CHELTENHAM
BOROUGH COUNCIL

# Cheltenham Borough Council Cabinet

**Meeting date:** **Tuesday, 23 May 2023**

**Meeting time:** **6.00 pm**

**Meeting venue:** **Council Chamber - Municipal Offices**

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## Membership:

Councillors Rowena Hay, Peter Jeffries, Victoria Atherstone, Flo Clucas, Mike Collins, Iain Dobie, Martin Horwood, Alisha Lewis and Max Wilkinson

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## SECTION 1 : PROCEDURAL MATTERS

**1 Apologies**

**2 Declarations of interest**

**3 Minutes of the last meeting (Pages 5 - 12)**
To approve the minutes of the meeting held on 4 April 2023

**4 Public and Member Questions and Petitions**
Questions must be received no later than 12 noon on the seventh working day before the date of the meeting

## SECTION 2 :THE COUNCIL

Further to last month's referral of a motion relating to the engagement of young people with the work of the council, the Cabinet Member for Safety and Communities has provided the attached briefing note to outline to process and mechanisms.

## SECTION 3 : OVERVIEW AND SCRUTINY COMMITTEE

*There are no matters referred to the Cabinet by the Overview and Scrutiny Committee on this occasion*

## SECTION 4 : OTHER COMMITTEES

*There are no matters referred to the Cabinet by other Committees on this occasion*

## SECTION 5 : REPORTS FROM CABINET MEMBERS AND/OR OFFICERS

**5 Air Quality Action Plan (Pages 15 - 188)**
Report of the Cabinet Member for Customer and Regulatory Services

**6 Information Governance (Pages 189 - 256)**
Report of the Corporate Director and Monitoring Officer

**7 Application for designation of a Neighbourhood Forum (Pages 257 - 276)**
Report of the Cabinet Member for Customer and Regulatory Services

**8 Approval of countywide Memorandum of Understanding - Co-operation on Biodiversity Net Gain through the Gloucestershire Nature and Climate Fund (Pages 277 - 300)**
Report of the Cabinet Member for Climate Emergency

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## SECTION 6 : BRIEFING SESSION

- Leader and Cabinet Members

**9 Briefing from Cabinet Members**

## SECTION 7 : DECISIONS OF CABINET MEMBERS

Member decisions taken since the last Cabinet meeting

## SECTION 8 : ANY OTHER ITEM(S) THAT THE LEADER DETERMINES TO BE URGENT AND REQUIRES A DECISION

## SECTION 9 : LOCAL GOVERNMENT ACT 1972 - EXEMPT BUSINESS

**10 Local Government Act 1972 - Exempt Business**

**The Cabinet is recommended to approve the following resolution:-**

"That in accordance with Section 100A(4) Local Government Act 1972 the public be excluded from the meeting for the remaining agenda items as it is likely that, in view of the nature of the business to be transacted or the nature of the proceedings, if members of the public are present there will be disclosed to them exempt information as defined in paragraph 5, Part (1) Schedule (12A) Local Government Act 1972, namely:

Paragraph 5: Information in respect of which a claim to legal professional privilege could be maintained in legal proceedings

**11 A Legal Matter**

Report of Cabinet Member for Cyber, Regeneration and Commercial Income

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CHELTENHAM
BOROUGH COUNCIL

# Cheltenham Borough Council
# Cabinet
# Minutes

**Meeting date:** **4 April 2023**

**Meeting time:** **6.00 pm - 6.45 pm**

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**In attendance:**

**Councillors:**

Rowena Hay, Peter Jeffries, Victoria Atherstone, Flo Clucas, Mike Collins, Iain Dobie, Martin Horwood, Alisha Lewis and Max Wilkinson

**Also in attendance:**

Gareth Edmundson (Chief Executive) and Gemma Bell (Director of Finance and Assets and Deputy S151 Officer)

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## 1 Apologies

There were none.

## 2 Declarations of interest

There were no declarations of interest.

## 3 Minutes of the last meeting

The minutes of the meeting held on 20 March were approved as a true record by those Members who were present, and signed accordingly.

## 4 Public and Member Questions and Petitions

No public questions, Member questions or petitions had been received.

## 5 Matter referred to Cabinet by Council on 20 March 2023

The following motion and amendment, were referred by Council (20 March 2023) to Cabinet:

**Motion:** *To establish a Cheltenham Youth Council*

**Amendment:** *To refer the issue of mechanisms by which we can further involve young people in Cheltenham Borough Council life to Cabinet and the relevant Cabinet Member (Safety and Communities) to explore feasible additional outreach and inclusion options – with a youth council or youth forum as options to be costed and considered.*

The Leader asked the Cabinet Member for Safety and Communities to prepare an outline of the process and mechanisms, including a timeline, by which CBC can further involve young people, and to bring this to the next Cabinet meeting in May.

The Cabinet Member for Safety and Communities confirmed that she was already working towards reporting back to the July Council meeting, but would be happy to outline the process to Cabinet in May.

## 6 CCTV in Licensed Vehicles

The Cabinet Member for Customer and Regulatory Services introduced his report, reminding Members that the subject of CCTV in licensed vehicles has been raised at Cabinet before, not only for the protection of vulnerable passengers, but also for drivers, to be used as evidence in the event of any allegations against them. The response to consultation was modest in scale but overwhelmingly positive, and he asked that this be noted, and officers be given the green light to proceed to the next step, as set out in the recommendation.

There were no comments from Members. The Chair moved to the vote, where it was unanimously

**RESOLVED THAT:**

1. **the consultation feedback be noted;**

2. **further consultation on the installation of CCTV in licensed vehicles under the following scope be approved, by:**
   a. **developing a set of technical specifications and requirements relating to approved CCTV recording equipment in licensed vehicles;**
   b. **developing of a policy setting out the authority's requirements, scope and implementation arrangements;**
   c. **undertaking further, formal consultation on a. and b. above with the licensed trade and key stakeholder most affected, or impacted, by the proposed policy.**

## 7 Graffiti Policy

The Cabinet Member for Customer and Regulatory Services introduced his report, saying that a robust approach was needed to strike a balance between unwelcome

graffiti and street art, particularly that resulting from the Cheltenham Paint Festival which is shown to lift an area and contribute to well-being. Helpful feedback to the consultation had been provided by the police, Civic Society, and Paint Festival organisers, including Andy Davies, who suggested the overall change in the title to include 'unauthorised or unwelcome', and that this should not apply to graffiti which caused political offence, which was not an unreasonable subject. He recommended the policy to Cabinet, with immediate effect.

