8.2			10.9	14.0	19.0	12.3	13.0	10.9	-
A2010 W03-2006	530963	104994	37.5	34.6	33.8	32.3	34.8	28.1			31.5	30.4	34.3	32.3	32.8	27.5	-
A2010 W04-2006	530808	105340	39.0	34.0	31.2	33.0	39.5	28.3			34.3	29.2	38.2	31.6	33.6	28.2	-
A270 W05-2006	530778	105362	41.3	34.4	36.7	34.9	34.1	33.0			38.3	32.6	39.8	32.9	35.7	30.0	-
B2066 W10-2023	530302	104415	38.7	40.9	37.3	33.0	36.4	28.3			26.4	25.4	31.4	31.4	32.5	27.3	-
B2066 W11-2020	530154	104444	31.9	29.3	29.2	26.8	27.4	23.2			24.0	26.3	29.1	25.6	27.2	22.8	-
A259 W16-2020	526233	104860	37.3	35.2	36.5	33.5	35.4	29.8			29.2	24.3	34.8	29.7	32.2	27.1	-
2024 BH14	526235	104877	32.4	25.2	22.6	24.3	22.3	18.7			20.3	21.5	29.0	22.7	23.7	19.9	-
A259 W17-2009	525931	104961	33.2	33.5	34.3	30.7	32.3	24.9			27.6	27.2		30.1	30.2	25.4	-
A259 W18-2010	525970	105230	21.5	19.0	21.3	14.2	13.0	9.8			11.8	14.8	19.1	16.4	16.0	13.4	-
A259 W19-2009	525658	105695	36.2	33.8	33.4	30.6	29.7	28.3			28.2	29.1	36.4	31.3	31.6	26.5	-
A270 W20-2021	525651	105870	35.6	33.5	36.2	29.5	32.9	27.2			28.7	30.8	32.3	29.6	31.5	26.5	-
A2023 W21-2010	528388	105936	36.8	32.0	31.2	30.4	32.4	26.9			26.4	29.5	32.7	26.8	30.3	25.5	-
A270 W22 2024	528421	105947	35.9	33.3	36.2	28.5	34.3	26.0			24.1	31.3	30.8	26.1	30.5	25.6	-
LN2-2022	531823	105287	40.5	33.4	31.7	32.3	31.7	27.3			34.2	32.6	34.4		33.0	27.7	-
LN4-2022	532278	105233	28.9	23.4	24.5	19.4	22.8	18.7			18.9	21.3	21.5		22.0	18.5	-

☒ **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**

☒ **Brighton & Hove City 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 Brighton & Hove City Council During 2024

The south coast is an attractive place to live, work and learn. The city and conurbation continue to develop and grow. Developers often apply for planning permission for a change of use and to increase the number of residences in the area. Development areas have a tall building strategy a contributory factor in increasing population density; one of the highest in the UK (not including the SDNP). Consideration to emissions; gases and smoke within this urban context. For example, a Victorian chimney termination on top of a four-storey house is a lower height than apartments completed recently. Consultation on major planning applications is to avoid enclosure of AQMA travel corridors and promote in-street and indoor ventilation for effective dispersion and dilution.

Additional Air Quality Works Undertaken by Brighton & Hove City Council During 2024

Set out in the main report new pollutant monitoring networks and AQMA cameras for 2024. Further information to be reported in the 2025 ASR.

QA/QC of Diffusion Tube Monitoring

- Gradko International diffusion tubes have used for years by Sussex Local Authorities using the 20% TEA in water (method). This continued throughout 2023.
- Gradko participates in accreditation scheme AIR PT including annual field inter field comparison exercise,
- 2023 diffusion tube monitoring covered twelve periods for the calendar year. Exposure periods typically alternated between four- and five-weeks and showed good agreement with the 2023 Diffusion Tube Monitoring Calendar, performance improved compared to previous years.

Diffusion Tube Annualisation

- Annualisation process in included for tubes monitoring sites with between three- and eight-months data

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

With one exception, 2024 diffusion tubes in Brighton & Hove have more than 75% data capture. The diffusion tubes at this site, eastern end of Oxford Road, required new attachments.

Site ID	Annualisation Factor BH0 Preston Park AURN	Annualisation Factor LL Lullington Health AURN	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
A23 C19-2022	1.04	0.863	0.952	32.9	31.3

Diffusion Tube Bias Adjustment Factors

To confirm diffusion tube data presented within the 2025 ASR has bias applied, using national adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence automatic analyser. LAQM.TG22 provides guidance about the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can 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, used consistently by Brighton & Hove the past five years, whilst consideration of local bias is also part of the review process.

Brighton & Hove City Council have applied a national bias adjustment factor (Gradko laboratory 20% TEA method) of 0.84 to the 2024 monitoring data. A summary of national bias adjustment factors used by Brighton & Hove City Council over the past five years is presented in Table C.2.

Table C.2 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2024	National	03/2024	0.84
2023	National	03/2023	0.81
2022	National	03/2022	0.85
2021	National	03/2021	0.84
2020	National	03/2020	0.92

For 2024 the local factor did not provide sufficient data from more than one site. During 2025 new equipment replaced the old NOx analyser at BH10 (last used 2024). As the local data is not used in the 2024 adjustment, table C1 is not included in this report. Should sufficient resource be available Brighton & Hove's co-location studies (diffusion tube with automatic analysers) will be reviewed in the next ASR.

