



Bracknell Forest Council

Crowthorne Air Quality Action Plan

2024 to 2029

In fulfilment of Part IV of the Environment Act 1995

Local Air Quality Management 2023

Bracknell Forest Council

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1 Executive Summary

This Air Quality Action Plan (AQAP) has been produced as part of our statutory duties required by the Local Air Quality Management framework. It outlines the action we will take to improve air quality in Bracknell Forest Council between 2024 and 2029.

This action plan replaces the previous action plan which ran from 2014 to 2023.

The projects listed below were completed and delivered because of the 2014/2023 action plan:

- **Improvements and signalisation at the Horse & Groom Roundabout**

These measures form part of the wider improvements of the A322/A329 corridor and monitoring undertaken before further capacity improvements on Downshire Way, showed an overall improvement in peak hour journey times along the entire route between Coppid Beech Roundabout and the Swinley Gyratory. For work completed in 2018, the monitoring showed improved movement through the junction with shorter queuing times and a reduction in NO₂ concentrations, to below the objective in the AQMA 1 (Bracknell).

- **Improvements and signalisation at the Sports Centre Roundabout**

Created an improvement in traffic movement which led to more reliable journey times and a reduction in queues, alongside a reduction in NO₂ concentrations, to below the objective in the AQMA 1 (Bracknell).

- **Capacity and safety improvements including full signalisation at the Twin Bridges Roundabout.**

This improved traffic movement along Bagshot Road and Downshire Way during peak hours and achieved a reduction in NO₂ concentrations to below the objective in the AQMA 1 (Bracknell).

- **Widening of Downshire Way from the Horse & Groom Roundabout to Twin Bridges**

Improved movement along Bagshot Road and Downshire Way for peak hour traffic and achieved a reduction in NO₂ concentrations to below the objective in the AQMA 1 (Bracknell).

- **Capacity and safety improvements at the junction with B3348 Dukes Ride and A321 Wokingham Road**

This improved traffic movement through junction in peak hours and created a reduction in NO₂ concentrations to below the objective in the AQMA 1 (Bracknell).

(This junction falls within the Wokingham Borough, but the work is led by Wokingham Borough Council).

- **Crowthorne High Street replacing flat top humps with speed cushions**

This has helped reduce the stop/start of the traffic and help maintain an even speed through the High Street, reducing NO₂

levels in this area to below the objective levels.

- **Reduction in bus waiting times at stops which aids traffic flow and reduces queuing**

All local buses in Bracknell now accept payment by contactless bank card which speeds up boarding times. Improvements have been made to bus fleet, 85% of which meet Euro VI and 65% meet Euro V standard. Only one bus (used only in emergencies) falls below Euro IV standard. Further, there is a notable reduction in the use of buses due to the knock-on effects of COVID. All the above have helped reduce the background NO₂ concentrations across the borough.

- **Signage improvements along key routes including the Bagshot Road within the AQMA (Cycle Routes)**

Data drawn from annual walking and cycling survey indicates that levels of cycling and walking across the wider Borough have increased by 13% from 2021 to 2022. Again, this has helped reduce the background NO₂ concentrations across the Borough.

- **Provision of real time information at key bus stops**

This encourages people to use the bus and reduces the number of vehicles on the road, which in turn reduces background NO₂ concentrations across the Borough.

- **Updating the Council's website to include real time rail and bus information**

BFBC has launched the **MyJourney** microsite which provides information on all public transport within Bracknell Forest. This has helped towards reducing the background NO₂ concentrations across the borough.

- **With Government funding, further work into *Smart Ticketing* was commissioned**

All Thames Valley Buses accept payment by contactless payment, to speed up the “on and off” speed at the bus stops. This has help towards reducing the background NO₂ concentrations across the borough.

- **Undertaking targeted marketing to households and businesses within 150m of the key routes, to encourage cycling and walking**

Original survey conducted through LSTF project completed and showed cycling increased by 57% on Bagshot Road. This has helped towards reducing the background NO₂ concentrations across the borough.

- **Development of School Travel Plans within the Borough**

Council actively works with schools across the Borough to use and update their Travel Plans to encourage cycling and walking. All but one of the non-independent schools, have produced a School Travel Plan. **Bikeability** classes are run each year and we promote an annual **Walk to School Week**. This has helped reduce the background NO₂ concentrations across the Borough.

- **Development of two programmes for personal travel planning; to encourage more sustainable travel. One programme will be set in residential areas and the other at large employer sites.**

Business travel plans produced and distributed to all businesses in 2016 are available on the Council website and all new major residential developments in Bracknell are now required to develop travel plans. The guidance and advice have been well received by businesses and the developer of Jennets Park subsequently agreed to run a bus service into the town centre, for a number of years.

TRL developer (Legal & General) are funding alterations to a bus service which will allow access to Crowthorne railway station and several large employers (such as Dell) now run mini buses for staff travelling from the railway station to the office. This has helped towards reducing the background NO₂ concentrations across the Borough.

Several of the proposed actions are still in the implementation stage and will be added to the new Action Plan, so this work will continue.

Actions for the 2024 to 2029 AQAP include:

- **Measure 1: Improvements to Dukes Ride/Bracknell Road junction.**

Scheme aims to improve the flow of traffic through the junction by adding a left-turn lane into High Street and moving the bus stop on Bracknell Road

- **Measure 2: Delivery plan and provision of rear service yard to reduce number of delivery vehicles unloading in Crowthorne High Street.**

Long term action that is depending on gaining permission from shops. Access for deliveries along the rear of the shops remains an ongoing objective in the

updated Local Plan, but requires doing bits separately as development opportunities arise, given individual ownership issues at the back of the shops and properties. Responsibility for the High Street delivery issues really relies with the Council's enforcement team, and as an interim/compromise solution, a Freight Quality Partnership with the Parish, businesses, traders, and freight providers needs to be agreed.

- **Measure 3: Enforcement of the Parking regulation in Crowthorne High Street.**

Parking Enforcement to look at the feasibility of enforcing the signs.

- **Measure 4: Feasibility Study for bike parking within Crowthorne.**

Investigation to find out if and where extra bike parking could be installed.

- **Measure 5: Feasibility Study for 20 mph zone in the AQMA along Bracknell Road section**

Study to be conducted by Traffic Safety.

- **Measure 6: Finger Signs for cycling and walking routes in Crowthorne.**

Increased and improved signage to be installed in Crowthorne to inform of walking or cycling routes, distances and time.

- **Measure 7: Feasibility Study for a Cycle path in the Crowthorne Golden triangle.**

Transport Planning to look more in-depth to whether a dedicated cycle route is feasible.

- **Measure 8: Continue introducing electric cars as pool cars.**

Increase the number of electric pool cars owned by the Council.

- **Measure 9: Increase in EV chargers.**

Increase the amount in the borough and Crowthorne.

- **Measure 10: Education Health Promotion, Behaviour Change Projects, and Environmental Action Days.**

Promote cleaner air during the national/local action weeks.

- **Measure 11: Anti-Idling Education/ Enforcement.**

Working with Parking Enforcement alongside education in those which will allow it under the legislation.

- **Measure 12: Feasibility Study into the Lane Rental Scheme under NRSWA s74A.**

Companies who work on the roads, charged in relation to the legislation.

- **Measure 13: Parking Car sticker Advertising.**

Car parking tickets to advertise the health effects of idling and traffic emissions.

- **Measure 14: Bus User Discounts.**

Bus ticket holders to be offered discount in participating venues.

- **Measure 15: Applications for Grants for projects within the AQMA and Borough.**

This will include the DEFRA Air Quality grant and LSTF, along with others which will benefit the air quality boroughwide.

- **Measure 16: Helping Business reduce emissions.**

ECO Stars are an accreditation to help companies achieve emission reduction in their fleet.

- **Measure 17: Environmental Permitting Regulation.**

The inspections and monitoring data checking for emissions to air will be carried out as per required by Environmental Health.

- **Measure 18: Air Quality Planning Conditions.**

Planning to continue to work with Environmental Health and apply the conditions to improve the air quality in the borough and to consider the impact of a new development on the existing air quality levels.

Air pollution is associated with several adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancers and affects the most vulnerable in our society particularly children, older people and those with existing heart and lung conditions. There is also a strong correlation with equalities issues because areas with poor air quality are often the less affluent areas^{1,2}. The annual health cost to society, of the impacts of particulate matter alone in the UK, is estimated to be around £16 billion³. Bracknell Forest Council is committed to reducing exposure to poor air quality for all its residents in order to improve health.

Bracknell Forest Council has developed several actions for consideration under 10 broad topics:

- Alternatives to use of private vehicles
- Environmental permits
- Freight and delivery management
- Policy guidance and development control
- Promoting low emission transport
- Promoting travel alternatives
- Public information
- Transport planning and infrastructure
- Traffic management
- Vehicle fleet efficiency

¹ Environmental equity, air quality, socioeconomic status and respiratory health, 2010

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

³ Defra. Abatement cost guidance for valuing changes in air quality, May 2013

Our priorities are to reduce the idling traffic in Crowthorne by keeping the traffic flowing and changing people's behaviour, so they turn off their engines when safe to do so and not moving.

In this AQAP we outline our plan to effectively tackle air quality issues that are within our control. We recognise that there are many air quality policy areas that we cannot influence (such as vehicle emissions standards agreed in Europe) but for which we may provide useful evidence, therefore we will continue to work with Regional and Central Government on these policies, for the wider good.

The Action Plan entails a joint working approach with other teams within the Council, such as Climate Change, Transport and Highways, Planning and Public Health, along with local environmental groups and schools. This joint approach will ensure that the measures detailed within this action plan continue to provide a holistic and structured approach towards improving the air quality in the Borough.

1.1 Responsibilities and Commitment

This AQAP was prepared by the Public Protection Partnership for Bracknell Forest Council with the support and agreement of the following departments:

- Highways Department,
- Planning Department,
- Climate Action Change,
- Waste and Recycling,
- Landscaping,
- Environmental Health and
- Public Health.

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2. Introduction

This report outlines the actions that Bracknell Forest Council will deliver from 2024 - 2029 to reduce concentrations of air pollutants and exposure to air pollution; thereby positively impacting on the health and quality of life for residents and visitors to Bracknell Forest, and in particular Crowthorne.

It has been developed in recognition of the legal requirement on the local authority to work towards Air Quality Strategy (AQS) objectives under Part IV of the Environment Act 1995 and relevant regulations made under that part and to meet the requirements of the Local Air Quality Management (LAQM) statutory process.

This Plan will be reviewed every five years at least and progress on measures set out within this Plan, will be reported annually within Bracknell Forest Council's Air Quality Report (ASR).

The Council declared the Crowthorne AQMA in 2011, the initial boundary of the AQMA was amended in 2013 following the Further Assessment report undertaken in 2012.

The purpose of the Action Plan is to:

- Provide context to the national requirements for assessing and managing air quality in declared AQMA.
- Outline the measures delivered and/or proposed by the Council in its aim to improve local air quality and meet the air quality standards and objectives, within the AQMA area.

As the Action Plan is predominantly transport based, both highways network and travel choices, most of the delivery of this plan will be integrated with the delivery of the existing Local Transport Plan (LTP) 3, and the current draft LTP4. It is also important to recognise the link between air quality and climate change, so the Action Plan will seek to provide an integrated approach to local air quality and the impacts of climate change.