The Cabinet Member for Housing also thought the inclusion of 'unauthorised and unwelcome' in the title of the policy was appropriate – it was important to get rid of unwelcome graffiti as soon as possible, but also to protect great pieces of street art.

With no further comments, the vote was taken where it was

**RESOLVED THAT:**

1. **consultation feedback be noted;**

2. **the proposed graffiti policy, 'Statement of Policy regarding Unauthorised or Unwelcome Graffiti', as at Appendix 3 of the report, be adopted, with immediate effect.**

**8 Culture Strategy**

The Cabinet Member for Economic Development, Culture, Tourism and Wellbeing said this was a very positive report, bringing together the many different organisations which contribute to cultural life across the town in a cultural strategy based on partnership and collaboration. Working with the digital sector, it will drive the visitor economy and contribute to the council's net zero goals, and while CBC is not responsible for delivering the strategy, it is at the centre of many aspects. He thanked officers, in particular Richard Gibson, for their continued support in developing the strategy, which would be monitored on an annual basis through Overview and Scrutiny, so ensuring Member involvement. He also thanked Ali Mawle, the Chair of Cheltenham Culture Board, and the Cabinet Member for Housing, who had started the process in her previous role, and looked forward to the positive impact the strategy will have.

The Cabinet Member for Housing said it had been a joy working with the Culture Board in her previous role, which represented a broad range of cultural activities across the borough. The consultation had resulted in an impressive 950 responses, and although Cheltenham is known as the festivals town, there are still gaps for improvement – and the culture strategy will provide a guide to where we can do better, collectively.

The Leader added that everyone knows how important culture is in Cheltenham, and the different organisations in the Culture Board will streamline and lead from grass roots up to improve and inspire. They are the right people to lead the process, but it

is important for the council to support their ambitions, as a facilitator rather than a deliverer. Culture strategy isn't just about the arts, painting, and theatre, but also about leisure time, sports and recreation, and it important that the people involved are from a diverse range of backgrounds.

She invited Members to vote, where it was unanimously

**RESOLVED THAT:**

1. **the final culture strategy, attached at Appendix 2, be endorsed;**

2. **the council will work alongside partners on the Cheltenham Culture Board to develop a robust 12-month action plan;**

3. **it be noted that the Borough Council will be involved in working with partners to deliver the outcomes in the action plan and is providing support in the form of one-off funding for a co-ordinator, but that the Cheltenham Culture Board is a distinct entity in itself.**

**9 Ubico Business Plan 2023-24**

The Leader said Members had already had already had the opportunity to comment on the business plan at an earlier presentation, and it had also been examined at Overview and Scrutiny Committee. She said the level of consultation and amount of effort put in by Ubico is to be applauded, leaving Members feeling well informed and always answering questions.

The Cabinet Member for Finance and Assets drew attention to the huge amount of work that Ubico carries out, as shown in the business plan, and was particularly pleased with how they align with CBC's values, with golden threads running through their work with climate change and people. He said CBC can feel proud that it was at the forefront when Ubico was created, and now it is a county-wide business.

The Cabinet Member for Economic Development, Culture, Tourism and Wellbeing said it was worth noting the contribution Ubico was making towards out climate goals through technology, fuels and recycling.

Members moved to the vote, where they unanimously

**RESOLVED THAT:**

1. **the Ubico Business Plan 2023-2024 be noted;**

2. **it be noted that the Leader of the Council, as shareholder representative, proposes to sign the written resolution to approve the Ubico Business Plan 2023-2024 in due course.**

**10 Refurbishment of Montpellier Gardens Toilets**

The Cabinet Member for Waste, Recycling and Street Services recommended the report to Cabinet, and thanked all officers who had worked on this important project, which he was proud to have been part of, in securing funding from Gloucestershire County Council. He said the final design promotes fairness, and increases the provision Changing Places toilets, for those with severe disabilities, on the south side of the town, in a park well-used for cultural events. These facilities will complement Changing Places toilets currently found on the north side of the town centre in John Lewis store and Pittville Park, and it is hoped that further facilities will be provided in the future. The design also doubles the number of standard disabled toilets, provides more female toilets, and two gender-neutral toilets, and general refurbishment of an important toilet block. He commended the report to colleagues and hoped they would support the recommendations and move the project forward.

The Cabinet Member for Housing was particularly pleased to see an equal number of female and male toilets, gender-neutral toilets, and family room in both the female and male areas, all of which provided equality and equity.

The Cabinet Member for Economic Development, Culture, Tourism and Wellbeing said that a lot of places which welcome new visitors invest in upgrading toilets and making them more accessible, because this is something that people really value – the lack of good facilities can be a disincentive to visitors. He hoped that the quality and provision of facilities can be expanded going forward, but the proposed toilets are in a flagship area, used by a lot of visitors, and Cheltenham can be proud of providing equity, equality and accessibility.

The Leader also thanked the Cabinet Member for Waste, Recycling and Street Services for pushing ahead with this, noting that the council doesn't have to provide public toilets, but has made the decision to invest where it can. Given the current financial situation, it cannot refurbish all its facilities, but has listened to resident and businesses and set priorities on where to invest its limited financial resources. These toilets will be a very welcome addition.

She invited Members to vote, where it was unanimously

**RESOLVED THAT:**

1. **the final concept for the Montpellier Gardens toilets as described in the report and at Appendix 2 be approved;**

2. **authority be delegated to the Director of Finance, Assets and Regeneration, in consultation with the Cabinet Member for Waste, Recycling and Street Services and the Borough Solicitor, to undertake the procurement and award the contract for a construction contractor to deliver the design.**

**11 Briefing from Cabinet Members**

The Cabinet Member for Climate Emergency welcomed the Leader back after her recent operation. She said the carbon footprint report had been taken to Council and received great acclaim and highlighted the meaningful and impressive progress the authority is making, having listened to residents. She also reported that the Cheltenham Zero partnership is helping small and medium enterprises to understand and reduce their carbon footprint, and make a strong contribution. In anticipation of his own briefing, she thanked the Cabinet Member for Finance and Assets for his support in claiming a grant for a heat pump at Leisure @, showing that the council is putting in every effort to protect the things that people love.

