Cheltenham Borough Council

Air Quality Action Plan

September 2022

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Document Control Sheet

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Contact Details		
Company Name	Bureau Veritas UK Limited	Cheltenham Borough Council
Contact Name	Daniel Clampin	Gareth Jones
Position	Senior Air Quality Consultant	Environmental Health
Address	Atlantic House, Atlas Business Park, Wythenshawe, Manchester, M22 5PR	Cheltenham Borough Council Promenade Cheltenham Glos GL50 1PP
Telephone	020 7661 0774	01242 264135
e-mail	Daniel.clampin@bureauveritas.com	envhealth@cheltenham.gov.uk
Websites	www.bureauveritas.co.uk	www.cheltenham.gov.uk

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	Name	**Job Title**	**Signature**
Prepared By	A Spence	Consultant	*alexs Spence*
Approved By	D Clampin	Senior Consultant	

Cheltenham Borough Council Air Quality Action Plan

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

September 2022

Cheltenham Borough Council

Local Authority Officer	Gareth Jones
Department	Environmental Health
Address	Cheltenham Borough Council Promenade Cheltenham Glos GL50 1PP
Telephone	01242 264135
E-mail	envhealth@cheltenham.gov.uk
Report Reference number	Cheltenham Borough Council AQAP
Date	September 2022

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 Cheltenham Borough Council (CBC) between 2022-2027.

Where an exceedance of the Air Quality objective is recorded, local authorities are required to declare an Air Quality Management Area (AQMA) to focus efforts into reducing pollutant concentrations. This action plan is for the new AQMA declared in 2020, covering an area extending from the junction of Gloucester Road, Tewkesbury Road and High Street, through Poole Way and along Swindon Road to the junction of St George's Street. This AQMA was declared as a result of an exceedance of the annual mean objective for Nitrogen Dioxide (NO_2) which is a pollutant primarily associated with combustion, especially from vehicle emissions. The previous borough-wide AQMA was revoked in 2020.

Air pollution is associated with a number of adverse health impacts. The three main conditions associated with poor air quality are respiratory conditions (for example, asthma), cardiovascular disease and lung cancer[1]. Poor air quality is also a health inequalities issue disproportionately affecting the most vulnerable in society: children and older people, and those with heart and lung conditions. In addition, areas affected by poor air quality are often the less affluent areas[2,3].

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion[4]. Cheltenham Borough Council is committed to reducing the exposure of people in Cheltenham to poor air quality in order to protect and improve health.

We have developed actions that can be considered under four broad priority topics:

- Priority 1: Transport
- Priority 2: Planning and Infrastructure
- Priority 3: Policy Guidance
- Priority 4: Public Health and Wellbeing Behavioural Change

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[1] Health Matters: Air Pollution, Public Health England, 2018
[2] Environmental equity, air quality, socioeconomic status and respiratory health, 2010
[3] Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006
[4] Defra. Abatement cost guidance for valuing changes in air quality, May 2013

- Priority 5: Air Quality Monitoring

The priorities within this action plan intend to target transport emissions within the AQMA through working with local businesses aid a behavioural shift within the population to promote more sustainable and less polluting methods of transport. This should help to reduce dangerous pollutant concentrations and reduce the risk of detrimental impact on health and wellbeing within the borough. In addition, where transport remains a major source of air pollution, traffic measures will be implemented to reduce congestion, aiming to reduce source emissions in areas of relevant exposure. The AQAP also seeks to align with the county wide Air Quality and Health Strategy and Plan.

In this AQAP we outline how we plan to effectively tackle air quality issues within our control. However, we recognise that there are a large number of air quality policy areas that are outside of our influence (such as vehicle emissions standards agreed in Europe), but for which we may have useful evidence, and so we will continue to work with regional and central government on policies and issues beyond Cheltenham Borough Council's direct influence.

Responsibilities and Commitment

This AQAP was prepared by Bureau Veritas and the Environmental Health Department of Cheltenham Borough Council with the support and agreement of the following officers and departments:

- Cabinet Member Councillor Max Wilkinson

- Clean Air Cheltenham Local Action Group

- Licensing

- Parking

- Strategic Transport

- Economic Development

- Fleet Management

- Climate Change

- Gloucestershire County Council's Transport and Highways

This AQAP has been approved by:

- Head of Public Health at Gloucester County Council

- Environmental Health at Cheltenham Borough Council

This AQAP will be subject to an annual review and appraisal of progress. Progress each year will be reported in the Annual Status Reports (ASRs) produced by Cheltenham Borough Council as part of our statutory Local Air Quality Management duties.

If you have any comments on this AQAP please send them to the environmental health team at envhealth@cheltenham.gov.uk.

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1   Introduction

This report outlines the actions that Cheltenham Borough Council will deliver between 2022-2027 in order to reduce concentrations of air pollutants and exposure to air pollution; thereby positively impacting on the health and quality of life of residents and visitors to Cheltenham.

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 (as amended 2021) and relevant regulations made under that part and to meet the requirements of the Local Air Quality Management (LAQM) statutory process.

Development of the AQAP has taken place through discussions within a Cheltenham Borough Council Steering Group led by Bureau Veritas.

The document has been subjected to both internal and external consultation as an initial draft to the following parties, in line with PG(22) guidance[5]:

- Department of Environment, Farming and Rural Affairs (Defra);

- Cheltenham Borough Council;

- Gloucestershire County Council (GCC);

- Resident action group 'Clean Air Cheltenham'; and

- Bodies representing local business interests and other organisations as appropriate.

This Plan will be reviewed every five years at the latest and progress on measures set out within this Plan will be reported on annually within Cheltenham Borough Council's air quality ASR.

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[5] Local Air Quality Management Policy Guidance LAQM.PG(22). August 2022. Published by Defra

2 Summary of Current Air Quality in Cheltenham Borough Council

2.1 Summary of AQMA

The new Cheltenham Borough Council AQMA was declared in 2020, covering an area extending from the junction of Gloucester Road, Tewkesbury Road and High Street, through Poole Way and along Swindon Road to the junction of St George's Street.

Figure 2-1 Cheltenham AQMA
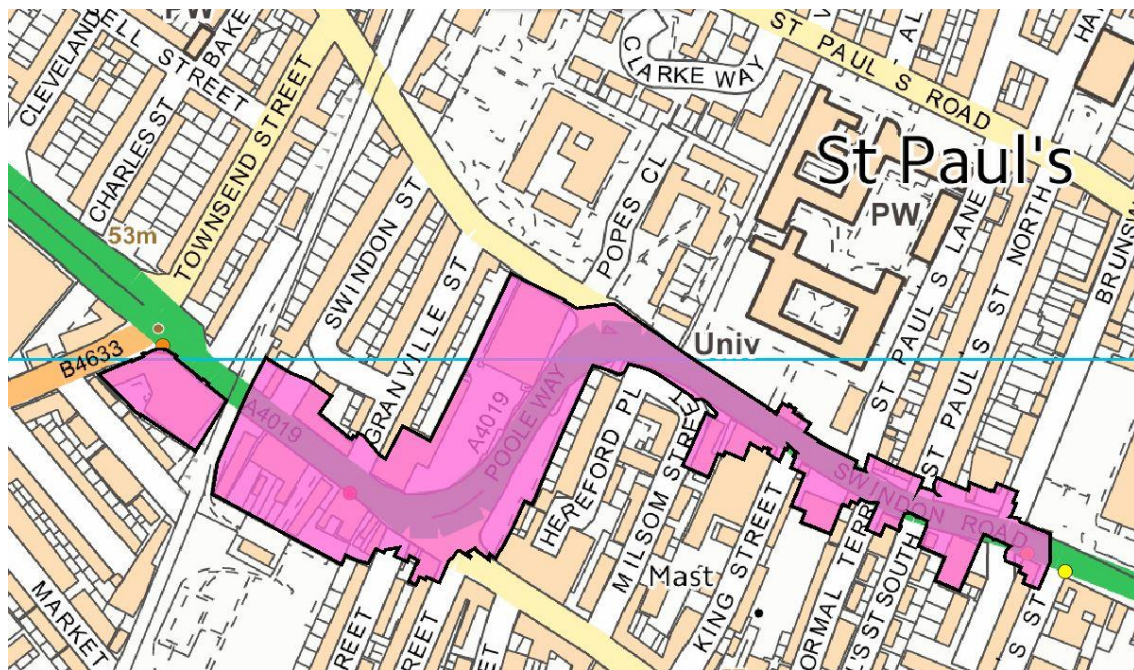
In accordance with PG(22), the approximate population of the AQMA is 76 people, based on the total area of the AQMA being ~0.03km^2 and the population and the population density of Cheltenham being 2,550 per km^2 [6].