The new plan focuses primarily on the one AQMA in Crowthorne, see Appendix C.

The local air quality plan has a vital role not only in protecting public health and the environment but also by enhancing quality of life for our society. There is evidence to

demonstrate that exposure to air pollution can be associated with several adverse health impacts and can reduce life expectancy by an average of 7 – 8 months. Poor air quality particularly affects the most vulnerable in society, the very young and older people and those with pre-existing heart and lung conditions.

The strategic framework for air quality management in the UK is contained within the Air Quality Strategy (AQS) which DEFRA updated in April 2023. This strategy contains the national air quality standards and objectives established by the Government to protect human health. See Table 2.1.

The AQS objectives consider EU Directives that set limit values which member states are legally required to achieve, by their target dates. The objectives for ten pollutants (benzene, 1,3-butadiene, carbon monoxide, lead, nitrogen dioxide, sulphur dioxide, particulates - PM10 and PM2.5, and ozone) have been prescribed within the Air Quality Strategy based on the Air Quality Standards (England) Regulations 2010.

The Strategy acknowledges there are links between air quality and climate change and in 2010 DEFRA published a further document entitled “Air Pollution: Action in a Changing Climate” which acknowledged that air pollution often originates from the same activities that contribute to climate change e.g., road transport. Therefore, it makes sense to link air quality action plans with climate change and transport policies, by including objectives within these policies, in this plan.

All local authorities in the UK have statutory duties for managing local air quality under Part IV of the Environment Act 1995. Local authorities are required to carry out regular reviews and assessments of air quality in their area against standards and objectives prescribed in the Air Quality (England) Regulations 2010 and the Air Quality (England) (Amendment) Regulations 2002 (SI 3043). The objectives for the pollutants for the Local Air Quality Management (LAQM) are set by the Regulations as shown in Table 2.1.

Bracknell Forest Council is one of the 130 Local Authorities which has declared AQMAs based on the failure to meet the air quality objective for NO₂.

Table 2.1: Air Quality Objectives included in the Air Quality Standard regulations 2010 for the purpose of LAQM in England.

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25 µg/m ³	Running annual mean	31.12.2003
	5.00 µg/m ³	Running annual mean	31.12.2010
1,3-Butadiene	2.25 µg/m ³	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m ³	Running 8-hour mean	31.12.2003
Lead	0.5 µg/m ³	Annual mean	31.12.2004
	0.25 µg/m ³	Annual mean	31.12.2008
Nitrogen dioxide	200 µg/m ³ not to be exceeded more than 18 times a year	1-hour mean	31.12.2010
	40 µg/m ³	Annual mean	31.12.2010
Particles (PM _{2.5}) (gravimetric)	20 µg/m ³	Annual mean	01.01.2020
	Target reduction of 20% in concentrations at urban background	Annual mean	Between 2010 and 2020
Particles (PM ₁₀) (gravimetric)	50 µg/m ³ , not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 µg/m ³	Annual mean	31.12.2004
Sulphur dioxide	350 µg/m ³ , not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 µg/m ³ , not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 µg/m ³ , not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

3. Summary of Current Air Quality in Bracknell Forest

Air pollution is associated with several adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancers. Additionally, air pollution particularly affects the most vulnerable in society such as children, the elderly and those with existing heart and lung conditions. There is also a strong correlation with equalities issues because areas with poor air quality are also often the less affluent areas^{4,5}.

The mortality burden of air pollution within the UK is equivalent to 29,000 to 43,000 deaths at typical ages⁶, with a total estimated healthcare cost to the NHS and social care of £157 million in 2017⁷.

3.1 General Air Quality Trends in Bracknell Forest.

The major source of air quality pollutants in Bracknell Forest is emissions from road transport. The main pollutant of concern is nitrogen dioxide (NO₂) and to a lesser extent the increased levels of particulate matter. Two AQMAs were declared in 2011 due to exceedances of the Annual Mean Objective for NO₂; the Bracknell AQMA (Bagshot Road and Downshire Way) and the Crowthorne AQMA. There are no exceedances of PM₁₀. Details can be found at: <https://uk-air.defra.gov.uk/aqma/list?view=W> and maps for Crowthorne are in Appendix C.

⁴ Public Health England. Air Quality: A Briefing for Directors of Public Health, 2017

⁵ Defra. Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006

⁶ Defra. Air quality appraisal: damage cost guidance, January 2023

⁷ Public Health England. Estimation of costs to the NHS and social care due to the health impacts of air pollution: summary report, May 2018

Nitrogen dioxide (NO₂) is the main pollutant of concern. The levels in 2022 have shown a decreasing trend since 2018 (36.6µg/m³). The annualised continuous monitored NO₂ Annual Mean in 2022 was 31.1µg/m³ at Downshire Way and did not exceed the Air Quality Objective level of 40µg/m³, further, there were no exceedances of the 1-hour objective at Downshire Way. There have been no exceedances of the Objectives since before 2018.

There were no exceedances of the ratified, bias corrected, annualised and distance corrected diffusion tubes (NO₂) within the entire borough, including the Bracknell and Crowthorne AQMA's. Also, there were no locations reading greater than 60 µg/m³, which further indicates that there are unlikely to be any exceedances of the 1-hour Objective. All the 2022 sites showed decreased levels compared with the data from 2018. Although all locations within the borough showed an increase from the 2021 data, apart from Site 58, Firmount, Bracknell Road Crowthorne which dropped from 31.1 µg/m³ to 30.6 µg/m³. We expected an increase in 2022 as there were no lockdowns and traffic levels increased post pandemic.

From the data presented in the 2023 ASR, DEFRA has requested that Bracknell Forest Council revoke the Bracknell AQMA. However, as Crowthorne is yet to register NO₂ levels 36 µg/m³ or below, for five consecutive years, a new AQAP must be produced and the AQMA remains.

Please refer to the latest ASR from Bracknell Forest for full details on our 2022 data and actions. publicprotectionpartnership.org.uk/media/2877/bfbc_asr_2023_ph-eh.pdf

3.2 Sources of NO₂ in AQMA

The Detailed Assessment (2012) report apportioned the source of the NO_x in the AQMAs. Government guidance in LAQM (TG) 22 states that the sources must be separated into the following components:

- Regional Background (which the LA is unable to influence)
- Local background (which the LA should have some influence over) and

- Local Sources (which will add to the background to give rise to the hotspot area of exceedances. These are the principal sources for the local authority to control with the Action Plan.)

The Crowthorne AQMA Further Assessment report highlighted the local source to be moving traffic. The traffic was split into the component types of *light* and *heavy* vehicles. The main local source identified in this area derives from Light Delivery Vehicles (LDVs). As neither the nature of the high street or shop layouts have changed and using the data, we collected during COVID, the evidence shows that traffic is still the main source in the High Street and Bracknell Road.

The results show that the predominant source of NO_x in the AQMA comes from the background. As already stated, the background is made up of both local and regional background levels of NO_x and there is little that the Council can do to influence the regional background although the local background, is often influenced by local sources. The local sources identified, queuing traffic and the movement of light vehicles within the Crowthorne AQMA, contribute to the emissions.

The current legislation governing air quality, outlines that air quality action plans need to demonstrate progress towards achieving the national air quality objectives and standards. This will be evidenced by the continued monitoring within the AQMAs and through annual progress reports. Data and evidence may also be obtained from other parties to establish whether the objectives in the Action Plan are being achieved.

3.3 AQMA and a review of the Monitoring network

Bracknell Forest undertook non-automatic (i.e. passive) monitoring at 26 sites. The diffusion tubes are set at a position to replicate a human exposure (receptor locations). Several tubes are placed at the roadside and a number are placed along the kerbside, slightly away from the roadside. This data is used to model the NO₂ levels at the nearest human receptor. The results from these tubes are analysed every month and ratified annually. Some sites have a single tube whilst others have triplicate tubes, to ensure greater accuracy in the monitoring.

Air Quality data has been collected within the Borough for many years as part of the Local Air Quality Management regime. As part of the on-going monitoring and

assessment of air quality, the extent and location of the monitoring sites are reviewed on an annual basis.

3.4 Crowthorne AQMA

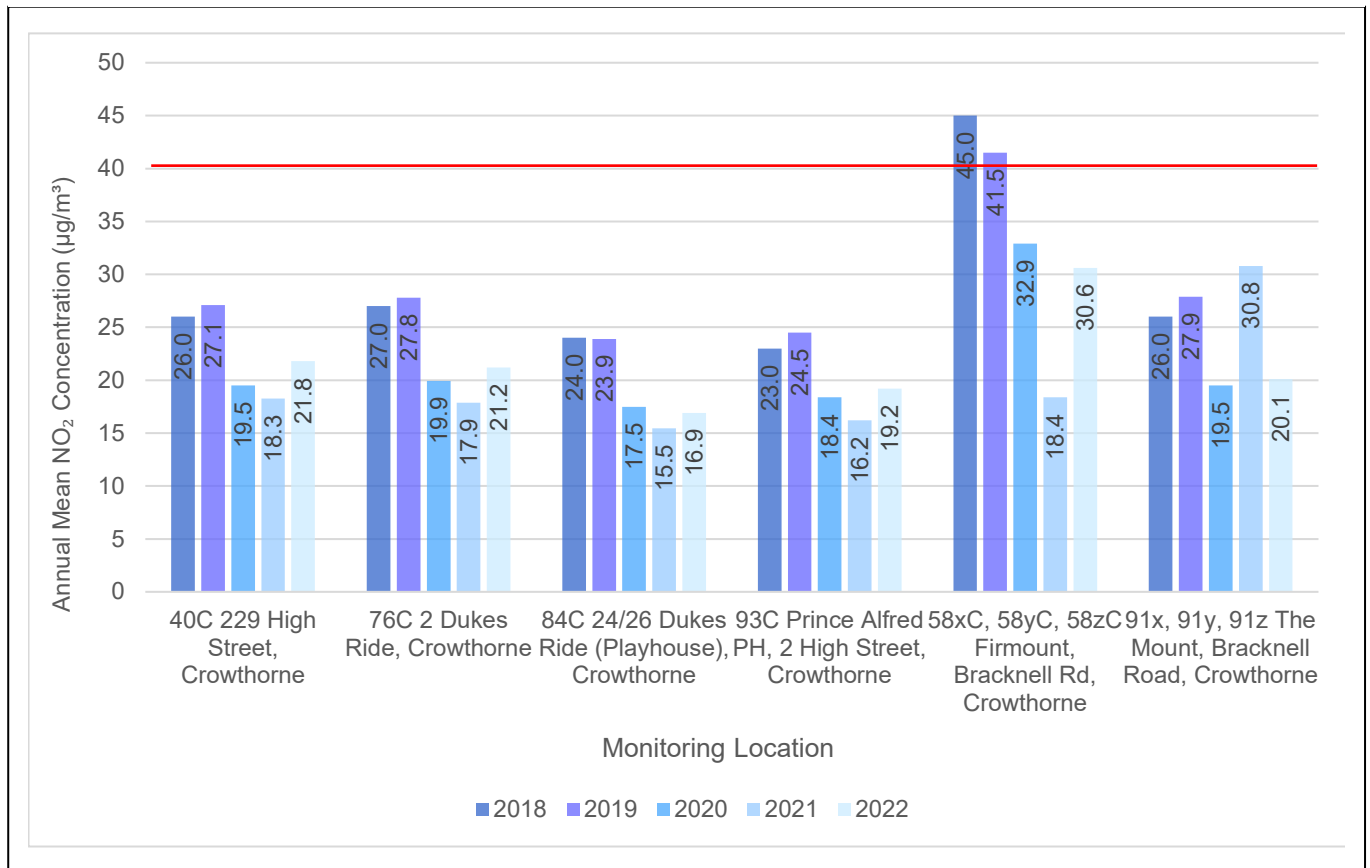
Within the Crowthorne there are 10 diffusion tube sites of which 6 are located within the AQMA. 5 are located at road and kerb side and 1 at a receptor location. (As shown in the maps in Appendix C).