The Cabinet Member for Customer and Regulatory Services said that there were still small pots of unspent Covid funding, locally under the control of the Director for Public Health in Gloucestershire, and the Public Protection team had applied for permission to use some of this on a project to raise awareness of air quality issues among pupils, families and staff in schools. This dovetails with the Air Quality Action Plan due to come to Cabinet later this year. It was a neat use of the money, as Covid is a respiratory disease, and poor air quality contributes to hospital admissions. He congratulated Louis Krog and Bernadette Reed for securing the funding, and also paid tribute to Louis, who is performing brilliantly in his new role as Head of Public Protection, not least producing two reports for tonight's Cabinet whilst coping with all the additional workload arising from Race Week.

The Cabinet Member for Safety and Communities also wanted to thank officers, for arranging Sunday's event in Pittville Park, where 560 children enjoyed the day, and a range of events over the coming months which will benefit several thousand children by the end of the summer. She thanked Tracey Brown and the team for making this happen, and Kelly Patterson for securing £21k to work with three schools in trying to prevent young people from being excluded, thus giving them a better view of themselves and the town, and education to fulfil their potential and dreams. It is a great feeling to be able to share what Cheltenham is doing with other local authorities across the country, and thanked officers for the unique work being done and help being given to children and the difference it is going to make. It was important that that all the successes should be evaluated at the end of the year and how this can be built on for the future.

The Leader was pleased to note that children on free school meals were able to apply in advance to have lunch at the Pittville Park event, and Cabinet Member confirmed that this was built into all the events planned for the next six months, to ensure that all the children were able to enjoy the day.

The Cabinet Member for Economic Development, Culture, Tourism and Wellbeing congratulated the CYNAM team for an incredible event at Pittville Pump Room last week. Having learnt a huge amount about the cyber eco-system, he highly recommended that colleagues should go to any future events organised by CYNAM.

He also congratulated everyone involved from the local cyber eco-system, the LEP at the county council and this authority, who were involved in the recent Canadian cyber delegation, an uplifting event, which demonstrated the importance of Cheltenham putting itself at the centre of the UK cyber industry. He also visited the Cleevely EV Open Day, a really impressive set-up on Lansdown Industrial Estate, and said we can be proud to have Matt Cleevely, a national expert in EV technology, on our doorstep. Finally he thanked Richard Johnson and the Gloucestershire-Warwickshire Steam Railway team for a brilliant open day, saying this is a tourist attraction on the edge of the borough which does a huge amount for our tourism offer.

The Cabinet Member for Housing was very pleased to have visited Kendrick Homes site just off Shurdington Road, where 12 homes were being built, five of which, through an S106 agreement, will be managed by CBH and affordable, [shared ownership and affordable rent], to be ready in early September.

The Cabinet Member for Cyber, Regeneration and Commercial Income said Members will be aware that not a month goes by without some further progress on the Golden Valley Development and CBC's cyber ambitions, and this month he and Cabinet Member for Economic Development, Culture, Tourism and Wellbeing were invited by the Department of Trade to an event with the Canadian cyber community, who came to Cheltenham to listen to our plans and look at the town. They were very impressed with what has been done so far and what is being proposed. It was a great opportunity to promote Cheltenham, as a wonderful place to both now and in the future.

The Leader said she and her grandchildren had also enjoyed the event in Pittville Park on Sunday, which was really well attended, and introduced young children to science and engineering. She thanked the Cabinet Member for Climate Emergency for her kind words, and everyone for stepping up while she was recovering.

The Cabinet Member for Finance and Assets and the Cabinet Member for Waste, Recycling and Street Services did not have any briefings this month.

**12 Cabinet Member decisions since the last meeting**

Cabinet Members were invited to brief colleagues on decisions they had made since the last meeting of Cabinet:

1. **21 March 2023:** Cabinet Member for Finance and Assets (Deputy Leader)
   Appointments to Outside Bodies

2. **23 March 2023:** Leader
   Extension of the term of Gloucestershire Economic Growth Joint Committee

3. **29 March 2023:** Cabinet Member for Economic Development, Culture, Tourism and Wellbeing
   To agree to grant funding of £150k from NHS Gloucestershire Integrated Care Board

4. **29 March 2023:** Cabinet Member for Economic Development, Culture, Tourism and Wellbeing
   To approve the award of grant funding for the Cheltenham Health and Wellbeing fund

5. **04 April 2023:** Cabinet Member for Finance and Assets
   To accept funding to install a heat pump solution at Leisure at Cheltenham recreation centre

# Briefing Note

# Cabinet – 23 May 2023

## Developing an options appraisal to further improve engagement with young people to add value to the work of the Council

**Accountable member:** Cllr Flo Clucas, Cabinet Member Safety & Communities

**Accountable officer:** Richard Gibson, Head of communities, wellbeing & partnerships

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**Background**

On 20 March 2023, following an amendment, the below motion was agreed by full Council:

*Cheltenham Borough Council and its partners are proud of the outreach work undertaken to ensure that young people have a voice in the democratic process.*

*Council welcomes ongoing work to broaden this engagement strategy, including visits by the Cabinet Members for Climate Emergency and Safety & Communities to meetings with local young people as part of the Cheltenham Education Partnership, and engagement by the Cabinet Member for Economic Development, Culture, Tourism and Wellbeing with GlosCol supporting their construction skills agenda.*

**This Council resolves:**

***To refer the issue of mechanisms by which we can further involve young people in Cheltenham Borough Council life to Cabinet and the relevant Cabinet Member (Safety and Communities) to explore feasible additional outreach and inclusion options – with a youth council or youth forum as options to be costed and considered.***

At Cabinet on 4 April 2023, the Leader asked the Cabinet Member for Safety and Communities to prepare an outline of the process and mechanisms, including a timeline, by which CBC can further involve young people.

This briefing note sets out the process and timeline to bring a report back to Council with a recommendation for how we can further improve how we involve young people in the work of the council.