NO_2 Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, NO_2 concentration at the nearest location relevant for exposure is estimated using the Diffusion Tube Data Processing Tool/NO_2 fall-off with distance calculator available on the LAQM Support website. Non-automatic annual mean NO_2 concentrations corrected for distance found in Table B.1.

Table C.3 – Non-Automatic NO_2 Fall off With Distance Calculations (concentrations presented in µg/m^3)

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted	Background Concentration	Concentration Predicted at Receptor	Full name with year started
B2066 C11-2012	1.5	5.0	42.6	14.3	35.1	B2066 C11-2012
A23 C18-2019	2.0	4.0	36.3	14.3	32.8	A23 C18-2019
A270 BH11	1.5	3.5	39.3	14.3	34.6	A270 BH11

QA/QC of Automatic Monitoring

Data management of automatic analysers is carried out by Bureau Veritas. Equipment support and local service operation during 2024 was carried out by Matt's Monitors. Monitoring results (gases and particles) presented in the report is ratified by Bureau Veritas.

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

Particulate (PM2.5) monitoring data provided by Bureau Veritas to the Sussex Air Quality Network includes appropriate correction factors.

Automatic Monitoring Annualisation

This is included for one or two select sites below as required.

Table C.4 – Automatic NO_2 Annualisation Summary (concentrations presented in µg/m^3)

Background Site	Annual Data Capture (%)	Annual Mean (A_m)	BH11		BH12	
			Period Mean (P_m)	Ratio (A_m / P_m)	Period Mean (P_m)	Ratio (A_m / P_m)
BH0	73.9	34	32.9	1.03	24.8	0.985
LL	46.1	24.6	32.9	1.03	24.8	0.997
Average (R_a)			1.03		0.991	
Raw Data Annual Mean (M)			32.9		24.8	
Annualised Annual Mean (M x R_a)			34		24.6	

Table C.5 – Automatic PM_{10} Annualisation Summary (concentrations presented in µg/m^3

Ideally there should more than one background site for annualisation, limited sites were available in 2024 and annualisation, takes officer time. Often a look at the data shows the correction is minor. In future years this shall be part of the data contract. The local authority is not responsible for data capture at the AURN,

DEFRA network. PM_{10} monitoring has added part way through the calendar year. At a number Sussex network sites, since connections established BHCC and partners expect a higher percentage of data capture 2025.

Background Site	Annual Data Capture (%)	Annual Mean (A_m)	BH11		BH0	
			Period Mean (P_m)	Ratio (A_m / P_m)	Period Mean (P_m)	Ratio (A_m / P_m)
EB1	35.6	10.4	14.4	1.041	11.7	0.887
Average (R_a)			1.041		0.887	
Raw Data Annual Mean (M)			14.4		11.7	
Annualised Annual Mean (M x R_a)			15		10.4	

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

Background Site	Annual Data Capture (%)	Annual Mean (A_m)	BH11	
			Period Mean (P_m)	Ratio (A_m / P_m)
LL	71.1	8.8	8.4	1.048
Average (R_a)			1.048	
Raw Data Annual Mean (M)			8.4	
Annualised Annual Mean (M x R_a)			8.8	

NO_2 Fall-off with Distance from the Road

For 2024 sites, no fall off distance for automatic analysers. Air intakes are close to long term dwelling places and results are below UK standards. Wherever possible, monitoring locations are representative of exposure.

Appendix D: Map of Automatic Monitoring (Active 2024) Locations and Central AQMAs