- 229 High Street Crowthorne (Kerbside)
- Dukes Ride, Crowthorne (Kerbside)
- 24/26 Dukes Ride, Playhouse, Crowthorne (Kerbside)
- Prince Alfred (Public House), High Street, Crowthorne (Receptor)
- Firmount, Bracknell Road, Crowthorne (Kerbside)
- The Mount, Bracknell Road, Crowthorne (Receptor)

3.5 Trends in Air Quality within the Crowthorne AQMA

For all 6 sites within the AQMA there have been no exceedances of the NO₂ annual objective (40.0 µg/m³) and all the sites within this AQMA, since 2020 and the NO₂ has continued to reduce since 2018. In 2022, five out of six sites have seen increases in NO₂ compared to 2021. See Figure 3.1 for the NO₂ levels for years 2018 – 2022.

Figure 3.1 NO₂ results in the Crowthorne AQMA.



3.6 When can Crowthorne Revoke its AQMA?

An AQMA can be revoked according to the LAQM. TG (22).

- Para 3.57 - “The revocation of an AQMA should be considered following three consecutive years of compliance with the relevant objective as evidenced through monitoring. Where NO₂ monitoring is completed using diffusion tubes, to account for the inherent uncertainty associated with the monitoring method, it is recommended that revocation of an AQMA should be considered following three consecutive years of annual mean NO₂ concentrations being lower than 36 µg/m³ (i.e., within 10% of the annual mean NO₂ objective). There should not be any declared AQMAs for which compliance with the relevant objective has been achieved for a consecutive five-year period.”

DEFRA has clarified what constitutes ‘a COVID-19 year’ with respect to air pollution and it is considered, that because of COVID-19 on traffic levels in turn, local pollutant concentrations, monitoring data from 2020 and 2021 should be excluded when a

local authority is considering compliant years for AQMA revocation. Crowthorne as has been compliant in 2022 ($36 \mu\text{g}/\text{m}^3$ or below), and if it remains complaint in 2023 and 2024, we can then request to revoke the AQMA.

3.7 Stakeholder Working Groups

Due to the nature of Air Quality and how it fits within multiple groups, the Air Quality Officer attends groups such as Public Health, Parking Enforcement, Active Travel, Climate Change, Planning & Policy, as well as chairing a bi-annual AQAP meeting, to ensure that all the actions on the AQAP are being met, or to devise new actions for the new plans. As the actions of many groups impact on improving the air quality in the borough, it is imperative that the Officer attends several groups to ensure that their actions do not create additional adverse impacts.

Stakeholders in the AQAP meetings have so far included representatives from Parking Enforcement, Public Health, Climate Change, Active Travel, Transport Planning, Planning, Traffic Enforcement, Environmental Enforcement, Parish Council, Local Councillors, Borough Councils, and local environmental groups such as Crowthorne Reduce Our Waste (CROW) and Crowthorne Village Action Group (CVAG), the local schools were also invited to attend.

4. Bracknell Forest Council's Air Quality Priorities

4.1 Public Health Context

All combustion processes in air produce oxides of nitrogen. NO₂ and nitric oxide (NO) are both oxides of nitrogen and together are referred to as NO_x. However, it is NO₂ which may be associated with adverse effects upon human health. Road transport accounts for about 33.6% of the total UK emissions of NO_x (Figure 4.1), with further contributions from non-road transport (16.8%). [Department for Environment, Food & Rural Affairs](#) (DEFRA) estimates that 80% of NO_x emissions in areas where the UK is exceeding NO₂ limits are due to transport, with the largest source being emissions from *diesel light duty vehicles* (cars and vans). Other sources include power generation, industrial processes, and domestic heating.

The Committee on the Medical Effects of Air Pollutants (COMEAP) has [established](#) that short-term exposure to NO₂, particularly at high concentrations, is a respiratory irritant that can cause inflammation of the airways leading to - for example - cough, production of mucus and shortness of breath. Studies have shown associations between NO₂ in outdoor air with reduced lung development, respiratory infections in early childhood and effects on lung function in adulthood.

[Epidemiological studies](#) have also shown associations of outdoor NO₂ with adverse effects on health, including reduced life expectancy. It is unclear whether these effects are caused by NO₂ itself, or by other pollutants emitted at the same time by sources such as road traffic. ([Health matters: air pollution - GOV.UK \(www.gov.uk\)](#)). However, emissions are likely to decline further over the coming years as new technology and emission standards continue to be introduced, along with local low emission zones.

There is evidence to show that long-term exposure to NO₂ may affect lung function and at relatively high concentrations, NO₂ causes inflammation of the airways. Exposure to NO₂ also increases the response to allergens, in sensitised individuals (DEFRA 2004) (Figure 4.2).

This Action Plan will outline the reduction measures in relation to NO_x, as the other pollutants in the air quality objectives have been monitored in recent years and the levels do not currently pose a health threat to those living within the AQMAs.

Figure 4.1 Sources of air Pollution.

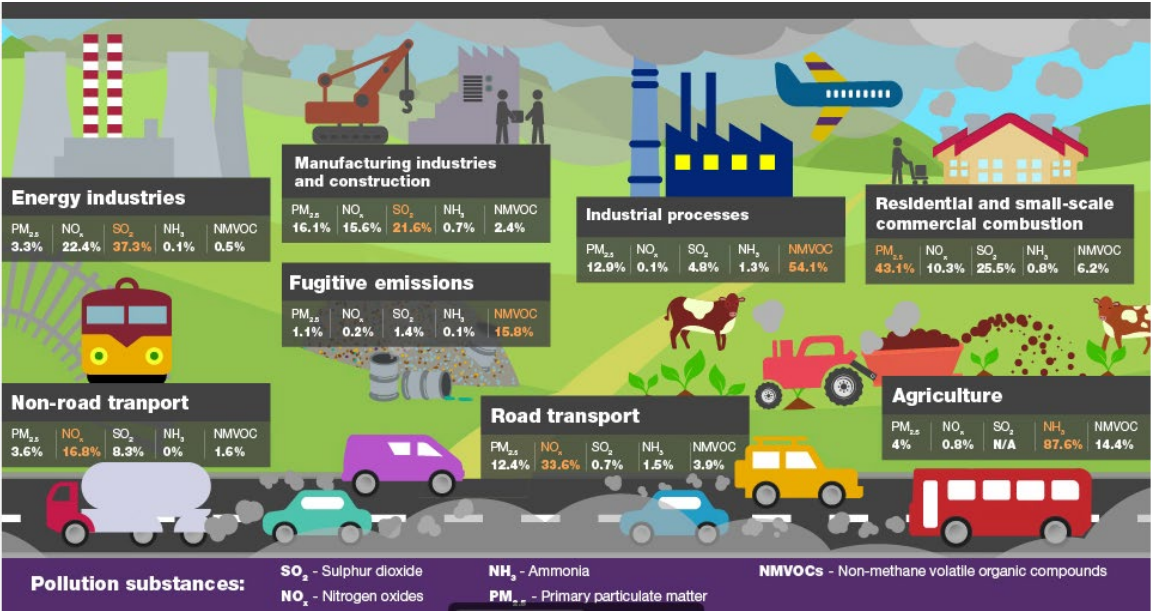
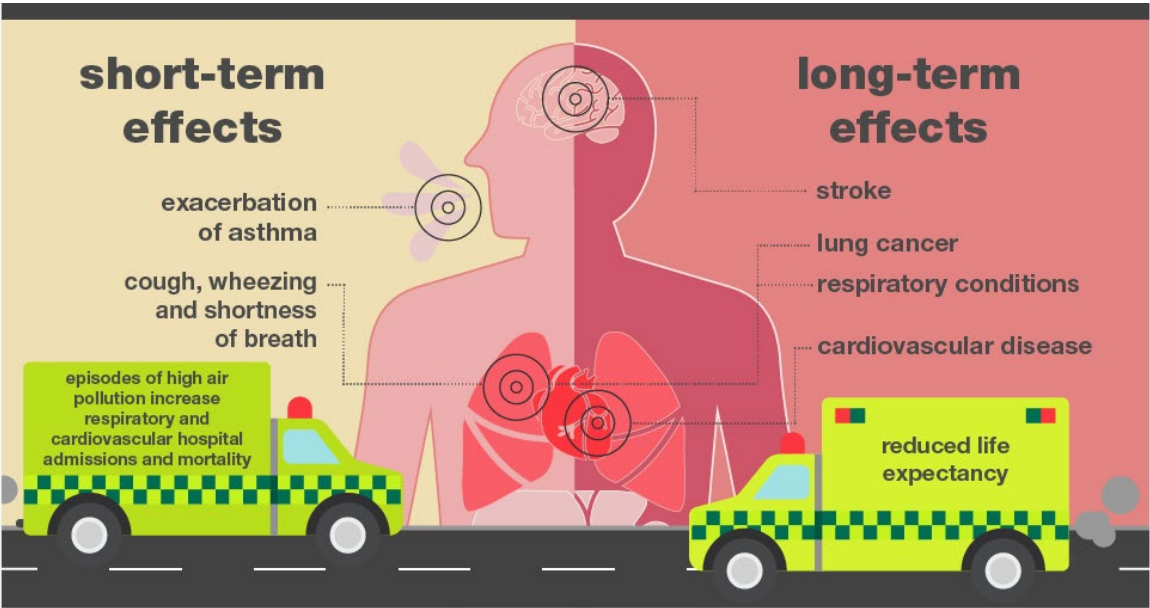


Figure 4.2 Health effects of air Pollution



The Fraction of Mortality Attributable to Particulate Air Pollution Indicator Value, for Bracknell Forest and other Local Authorities within Berkshire, can be seen in Table 4.1.

In 2020, the first person in the UK had air pollution listed as their cause of death, having been exposed to annual average exceedances of NO₂. The Prevention of Future Deaths report that followed Ella Adoo-Kissi-Debra’s death, highlighted the public’s low level of

awareness about the national and location pollution levels and their health impacts. The report sought better communication from Local Authorities and other health professionals about what the resolutions are. BFBC have already been working in partnership with the local Public Health Team to identify more vulnerable areas and will continue this work in the AQAP. Using the 2020 DEFRA grant, we created an education tool kit about anti-idling, which is available to all schools, as well as leaflets to be attached to the weekly newsletters for parents.

Table 4.1 Showing the Fraction of Mortality Attributable to Particulate Air Pollution Indicator Value within Berkshire.