Youth engagement in local government also benefits the local community by ensuring that youth perspectives and voices are heard and considered as part of

the work of the Council. It's important to recognise that there are different mechanisms and opportunities for engagement with young people across Cheltenham and we should not limit the art of the possible to a predetermined solution.

Rather than predetermine what the solution should be, it's proposed that an options appraisal will be developed and presented back to Council later in 2023. It's also important that options evaluated consider themes such as accessibility, inclusion, statistical rigour/representative, insight from young people, and how it will add value to the work of the Council.

**Critical success factors:**

- To what degree are the options supported by young people?
- To what degree is the preferred option deliverable within the council's existing resources?
- To what degree will the option add the most added value to the work of the Council e.g. the Council's corporate plan?
- Sustainability of the preferred option?

This timetable sets out the recommended first stage in the process:

**First stage:**

| Stage 1 - options appraisal | How | By when |
|---|---|---|
| Develop an options appraisal evaluating three different opportunities to enhance engagement with young people to help add value to the work of the Council | • Map existing methods of engaging with young people<br>• Research best practice from other local authorities<br>• Seek advice from the Local Government Association and District Council Network<br>• Through local community networks ask young people about what ideas they have<br>• Look at how other sectors engage with young people to see if there is any transferable learning<br>• What engagement tools are available | **July** |
| **Output:** | • Options appraisal has three options with a recommendation for consideration | |
| **Outcome:** | • Preferred option selected | |

# Cheltenham Borough Council

# Cabinet – 23 May 2023

# Air Quality Action Plan

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**Accountable member:**

Cabinet Member for Customer and Regulatory Services, Cllr Martin Horwood

**Accountable officer:**

Head of Public Protection, Louis Krog

**Accountable scrutiny committee:**

Cabinet

**Ward(s) affected:**

All

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**Key/Significant Decision:**

Yes

Climate Change Impact Assessment carried out 20th March 2023

**Executive summary:**

This Air Quality Action Plans (AQAP) outline the action we will take across the Borough to improve air quality. This fulfils the authority's statutory responsibilities on local air quality management under part IV of the Environment Act 1995 (as amended in 2021). Our local air quality monitoring indicated levels of Nitrogen Dioxide ($NO_2$) exceeded the annual mean objective in one geographical area. We declared this area an Air Quality Management Area (AQMA) in 2020. It extends from the junction of Gloucester Road, Tewkesbury Road and High Street along Poole Way to Swindon Road to the junction of St George's Street. The AQAPs outline the actions required to improve air quality across the Borough and specifically what we will do to reduce levels of $NO_2$ within the AQMA. The AQAPs, once approved, will be submitted to the Department for Environment, Food and Rural Affairs (Defra) for their appraisal. The authority has developed a collaborative approach, reflecting the need for upper and lower tier authorities and other key partners to work together to reduce pollution and improve air quality. The AQAPs include initiatives which can be delivered using existing knowledge and some ambitious initiatives which will require further research and funding to implement. Many of the actions within the report are not the responsibility of this Authority, many lie with Gloucestershire County Council for example, as the transport authority and we will

continue to work with them and our partners for effective delivery.

## Recommendations:

**That Cabinet:**

1. **Approve the draft Air Quality Action Plan attached at Appendix 3 of this report.**
2. **Approve the Bureau Veritas Air Quality Action Plan at Appendix 4 of this report**
3. **Approve the Bureau Veritas Modelling Study at Appendix 5 of this report**

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## 1. Implications

### 1.1. Financial implications

Approval has been sought from the Director of Public Health that the residual COMF (Covid Management Funding) can be used to fund the proposed Air Quality fixed term contract role.

All other expenditure will be covered by existing base budget in the REG012 (Air Quality) cost centre.

**Signed off by:** Andy Taylor, Principal Commercial Accountant, andrew.taylor@cheltenham.gov.uk

### 1.2. Legal implications

Where, as a result of an air quality review, it appears that any air quality standards or objectives are not being achieved, or are not likely within the relevant period to be achieved, within the area of a local authority, the local authority shall by order designate this as an AQMA. Any changes to that designated area, following a subsequent air quality review, shall require an amendment to the designation order. Further legal advice should be requested on the statutory process for any amendments required.

There is also a legal requirement under the Environment Act 1995 for a local authority to produce an AQAP targeted at meeting air quality objectives where an AQMA has been declared.

A local authority is required to review and revise its AQAP in order to seek to achieve the prescribed air quality objectives. When considering revisions to its AQAP, local authorities are required to consult widely. In considering the report and the draft revised AQAP, Cabinet is required to have regard to the consultation responses and the proposed revisions to the AQAP, in addition to its public sector equality duty (PSED) under Section 149 of the Equality Act 2010. This duty provides that the Council must, when exercising its functions, have due regard to the need to eliminate discrimination, harassment and

victimisation and other prohibited conduct and to advance equality of opportunity and foster good relations between those who share a 'protected characteristic'.

Any alleged failure to conduct a lawful consultation, or to have proper regard to the responses received, or the Council's PSED when adopting the AQAP, may be subject to a legal challenge.

One Legal
Tel: 01684 272 691 Email: legalservices@onelegal.org.uk

### 1.3. Environmental and climate change implications

The aim is to improve air quality within the Borough and in particular within the AQMA. The actions set out in this plan aim amongst other things to reduce vehicles on the road, encourage the use of cleaner fuels and reduce burning of fossil fuels in domestic settings. These actions ultimately lead to greenhouse gas reduction. See Climate change impact assessment appendix ii

**Signed off by:** Laura Tapping Climate Emergency Programme Officer
laura.tapping@cheltenham.gov.uk

### 1.4 Corporate Plan Priorities

This report contributes to the following Corporate Plan Priorities:

- Working with residents, communities and businesses to help make Cheltenham #netzero by 2030
- Ensuring residents, communities and businesses benefit from Cheltenham's future growth and prosperity
- Being a more modern, efficient and financially sustainable council

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### 3.5 Promoting equality and reducing discrimination

NA

### 3.6 Performance management – monitoring and review

The authority will submit, as required, an annual status report[1] to Defra outlining progress in achieving reductions in concentrations of emissions below the air quality objectives (see page 5 of the AQAP for information on the air quality objectives). We will have regard to any comments or required improvements following the appraisal by Defra.