2.2 Monitoring of NO$_2$Concentrations within AQMA

The previous AQAP, completed by CBC, dated April 2014, had been developed for the previous borough-wide AQMA, which has now been revoked.

NO$_2$ is the principal pollutant of concern for Cheltenham Borough Council due to the known health effects of exposure to high concentrations. NO$_2$ has been monitored since 1996. NO$_2$ is emitted as a result of combustion processes. Within town and city centres, the primary source tends to be from road traffic, which combust fuel to produce

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[6]

https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationandhouseholdestimatesenglandandwalescensus2021

gases.

During 2020, NO$_2$ was monitored at 35 sites across the borough, inclusive of one automatic continuous site with co-located triplicate diffusion tubes and 13 newly deployed diffusion tube locations. The monitoring network serves as an ongoing indicator for changing NO$_2$ trends within the borough and will be essential for the assessment of implementation for the measures detailed within this AQAP. The monitoring network also provides an initial evidence base for consideration of the requirement to revoke, amend or declare any AQMAs. Those numbers in **bold** indicate monitoring within a year which has exceeded the Air Quality Objective of 40µg/m³.

Table 2.1 NO$_2$ Monitoring within Cheltenham Borough Council

Site ID	Location	Annual Mean Concentration (µg/m³)					
		2016	2017	2018	2019	2020	2021
Within AQMA							
4	2 Gloucester Road	**43.2**	**45.4**	**41.2**	**43.1**	32.3	31.5
5	422 High St	**45.5**	**49.9**	**45.2**	**46.5**	32.9	34.5
6	New Rutland Court	**40.8**	**41.6**	37.9	**40.3**	30.3	30.0
33	48 Swindon Road	-	-	-		21.5	23.1
Outside AQMA							
CM1 Automatic Monitor	St Georges Street	34.0	36.0	32.7	36.0	24.7	25.3
3	Ladies College	33.8	32.8	27.5	29.6	20.8	21.8
7, 8, 9	Co-location	33.3	36.4	32.9	35.1	24.8	25.3
10	2 Swindon Road	38.2	39.4	35.6	39.2	26.6	27.0
11	Portland Street	35.7	35.9	32.6	34.1	24.1	24.6
12	Winchcombe St./Fairview	32.2	32.8	31.8	34.4	24.5	26.1
13	54 Albion Street	-	34.8	31.3	30.4	22.3	22.0
14	2 London Road	38.0	37.1	37.4	37.4	27.5	28.5
15	YMCA - High St	32.9	31.9	29.1	28.5	20.3	23.1
16	8a Bath Road	38.4	38.0	34.5	34.4	25.1	27.0
18	81 London Road	39.6	38.4	37.3	37.6	28.4	29.0
19	264 Gloucester Road	32.2	34.4	30.6	33.4	23.6	23.9
20	340 Gloucester Road	35.9	38.6	35.3	36.2	25.5	24.7
22	Hatherley Lane	-	-	34.9	33.4	25.2	25.0
25	50 St Georges Street	-	-	31.9	31.6	21.5	22.4
26	22 St Pauls Road	-	-	29.0	31.3	22.7	22.6
27	St Luke's College Road	-	-	24.8	27.6	17.7	18.7
28	Princess Elizabeth Way North	-	-	38.4	38.2	31.2	31.3

Site ID	Location	Annual Mean Concentration (µg/m³)					
		2016	2017	2018	2019	2020	2021
29	Princess Elizabeth Way South	-	-	31.2	33.7	24.7	25.3
30	Clarence Parade Alternative	-	-	-	31.6	22.1	22.8
31	Gloucester Rd School	-	-	-	-	24.3	24.5
32	Gloucester Rd / Stoneville St	-	-	-	-	25.3	26.8
34	Elvis Villas	-	-	-	-	24.5	25.0
35	Berkeley Place	-	-	-	-	19.1	20.2
36	Sandford Park Alehouse	-	-	-	-	27.7	28.2
37	A40 PE Way Roundabout	-	-	-	-	23.9	22.2
38	Gloucester Rd (Benhall)	-	-	-	-	21.6	22.1
39	Norwood / Gratton Rd	-	-	-	-	16.9	17.8
40	Opp. Wokswagon London Rd	-	-	-	-	21.7	21.7
41	170 Prestbury Rd	-	-	-	-	14.8	15.8
42	Prestbury Rd / Portland Square	-	-	-	-	23.6	22.8
43	Boots Corner	-	-	-	-	20.3	23.5
44	Warden Hill School						10.3
45	Farmfield Road						10.0
46	Telstar Way						18.3
47	Prestbury High Street						22.9

Concentrations in **bold** show those locations which have exceeded the AQS objective of 40µg/m³

Figure 2-2 shows the monitoring trends over the past five years in the AQMA.

Figure 2-2 Monitoring Trends in AQMA
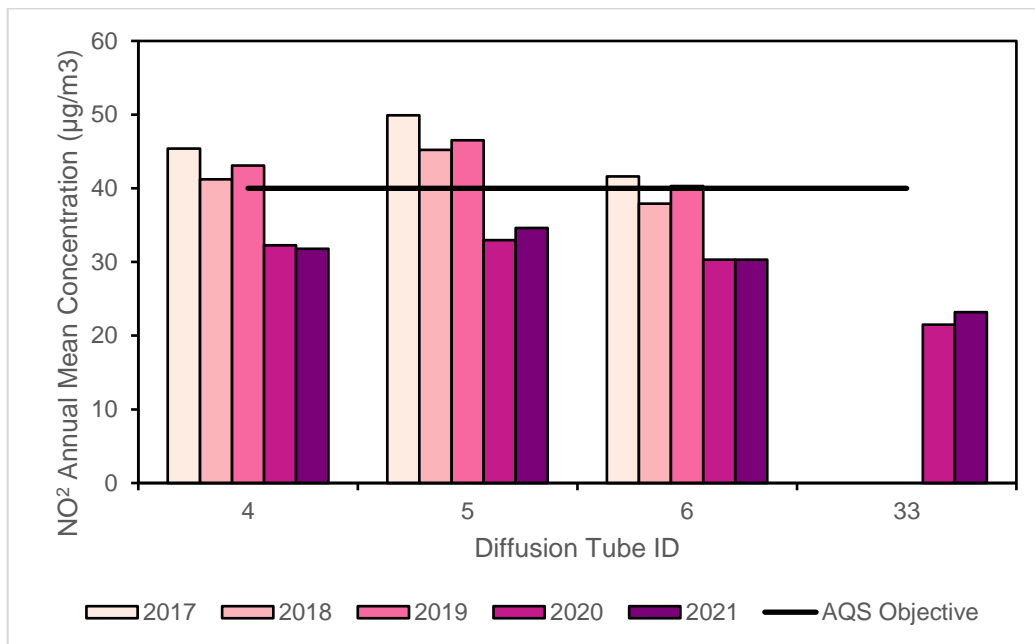
Within the AQMA, there were no exceedances of the 40 µg/m³ Air Quality Strategy (AQS) objective[7] for concentrations of annual mean NO_2 in 2020 or 2021. This is likely as a result of changes in traffic patterns as a result of the COVID-19 pandemic.

In addition to future years monitoring results, any changes made to the existing monitoring network within the borough will be detailed and justified within subsequent ASRs. The monitoring network serves as an ongoing indicator for changing NO_2 trends within the borough and will be essential for the assessment of implementation for the measures detailed within this AQAP.

2.3   Modelled PM2.5 Concentrations within AQMA

PM2.5 is a pollutant of increasing concern. While the AQMA has not been specifically declared for this pollutant, analysis and discussion are provided throughout the AQAP with regards to PM2.5 emissions/concentrations. While no monitoring of PM2.5 is completed by Cheltenham Borough Council, the detailed modelling assessment included in Appendix E has modelled predicted PM2.5 concentrations within the AQMA. These are shown in Table 2.2 below. At the time of writing, the annual average guideline limit is 20µg/m³[8] though a new limit is set to be established by 31st October 2022.

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[7] https://uk-air.defra.gov.uk/air-pollution/uk-eu-limits
[8] https://uk-air.defra.gov.uk/assets/documents/Air_Quality_Objectives_Update.pdf

Table 2.2 Modelled PM$_{2.5}$ Concentrations in AQMA (2019)

Modelled Receptor	Location (approx. Postcode)	Annual Mean Concentration (µg/m³) 2019
51	GL51 9HD	12.7
52	GL51 9ER	12.5
53	GL51 8DW	12.3
54	GL51 8PQ	12.2
55	GL51 8DW	12.9
56	GL51 9ER	13.1
57	GL50 3HZ	13.9
58	GL50 3HX	13.8
59	GL50 3JA	12.8
60	GL50 3JA	14.3
61	GL50 3HU	13.7
62	GL50 3NZ	12.0

As shown, the modelled predicted concentrations within the AQMA are currently below the annual average objective of 20µg/m³.