National England Average	Southeast Region	West Berkshire	Reading	Wokingham	Bracknell Forest	Windsor & Maidenhead	Slough
5.5%	5.4%	5.4%	5.9%	5.9%	<u>5.9%</u>	5.9%	6.3%

4.2 Planning and Policy Context

4.2.1 The Bracknell Forest Council Local Plan (2023 – 2037)

The Bracknell Forest Local Plan provides the strategy for the growth of the borough up to 2037. Once adopted, it will replace the saved policies in the [Bracknell Forest Borough Local Plan](#) (2002) and the [Core Strategy](#) (2008). It will therefore be wide ranging in terms of the issues it will cover.

The Plan includes a vision, objectives and strategy for the level and distribution of development in the borough up to 2037 and is divided into two parts.

Part 1 deals with strategic matters and contains policies that set out the overall strategy for the pattern, scale, and quality of development, together with provision to meet specified needs.

Part 2 covers non-strategic matters which are essentially development management policies. These set out the criteria against which all planning applications will be considered.

The issues covered are summarised below.

Part 1:

- vision and objectives
- spatial strategy

- sustainability principles
- housing and economic need and supply including site allocations.
- infrastructure
- climate change and the built and natural environment

Part 2:

- housing
- economic development
- local infrastructure and community uses
- development affecting the countryside and Green Belt
- character and design
- historic environment
- natural environment
- climate change and environmental sustainability
- transport

4.2.2 National Planning Policy Framework (2021)

This is national planning guidance that applies to all local authorities. It sets out the Government planning policies for England and how these should be applied. It outlines the purpose of the planning system and how it contributes to the achievement of sustainable development and to achieve this, the planning system has three overarching objectives:

Economic, Social and Environmental

The following chapter sets out how Local Authority planning departments should address local air quality, its management areas and monitoring.

- Promoting sustainable transport
- Conserving and enhancing the natural environment
- Ground conditions and pollution

<https://www.gov.uk/government/publications/national-planning-policy-framework--2>

4.2.3 Bracknell Forest Local Transport Plan 3 (2011 – 2026)

Focusing on air quality matters, Local Transport Plan 3 is consistent with the government's transport objectives for improving local air quality, by developing a set of local objectives,

including the objective *to protect and enhance the quantity and quality of natural resources including water, air quality and the natural environment*. These have led to a set of transport policies that set a statement of intent and direction of travel, in terms of achieving better air quality in the borough and within the AQMAs. Together, over time these policies will ensure improved air quality.

The following provide examples of how the policies are intended to deal with air quality issues across the Borough:

- **Accessibility (Policy TP1)** – states the Council is committed to improving accessibility through developing a series of corridor route strategies to ensure a co-ordinated and forward-thinking approach to network improvements. This is critical to improving the flow of traffic within and through, the borough. For example, the A322/329 corridor which will keep traffic moving and reduce the stop/start impact of congestion which contributes towards poorer air quality.
- **Buses (Policy TP3)** – encourages the use of alternative fuels and greener buses, which will minimise air pollution from this mode of transport in the AQMA areas.
- **Rail (Policy TP4)** – encourages improvements to capacity as an alternative to car use.
- **Taxi and Private Hire Vehicles (Policy TP5)** – encourages alternative fuels and low emission vehicles, which will benefit the AQMAs in the longer term.
- **Smarter Choices (Policy TP7)** - states that the Council will improve and promote walking and cycling options especially for short local trips. This could help ensure that unnecessary car trips through the AQMA areas are minimised.
- **Walking and Cycling (Policy TP8)** – aims to improve walking and cycling infrastructure, which could improve provision through the Crowthorne Area 2 AQMA.
- **Smarter Vehicle Use (Policy TP11)** – encourages up-to-date journey information which could influence traffic using the A322/329 corridor especially during congested periods.
- **Traffic Management (Policy TP12)** – seeks to regulate traffic by facilitating the movement of traffic. This will minimise traffic congestion and its impact on air quality.
- **Congestion Management (Policy TP13)** – states that the Council, through works and measures, will improve the capacity and functionality of junctions and route corridors. The proposed junction improvements along the A322/A329 corridor planned in

association with the Council Infrastructure Delivery Plan⁸, are an example of the intended improvements to be made to implement this policy, which will have a positive impact on air quality issues in this area.

- **Intelligent Transport System (Policy TP14)** – states the Council will use Intelligent Transport Systems (ITS) technology to manage traffic flow through transport corridors. This will help to keep traffic moving and help people to make informed decisions about their intended journey.
- **Movement of Freight (Policy TP15)** –. promotes preferred routes for freight movement, low emission vehicles and the provision of infrastructure to facilitate the use of low emission vehicle.
- **Parking (Policy TP16)** – promotes electric charging points in parking bays.
- **Network Management (Policy TP18)** - states the Council will co-ordinate the response to congestion issues which will contribute to minimising the impacts of congestion on AQMAs.

The new 2024 to 2037 LTP 4 is currently out for consultation. The vision for 2037 is to develop a sustainable and resilient transport network that reduces carbon and provides choice and access for all in a safe and healthy environment, making Bracknell Forest a desirable place to live, work and grow.

4.2.4 Cycling and Walking Guidance Statement (2018 - 2022)

This Strategy addresses the need to continue to encourage visitors and residents to walk and cycle, for work and leisure, through a range of measures set out within Policy TP8 of the Local Transport Plan. These include information, promotion, education, infrastructure provision, maintenance, lighting, and trip-end facilities.

⁸ The Infrastructure Delivery Plan is a live document which is periodically updated to provide the details of necessary infrastructure to deliver the Council's housing needs as set out in the emerging Site Allocations Development Plan Document. It will also be an important tool for the production of the Council's forthcoming Local Plan review.

The Bracknell Forest vision derives from the Local Transport Plan, which forms the backbone for all of our strategies; ‘To develop a transport system that supports the local economy, provides choice and improves quality of life in a safe and healthy environment’. Through a focus on walking and cycling, we aim to help drive forward benefits for strategic and local access, sustainable transport, the environment, community health, economic growth, education, enjoyment, tourism, carbon reduction and more.

<https://www.bracknell-forest.gov.uk/sites/default/files/2022-06/walking-and-cycling-strategy.pdf>

4.2.5 Climate Change and Ecological Emergency Action Plan (2020)

Bracknell Forest Council has committed itself to becoming carbon neutral by 2050. Delivering on this challenging target will require Members and Officers to work together in order to achieve this important objective. Air Quality and the actions we take as part of the Air Quality Action Plan plus local monitoring, are combined in the Climate Change Action Plan to help make a positive impact.

<https://www.bracknell-forest.gov.uk/council-and-democracy/strategies-plans-and-policies/climate-change/climate-change-strategy>

4.2.6 Crowthorne Neighbourhood Plan 2018 to 2036

The purpose of the Neighbourhood Plan is to set out a series of planning policies that will be used to determine planning applications in the area in the period to 2036. The Plan will form part of the development plan for the Bracknell Forest Borough, alongside other development plan documents produced by Bracknell Forest Council such as the Core Strategy, which covers the period up to 2026. The Core Strategy is one of the documents that will eventually be replaced by the Bracknell Forest Local Plan, which will cover the period up to 2036.

Policy CR9: -. demonstrate how air quality improvements will be achieved, where possible.

4.2.7 Parking Standards Supplementary Parking Planning Document March 2016

An effective strategy for dealing with parking issues is vital to deliver sustainable growth in the borough. A balanced approach to delivering parking standards can help stimulate growth and meet the needs of our residents. The Draft SPD therefore aims to deliver effective parking solutions while taking account of other planning considerations. It is not

intended to suppress the use of the car, or to promote the car over other forms of transport such as walking, cycling or public transport.

Section IV (and Annex E). Adapting parking provisions for future technology and climate change, which includes the following standards.

1. For residential schemes: on sites larger than 10 dwellings, require 20% (1 in 5) of all spaces to be designed and constructed to be readily adaptable to provide charging points.
2. For employment schemes: on sites with over 500 sq. m net internal area, require 20% (1 in 5) of new spaces to be designed and constructed to be readily adaptable to provide charging points.
3. For retail schemes: on sites over 1000 sq. m net internal area, require 20% (one in five) of new spaces to be designed and constructed, to be readily adaptable to provide charging points.

4.2.8 Environmental Permitting Regulations

There are 3 Part B permits regulated by the Council within the AQMA, 2 dry cleaners and a petrol station, all of which are designated as low risk and are inspected regularly in accordance with the Pollution, Prevention and Control 1999 legislation.

4.3 Source Apportionment

The AQAP measures presented in this report are intended to be targeted towards the predominant sources of emissions within Bracknell Forest Council's area.

A source apportionment exercise was carried out by Bracknell Forest in 2023. This identified that within the AQMA, the source contributions were as follows:

- *Regional background 2023*, NO₂ 12.53 µg/m³ (which the authority is unable to influence);
- *Local background 2023*, NO₂ 10.29 µg/m³ (which the authority should have some influence over); and
- *Local sources*, these are areas which add to the background NO₂ to give rise to the hotspot area of exceedances. These are the principal sources for the local authority to control within the Action Plan. Road traffic is the biggest local source and contributor to NO_x in the Crowthorne AQMA. The main vehicles that stop/start and idle are those

cars waiting from the mini roundabouts at each end of the High Street, and the light good vehicles (LGV's) when they are making deliveries to the shops along the High Street. If these vehicles are stopping in a manner that is blocking the carriageway then cause traffic jams along the High Street. Evidence from the COVID-19 traffic and NO₂ data (see Table 4.2) shows that the main source of NO₂ in Bracknell Forest is from vehicles.