The action plan will be reviewed every 5 years.

Overview & Scrutiny will be updated periodically on progress.

Progress will be reported to the Gloucestershire County Council All Hazards Protection Board as part of the Gloucestershire Air Quality and Health Partnership as detailed in Gloucestershire Air Quality and Health Strategy[2] (AQHS)

## 4. Background

2.1 Poor air quality is associated with many adverse health effects[3] and adverse effects on crops and vegetation. The authority is committed to maintaining high levels of air quality as part of its legal and wider responsibilities.

2.2 The Environment Act 1995 (as amended) requires the authority to review air quality within our District. Where air quality objectives are not met, or are likely to be not met, the authority must identify the location and designate it an AQMA. We are then required to co-ordinate the production of a plan to a prescribed Defra format including reduction measures and time scales.

2.3 This plan includes a general overview of our wider commitments to improving air quality within the Borough (Appendix iii) and a specific action plan detailing targeted reduction measures within the declared AQMA (Appendix iv) as required to fulfil our statutory duties under Part VI of the Environment Act 1995 (as amended).

2.4 It is also supported by a detailed modelling study (Appendix v) to increase the Councils understanding of pollutants of concern within Cheltenham, which in turn provides the technical input into the air quality action plans.

2.5 These plans will complement and not duplicate a number of ongoing Council policies such as our Climate Emergency Action Plan[4].

2.6 Environmental Health Officers (EHOs) within the Environmental Health team monitor air quality using a network of 46 diffusion tubes sites across the Borough including one automatic continuous site with co-located triplicate diffusion tubes. Results in 2019 showed exceedances of the $NO_2$ annual mean air quality objective of 40µg/$m^3$ within a small area of the Borough. Exceedance of $NO_2$ resulted in the declaration of an AQMA covering the affected area.

2.7 In September 2022, Defra confirmed that our monitoring calculations were accurate for all sources and pollutants. In addition to passive diffusion monitoring, 9 mesh pods around the Borough monitor particulate matter (PM), namely $PM_{2.5}$ and $PM_{10}$. Particulate matter consists of a variety of compounds and materials, some of which are toxic and due to the small size (2.5 and 10 micrometres respectively), have a serious impact on health. Detailed modelling assessments predicted $PM_{2.5}$ concentrations to be below the current annual objective of 20ug/m3. The Environmental Targets (Fine Particulate Matter)(England) Regulations 2022 set a target of annual mean concentration of $PM_{2.5}$ in ambient air to be equal or less than 10µg/$m^3$ by December 2040 and, a target reduction in population exposure by 2040. 2 Defra approved monitors were purchased and installed in 2022 to monitor PM and enable us to calibrate existing mesh pods. Data from these units will be published shortly.

## 5. Reasons for recommendations

3.1 This will ensure we meet our statutory obligations under the Environment Act 1995 (as amended) and the Local Air Quality Management Framework[5.]

## 6. Alternative options considered

4.1 Cabinet may choose to amend the proposed air quality action plan in accordance with Sec 83 of the Act. This is not recommended, as any significant changes to the plan may necessitate further consultation. This will further delay the submission to Defra for their appraisal beyond the

required date of 31st May 2023. Any unjustified delay may be subject to a Section 85 Ministerial Direction to the Chief Executive.

## 7. Consultation and feedback

5.1 A consultation exercise was carried out in line with the Cabinet Office consultation principle guidelines. The consultation ran from 27th October 2022 until 8th December 2022.

5.2 The documents were available on our website and citizen space consultation portal 'have your say' with hard copies available on request. The consultation was promoted through a targeted media release. In addition, officers shared the consultation with key statutory consultees and they disseminated it within their organisations.

5.3 In total, 17 responses were received from the online portal and 2 in-depth responses were received via email from the Clean Air Cheltenham Group and the Cheltenham and Tewkesbury Cycling campaign. Comments from statutory consultees were gathered over a period of time via the Steering group and individual conversations and are reflected in the comments column on page 17 of Appendix iv. The Steering group was established early in the process to drive forward the delivery of the AQAP. It consisted of Officers from the authority and others who have a statutory responsibility, have an impact on air quality or who may have an interest in air quality.

5.4 Of the 17 respondents, 2 said 'yes' the plan was sufficient to tackle poor air quality and 16 said 'no'. The comments received and officer responses are summarised in Appendix v. It was deemed that the comments did not require a material change to the content of the action plan and so no additional consultation is required. See the officer comments in Appendix v for more detail to support this.

## 8. Key risks

6.1 Delayed submission of the AQAP beyond 31st May 2023 for appraisal by Defra may result in a Ministerial direction. This risk will be removed it the plan is adopted and submitted within the required deadline.

6.2 Defra may deem the plan, or parts of it, ineffective at controlling NOx and require further actions to be taken. This risk has been minimised by seeking external expert advice to formulate a technical action plan and data modelling aimed at targeting NOx reduction.

6.3 This authority does not have the statutory powers and/or resources to deliver the AQAP by itself. It will require input, resources and leadership from Gloucestershire County Council, NHS integrated care partners, businesses and other organisations to deliver the action plan. If partners are unable to contribute and play their part, there is a risk that aspects of the AQPA will not be deliverable. The Authority has mitigated in part by repurposing some of the existing Contain Outbreak Management Funding (COMF) from Gloucestershire County Council with the permission of the Director of Public Health as part of reducing health inequalities following Covid 19.