Please refer to the latest ASR from Cheltenham Borough Council[9] for full details of monitoring. Additional information is included within the detailed modelling assessment included in Appendix E.

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[9] https://www.cheltenham.gov.uk/downloads/download/693/air_quality_reports

3 Cheltenham Borough Council's Air Quality Priorities

This chapter presents the main drivers and the approach taken by CBC for the development and subsequent selection of measures included within this AQAP. Included within this section are descriptions of the existing strategies and policies that relate to air quality within the borough.

A source apportionment study has been completed across the borough, focusing on the AQMA. This study has allowed the most significant sources of oxides of Nitrogen (NO_x) vehicle contributors to be identified. NO_x are predominantly emitted into the atmosphere in the form of nitric oxide (NO) which is then converted to nitrogen dioxide (NO_2) through chemical processes in the atmosphere. Under most atmospheric conditions, the dominant pathway for NO_2 formation is via the reaction of NO with ozone (O_3).

In conjunction, with the strategies and policies that are currently in place, the conclusions of this apportionment exercise have been used to identify and prioritise the action measures presented within Section 8.

3.1 Public Health Context

Mounting scientific evidence shows the scale of the impact of poor ambient air quality on health. In December 2020, the first case of air pollution being ruled as the cause of death was recorded for nine-year old, Ella Kissi-Debrah as a result of failure to reduce pollution levels to legal limits within the London Borough of Lewisham. Poor air quality is considered to be a significant contributory factor to the loss of life, shortening lives by an average of 5 months. The Committee on the Medical Effects of Air Pollution (COMEAP)[10] provides advice to Government on the setting of air quality standards, and increasingly has sought to consolidate evidence on the health burden and impacts of various pollutants, both in single occurrence and pollutants in combination. The current range of estimate for annual mortality burden for man-made air pollution in the UK is estimated to be between 28,000 – 36,000 deaths.

Local authorities have a range of powers which can effectively help to improve air quality. However, the involvement of public health officials is crucial in playing a

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[10] https://www.gov.uk/government/collections/comeap-reports

role to assess the public health impacts and providing advice and guidance on taking appropriate action to reduce exposure and protect the health of people in Cheltenham.

The Air Quality Indicator in the Public Health Outcomes Framework (England) provides further impetus to join up action between the various local authority departments which can impact on the delivery of air quality improvements. The "Air Quality – A Briefing for Directions of Public Health[11]" document published in March 2017 provides a one-stop guide to the latest evidence on air pollution, guiding local authorities to use existing tools to appraise the scale of the air pollution issue in its area. It also advises local authorities how to appropriately prioritise air quality alongside other public health priorities to ensure it is on the local agenda.

The document comprises the following key guides:

- Getting to grips with air pollution – the latest evidence and techniques

- Understanding air pollution in your area

- Engaging local decision-makers about air pollution

- Communicating with the public during air pollution episodes

- Communicating with the public on the long-term impacts of air pollution

- Air Pollution: an emerging public health issue: Briefing for elected members

Besides NO_2, there is an increasing focus on fine particulate matter. $PM_{2.5}$ is a pollutant of concern meaning particulate matter which is 2.5 microns or less in diameter. The AQMA has not been declared for $PM_{2.5}$ and the modelling as part of the detailed assessment has shown predicted levels below the annual mean objective of 20µg/m³.

The Public Health Outcomes Framework data tool compiled by Public Health England quantifies the mortality burden of $PM_{2.5}$ within England on a county and local authority scale. The 2018 fraction of mortality attributable to $PM_{2.5}$ pollution, i.e. the percentage of total deaths as a result of pollution, in Cheltenham is 5.2%, which is the same as the national average of 5.2%, but higher than the regional average (South West) 4.4%. It should be noted that this figure only accounts for

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[11] https://laqm.defra.gov.uk/mwg-internal/de5fs23hu73ds/progress?id=J-TIiE-srpwXrbZr9rPkC5cmncdLvHWZY0qt_Gytj0E,

one pollutant (PM$_{2.5}$) for which stronger scientific evidence on links with mortality exist, and not NO$_2$, for which the AQMA is declared. This means that the true mortality burden could be even higher.

Furthermore, following a review of research into the mortality burden associated with the air pollution mixture rather than single pollutants acting independently, the Committee on the Medical Effects of Air Pollutants (COMEAP) are reviewing the legitimacy of linking deaths to one specific pollutant.

The Gloucestershire Air Quality and Health Strategy (2019)[12] sets out the key aims of the strategy for dealing with air quality:

- Bring about a significant and measurable improvement to air quality in Gloucestershire through joined-up working to implement cost-effective measures.
- Reduce the impact of poor air quality on the health of residents, workers and visitors, and the environment.
- Raise public awareness of air quality, its impact on health and personal protection measures in order to promote sustainable behaviour change.
- Increase our understanding of the state of air quality in Gloucestershire and the impact of measures to improve air quality.
- Meet and exceed statutory obligations and national targets on air quality.

The draft Gloucestershire Joint Health and Wellbeing Strategy 2019-2030[13] set out the key priorities that the health and wellbeing board sought to deliver. The seven priorities are set out below:

- Physical activity
- Adverse Childhood Experiences (ACEs)
- Mental wellbeing
- Social isolation and loneliness
- Early years (Best Start in Life)
- Housing

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[12] https://glostext.gloucestershire.gov.uk/documents/s52324/Gloucestershire%20Air%20Quality%20and%20Health%20Strategy%20v.%204.pdf
[13] https://glostext.gloucestershire.gov.uk/documents/s52312/Draft%20JHWS%20May%20HWB.pdf

While these priorities are not directly aiming to tackle air quality, there are potential synergies, for example, steps to increase the levels of 'active travel' and / or the move towards public transport, will positively impact on both physical activity levels and air quality. In addition, reducing air pollutant concentrations will contribute to the overall aims of the strategy, which are to have a positive impact on the health and wellbeing of the population and reduce health inequalities.

The NHS Long Term Plan (2019) includes a specific ambition for the NHS to reduce air pollution from all sources, and specifically to cut business mileages and NHS fleet pollutant emissions by 20% by 2023/24.

3.2   Planning and Policy Context

This Action Plan outlines the Council's plan to effectively tackle air quality issues within its control; however, it is recognised there are numerous existing and impending policies and strategies adopted at local, regional and national level that can exert significant effects, both positive and negative, on air quality across Cheltenham. It is important that these plans and strategies are identified and taken into consideration at an early stage in the development of the plan. These will aid the establishment of the context in which specific options for improving air quality can be implemented.

Whilst certain policies and / or strategies may be outside of the influence of Cheltenham Borough Council, there are a number of related policies and strategies at local and regional levels that can be tied directly with the aims of this AQAP. Some of these are directly focused on air quality improvements within Cheltenham, whilst others relate to transportation issues and therefore have the added benefit of contributing to overall improvements in air quality across the borough.

Reviewing these strategies and policies can help to prevent duplication of work within the AQAP, enabling a focus on any *additional* measures that can be taken, that contribute to the overall aims of the AQAP (and potentially other strategic objectives), This section outlines the strategies and policies that have the most significant potential to impact on pollutant concentrations within Cheltenham. Given their importance, the majority of measures listed below have also been included as action measures within this Action Plan.

The most relevant policies and strategic documents are detailed below.

3.3   Clean Air Strategy 2019

The Clean Air Strategy[14] sets out the case for action at a national level, identifying a number of sources of air pollution within the UK including road transportation (relevant in terms of the AQMA currently present within Cheltenham). It also sets out the actions required to reduce the impact upon air quality from these sources. It has been developed in conjunction with three other UK Government Strategies; the Industrial Strategy, the Clean Growth Strategy, and the 25 Year Environment Plan.

Key actions that are detailed within the strategy aimed at reducing emissions from transportation sources include the following:

- The publication of the Road to Zero strategy, which sets out plans to end the sale of new conventional petrol and diesel cars and vans by 2040

- New legislation to compel vehicle manufacturers to recall vehicles and non-road mobile machinery for any failures in emission control systems, and to take effective action against tampering with vehicle emissions control systems

- Develop new standards for tyres and brakes to reduce toxic non-exhaust particulate emissions from vehicles. [NB: This action would not necessarily target reductions in NO_2 for which the CBC AQMA has been declared].