Table 4.2: The Annual mean background NO₂ for Berkshire

Region	Slough	Windsor & Maidenhead	Reading	Wokingham	West Berkshire	Bracknell Forest
Annual Mean Background NO₂ (µg/m³)	18.04	11.97	14.85	11.95	8.09	10.29
Berkshire Regional Background NO₂ (µg/m³)	12.53					

AQAP will focus on proposals to reduce emissions from local sources, it will also be important to separate these sources into:

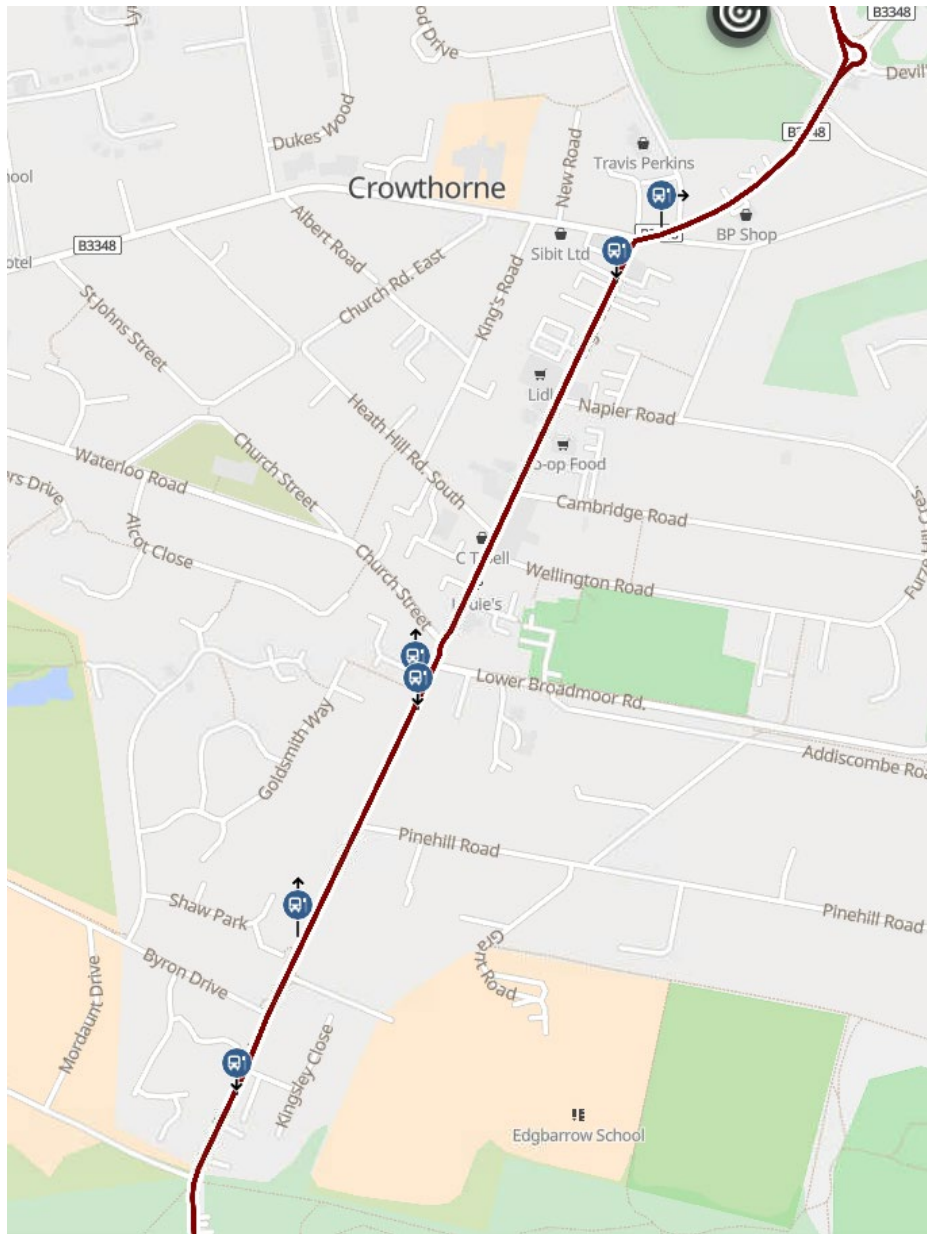
- Stationary sources (if relevant) potentially dealing with each source separately.
- Vehicle emissions split between moving and stationary traffic if congestion is a significant issue.

4.3.1 Local Bus Network

Thames Valley Buses run the 194 from “Bracknell- Crowthorne- Sandhurst- Camberley”. There are 60 buses per day (30 each way) and the bus stops within the AQMA can be seen on Figure 4.3. Currently the buses used for this service are the diesel EURO VI, which are compliant for the ultra-low emission zones (ULEZ) in the UK.

<https://portal.westberks.gov.uk/Citrix/portalWeb/clients/HTML5Client/src/SessionWindow.html?launchid=1700037401668>

Figure 4.3 The Thames Valley 194 bus route through the Crowthorne AQMA.



4.3.2 Electric Vehicles

The UK Government has committed to new zero emissions by 2050, and transport is now the UK's largest emitting sector, and 91% of those emissions are from road transport. Cars and taxis alone represent 52% of domestic transport emissions, with an additional 6% from vans and other light goods vehicles. Therefore, encouraging and increasing electric vehicles (EVs) will help to reduce the NO₂ in Crowthorne, and the whole borough.

Bracknell Forest Council has to date:

- installed 20 fast charging points in Bracknell town centre car parks,
- installed 38 charge points in 14 community car parks across the borough,
- updated our planning and parking policies so that EV charging capability must feature in new residential and non-residential developments.
- There is one charger in the Lidl carpark and 5 locations for fast / rapid chargers identified in Crowthorne currently.

4.3.3 Impacts of COVID-19 on Air Quality within Bracknell Forest

The Pandemic has had a positive impact on the air quality throughout the whole of the borough, this can be seen clearly in Table 4.3 for the Crowthorne AQMA diffusion tubes. The percentage reductions of NO₂ during the national lock downs can be seen in Table E.2. This data was collected monthly from the Continuous monitor located on the Downshire Way in Bracknell (M3/M4 corridor). During the first nation lockdown from the 23rd of March 2020 to the 1st June 2020 (when the schools reopened) the reduction of NO₂ was between 33.97% and 43.84%. This equated to a 25.89% reduction in annual mean concentration relative to 2019. The reduction in NO₂ experienced within 2020 has allowed the Council to provide an evidence base in relation to the annual mean objective being achievable if the low volume of vehicles continue to use the roads. It also provides compelling evidence that the main source of the NO₂ in the whole of Bracknell Forest is from vehicles. Traffic counts on the A322 Bagshot Road (near the Coral Reef), A329 London Road, Martins Heron, A321 Sandhurst High Street (nearest the Crowthorne AQMA), and B3408 Wokingham Road, were in operation during 2020 and have allowed a comparison of traffic numbers with the reduction of monthly NO₂ concentrations experienced at the Bracknell continuous monitoring (CM) location. This has allowed estimations to be made for the reduction in traffic numbers required to continue to achieve compliance with the annual mean NO₂ objective in the Boroughs AQMAs. During 2020 the traffic in the Borough was 23% lower than in 2019 see Figures 4.4 to 4.6.

Table 4.3 Showing the Comparison of the 2020 Data NO₂ with the two previous years captured by the continuous monitoring on the Downshire Way (data captured by the CM)

Month (Lock downs)	Average NO ₂ (µg/m ³) 2018	Average NO ₂ (µg/m ³) 2019	Average NO ₂ (µg/m ³) 2020	Average NO ₂ (µg/m ³) 2021	Average NO ₂ (µg/m ³) 2022	COVID - Difference between 2019 & 2020 (%) *(comparing 2018 & 2020 data)
January	31.5	45.3	Offline	69.2	45.1	
February	33.5	43.2	Offline	58.9	25.2	
March+	35.7	33.5	Offline	74.4	27.6	
April	32	31.2	20.6	38.8	23.9	-33.97
May	37.4	33.3	18.7	29.6	22.7	-43.84
June	31.6	22.5	20.2	29.2	27.5	-10.22
July	40	29.3	26.9	25.6	34.8	-08.19
August	39.7	27.8	24.6	15.1	30.4	-11.51
September	40.4	20.9	28.6	20.4	34.5	+36.84
October	42.6	Offline	24.0	27.5	31.0	-43.66*
November	35.9	Offline	28.2	38.3	28.5	-21.45*
December	42.3	Offline	31.3	33.2	41.8	-26.00*
Annual Annualised Average	36.6	33.6	26.9	31.1	29.9	-25.89

+23rd March Lockdown occurred.