## Report author:

Louis Krog, Head of Public Protection

louis.krog@cheltenham.gov.uk

## Appendices:

i. Risk Assessment (see below)
ii. Climate Change Impact Assessment (see below)
iii. Draft Air Quality Action Plan, May 2023
iv. Air Quality Action Plan, Bureau Veritas, September 2022
v. Detailed Modelling Study, Bureau Veritas, August 2022
vi. Summary of responses & officer comment

## Background information:

1. Cheltenham Borough Council Air Quality Annual Status Report 2022
2. Gloucestershire Air Quality and Health Strategy
3. Chief Medical Officer Annual Report Air Quality 2022
4. Climate Emergency Action Plan - Pathway to Net Zero
5. Local Air Quality Management PG 22
6. Connecting Cheltenham- Strategy Report

## Appendix i: Risk Assessment

| Risk ref | Risk description | Risk owner | Impact score (1-5) | Likelihood score (1-5) | Initial raw risk score (1 - 25) | Risk response | Controls / Mitigating actions | Control / Action owner | Deadline for controls/ actions |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Risk of delayed submission of plan to Defra. This may result in a Sec 85 Ministerial direction to the Chief Executive | Head of Public Protection. | 4 | 2 | 8 | Remove | Risk is removed if the plan is approved by Cabinet or extension to deadline approved by Defra. Extensions have already been given and no further extension should be requested beyond 31/05/23 | Cabinet | 31/5/23 |
| 2 | Following submission Defra may require additional or revised measures requiring further work | Head of Public Protection. | 3 | 1 | 3 | Mitigate | Risk mitigated. The detailed plan and modelling has been prepared in conjunction with external experts Bureau Veritas to ensure compliance with statutory policy guidance and technical guidance issued by Defra. The plan was updated following changes introduced by the | Bernadette Reed | 31/05/23 |

| Risk ref | Risk description | Risk owner | Impact score (1-5) | Likelihood score (1-5) | Initial raw risk score (1 - 25) | Risk response | Controls / Mitigating actions | Control / Action owner | Deadline for controls/ actions |
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| | | | | | | | Environment Act to change the goal from being 'in pursuit of' achievements to ensuring air quality objectives are met. | | |
| 3 | This authority does not have the statutory powers and/or resources to deliver the AQAP by itself. It will require input, resources and leadership from Gloucestershire County Council, NHS, businesses and other organisations to deliver the action plan. If partners are unable to contribute and play their part, there is a risk that aspects of the AQPA will not be deliverable. | Head of Public Protection. | 4 | 3 | 12 | Mitigate/accepted | Risk mitigated and or accepted. CBC are formulating a business case for a dedicated Air Quality Officer as part of the phase 2 reorganization. We are also working with the Director of Public Health following a successful business case for COMF funding for a wider air quality initiative in schools recognizing that in those exposed to poor air quality, cases of Covid 19 may results in more | | |

| Risk ref | Risk description | Risk owner | Impact score (1-5) | Likelihood score (1-5) | Initial raw risk score (1 - 25) | Risk response | Controls / Mitigating actions | Control / Action owner | Deadline for controls/ actions |
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| | | | | | | | hospital admissions and worse outcomes | | |

## Appendix ii Climate Impact Assessment

| ENVIRONMENTAL | Scores | Action | Justification |
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| GHGs | 8 | No action required | Key focus on sustainable modes of transport and behavioural change. Review of smoke control areas to reduce the burning of wood and fossil fuels. |
| Air quality | 8 | No action required | The air quality action plan aims to identify and implement measures which will reduce emissions of pollutants of concern which have an effect on air quality recoginising the wider benefits of measures which extend beyond the air quality management area. |
| Sustainable Transport | 8 | No action required | This plan has been formualted as part of a steering group with County Council collegaes within strategic transport and sustainablity. |
| Biodiversity | 4 | No action required | poor air quality has a negative impact not only on health but on crop, vegetaion and associated wildlife. |
| Land use change | 4 | No action required | commitment to develpoing SDP for air quality for use as statutory consultees for development/planning |
| Soil and waterway | 0 | No action required. | 0 |
| Climate Change Adaptation | 0 | No action required. | 0 |
| Energy Use | 0 | No action required. | 0 |
| Waste | 0 | No action required. | 0 |
| Sustainable Materials | 0 | No action required. | 0 |

| SOCIAL | Scores | Action | Justification |
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| Food | 1 | No action required | 0 |
| Health | 0 | No action required. | Chief nedical officers air qualirty report outlines health effects of poor air quaility. Action plan aims to improve air quality and will realise associated beneits of active travel |
| Housing | 1 | No action required | 0 |
| Education | 1 | No action required | 0 |
| Community | 0 | No action required. | main focus is to improve air quality and this is via a number of meausres. |
| Culture | 1 | No action required | 0 |
| Accessibility | 1 | No action required | 0 |
| Local Economy and Jobs | 1 | No action required | 0 |
| Safety | 1 | No action required | 0 |
| Democratic Voice | 0 | No action required. | the plan went to consulation as required by law. Comments were reviewd and actioned where appropriate. Further consulation woul donly arise following declatrion of a new or revised air quality management area. |
| Equity | 1 | No action required | 0 |

**Appendix iii Draft Air Quality Action Plan (see separate document)**
**Appendix iv Air quality Action plan Bureau verita Sep 2022 (see separate document)**
**Appendix v Detailed modelling study Bureau veritas Aug 2022 (see separate document)**

**Appendix vi consultation responses:**

## Cheltenham Borough Council Air Quality Action Plan

## Consultation responses

| | Feed Back Received | Officer Comments |
|---|---|---|
| 1 | Air quality is not good in Cheltenham Traffic is bad across the town | Monitoring has highlighted 1 hotspot where $NO_2$ is exceeded and the air quality action plan to improve air quality specifically targets this area. We recognize the emphasis on PM control. |
| 2 | The traffic in Cheltenham is shocking. Moving around the town difficult. Bus fares are too expensive to incentivise people to use buses and leave cars at home. CBC needs to do much more. We have no bus station - over 25 yrs ago old black and white demolished and turned into a car park ! Royal well needs more facilities. Cheltenham is a festival town yet no decent facilities re public transport. All of this poor planning contributes to situation our town is now in | The Borough's vision for sustainable travel is detailed in the Connecting Cheltenham report. All levels of Local government are expected to commit to taking action and The Environment Act 2021 reinforces that responsibility for solutions to poor air quality is shared across local government. Cheltenham Borough Council have developed a collaborative approach reflecting the need for upper and lower tiers and key partners to work together to reduce pollution and improve air quality. GCC have produced the Local Transport plan to address this and we continue to work with them. |
| 3 | Energy crisis leading to more wood burning stoves used. These are particularly polluting. What mitigation actions are we considering for these? How are we enforcing the recent ban on burning green wood?<br>The most polluted junction I know is the bridge over the train tracks where Gloucester Road meets the A40. Average levels are not representative of the harmful photochemical smog there on a sunny and still day. This is a major transit route for Dean Close and Bourneside Schools with hundreds of children a day crossing the junction. It is also the main commuter cycle route into/from town. Please set up some monitoring, no results are included in this report. | Technically the action plan only has to deal with reducing pollutants within the declared air quality management area as this is where the identified problem requires specific targeted action within a defined time. $NO_2$ is the pollutant causing the exceedance, hence the declared AQMA. Wood burning stoves are not the main contributor to the $NO_2$ problem but as part of a wider action plan, we acknowledge the effect that wood burning stoves have on the levels of PMs and so have now included reference to this. Monitoring is carried out in this vicinity along the A40 and locations can |