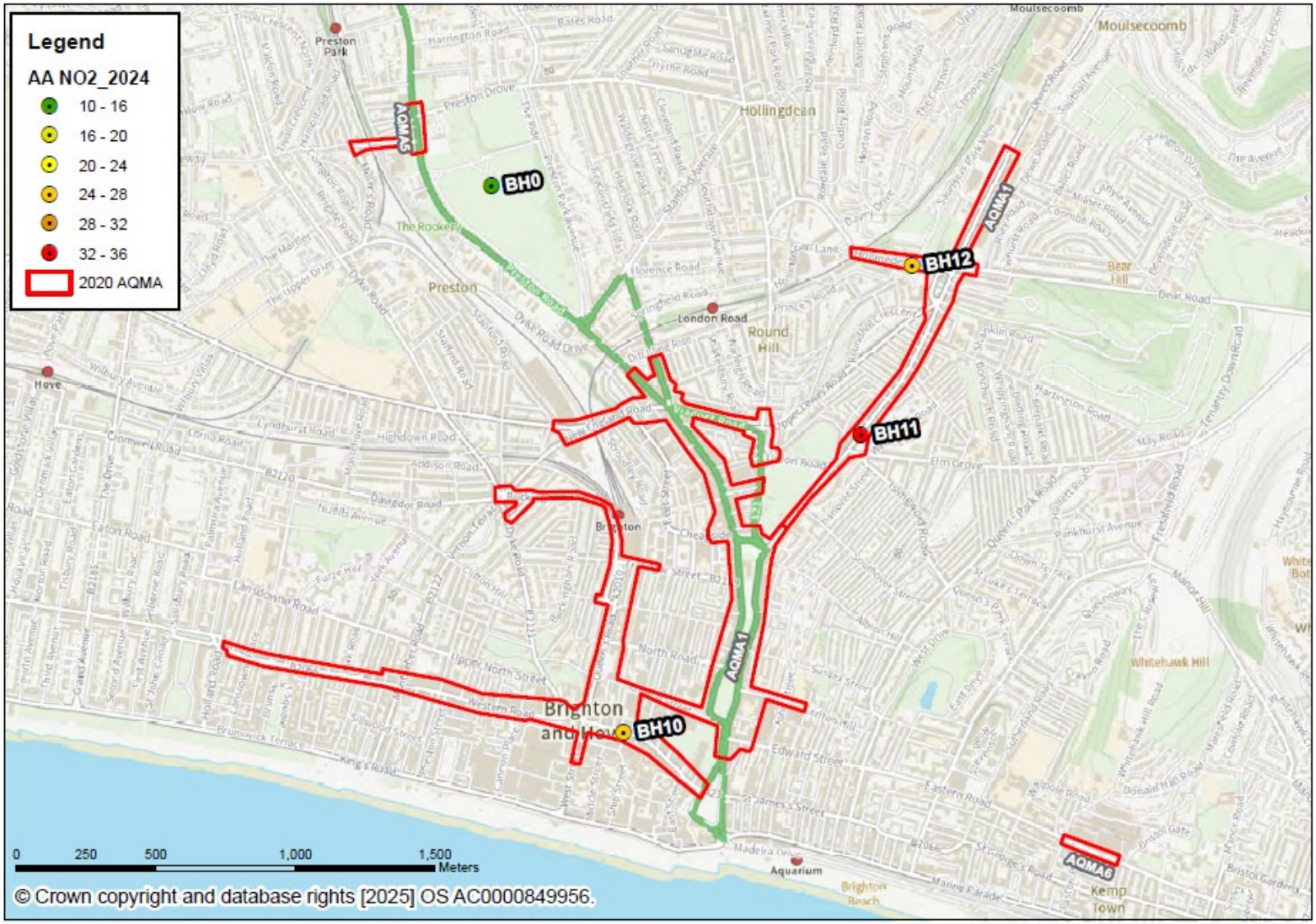


Figure D.1 – Maps of Non-Automatic Passive Diffusion Tube Monitoring Sites AQMA1 Top Priority A270 and A23 (also shows A2010 and B2066)