Figure 4.4 A329 London Road Traffic Flow Comparison between 2019-2021

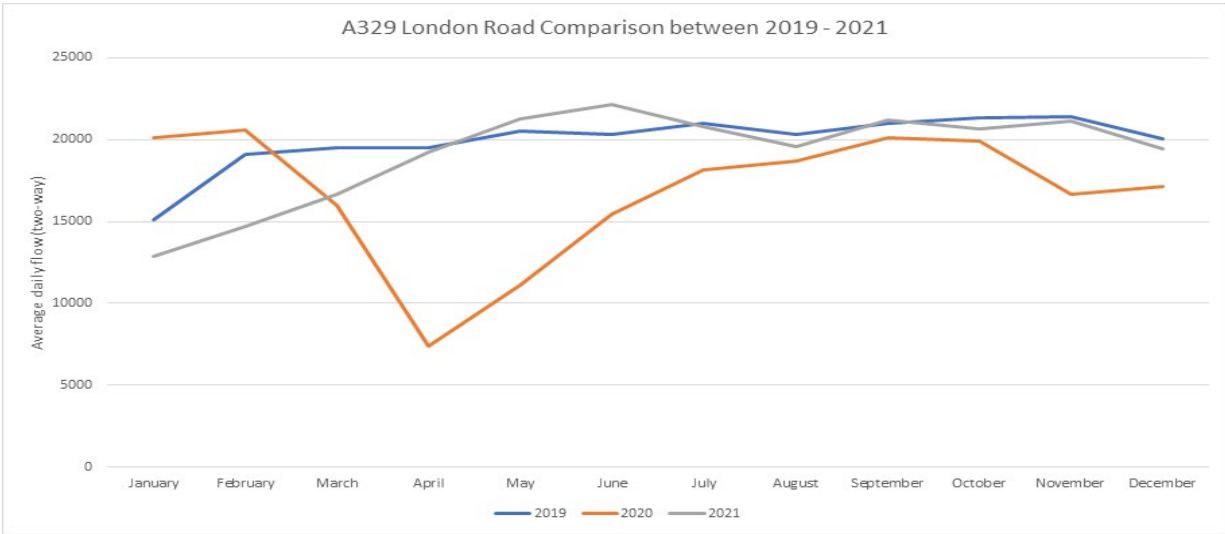


Figure 4.5 A321 High St Sandhurst Traffic Flow Comparison between 2019-2021

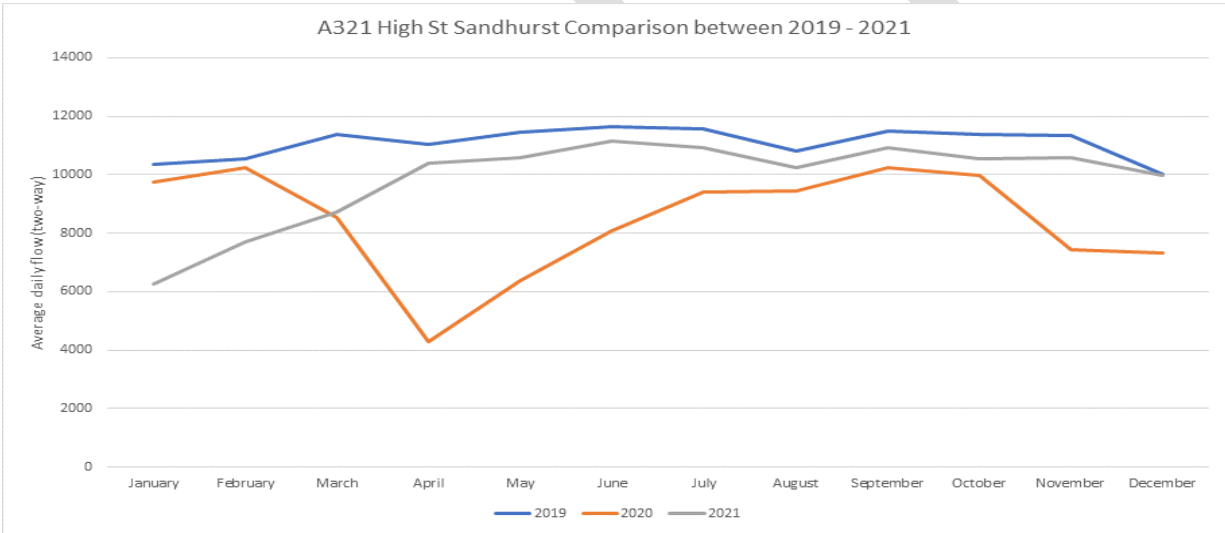
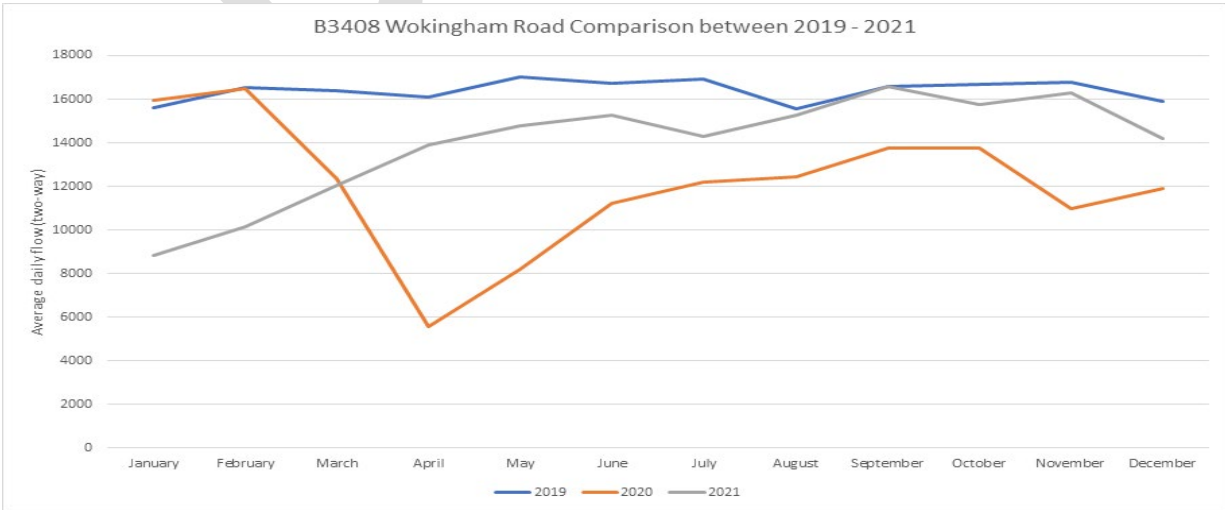


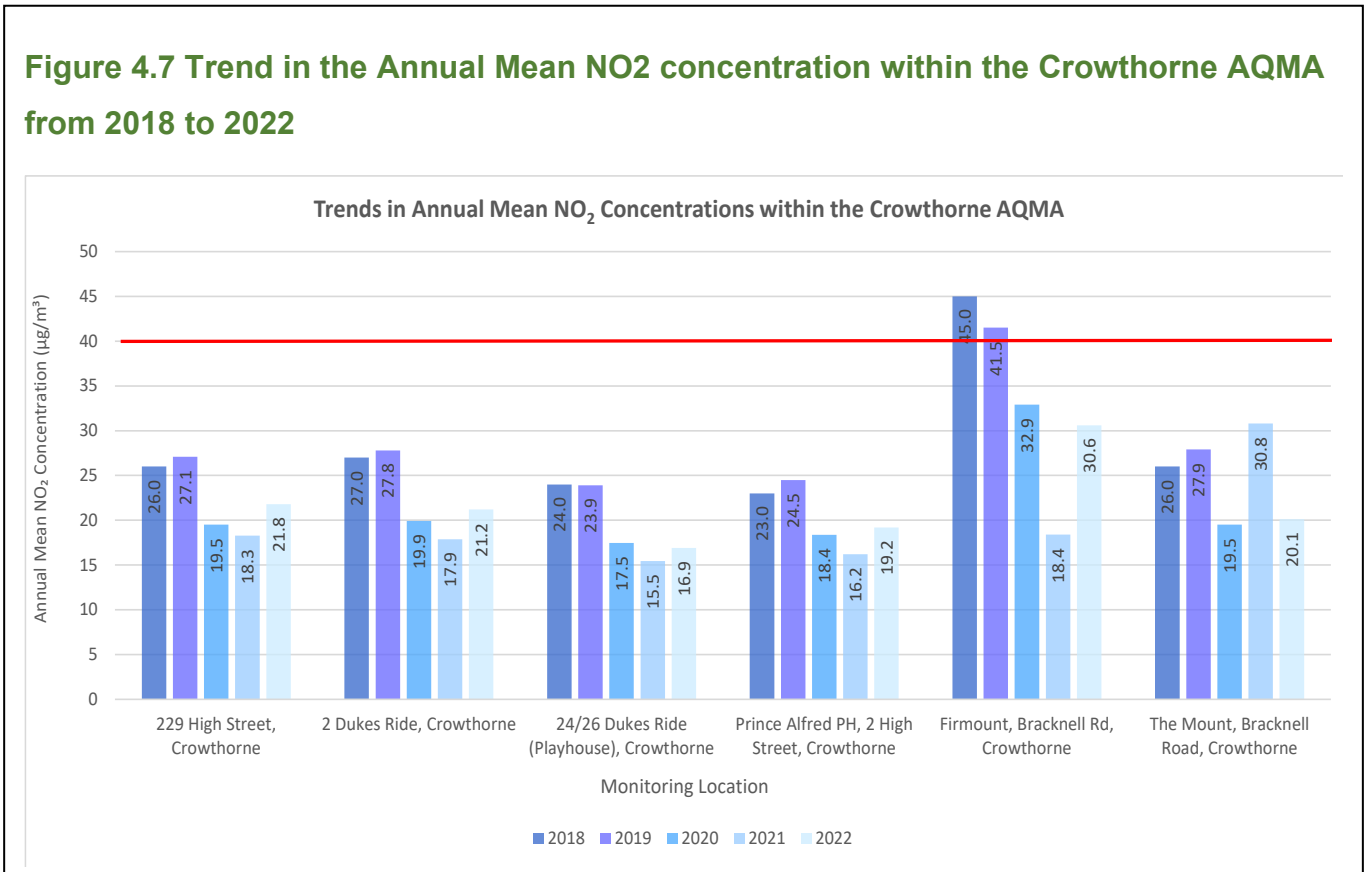
Figure 4.6 B034 Wokingham Road Flow Comparison between 2019-2021



4.4 Required Reduction in Emissions

The NO₂ data from 2023 Annal Status Report (ASR) shows a positive reduction in NO₂ in the Crowthorne AQMA since 2018 see Figure 4.7. The most recent and only location of exceedance has been at Firmount in 2018 and 2019.

Figure 4.7 Trend in the Annual Mean NO₂ concentration within the Crowthorne AQMA from 2018 to 2022



As recommended by LAQM. TG (22) the NO_x to NO₂ conversion spread sheet was used to calculate the NO₂ the percentage of NO₂ from all the diffusion tubes in the Crowthorne AQMA which originates from the road. As you can see from Table 4.4, a high percentage of the NO₂ originates from the road traffic, therefore a solution is needed to target this area. It has also been concluded from the COVID traffic data, that vehicles are the main producer of NO₂ and therefore the AQAP needs to focus on this area.

Table 4.4 NO₂ Road percentage in the Crowthorne AQMA (calculated using 2022 data)

Diffusion Tube	Total NO ₂ (µg/m ³)	Road NO ₂ (µg/m ³)	% Road NO ₂ from Total NO ₂ (%)
229 High Street, Crowthorne	21.80	9.56	43.85
NO22 Dukes Ride, Crowthorne	21.20	8.96	42.26
24/26 Dukes Ride (Playhouse), Crowthorne	16.90	4.66	27.57
Prince Alfred PH, 2 High Street, Crowthorne	19.20	6.96	36.25
Firmount, Bracknell Road, Crowthorne	30.60	18.36	60.00
The Mount, Bracknell Road, Crowthorne	20.10	7.86	39.10

As Crowthorne is already below the nation air quality objectives (40 µg/m³), the area needs to ensure that the NO₂ levels do not increase and continue to decrease for this local community and for the AQMA to be revoked.

4.5 Key Priorities

Key priority theme, identified from the evidence above, have been integrated into the actionable measure to deliver compliance with the AQO for the AQMA. This will improve the air quality within the whole borough, whilst some measure will specifically target the AQMA. The themes are not number relative to their importance.

- **Theme 1 – Public Health, Education and Behaviour Change.**

Bracknell Forest would like to help protect those most vulnerable to the air quality impacts, and improving air quality is largely driven by a change in behaviour of those who use vehicles. As a Council we have a strong role in encouraging and facilitation this change. We aim to continue to inform our residents on the health impacts associated with poor air quality and provide information and guidance on how they can and travel by alternative methods or drive in a greener way to be

part of the solution. This can include Health Action days such as Clean Air Day and social media campaigns.

- **Theme 2 – Active Travel, Public Transport and Low Emission Vehicles**

Bracknell Forest would like to help its residents use alternative means of travel in the borough and especially in the AQMA by making the use of bikes more attractive, alongside walking. It supports sustainable travel, car clubs, travel plans, electric vehicle, and would like to improve EV charging options and other options.

- **Theme 3 – Transport Planning and Traffic Management**

The Council is always taking into consideration the air quality when making alternations to the local network regarding options to enhance junctions to enable to the traffic to flow and prevent as much as possible queuing. It is looking at more ways to increase opportunities for alternative and improvements.

5. Development and Implementation of Bracknell Forest Council AQAP

5.1 The AQAP Development

Bracknell Forest Council currently had two active AQMA's, however due to Area 1 being advised by DEFRA to be revoke in 2024. Bracknell Forest have been advised to concentrate on measures to reduce the NO₂ in Crowthorne, whilst including actions which will benefit the Borough as a whole.

A Strategic AQAP will provide Bracknell Forest Council with an Action Plan that includes:

- Strategic borough wide measures
- Incorporated locally focused measures
- Strategic Partnership working through a wider strategic AQAP Steering Groups.

5.2 Consultation and Stakeholder Engagement

In developing/updating this AQAP, we have worked with other local authorities, agencies, businesses, and the local community to improve local air quality. Schedule 11 of the Environment Act 1995 requires local authorities to consult the bodies listed in Table 5.1.

We have conducted two active workshops with Stakeholders. One with for internal colleagues, and includes officers from the following areas, Highway Engineers, Active Travel, Public Health, Waste & Recycling, Parks and Countryside, Asset Management and Climate Change. The second meeting with for those who represent the village buy the attendance include the Parish Clerk, a Parish Councillor, a Borough Councillor, chairperson from Crowthorne Reduce Our Waste (CROW) and Crowthorne Village Action Group (CVAG) the local schools were also invited to attend.

The Consultation was advertised on the Public Protection Partnership Website.

The response to our consultation stakeholder engagement is given in Appendix A: Response to Consultation.

Table 5.1 – Consultation Undertaken

Consultee	Consultation Undertaken
The Secretary of State	
The Environment Agency	
The Highways Authority	
All neighbouring local authorities	
Other public authorities as appropriate, such as Public Health officials	
Bodies representing local business interests and other organisations as appropriate	

5.3 Steering Group

The Steering Group has been in place since 2012 when the original AQAP was adopted, and actions required to take place. The Steering group is responsible for the implementation and monitoring of the delivery of the AQAP to ensure measures are kept on track and the actions updated in the ASR.