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| | | be viewed on our website and within the technical reports. |
| 4 | Lacks concrete action to cut down on or even better prevent use of log burners for domestic heating. These have been shown to be a major cause air pollution in urban areas, they are completely unnecessary and their use is only going to increase as people try and save on heating bills - at the further expense of air quality in residential areas. | See comments at 3 above |
| 5 | Too many cars and not enough 'good' cycle provision. | More specific information would enable comments but cycling provision is referenced in this plan and in supporting documents |
| 6 | I believe there is an option to work with the county council and have a county approach to traffic and clean air. Consider changing bus lanes into green lanes. Self fund for green vehicles to pay for a green plate to enable use of the green lane. Approach can be for a 5 year green lane license. Adjust central areas of town into green zones and make some spaces in car parks free for green plates. Make county travel aspirational. | The new Environment Act strengthens the statutory responsibly for upper and lower tier organisations to work together and this will be reflecedt as we work through the actions. These initiatives such as green plates will form part of a wider conversation with GCC as with CAZ |
| 7 | We need to build a bypass,so that traffic is taken away from the town , not driven through,<br>The bus service is a failure<br>The cycle path is a failure, we keep building houses, but the roads stay the same, grid lock is on the horizon, without a bypass | The Cheltenham plan in conjunction with the JCS ensures development is assessed in terms of traffic and travel patterns. Comments regarding a bypass will be discussed with GCC and incorporated into any revision if appropriate. |
| 8 | Although transport is clearly a major source of air pollution the action plan only focuses on this. It ignores the high levels of pollution created by the generators used to power the events held in Montpellier and Imperial Gardens. The Ice Rink in 2021/22 consumed 34,540 litres of fuel, the Literature Festival 14,004. Add in all the other events and you are looking at in excess of 70,000 litres. How many thousand car journeys through Cheltenham would you need to consume 70k litres? How many tonnes of CO2 are emitted, how much NOx and Particulate pollution? It is not just the air pollution but the loss of access to these important green spaces. These events are all due to CBC policies and are totally in their control. There are alternative ways to deliver these events but I do not see anything in the Air Quality Action Plan to address this.<br>The air quality monitoring programme in Cheltenham does not cover the sites where these events take place. This is significant air pollution and both Imperial and Montpellier Gardens should be monitored. | Our climate emergency impact assessment tool has been introduced for key decisions and policies. This will highlight activities of concern regarding air pollution. We are also working with Chelt Zero, Cheltenham Festival, Climate Team and our Green Space Team to promote the 'green events code for event organisers. We review our monitoring commitments regularly and will consider the request of specific monitoring sites where appropriate. |
| 9 | Current WHO guidelines demand air quality standards beyond CBC targets and indicate most areas of Cheltenham beyond the AQAA are unsatisfactory levels of pm2. 5 and nitrous oxides. | The WHO targets are guidelines. They have recently revised the level for $NO_2$ from 40 to10µg/$m^3$ and for PM2.5 from 10µg/$m^3$ to 5 µg/$m^3$ to reflect that there is no 'safe' level of pollution. Most areas would exceed this level and will be difficult to achieve without substantial investment and commitment but they are levels we would aspire to. New regulations require the UK to achieve as a minimum annual mean levels of PM 2.5 of 10µg/$m^3$ by 2040 |
| 10 | A lot of the plans involve 'encouraging' various things such as taxis not idiling. It is naive to expect that encouragement will do anything on a large scale.<br>The biggest issue in my opinion is that there is no real plan for alternatives to car. | It is recognised that some action are more tangible than others. Some are enforceable by law and some are not. Encouragement can have more sustained behaviour |

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| | Cheltenham is uniquely placed to be a very car free city because of its size but the infrastructure is so incredibly poor. I would love to cycle locally but it is so dangerous. So many of the roads are narrow and so parked up with cars that there is really only room for traffic in one direction but are still 2 way. In particular, St Paul's road comes to mind. This makes cyclist incredibly vulnerable as cars try to squeeze past. There are very few proper cycle lanes and to encourage people to feel safe enough to cycle you need proper, segregated lanes. There are some appalling example of cycling infrastructure across Cheltenham including a symbol just being painted on the road, or cycle lanes just disappearing at narrow pinch points. The roads are also full of potholes - unpleasant in a car but potentially lethal on a bike.<br>The honeybourne line is always full of cyclists (and not just leisure cyclists but people using It as a means of transport) which just goes to show that is safe cycle infrastructure is there people will use it.<br>Even for pedestrians most of the pavements are horrible to walk on. I am near this high pollution zone and on the pavements Cars are often parked half on/half off pavements or they are filled with bins. The pavements themselves are filled with cracks or on such a slope that no wheelchair or pram could safely use them.<br>The report clearly identifies the overwhelming issue is from transport yet there are no meaningful solutions for this.<br>You need to have a proper plan for cycling to be a viable alternative, waking to be pleasant and reliable and regular bus services for those not able to walk/cycle. | change. Enforcement in most cases would always adopt a graduated approach starting with education and encouragement. GCC road safety policy was out for consultation for 8 weeks from 18th July 2022 to 11 September 2022. The long-term aspiration was 'vision zero' to aspire to stop all traffic fatalities and serious injuries by 2050, increasing safe and healthy travel for all aiming to increase safety for cycling. We will continue to work with County who have responsibility for pavements and on street parking responsibilities. We will continue to work with GCC on active travel. |
| 11 | Royal Mail is proud to deliver a one-price-goes-anywhere universal postal service to residents and businesses in Cheltenham, connecting our customers with the rest of the country. We collect and deliver letters and parcels to every address across the UK and have launched – and are continuing to develop – new services, such as our parcel collection service 'Parcel Collect', Sunday parcel deliveries and the expansion of our pharmaceutical delivery services. This requires driving in Cheltenham, including in the proposed Clean Air Zone (CAZ), every day.<br>As part of this, we recognise the impact we have on the environment and take our responsibilities to the communities we serve extremely seriously. As a result, Royal Mail recently launched an ambitious new environment plan, Steps to Zero, which includes a long term target to bring down the average carbon emissions per parcel we deliver in the UK by c.75%, from 205gCO2e today to 50gCO2e. We have also brought forward our net zero target by a decade to 2040. We are committing to near term emissions targets in line with climate science, reducing absolute Scope 1 and 2 greenhouse gas emissions by 25% by 2025/26 and Scope 3 emissions by 25% by 2030, from a 2020/1 base year.<br>Royal Mail is unique in that, unlike other parcel operators, the majority of our last mile deliveries in Cheltenham town involve an element of 'on foot' transportation – either our postmen and women use a high-capacity trolley for their entire route, or they use a combination of on foot delivery with some van-based transport that we call "park and loop". This helps to keep emissions low and reduce congestion with fewer vehicles on the road. | We thank Royal Mail for their update and continued engagement regarding their business operations and the potential impact within the AQMA. No CAZ has yet been proposed. It is an initiative which has been implemented in some urban areas where the data determines it is necessary and further discussions and evaluation by GCC will be necessary. |