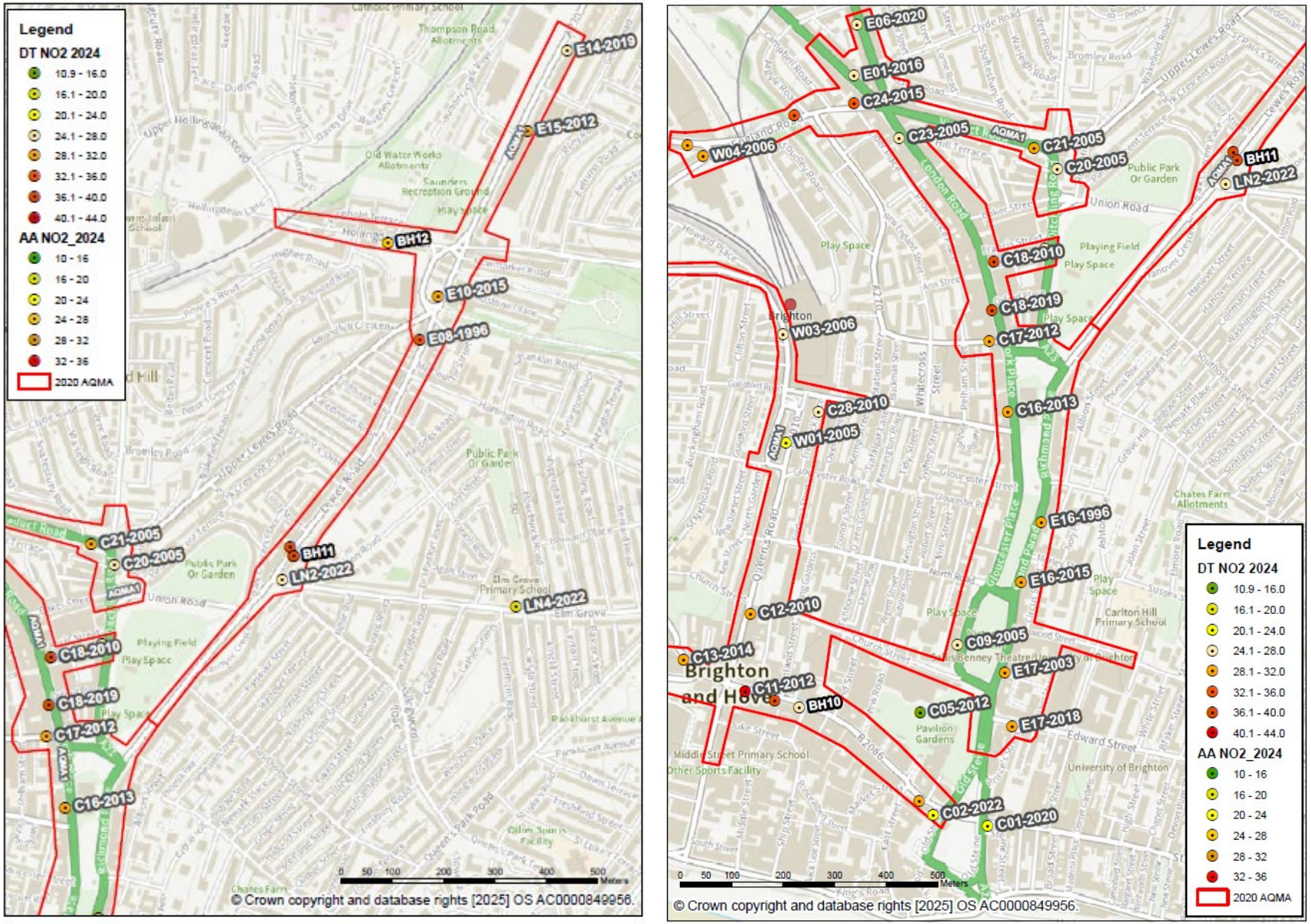


Figure D.2 – Maps of Non-Automatic Passive Diffusion Tube Monitoring Sites AQMA1 Top Priority A270 and A23 (zoomed scale)

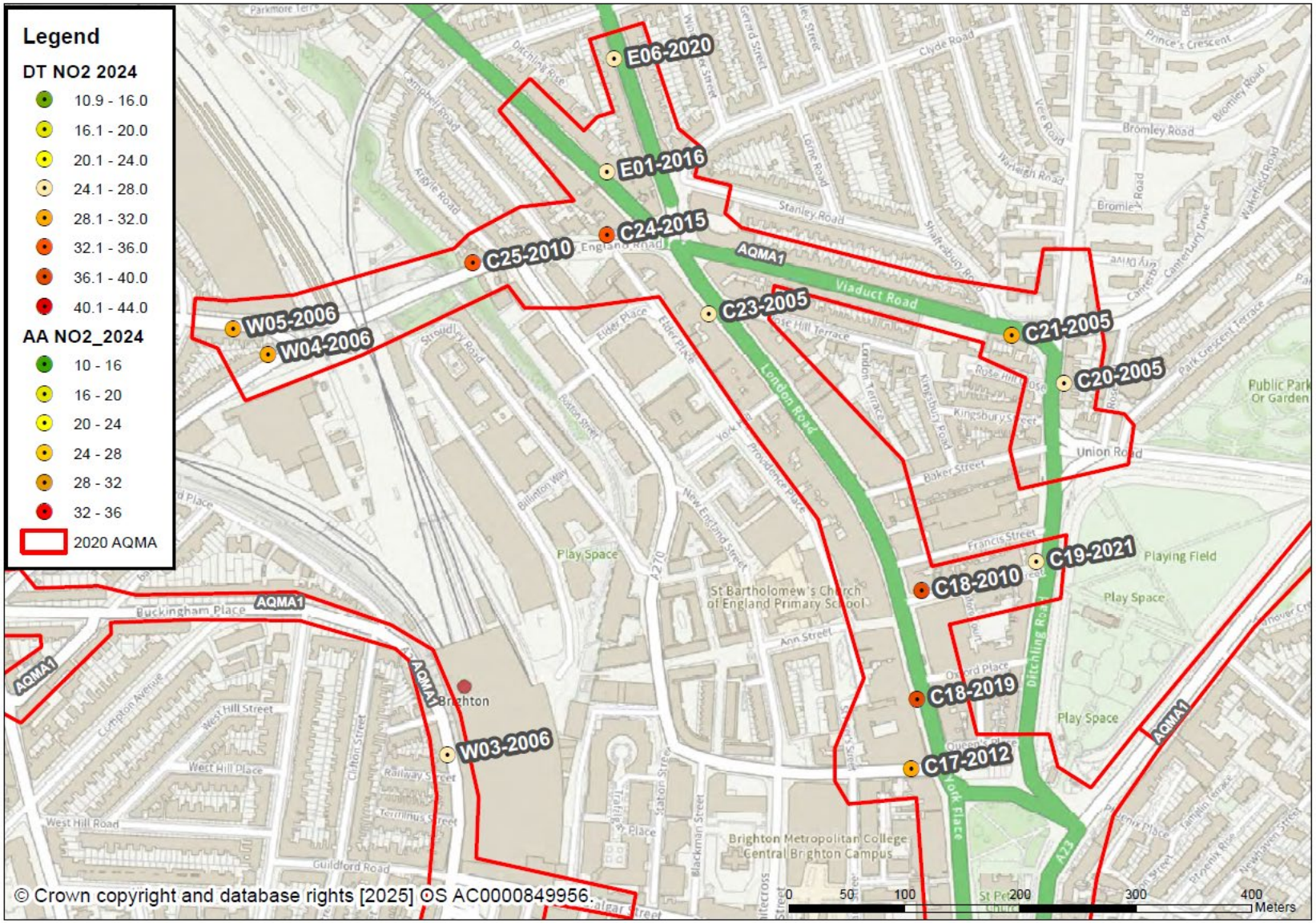


Figure D.3 – Maps of Non-Automatic Passive Diffusion Tube Monitoring Sites AQMA1 Top Priority A270 (zoomed scale)