The group is led by the Air Quality Officer and meets bi-annually to update on the action's progression. Members are from a diverse background and includes (but not limited to)

- Public Health
- Active Travel/ Transport Planners
- Highways
- Waste Enforcement
- Traffic Enforcement
- Planners
- Environmental Health
- Climate Change
- Environmental groups (external).

The Air Quality Officer also attend internal and external meetings (cross borough) to ensure that they remain up to date with what is going on in the Borough and adjacent authorities. Individual stakeholder meetings are also set up when project planning and implementing specific items on the AQAP.

6. AQAP Measures

Table 5.1 shows the Bracknell Forest Council AQAP measures. It contains:

- a list of the actions that form part of the plan.
- the responsible individual and departments/organisations who will deliver this action.
- estimated cost of implementing each action (overall cost and cost to the local authority)
- expected benefit in terms of pollutant emission and/or concentration reduction.
- the timescale for implementation
- how progress will be monitored

NB: Please see future ASRs for regular annual updates on implementation of these measures.

6.1 Strategic and localised measures.

The proposed measure set out in the AQAP are mixture of educational, enforcement, strategic, alternative transports plans, and traffic management options which are specific to the Crowthorne AQMA and EV charging.

6.2 The AQMA Measures

Each measure for the action plan has been explained below to give more details. Annual updates will be provided in the ASR.

- **Measure 1: Improvements to Dukes Ride/Bracknell Road junction**

Scheme aims to improve the flow of traffic through the junction by adding a left-turn lane into High Street and moving the bus stop on Bracknell Road

- **Measure 2: Delivery plan and provision of rear service yard to reduce number of delivery vehicles unloading in Crowthorne High Street**

Long term action that is depending on gaining permission from shops. Access for deliveries along the rear of the shops remains an ongoing objective in the updated Local Plan, but requires doing bits separately as development opportunities arise, given individual ownership issues at the back of the shops and properties. Responsibility for the High Street delivery issues really relies with the Council's enforcement team, and as an interim/compromise solution, a Freight Quality Partnership with the Parish, traders, and freight providers.

- **Measure 3: Enforcement of the Parking regulation in Crowthorne High Street**

Parking enforcement to look at the feasibility of enforcing the signs.

- **Measure 4: Feasibility Study for bike parking with in Crowthorne**

Investigation to find out if and where extra bike parking could be installed.

- **Measure 5: Feasibility Study for 20 mph zone in the AQAM along Bracknell Road**

Study to be conducted by Traffic Safety.

- **Measure 6: Finger Signs for cycling and walking routes in Crowthorne**

More signage to be used in Crowthorne to help those who are walking or traveling by bike, know the appointment time it will take them.

- **Measure 7: Feasibility Study for a Cycle path in the Crowthorne Golden triangle**

Transport Planning to look more in-depth to whether a dedicated cycle route is feasible.

- **Measure 8: Continue introducing electric cars as pool cars**

Increase the number of electric pool cars owned by the Council.

- **Measure 9: Increase in EV chargers**

- Increase the amount in the borough and Crowthorne.

- **Measure 10: Education Health Promotion, Behaviour Change Projects, and Environmental Action Days**

Promote cleaner air during the national/local action weeks.

- **Measure 11: Anti-Idling Education/ Enforcement**

Enforcement alongside education in those which will allow it under the legislation.

- **Measure 12: Feasibility Study into the Lane Rental Scheme under NRSWA s74A.**

Companies who work on the roads, charged in relation to the legislation.

- **Measure 13: Parking Car sticker Advertising**

Car parking tickets to advertise the health effects of idling and traffic emissions.

- **Measure 14: Bus User Discounts**

Bus ticket holders to be offered discount in participating venues.

- **Measure 15: Grants for help with projects within the AQMA and Borough**

This will include the DREFA Air Quality grant, along with others which will benefit the air quality in the borough.

- **Measure 16: Helping Business reduce emissions**

ECO Stars are an accreditation to help companies achieve emission reduction in their fleet.

- **Measure 17: Environmental Permitting Regulations**

The inspections and monitoring data checking for emissions to air will be carried out as per required by Environmental Health.

- **Measure 18: Air Quality Planning Conditions**

Planning to continue to work with Environmental Health and apply the conditions to improve the air quality in the borough and to consider the impact of a new development on the existing air quality levels.

Table 6.1 – Air Quality Action Plan Measures

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
1	Improvements to Dukes Ride/Bracknell Road junction	Traffic Management	Strategic highway improvements, Re-prioritising Road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	2017	2029	BFBC	BFBC	NO	Funded	£100k - £500k	Planning	Reduction in NO ₂ concentrations to below the objective in AQMA	Reduce queues and journey time	Concept designed and consultation ongoing	Scheme aims to improve the flow of traffic through the junction by adding a left-turn lane into High St and moving the bus stop on Bracknell Road.
2	Delivery plan and provision of rear service yard to reduce number of delivery vehicles unloading in Crowthorne High Street	Freight and Delivery Management	Freight Partnerships for city centre deliveries	2015	2035	BFBC	BFBC	NO	Not Funded	£100k - £500k	Planning	Reduction in background NO ₂ concentrations across the borough	Reduce unloading and loading along section of High Street and smooth traffic flow	In progress. Council is working with shop owners to gain planning permission to use rear access.	Long term action that is depending on gaining permission from shops. Access for deliveries along the rear of the shops remains an ongoing objective in the updated Local Plan, but requires doing sections separately as development opportunities arise, given individual ownership issues at the back of the shops and properties. Responsibility for the High Street delivery issues relies with the Council's Enforcement Team, and as an interim/compromise solution, a Freight Quality Partnership with the Parish, traders and freight providers.
3	Enforcement of the Parking Regulation in Crowthorne High Street	Traffic Management	Workplace Parking Levy, Parking Enforcement on highway	2023	2040	BFBC Parking Enforcement	BFBC/Parking Enforcement	NO	Not Funded	£50k - £100k	Planning	A reduction in NO ₂ concentrations to below the objective levels in the Crowthorne AQMA	Free flowing traffic.	Signs are already erected along the High Street with "No delivery times" displayed to be enforced.	Signs already in place. Lack of resources/priority to enforce on a regular basis to act as a deterrent.

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
4	Feasibility Study for bike parking with in Crowthorne	Promoting Travel Alternatives	Promotion of cycling	2023	2040	BFBC Highway Authority	BFBC Highway Authority	NO	Not Funded	£50k - £100k	Planning	A reduction in NO ₂ concentrations to below the objective levels in the Crowthorne AQMA	More bikes parked in the bike lockups provided.	None	Lack of funding and/or space to build the bike lock ups.
5	Feasibility Study for 20 mph zone in the AQMA along Bracknell Road	Traffic Management	Reduction of speed limits, 20mph zones	2023	2029	BFBC Highway Authority	BFBC Highway Authority	NO	Not Funded	£50k - £100k	Planning	A reduction in NO ₂ concentrations to below the objective levels on the Bracknell Road, Crowthorne	Less acceleration when leaving the junctions	None	Feasibility study to be undertaken to establish suitability.
6	Finger Signs for cycling and walking routes in Crowthorne	Transport Planning and Infrastructure	Cycle network	2023	2029	BFBC Highway Authority	BFBC Highway Authority	NO	Not Funded	£50k - £100k	Planning	A reduction in NO ₂ concentrations to below the objective levels in the Crowthorne AQMA	Increase and encourage of active travel users in the village	None	Feasibility study to be undertaken to establish suitability.
7	Feasibility Study for a Cycle path in the Crowthorne "Golden triangle"	Transport Planning and Infrastructure	Cycle network	2023	2029	BFBC Highway Authority	BFBC Highway Authority	NO	Not Funded	£100k - £500k	Planning	A reduction in NO ₂ concentrations to below the objective levels in the Crowthorne AQMA	Increase of bike users in the village.	None	Feasibility study to be undertaken to establish suitability. The Golden Triangle is located along Dukes Ride, High Street and Church Street/Waterloo Road.
8	Continue introducing electric cars as pool vehicles	Promoting Low Emission Transport	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	2015	2029	BFC	BFC	NO	Not Funded	>£50,000	Implementation	Reduction in background NO ₂ concentrations across the borough	Reduce vehicle NOx emissions	Pool cars and van now on fleet. 18 fast EV charge points being installed in new depot 2024.	There are charge points at Time Square and the new depot which will facilitate more electric fleet vehicles, reducing the overall carbon footprint of the council. The fleet team are looking to move to electric vehicles once their lease on the petrol cars expires. 2 electric pool cars and van now on fleet.

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9	Increase in EV chargers	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2020	2029	BFC, constituent councils, Chargepoint operators (CPOs). Silva Homes	Govt (OZEV) and private sector (CPOs)	NO	Some funded, further funds likely	~£500k - £2 million	Some delivered, some planned	A reduction in NO ₂ concentrations to below the objective levels in the whole borough	More EV vehicles charging the in borough	36 chargepoints installed across 12 council community car parks using ORCS fund. 12 chargepoints in town centre multi-storeys. LEVI bid in progress, and possible new ORCS bid 2024	There are numerous considerations and variables depending on type of chargepoints, location and feasibilities. Procurement will be needed to spend Govt LEVI and ORCS funds, along with securing a supplier for a concession contract to install EVCPs in some of our commercial car park sites. This is a fairly major and long-term action. 5 locations for fast / rapid chargers identified in Crowthorne at present.
10	Education Health Promotion, Behaviour Change Projects and Environmental Action Days	Public Information	Other	2023	2029	BFBC/Public Health	BFBC/PH	NO	Not Funded	£10k - 50k	Implementation	Reduction in NO ₂ concentrations to below the objective in the whole borough	Reduce emissions and having people actively changing their habits	Anti-idling education pack for the schools on the PPP website, and My Journey website. Free buses to Bracknell town centre Saturdays during December 2023. Eco Rewards and Love to Ride initiatives running 2021 to date	The main barrier is the lack of engagement from the schools, and peoples lack of willingness to change, and realising that everyone's small action, creates a large change. There are many days out there to help with promotion, such as Clean Air Day, Bus for £2 schemes and free bus days, , Dr Bike sessions, Bikeability cycle training, walk / cycle to school days. There are also campaigns / initiatives such as Love to Ride and Eco Rewards that aim to make active travel fun and engaging with an element of competition
11	Anti-Idling Education/ Enforcement	Traffic Management	Anti-idling enforcement	2022	2029	BFBC	BFBC	NO	Partially Funded (DEFRA AQ Grant)	£100k - £500k	Implementation	Reduction in NO ₂ concentrations to below the objective in the whole borough, especially outside schools	Reduce emissions and having people actively changing their habits	Anti-idling education pack for the schools on the PPP website, and My Journey website.	Work already commencing (2022) due to DEFRA grant funding from 2021. The main barrier is the lack of engagement from the schools, and carers/parents. Lack of resources for enforcement.
12	Feasibility Study into the Lane Rental Scheme under NRSWA s74A	Traffic Management	UTC, Congestion management, traffic reduction	2023	2029	BFBC Highway Authority	BFBC Highway Authority	NO	Not Funded	< £10k	Planning	A reduction in NO ₂ concentrations to below the objective levels in the whole borough	Quicker road work completion in the AQMA	Feasibility study	Whether it is adopted by the borough
13	Parking Car sticker	Public Information	Via other mechanisms	2023	2029	BFBC/Parking Enforcement	BFBC/Parking Enforcement	NO	Not Funded	< £10k	Planning	A reduction in NO ₂	Reduction in idling in the	Ticket machines located for	Advertising on the back of parking stickers, the advantages of anti-idling. If funding is available may