- The encouragement of the cleanest modes of transport for freight and passengers

- Permitting approaches for the reduction of emissions from non-road mobile machinery, especially in urban areas

3.4   UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations

Published in July 2017, the UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations (Detailed Plan)[15] is the UK governments plan for bringing

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[14] Department for Environment, Food and Rural Affairs (2019), Clean Air Strategy
[15] Department for Environment, Food and Rural Affairs, Department for Transport (2017), UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations (Detailed Plan)

concentrations of NO_2 within statutory limits within the shortest possible time. It identifies that the most immediate air quality challenge within the UK is tackling the issue of NO_2 concentrations close to roads, especially within towns and cities. The plan identifies a number of local authorities that were required to complete

feasibility studies to define NO_2 concentrations on road links which were identified by the national Pollutant Climate Mapping (PCM) model as exceeding the NO_2 annual mean AQS objective.

Cheltenham Borough Council were not one of the authorities identified. However, the UK Plan details a range of possible solutions to reduce NO_x emissions from vehicles, and therefore lower NO_2 concentrations. The actions detailed within the UK Plan include:

Implementation of Clean Air Zones (CAZs)

- New real world driving emissions requirements for light passenger and commercial vehicles

- Additional funding to accelerate the uptake of low emissions buses and also for the retrofitting of older buses

- Additional funding to accelerate the uptake of hydrogen vehicles and associated infrastructure

- New mandatory emissions standards for non-road mobile machinery

- Local cycling and walking investment plans

3.5 Gloucester, Cheltenham and Tewkesbury Joint Core Strategy (2011-2031)

The JCS[16] is an important part of the development plan for Gloucester City, Cheltenham Borough and Tewkesbury Borough. It sets out the long-term vision and objectives for the area together with strategic policies for shaping new development. Strategic Objective 9, set out below is relevant to air quality, specifically the **bold** text.

Strategic Objective 9 – Promoting healthy communities

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[16] Joint Core Strategy

Promote development that contributes to a healthy population by:

- *Providing for good access to the countryside and all open spaces through the retention and development of a comprehensive green infrastructure network*

- *In partnership with others, creating stronger communities by reducing inequality and social exclusion, enhancing opportunities for high quality education, and thereby increasing social well-being*

- *In partnership with others, encouraging healthy lifestyles and a well society through access to key community facilities and services, including sport, recreation and leisure facilities, open spaces and sustainable transport, including public transport*

- ***Ensuring that environmental quality and air quality is protected***

3.6 Local Plan

The Cheltenham Plan was adopted on the 20th July 2020. The following policies within the plan are relevant to Air Quality:

POLICY BG2: COTSWOLD BEECHWOODS SPECIAL AREA OF CONSERVATION AIR QUALITY

Development which is likely to generate additional road traffic emissions to air which are capable of affecting the Cotswold Beechwoods SAC will be screened against the Habitats Regulations Assessment Framework in line with Natural England's guidance 'Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (NEA001)'

POLICY EM2: SAFEGUARDING NON-DESIGNATED EXISTING EMPLOYMENT LAND AND BUILDINGS

Development proposals for a change of use of land and buildings currently or last in employment use (Note 1) will only be permitted where:

c) The applicant for planning permission can demonstrate that employment use creates unacceptable environmental or traffic problems which cannot be satisfactorily resolved.

POLICY HM3: LOSS OF RESIDENTIAL ACCOMMODATION

Development involving the loss of residential accommodation through the change of use or demolition of existing housing will not be permitted, except where: a) continued residential use is undesirable because of environmental conditions.

3.7 Local Transport Plan

The Cheltenham Transport Plan (CTP)[17] is a long-held CBC plan to improve the quality of life in the town and increase its economic prosperity. The CTP was first considered by the local Civic Society in 2000 and was subsequently endorsed and adopted by the Borough Council as part of its Civic Pride Urban Design Framework within the Local Development Framework in 2008.

The Plan included an experimental scheme to minimise traffic around the area known as 'Boots Corner' for which roads on the approaches were only available to certain permitted vehicles as set out below:

Permitted vehicles:

- Buses
- Taxis
- Pedal Cycles
- Loading / Unloading 6pm - 10am

Authorised Vehicles:

- Private Hire Vehicles
- Vehicles accessing off-carriageway parking on Church Street*, accessing off-carriageway parking on Post Office Lane* and accessing / egressing off-carriageway parking on North Street within the Bus Gate restriction.
- Funeral vehicles registered by Gloucestershire County Council servicing St Mary's Church.
- Bullion Vehicles
- Post Office Vehicles
- General vehicle exemptions such as emergency service vehicles, maintenance vehicles, waste collection vehicles, military vehicles

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[17] https://www.gloucestershire.gov.uk/highways/major-projects-list/cheltenham-transport-plan/

It should be noted that Boots Corner is not within the AQMA. The outcomes of the Boots Corner test showed that the scheme made negligible difference to air pollution levels across the town. This is not necessarily surprising, as the scheme was not explicitly designed to improve air quality. However, some areas, closest to the trial restrictions, have experienced incidental improvements in air quality. Some of the diversion routes around the town centre, may have seen small increases in pollution, but all monitored sites were still well within legal limits.

3.8 'Climate Emergency' Declaration

In 2019, Cheltenham Borough Council declared a climate emergency and a commitment to be a carbon neutral Council and Borough by 2030. The 'Carbon Neutral Cheltenham Report' includes measures which will also help to reduce emissions from transport including 'Zero Carbon Hubs' an initiative to create decentralised futureproof centres promoting zero emissions mobility. These will include 'micro-hubs' among the communities of Cheltenham and larger interchanges at the periphery of the Borough.

Climate change action primarily deals with emissions of carbon dioxide (CO_2) and its equivalents and the focus of this AQAP is on reducing NO_2 within the AQMA. However, there are links between the two disciplines as any reductions from transport emissions resulting from initiatives to combat climate change are also likely to reduce NO_2 emissions.

3.9 Cycling Infrastructure Plan

As part of the government's national cycling and walking strategy, all local authorities in England are encouraged to produce a cycling and walking infrastructure plan (LCWIP). Gloucestershire County Council's Transport Planning Team published theirs for Central Severn Vale in August 2020. As shown in Figure 14.3 of that document, within and surrounding Cheltenham's AQMA, are proposed improvements including: advanced stop lines, early start for cyclists; 20 mph signage with roundels; traffic calming measures; and a Raised Tiger Crossing at the memorial gardens.

3.10 Connecting Cheltenham

The 2018 'Connecting Cheltenham' strategy aims to deliver Cheltenham's wider place shaping agenda and integrate new development into the existing transport network.[18]

This document includes details of bus routes and services including those in and around the AQMA.

3.11 Gloucestershire Air Quality and Health Strategy (2019)

As part of the Gloucestershire Air Quality and Health Strategy[13], several measures have been identified which have synergies applicable to control of air quality within Cheltenham:

- Development of guidance and frameworks for planners and developers

- Consultation into planning and policy strategy

- Identifying key infrastructure for active travel improvements

- Review charging infrastructure and related business opportunities

- Prioritise funding opportunities for Gloucestershire County Council's electric car charging budget

- Keep up to date with evolving ULEV technology

- Develop a communications plan to promote the uptake of ULEVs

- Identify partnerships with key employers in Gloucestershire

- Utilise parking incentives to encourage low emission vehicle uptake

- Improve standards of fleet vehicles through fleet replacement policies

- Improve standards of fleet vehicles through contracting arrangements

- Utilise mechanisms to promote the adoption of low emission vehicles for all public transport fleet (including taxis and private hire vehicles)

- Provide opportunities for training and education to promote cleaner driving

- Utilise smart technology for vehicles to support cleaner driving

- Sign-up to and promote schemes for businesses which promote cleaner driving

4 Source Apportionment

Source apportionment is the process by which different pollutant sources to relation to existing ambient concentrations are quantified. A source apportionment exercise was carried out by Cheltenham Borough Council using a baseline year of 2019, to discount any changes arising in 2020 or 2021 as a result of the effects of changes in vehicle patterns arising from restrictions associated with COVID-19, which may not be representative of future year concentrations.

The AQAP measures presented within this Plan are targeted towards the predominant sources of emissions within Cheltenham.

The source apportionment process has been completed in order to:

- Quantify the proportions of NO_x that are attributable to both background concentrations and to local road emissions. The total concentration of a pollutant comprises those from explicit local emission sources such as, roads, chimney-stacks, etc., and those that are transported into an area by the wind. If all the local sources were removed, all that would remain is that which comes in from further away; it is this component that is called 'background'.

- Determination of the relative contributions from different vehicle types (cars, Heavy Good Vehicles (HGVs), Light Goods Vehicles (LGVs), buses and coaches, and motorcycles).

- Determination of whether action plan measures would need to be on a local / regional / national scale to have a significant impact upon reducing NO_x emissions within the existing AQMA.