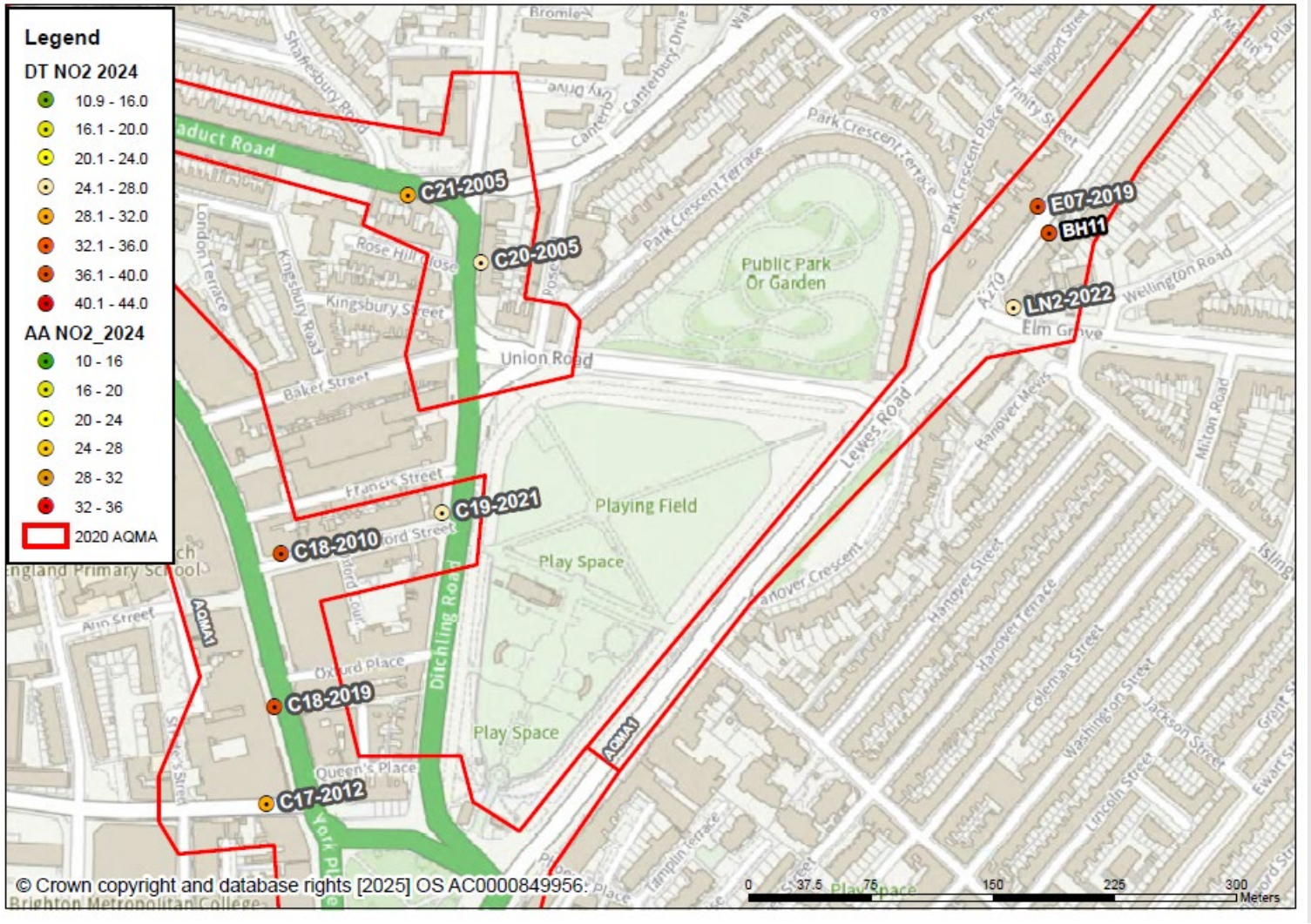


Figure D.4 – Maps of Non-Automatic Passive Diffusion Tube Monitoring Sites AQMA1 Top Priority B2066