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
	Advertising											concentrations to below the objective levels 1 in the whole borough	local car parks and the rest of the borough.	advertising.	be able to increase to petrol filling stations and buses.
14	Bus User Discounts	Promoting Travel Alternatives	Personalised Travel Planning	2023	2029	BFBC/Thames Valley Buses/Active Travel	BFBC/Thames Valley Buses/Active Travel	NO	Not Funded	£10k - 50k	Planning	A reduction in NO ₂ concentrations to below the objective in the whole borough	Increase in bus use uptake for journeys into shopping areas in the Borough.	Bus companies already run discount days.	The local of business will to accept the bus tickets and support the venture, also lack of advertising to help promote the venture.
15	Grants for help with projects within the AQMA and Borough	Other	Other	2023	2029	BFBC	BFBC	NO	Not Funded	< £10k	Planning	A reduction in NO ₂ concentrations to below the objective levels in the whole borough	Increase of projects enabled	None	Cost for applying form a grant, not winning the grants and having to apply for more grants to achieve the actions on the AQMP.
16	Helping Business reduce emissions	Promoting Travel Alternatives	Personalised Travel Planning	2023	2029	BFBC	BFBC/Business	NO	Not Funded	<£10k	Planning	A reduction in NO ₂ concentrations to below the objective levels in the whole borough	Direct relationship with the amount of business who sign up and achieve the rewards.	Planning	Tools to help would be ECO Stars - Fleet Recognition Scheme (ecostars-uk.com)
17	Environmental Permitting Regulations	Environmental Permits	Measures to reduce pollution through IPPC Permits going beyond BAT	2023	2040	BFBC Env Health	EH BFBC	NO	Not Funded	< £10k	Implementation	A reduction in emissions to comply with the Permit.	Continuing good working relationship with the Council and the companies who have a PPC permit.	Dry Cleaning the Petrol Vapour Recovery Permits within Crowthorne	Ensure inspection continue as required by the risk rating system.
18	Air Quality Planning Conditions	Policy Guidance and Development	Air Quality Planning and Policy	2023	2024	BFBC Planning	Planning	NO	Not Funded	<,£10	Implementation	Reduction in NO ₂ concentrations	Decrease in NO ₂	Conditions are applied to Panning developments	Planning to continue to work with environmental health and apply the conditions to improve the AQ in the borough.

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		Control	Guidance									to below the objective in the whole borough			

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Appendix B: Reasons for Not Pursuing Action Plan Measures after the Consultation

Table B.1 – Action Plan Measures Not Pursued and the Reasons for that Decision.

Action category	Action description	Reason action is not being pursued (including Stakeholder views)
<Select from the categories in the blue instruction box above>	<Insert description of measure>	<Insert text here>

Appendix C: Crowthorne AQMA Maps

Figure C.1: Map of Crowthorne AQMA and the Monitoring locations (North)

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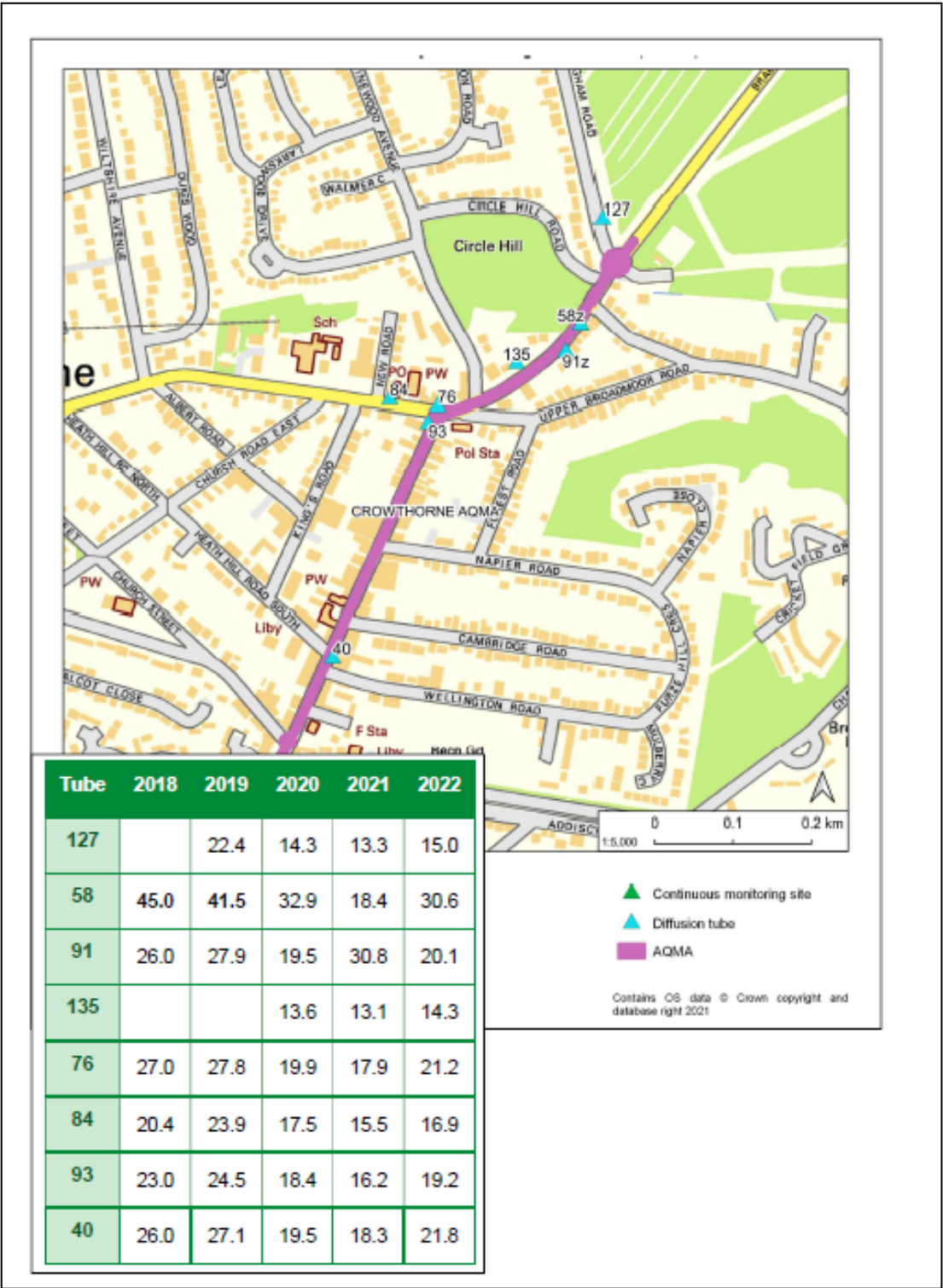
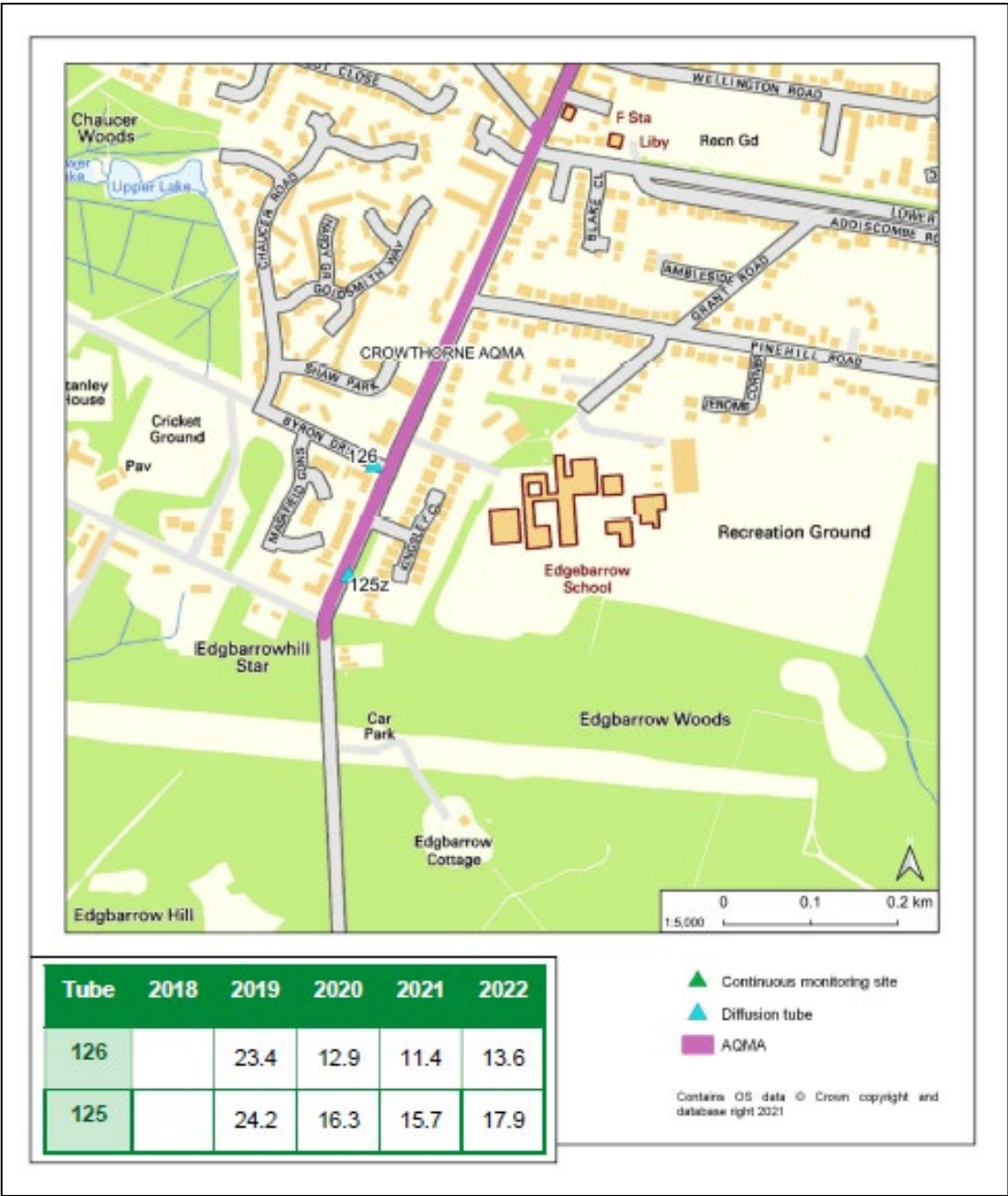


Figure C.2: Map of Crowthorne AQMA and the Monitoring Locations (South)



Appendix D. Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
AQS	Air Quality Strategy
ASR	Air quality Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
EU	European Union
LAQM	Local Air Quality Management
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
PM ₁₀	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
PM _{2.5}	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less

7. References

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