The source apportionment exercise was carried out using detailed dispersion modelling software (ADMS-roads Version 5.0) to identify and assess the emission profile of vehicles within Cheltenham, based upon the traffic data and receptors detailed within Appendix E. To complete this exercise, NO_x and NO_2 concentrations have been predicted at a number of receptor locations within, and close to the AQMA. These studies were undertaken to identify which vehicle type(s) represent the most significant source of NO_x pollution within the existing AQMA. The study

used the split of vehicle fleet emissions contained in the Emissions Factors Toolkit provided by Defra[19] and are in line with predictions from the National Air Emissions Inventory[20].

Emission sources of NO_2 are dominated by a combination of direct NO_2 (f-NO_2) and oxides of nitrogen (NO_x), the latter of which is chemically unstable and rapidly oxidised upon release to form NO_2. NO_x, once emitted from vehicles undergoes a number of chemical reactions and disperses to form the NO_2 concentrations that are measured at roadside monitoring locations. Reducing levels of NO_x emissions therefore reduces levels of NO_2. As a consequence, the source apportionment study has considered the emissions of NO_x which are assumed to be representative of the main sources of NO_2.

The findings of the above are summarised in Table 4.1 and Figure 4.1 below.

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[19] https://laqm.defra.gov.uk/air-quality/air-quality-assessment/emissions-factors-toolkit/
[20] https://naei.beis.gov.uk/data/ef-transport

Table 4.1 – Detailed Source Apportionment of NO$_x$ Concentrations

Results	All Vehicles	Cars	LGV	HGV	Bus & Coach	Motorcycle	Background
Average Across all Modelled Receptors							
NO$_x$ Concentration (µg/m^3)	35.4	19.9	9.7	2.7	3.0	0.1	18.3
Percentage of total NO$_x$ (%)	65.9	37.0	18.0	5.1	5.7	0.1	34.1
Percentage Road Contribution to total NO$_x$ (%)	100.0	56.2	27.4	7.7	8.6	0.2	-
Average Across all Receptors within AQMA							
NO$_x$ Concentration (µg/m^3)	48.0	26.9	13.7	3.9	3.4	0.1	20.2
Percentage of total NO$_x$ (µg/m^3)	70.4	39.4	20.1	5.7	5.0	0.1	29.6
Percentage Road Contribution to total NO$_x$ (µg/m^3)	100.0	56.0	28.6	8.1	7.2	0.2	-
At Receptor with Maximum Road NOx Concentration							
NO$_x$ Concentration (µg/m^3)	91.5	49.7	26.1	7.5	8.1	0.2	21.1
Percentage of total NO$_x$ (µg/m^3)	81.3	44.2	23.1	6.6	7.2	0.1	18.7
Percentage Road Contribution to total NO$_x$ (µg/m^3)	100.0	54.3	28.5	8.2	8.8	0.2	-

Figure 4-1 Detailed Source Apportionment of NO$_x$ Concentrations

Average Across All Modelled Receptors

Average Across All Receptors Within Proposed AQMA

Results at the Receptor With Maximum Road NO$_x$ Concentration
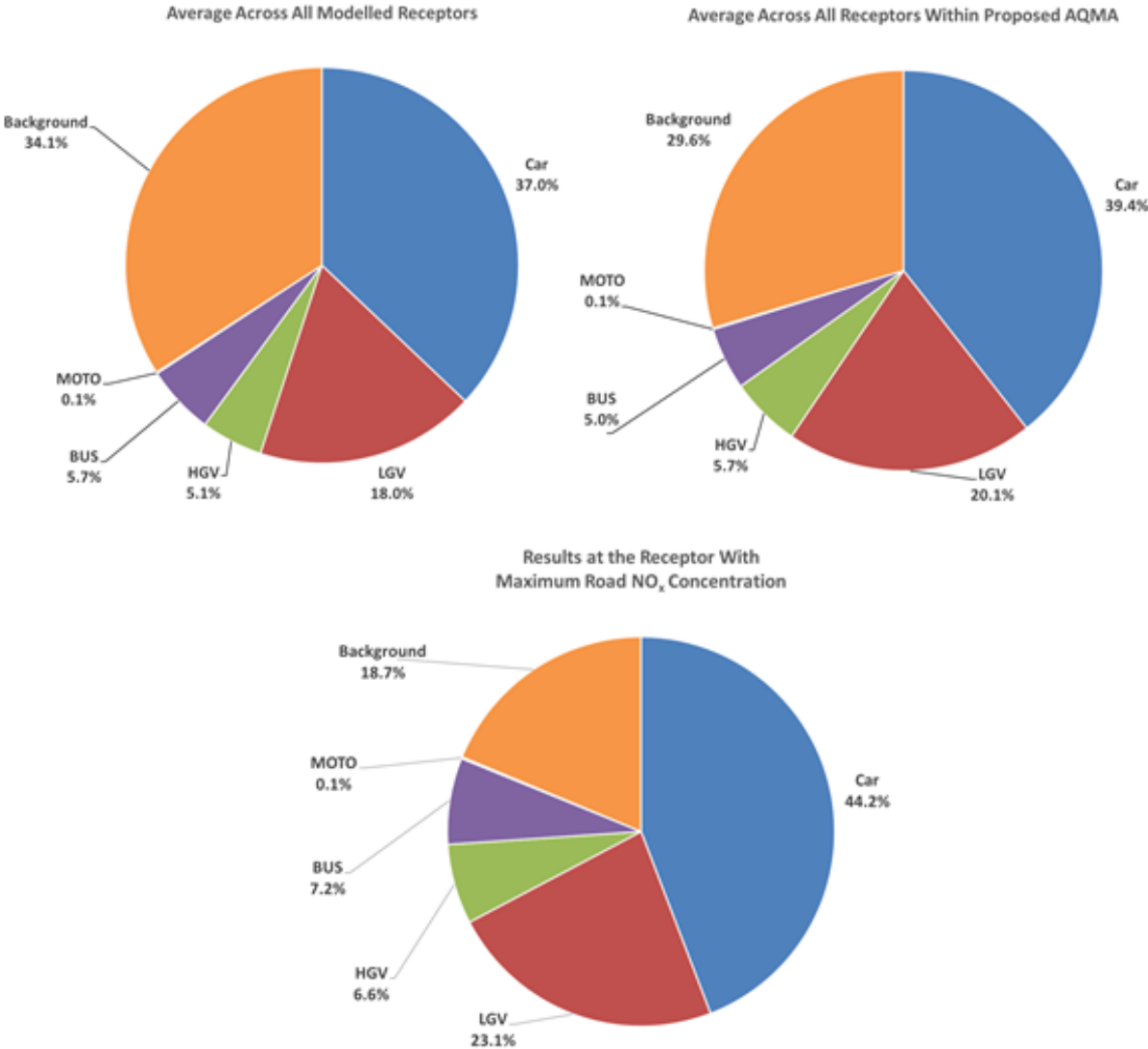
The above Table and Figures detail the source apportionment results for NO_x concentrations at modelled receptors for three scenarios:

- The average NO_x contributions across all modelled locations representative of sensitive human exposure (called 'receptors'). This provides useful information when considering possible action measures to test and adopt.

- The average NO_x contributions within the AQMA. This will inform potential prominent NO_x contributors present within the identified area of exceedance and therefore be useful when testing and adopting action measures.

- The location where the maximum road NO_x concentration has been predicted within the AQMA. This is likely to be in the area of most concern within the proposed AQMA and so a good place to test and adopt action measures. Any gains predicted by action measures are likely to be greatest at this location and so would not represent gains across the whole modelled area.

When considering the average NO_x concentration across all modelled receptor locations, the following observations were found:

- Road traffic accounts for 35.4µg/m^3 (65.9%) of total average NO_x (53.7µg/m^3), with background accounting for 18.3µg/m³ (34.1%);

- Of the total road NO_x, Cars are highest contributing vehicle class accounting for 56.2% (19.9µg/m³);

- LGVs are found to be the second highest contributing vehicle class accounting for 27.4% (9.7µg/m³);

- HGVs and Buses account for similar total road NOx (HGVs – 7.7% (2.7µg/m³) and Buses 8.6% (3.0µg/m3)); whereas

- Motorcycles are found to contribute <1%.