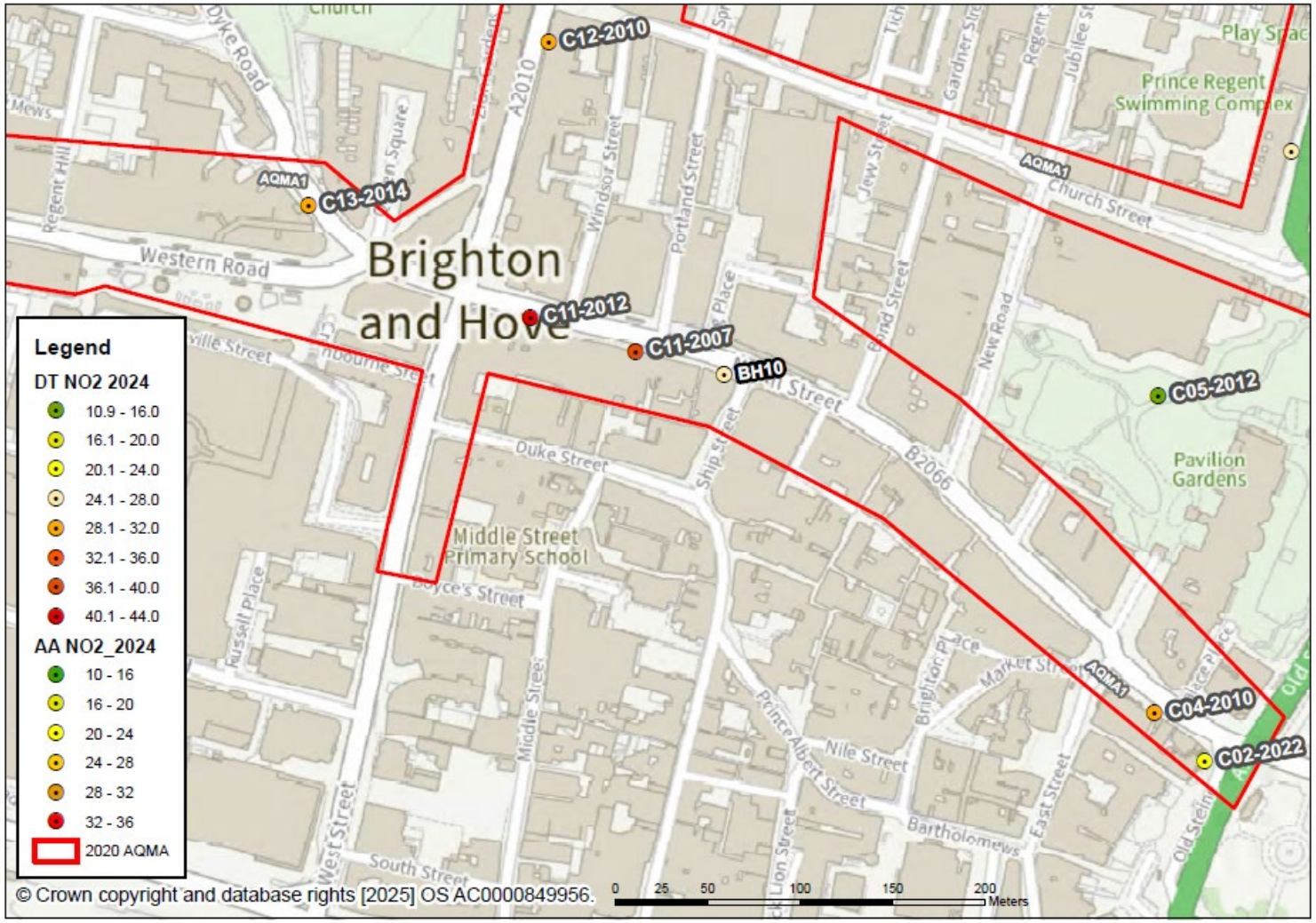


Figure D.5 – Maps of Non-Automatic Passive Diffusion Tube Monitoring High Priority AQMA5, AQMA3, AQMA4

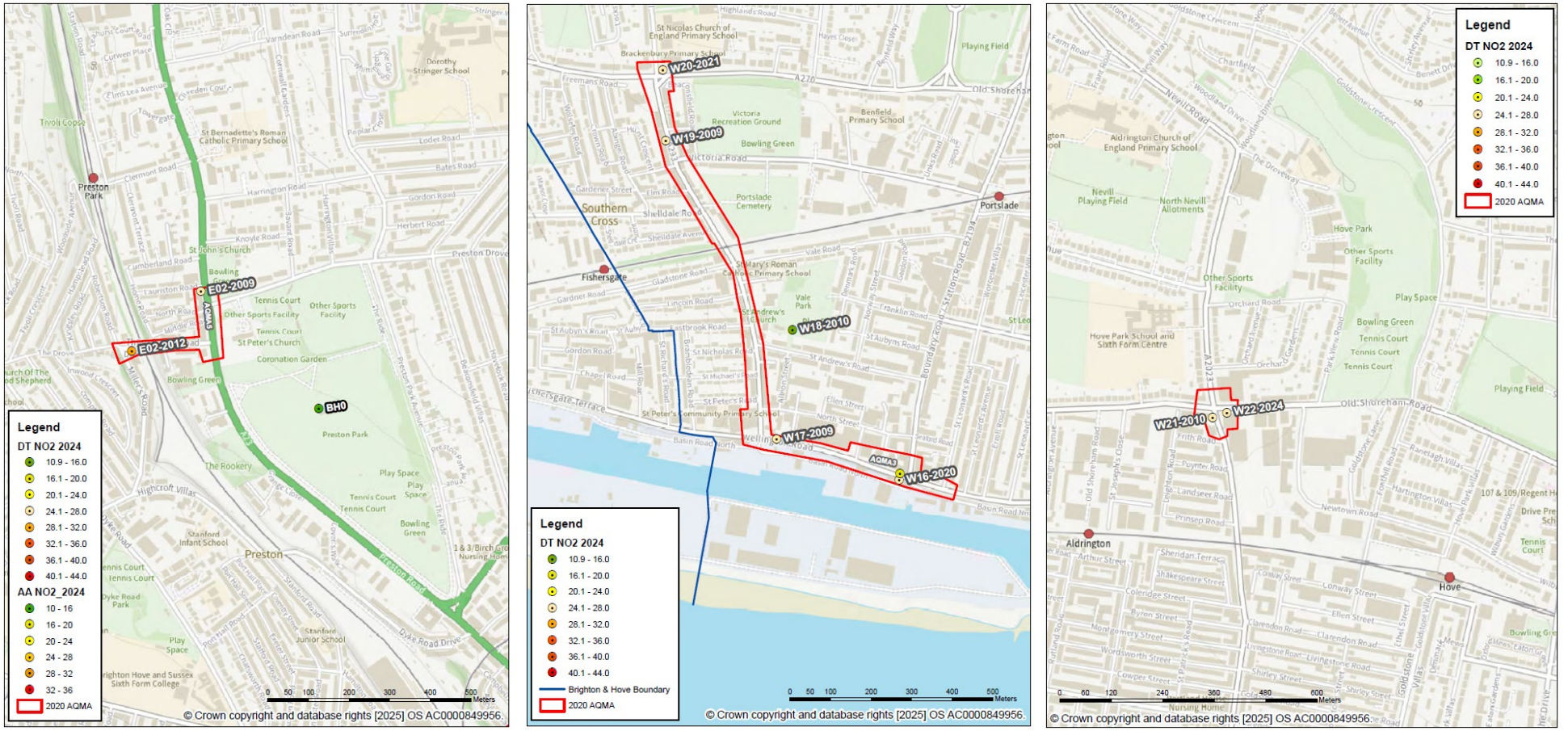
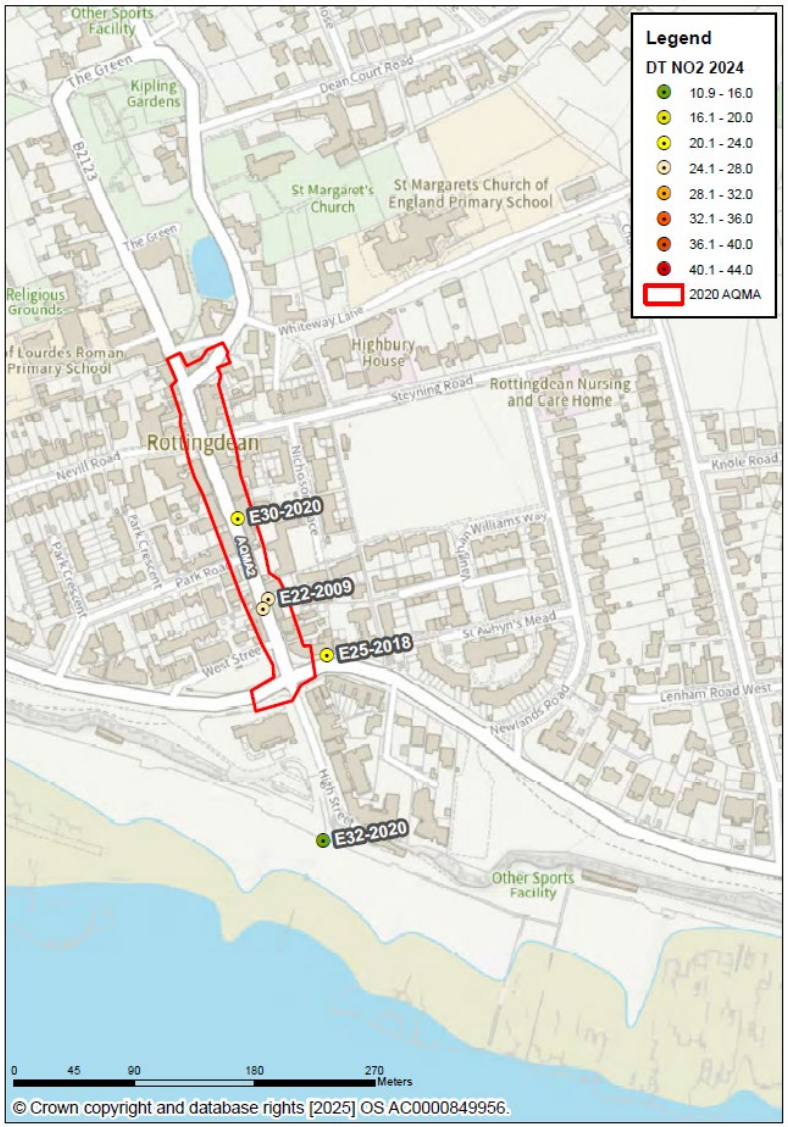
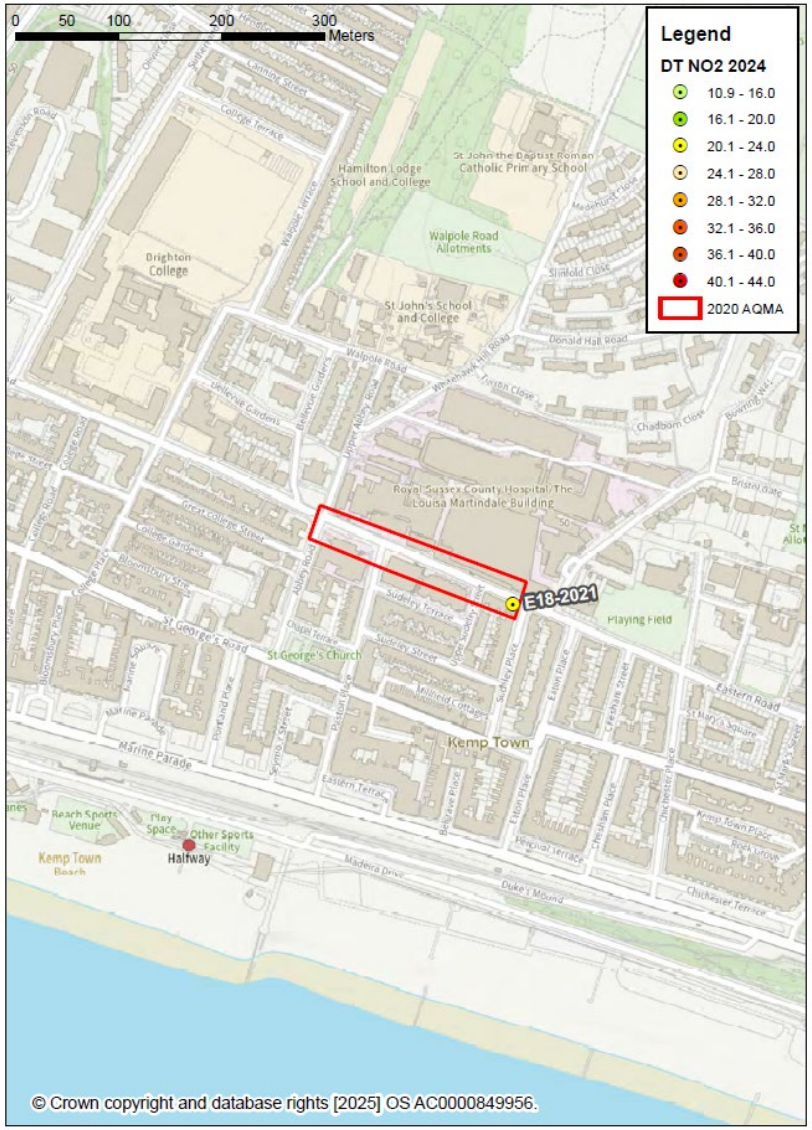