When considering the average NO_x concentration at modelled receptor locations within the AQMA, the following observations were made:

- The predicted road traffic NO_x percentage contribution is similar in comparison to all receptor locations, accounting for 70.4% (48µg/m³) of the total NOx

(68.3µg/m³), with the background component percentage contribution 29.6% (20.2µg/m³);

- Of the total road NO$_x$, Cars account for a similar contribution in comparison to contributions modelled at all receptor locations, and are still found to be the highest contributing vehicle class accounting for 56.0% (26.9µg/m³);

- LGVs are similarly found to be the second highest contributing vehicle class, with a consistent percentage weighting observed (28.6% (13.7µg/m³));

- Percentage contributions from HGVs were also found to be similar in comparison to contributions modelled for all receptor locations, and remain third in terms of overall ranking (8.1% (3.9µg/m³)) - suggesting a marginal influence of HGVs in exceedance areas across the modelled domain; and

- Percentage contributions from Buses and Motorcycles remain stable in comparison to contributions modelled at all receptor locations (Buses – 7.2% (3.4µg/m³) and Motorcycles <1%).

When considering the modelled receptor location at which the maximum road NO$_x$ concentration has been predicted:

- Road traffic accounts for 81.3% (91.5µg/m³) of the total averaged NO$_x$ (112.6µg/m³) – highlighting contributions from road traffic to be the core component in areas of exceedance;

- Of the total road NO$_x$, cars are found to be the highest contributing vehicle class accounting for 54.3% (49.7µg/m). However, in comparison to contributions within the AQMA as a whole and across the whole domain, this percentage is slightly lower, suggesting influence from other vehicle classes in this location;

- LGVs are found to be the second highest contributing vehicle class accounting for 28.5% (26.1µg/m³). This observed percentage contribution is consistent with observations found across the whole domain and within the AQMA;

- HGVs account for 8.2% (7.5µg/m³) of the total road NO$_x$. This is an increase in comparison to the contribution observed across the whole domain and suggests an influence on exceedance within the AQMA;

- Buses account for 8.8% (8.1µg/m^3) of the total road NO$_x$ – a slight increase in percentage contribution in comparison to the wider domain - suggesting an influence on exceedance within the AQMA; and

- Motorcycles are similarly found to contribute <1%.

The NO$_x$ source apportionment exercise demonstrates a largely consistent ranking of contributing vehicle classes exhibited throughout all scenarios (Cars, LGVs, HGVs, Buses and Coaches, and Motorcycles), where Cars primarily (alongside LGVs) are found to be the main contributors to total road NO$_x$ concentrations across Cheltenham.

Whilst comparing modelled contributions at identified receptor locations within the AQMA against the wider modelled domain, Cars were observed to employ a slightly reduced influence on total road NO$_x$ concentrations within the AQMA. Slight increases to total road NO$_x$ contributions from both LGVs and HGVs were observed, demonstrating a larger degree of influence. Increases to both LGV and HGV total road NO$_x$ contributions within the AQMA is owed to the strategic road network the area of exceedance is centred on (i.e. the A4019 – Tewkesbury Road, A4019 – High Street, A4019 – Swindon Road and High Street) – which connects the M5 (among other high capacity roads) to the Town Centre.

However, whilst taking the above into consideration, the observed variance in percentage contributions between vehicle classes largely did not change the observed ranking of contributing vehicle class exhibited throughout all scenarios. This suggests volume of traffic is considered to be the key contributor to elevated levels of NO$_2$ annual mean concentrations within the AQMA.

4.1 Required Reduction in Emissions

In line with the methodology presented in Box 7.6 of TG(22)[21], the necessary reduction in Road NO$_x$ emissions required to bring the current AQMA into compliance is shown in Table 4.2. This has been completed at the maximum annual mean concentration location, either monitored or modelled within the AQMA. The TG(22) procedure calculates the required reduction of road NO$_x$ to achieve a total NO$_2$ concentration of

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[21] https://laqm.defra.gov.uk/air-quality/featured/uk-regions-exc-london-technical-guidance/

$40\mu g/m^3$. We have used a more stringent figure of $36\mu g/m^3$ for total NO_2 concentration has been used (10% lower than the annual mean AQS objective) to account for uncertainties with dispersion modelling and the degree of potential inaccuracy with diffusion tube monitoring. This will ensure that an AQMA is only revoked once we are confident that NO_2 concentrations are below the AQS objective.

Table 4.2 – NO_x Reduction Required Within Each Air Quality Management Area

Metric	Concentration
Maximum monitored/modelled NO_2 concentration ($\mu g/m^3$)	56.7
Road NO_x Concentration ($\mu g/m^3$)	91.3
Required Road NO_x Reduction ($\mu g/m^3$)	41.0 (44.9%)

5 Key Priorities

Based on the information presented within Section 4 we have defined the following areas for action.

5.1 Priority 1 - Transport

The main source of air pollution leading to the declaration of the AQMA is road transport emissions. Therefore, reducing transport emissions are the key priority. Our approach focuses on areas where Cheltenham Borough Council has direct control (e.g. planning and procurement of outsourced functions) and areas where measures can be implemented via a partnership with Gloucestershire County Council or others.

As the roads contributing to pollutant concentrations which result in exceedance of the annual average NO_2 objective are not managed by National Highways, this Relevant Public Authority has not been engaged with for the purpose of preparing this AQAP.

5.2 Priority 2 - Planning and Infrastructure

The Local Plan and its policies set out the considerations that will be applied by Cheltenham Borough Council for all development proposals. The Council will work with developers and partner organisations to ensure the delivery of infrastructure, services and community facilities necessary to develop and maintain sustainable communities. This will not only apply to air quality but all relevant environmental aspects. Further Section 106 agreements will be sought to secure funding for future mitigation measures as appropriate where development will increase pollutant concentrations.

5.3 Priority 3 - Policy Guidance

Existing strategies and policies adopted by Cheltenham Borough and Gloucestershire County Councils are key mechanisms for reducing emissions across the borough. Transport is the main source of NO_x emissions, and therefore NO_2 concentrations, within the AQMA. For effective reductions in NO_x emissions, in addition to the implementation of the measures outlined within the AQAP, future revisions of Transport Plans, Freight Strategies, Climate Change Strategies, Cycle Strategies etc., should all be completed with potential air quality impacts taken into account.

Development of a standalone Air Quality Strategy is proposed as part of this Action Plan.

5.4   Priority 4 - Public Health and Wellbeing Behavioural Change

As detailed in Section 3.1, air pollution has a detrimental impact on public health. Therefore, improving air quality within the borough is a key priority. The main sources of air pollution in areas of public exposure in Cheltenham are from vehicle emissions. Aside from restricting vehicle usage through measures such as Clean Air Zones / Low Emission Zones, the most effective way to achieve a reduction in vehicle numbers is to change the attitudes and behaviour of the population towards travel. Cheltenham Borough Council should encourage and facilitate these changes through implementing a suite of interventions that have been informed by insights into the key factors affecting travel behaviour.

Measures will include education and awareness raising alongside schemes which incentivise change. Improving air quality to protect public health requires a wide-reaching perspective which is not specific to the AQMA but instead aims to have a wider impact across the borough.

5.5   Priority 5 - Air Quality Monitoring

Currently, NO_2 is monitored across Cheltenham Borough using passive diffusion tubes, a continuous monitoring station and AQMesh sensors as detailed within the ASR. Air quality monitoring is a useful way to continually assess the extent of air pollution in Cheltenham. It also helps to measure the impact of implementing measures to reduce emissions, and as an evidence base for AQMAs to be revoked.

6 Development and Implementation of Cheltenham Borough Council AQAP

6.1 Consultation and Stakeholder Engagement

In developing this AQAP, we have worked with other agencies, businesses, and the local community to improve local air quality. Schedule 11 of the Environment Act 1995 (as amended 2021) requires local authorities to consult the bodies listed in Table 6.1.

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

Table 6.1 – Consultation Undertaken

Yes/No	Consultee
No	the Secretary of State
No	the Environment Agency
No	the highways authority
No	all neighbouring local authorities
Yes	other public authorities as appropriate, such as Public Health officials
Yes	bodies representing local business interests and other organisations as appropriate

The above is considered appropriate given the size and nature of the AQMA.

7 Steering Group

A steering group was established at the start of the update process to drive forward the development of the new AQAP. The core aim of the steering group was to identify measures for inclusion within the AQAP that would be effective both in terms of reducing NO_2 concentrations and also feasible in terms of implementation and delivery.

The steering group is composed mainly of Cheltenham Borough Council officers from those Services with an interest or potential impact on air quality and who may have an influence on the action measures being considered. Members included:

- Officers from Cheltenham Borough Council

- Representatives from Gloucestershire County Council in terms of Highways

- External consultants from Bureau Veritas

- Members of the public and;

- The local councillor.

The officers have and continue to provide guidance in their respective areas of expertise to ensure selection, and continual evaluation of the most appropriate measures.

Two steering group meetings took place in May 2021. A full list of attendees is given in Appendix C. The steering group includes officers from the local authority from: Licensing, Environmental Protection, Fleet, Transport and Environment, Planning, Regulatory Services, Climate Change, Planning, Highway and Transport.

Gloucestershire County Council was represented by their Highways Team. The local action group, Clean Air Cheltenham were represented at the meetings and local cabinet member for Climate Emergency, Max Wilkinson.

The steering groups set out an ambitious approach to tackling Air Quality within the wider borough. Clean Air Cheltenham's plan is included in Appendix D. While the technical aspects of this AQAP have focussed on concentrations within the declared AQMA, the wider ambitions are included as part of the measures for reducing pollutant concentrations across the whole borough.

It is the aim for this steering group to continue to communicate at regular intervals following the adoption of the AQAP. This is essential to provide progress reports on individual actions in relation to the AQAP measures, discuss any key lessons learnt from the continual implementation of the measures and to continue to discuss any new ideas in terms of future measures and actions within the borough.

8 AQAP Measures

Throughout the development of the AQAP, a wide range of measures aimed at improving air quality within the new AQMA and the wider borough have been considered. TG(22)[11] states that AQAPs should be adapted to every local situation and most importantly are seen as part of an integrated package of measures, particularly in relation to linking with other key policy areas.

There were a number of measures that were considered, but not included within the AQAP. These measures, along with the reasons for non-inclusion within the AQAP are detailed within Appendix B.

Having undertaken this evaluation process, the resultant action measures contained within this AQAP are considered the most effective, feasible and cost-effective to pursue in terms of potential air quality improvements within the AQMA and the wider borough. Given that road traffic has been identified as the principal source of NO_x emissions, and therefore NO_2 concentrations, within the AQMA, the measures presented below focus on the promotion of low / zero emission transport, traffic management improvements and improved community awareness.

Table 8.1 shows the Cheltenham Borough 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, where possible

- the timescale for implementation

- how progress will be monitored

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

Table 8.1 – Air Quality Action Plan Measures

Meas ure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implement ation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completio n Date	Comments
Measures specific to AQMA											
1	Engage with Royal Mail to move toward low emissions fleet	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	CBC / GCC / Royal Mail	Ongoing		Reduced NO$_2$ within AQMA at monitoring site closest to Royal mail Delivery Office	Should data be made available following discussions, a study is to be completed to assess effect of cleaner LGVs			Initial meeting has taken place, further engagement is planned.
2	Improve data around AQMA (and beyond): A) Commission a study to understand purpose of car trips (including start/end points) through AQMA B) Single person or multiple occupancy survey C) How car parking generates trips through the AQMA	Transport Planning and Infrastructure	UTC, Congestion management, traffic reduction	CBC	2022	2023	Completion of traffic studies and surveys to deliver further targeted AQAP measures	To be confirmed once exercise is completed.	n/a	2023	Work with GCC Highways department. Engage consultants if required.
3	Implement Junction improvements/traffic light changes in vicinity of AQMA	Public Information	Other	GCC	2022	2023	Study ongoing by GCC	Study ongoing by GCC	n/a		Area where the traffic lights has been replaced with new equipment are not in the AQMA area. GCC have fully refurbished the signals at North Place / Portland Street, and will be trialling new Air Quality sensors at this location and other along the A4019 area in Cheltenham (Brewery area).

Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
4	Public Health Awareness Campaigns as part of 'Air Quality Communication Strategy' around exceedances in AQMA	Public Information	Other	CBC / GCC	2022	2023	Suite of campaigns to promote active travel and uptake in Electric Vehicles specifically within AQMA.	Measure is more an awareness raising tool; however it is also a useful measure to help members of public understand the importance of mitigation for air quality	n/a	2026	Work with Gloucestershire County Council 'behavioural experts' and marketing team to increase awareness around individual actions that can be taken to reduce pollution. Use diverse media for delivering messages but target messaging within AQMA
5	Engage with local NHS Trust to raise awareness of the effects of exposure to poor air quality where limits are exceeded.	Public Information	Other	CBC / Local NHS Trust	2022	2023	Target most vulnerable groups including elderly, children and disabled people, using NHS facility io border of AQMA	Measure to increase public awareness	n/a		Large NHS Premises on boundary of site – ideal focus for initiatives. Needs discussion with NHS
6	Investigate delivery consolidation opportunities including Golden Valley Development to reduce deliveries through AQMA.	Transport Planning and Infrastructure	UTC, Congestion management, traffic reduction	CBC	2022	2023	Completion of traffic studies and surveys to deliver further targeted AQAP measures	To be confirmed once exercise is completed.	n/a	2023	Work with CBC Climate Team, Golden Valley Development team. Engage consultants if required
7	Develop partnership for last mile delivery in town centre, by sustainable transport.	Transport Planning and Infrastructure	Freight Partnerships for city centre deliveries	CBC	2022	2023	Development of consolidated delivery services	To be confirmed once exercise is completed.	n/a	2025	Already under consideration with GCC / A commercial partner. Combine with Carbon Neutral Plan
8	Offer more EV charging points in the streets surrounding the AQMA	Promoting Low Emission Transport	Other	CBC / GCC	2022	2025	Additional EV charging points installed at West End Car Park adjacent to the AQMA and surrounding streets.	Small impact upon NO_2 concentrations from measure individually, estimated to be less than $1\mu g/m^3$ based upon a low to medium uptake.	n/a		Streets – GCC Car Parks -CBC

Meas ure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implement ation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completio n Date	Comments
9	Extend the existing priority parking areas for Electric Vehicles within parking areas of AQMA	Promoting Low Emission Transport	Priority parking for LEV's	CBC	2022	2026	Review and update discounts for residents parking permits for Electric Vehicles in and around the AQMA	Small impact upon NO_2 concentrations from measure individually, estimated to be less than 1µg/m^3 based upon a low to medium uptake.	n/a		The Borough and County Councils continue to encourage electric vehicle use through the installation of charging points in car parks or on-street. The Borough currently provide free EV charging at its car park charging points.
10	Install Rapid Charging Points for Electric Vehicles	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	GCC	Ongoing		No. of charging points installed	Small impact upon NO_2 concentrations from measure individually, estimated to be less than 1µg/m^3 based upon a low to medium uptake.			Fast Electric charging points are installed at 3 sites. Rapid chargers are installed at Cheltenham Railway Station. Chargers installed at Tesco and Lidl superstores. Promenade charging has not been installed to date. Look to install within parking areas of AQMA. If possible seek to install within Royal Mail site.
11	Increase Car Sharing in AQMA.	Alternatives to private vehicle use	Car & lift sharing schemes	GCC	2016			Will depend on uptake	Existing website available. Work to increase visibility and awareness		Parish Lift, Carshare Gloucestershire[22] available via GCC.

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[22] https://liftshare.com/uk/community/gloucestershire

Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
Measures for Consideration as part of wider Air Quality Strategy											
12	Adopt a Cheltenham Air Quality Strategy. Consider inclusion of measures from Clean Air Cheltenham's document and other community sources.	Policy Guidance and Development Control	Low Emissions Strategy	CBC with Local Councillors and Residents Action Group - Clean Air Cheltenham	2022	2024	Development of Air Quality Strategy		n/a	Strategy to be in place for ten years.	Strategy needs constant review and revision, not "shelving". Will require a specific target date for production and implementation and resources to deliver it.
13	Investigate Setting an annual mean target objective of 30ug/m³ NO_2 instead of the National objective of 40ug/m³.	Policy Guidance and Development Control	Other policy	CBC	2022	2023	To be supplemented by the Low Emissions Strategy (see measure 14). Initial KPI will be to reduce levels within the AQMA below 40ug/m³.	-10µg/m³ further to reduction below 40µg/m³ of NO_2	n/a	2030	
14	Investigate setting targets for PM_{10} and $PM_{2.5}$ in line with WHO guidance, and emerging DEFRA requirements	Policy Guidance and Development Control	Other policy	CBC	2022	2023	To be supplemented by the Low Emissions Strategy (see measure 14). Initial KPI will be to reduce levels within the AQMA below 40ug/m³.	Up to -10µg/m³	n/a	2030	Awaiting confirmation of $PM_{2.5}$ objectives to be set by Defra with Target Date of October 31st 2022.
15	Deliver a Schools AQ Project- Education and Awareness campaign	Policy Guidance and Development Control	Other policy	CBC / GCC	2022	2023	Schools / students engaged and making positive changes to travel options.			2025	Needs support of GCC.
16	Create Car-free Zones/Emissions Charging Zones	Promoting Low Emission Transport	Low Emission Zone (LEZ) or Clean Air Zone (CAZ)	CBC	2022-2026	2030	Further investigative work to be done to determine how achievable this measure is and whether it is proportionate to the	Potentially very high but very speculative at this stage as likely to clash with policies to encourage use of the high street.	n/a		Needs support of GCC. Detailed plan needed before implementation, as no natural diversion routes around town centre, so closures /