Figure D.6 – Maps of Non-Automatic Passive Diffusion Tube Monitoring Sites AQMA2 and AQMA6





Appendix E: Summary of Air Quality Standards in England

Table E.1 – Air Quality Next Step Targets[20]

Pollutant	Air Quality Objective: Concentration	Air Quality Target: Concentration
Nitrogen Dioxide (NO_2)	25µg/m^3	24-hour mean
Nitrogen Dioxide (NO_2)	30µg/m^3 by 2026, 20µg/m^3 by 2030	Annual mean
Particulate Matter ($PM_{2.5}$)	15µg/m^3 not to be exceeded more than 3 - 4 times a year	24-hour mean
Particulate Matter ($PM_{2.5}$)	5µg/m^3	Annual mean

Table E.2 – Air Quality Standards in England originally 1995

Pollutant	Air Quality Objective: Concentration	Air Quality Standard: 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

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

Glossary of Terms this report and related

Abbreviation	Description
ADMS-Urban	Atmospheric Dispersion Model System
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Air Quality Annual Status Report
ATC	Automatic Traffic Counter
AURN	UK Automatic Urban Rural Network regulatory standard air quality monitoring
CAZ	Clean Air Zone
CEMP	Construction Environment Management Plan
COMEAP	Committee on the Medical Effects of Air Pollutants
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DPH	Director of Public Health
Euro-VI	Vehicle emission standard for heavy diesel vehicles (HGV, bus or coach). Also denoted for earlier Euro-V and Euro-IV.
Euro-6	Vehicle emission standard for light petrol or diesel vehicle (car or van). Also denoted for earlier Euro-5 and Euro-4.
EFT	Emission Factor Toolkit
EMIT	Atmospheric Emissions Inventory Toolkit
EU	European Union
HGV	Heavy Goods Vehicle
KPI	Key Performance Indicator
LAQM	Local Air Quality Management
LAQM (TG)22	LAQM Technical Guidance 2022
LAQM (PG)22	LAQM Policy Guidance 2022
LCV	Light Commercial Vehicle or Light Goods Vehicle for example transit van or minibus
MCERTS	UK air monitoring certification protocol

NRMM	Non-Road Mobile Machinery includes bulldozers, on-site working dumpers and cranes.
NAEI	National Atmospheric Emissions Inventory
NO_2	Nitrogen Dioxide
NO_x	Oxides of Nitrogen, usually an emission rather than an outdoor concentration
NPL	National Physical Laboratory
PHE	Public Health England
PHOF	Public Health Outcomes Framework
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SCA	Smoke Control Zone
SDNP	South Downs National Park
Section 106	Section 106 Planning Agreement Under Town and Country Planning Act
SO_2	Sulphur Dioxide
ULEZ	Ultra-low Emissions Zone requires minimum euro-4 petrol and euro six diesel
WHO	World Health Organisation

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