Meas ure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implement ation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completio n Date	Comments
							exceedances within the AQMA				charging zones could lead to pollution elsewhere. Needs to be a component in a wider scheme.
17	Develop strategic routes; consider, closure of certain town-centre roads to certain vehicle-types	Transport Planning and Infrastructure	Other	GCC	2022	2025			n/a		Needs support of GCC and (possibly) national legislation. Difficult to enforce, and unpopular with a vocal minority.
18	Expand the existing Arle Court Park and Ride (https://www.gloucestershi re.gov.uk/transport/park-ride-gloucester-and-cheltenham/changes-to-arle-court-park-ride/)	Alternatives to private vehicle use	Bus based Park & Ride	CBC	2022-2026	2030	Development in 2022	Studies to be completed as part of expansion	n/a		The Park and Ride at Arle Court has been redesigned improved. Possible scope for better public awareness of facility.
19	Promote Cycling and upgrade of Infrastructure in line with Severn Vale Cycling and Walking Infrastructure Plan	Promoting Low Emission Transport	Promotion of cycling	GCC	2020	Ongoing	In line with Cycling and Walking Infrastructure Plan. https://www.glouceste rshire.gov.uk/media/2 095888/cycling-and-walking-infrastructure-plan-final-20200828.pdf				Elements of this measure are being brought forward under the West of Cheltenham improvement Scheme as well as a bid for A417 designated funds. There is also a small bid for town centre signage with the Capital Programme at present.
20	'Twenty is Plenty'	Transport Planning and Infrastructure	Reduction of speed limits, 20mph zones	CBC	Ongoing			Evidence is mixed as to efficacy of speed reduction.			The Cabinet working group are awaiting better guidance on the benefits and implementation. Assessed in the "Connecting Cheltenham" report (2020). The report was also issued to

Meas ure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implement ation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completio n Date	Comments
											GCC to help inform their LTP as: "Introduce speed limits in accordance with the current national guidelines and prioritise them based on available evidence, including 20mph zones."
21	Implement alternative fuel sources for business fleet within the council	Promoting Low Emission Transport	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	CBC	2022	2023	Increase in Euro VI and Electric Vehicles as part of local authority controlled vehicle fleet	NO$_x$ emission reduction achieved by the Council will be able to be calculated annually.		2025	Extend to Ubico / other ALMO and suppliers / contractors. Extend to non-fleet users. GCC Already investigating HVO Biofuel, possibility for joint project?
22	Phase out around 500 Euro V and older Taxis and replace with Euro VI vehicles.	Promoting Low Emission Transport	Taxi Licensing conditions	CBC	2022	2026	Ongoing reduction in Euro V taxis		n/a	2027	Gradual uptake as there has been recent requirement for taxis to be updated for accessibility
23	Install Charging points at taxi ranks	Promoting Low Emission Transport	Taxi emission incentives	CBC	2022	2026	Increase in Electric Taxis	Small impact upon NO$_2$ concentrations from measure individually, estimated to be less than 1µg/m^3 based upon a low to medium uptake.	n/a		Licensing Team Leader update: *In drafting this AQAP, it was highlighted that a very small number of taxis are currently electric or hybrid, the emphasis in recent years has been on making the taxis accessible to users with disabilities and so resources may be limited to update parts of the fleet immediately.*

Meas ure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implement ation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completio n Date	Comments
											Possible liaison with GCC planning more EVs at Taxi Ranks, CBC to be responsible for EVs in Car Parks. Planning to seek funding on the basis that we want taxi rank infrastructure in place by 2026/7.
24	Promote Workplace Travel Plans	Promoting Travel Alternatives	Car & lift sharing schemes	GCC	Unknown			Will depend on uptake			Cheltenham Borough Council will introduce a Cycle to Work Scheme and are developing pool car and car sharing projects. These will be used to encourage businesses in Cheltenham to develop and implement similar plans. GCC can provide this service to employers.
25	Promote a No Idling Policy for Buses and Taxis	Promoting Low Emission Transport	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	GCC	2018 and ongoing		KPI measured via an annual review of the number of fixed penalty fines and number of complaints received. We get zero complaints and issue zero fines (we have no power to issue fines)	Measure is an awareness raising tool. However, it is also a useful measure to prevent vehicles idling and causing congestion in specific locations, which is a significant cause of emissions.			No powers to prevent or penalise idling at roadside. The current fleet of Stagecoach buses now have a black box system which monitors driving behaviour and promotes more fuel efficient driving and anti-idling. Other operators may not use this technology.

Meas ure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implement ation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completio n Date	Comments
26	Apply variable parking charges to incentivise use of EVs and Hybrids	Public Information	Other	CBC / GCC Partnership							Cheltenham and Gloucestershire County councils will also investigate the potential for differential parking charges for electric and hybrid vehicles on street and in car parks.
27	Publish AQ monitoring results using low-cost AQMesh sensors on accessible website	Public Information	Via the Internet	CBC	ongoing	ongoing	Continued upload of data onto monitoring site	Increases knowledge and understanding of air quality within the borough	n/a	Ongoing	Already available
28	Emissions Policy for Private Hire Vehicles	Promoting Low Emission Transport	Taxi Licensing conditions	CBC	ongoing	2022	Implementation of new policy	>1µg/m³	n/a	Ongoing	CBC are in the process of developing the policy to implement the Cabinet Member Customer & Regulatory Services' ambition to move the taxi fleet to EVs by 2026/7. This policy will need to address the gradual phasing out of petrol and diesel vehicles, starting with the few Euro 4s and then eventually Euro 5 and 6 to EV over this period. Vehicle replacements will need to be Euro 6 as a minimum before converting to EV.

Appendix A: Response to Consultation

Table A.1 – Summary of Responses to Consultation and Stakeholder Engagement on the AQAP

Consultee	Category	Response
Licensing at Cheltenham Borough Council	Licensing	1. Regarding measure no. 22 – we are in the process of developing the policy to implement the Cabinet Member Customer & Regulatory Services' ambition to move the taxi fleet to EVs by 2026/7. This policy will need to address the gradual phasing out of petrol and diesel vehicles, starting with the few Euro 4s and then eventually Euro 5 and 6 to EV over this period. My current thinking is that vehicle replacements will need to be Euro 6 as a minimum before making the leap to EV, so supportive of this. 2. Regarding measure no. 25 – No comment, happy to support
Public Health at Gloucester County Council	Public Health	Comments within report which have been included. Additional commentary around the Air Quality and Health Strategy (2019)

Appendix B: Reasons for Not Pursuing Action Plan Measures

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)
Taxi emission incentives	Incentivising Taxi fleet to use electric vehicles	CBC have recently completed a campaign to ensure Taxis are suitable for accessibility. This will make it unlikely to be able to find funding to also encourage immediate adoption of Electric Vehicles among taxi drivers so soon after expectations have been put in place to update vehicles for accessibility.

Appendix C: Steering Group Attendees and Summary

Invitees	From
Sarah Clark	Public Protection, Cheltenham Borough Council
Yvonne Hope	Public Protection, Cheltenham Borough Council
Mike Redman	Public Protection, Cheltenham Borough Council
Councillor Max Wilkinson	Councillor/Cabinet Member, Cheltenham Borough Council
Clean Air Cheltenham	Residents Action Group
Philip Williams	Transport Commissioner, Gloucestershire County Council
Phillip Wright	Parking, Cheltenham Borough Council
Jackie Jobes	Strategic Transport, Cheltenham Borough Council
Tracey Crews	Planning Policy, Cheltenham Borough Council
John Rowley	Planning Policy, Cheltenham Borough Council
Philip Cameron	Highways, Gloucestershire County Council
Sue Weaver	Public Health (unable to attend but has subsequently commented)
Karen Watson	Fleet Management, CBC
Laura Tapping	Cheltenham Borough council - Climate Change Project Officer
Alex Mason	Public Protection, Cheltenham Borough Council
Daniel Clampin	Bureau Veritas
Alexandra Spence	Bureau Veritas
Gareth Jones	Public Protection, Cheltenham Borough Council
Jason Kirkwood	Licensing, Cheltenham Borough Council

Appendix D – Clean Air Cheltenham

Please follow the link below to access Clean Air Cheltenham's Framework for Air Quality Action Plan Document

https://www.cleanaircheltenham.org/wp-content/uploads/2021/05/Framework-for-Air-Quality-Action-Plan.pdf

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
CBC	Cheltenham Borough Council
GCC	Gloucestershire County Council