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| | Based on our own analysis, we offer the lowest reported CO2 per parcel of any major UK delivery operator.<br>Royal Mail is working hard to transform its vehicles to low or zero emission standards. We now have over 3,700 EVs across over 100 sites in the UK. We have made a commitment to increasing this to c.5,000 EVs with an investment of £12.5m in charging infrastructure in 2022/23. We continue to replace diesel vans with electric vans to level-up our operation and to help improve air quality in local communities.<br>Delivering the universal postal service requires a diverse fleet. In Cheltenham, this includes 96 vans and 20 7.5 tonne trucks (transporting the mail between the local mail centre (Bristol Mail Centre, Gloucester Road North, BS34 7ST) and into the Delivery Office each day).<br>We recognise that the Delivery Office is located on the parameter of the proposed zone (on Swindon Road, GL50 4BB) and have spoken to you before about the impact our vehicles have on Cheltenham. Currently around 50% of the vehicles are compliant under the proposed CAZ. We are striving for 100% of our vehicles to be compliant when the CAZ comes into force.<br>We want to prioritise electrifying Cheltenham Delivery Office but have faced a number of challenges. These include the costs associated with upgrading the power supply to the site which are much higher than elsewhere, and the limited space on site available to us:<br>Two independent contractors have reviewed the site and have come to the same conclusion that introducing EV charging at the delivery office would be extremely challenging. We have instructed a third to review again. This will include load balancing etc. to try and reduce the required electricity supply.<br>This is a difficult site to electrify. At present the only option available is to swap older non compliant diesel and petrol vans out with compliant Euro 6 vans. However, we recognise the importance of reducing emissions in Cheltenham and want to work with you to do so. We would therefore welcome the opportunity to discuss this with you to understand if we can work collaboratively to resolve and overcome these challenges. We are equally interested to discuss any plans for funding grants for electric vehicle charging infrastructure. This office uses public parking so we particularly welcome discussion regarding plans for public charging infrastructure and how it might be made available to Royal Mail vehicles.<br>We look forward to hearing from you to discuss how we can work together to electrify Royal Mail's Cheltenham Delivery Office. | |
| 12 | Vision 21 has mixed views on the AQAP. The aspirations are good, but the implementation period needs to be timetabled. Also, air quality levels are relatively poor throughout the town and the AQMA itself is only 0.03km2 in area, which is too small, since virtually all of the town's population and greater than 99% of the town is actually outside of the AQMA. As such, we ask that the AQMA is extended as quickly as practical to include other parts of the town.<br>Comments on the plan<br>1. Continue to review and develop the Air Quality Strategy for the borough, expanding on The actions and measures outlined in the Air Quality Action Plan through consultation and | We will ensure that all actions have an appropriate time frame assigned. The declaration of an AQMA is a statutory process and made when levels of pollutants exceed or are likely to exceed set objective/limits. Where there data indicates any exceedance then the management area will be declared. We will continually review the data and act according but the additional wider actions will have benefits across the Town as a whole. Internal progress reports will be submitted every 6 months and an annual |

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| | engagement with partners.<br>We feel it is particularly important that at a review is undertaken on an annual basis and the AQAP is revised to meet any new legislation or to take opportunities concerning new planning developments into consideration.<br>2. Work with Gloucestershire County Council Highways to explore the viability of creating Ca-free Zones and/or Emissions Charging Zones.<br>We want to see greater cooperation between the two authorities and we would like to see active progress towards the introduction of car free zones and possible emission charging zones.<br>3. Aspire to reduce the levels of NO2 below the national target objective of 40µg of NO2/m3 and aim for continuous improvement in this measure.<br>We would like to see active steps included within the AQAP to back up this aspiration and see it stated that new steps will be introduced should any new limitations be introduced during the lifetime of the plan<br>4. Review the borough's Smoke Control Zones.<br>We agree with this action without comment<br>5. Undertake education and awareness campaigns:<br>a. Engage with NHS Gloucestershire to raise awareness of the effects of exposure to poor air quality where limits are exceeded.<br>b. Create a Public Health Awareness Campaign around high levels of air pollution in partnership with the county council.<br>6. Engage with the university, Gloucestershire College, schools and their students to raise awareness of air quality issues and action possible to improve air quality<br>7. Ensure that the planning and design of the Golden Valley Development sets a standard For high air quality in an urban development.<br>8. Support Gloucestershire County Council's delivery of an expanded Arle Court transport hub to further contribute to higher air quality standards in Cheltenham.<br>We agree with the above statements, but would like to see them timetabled as well as Linked along with appropriate resources to CheltenhamZero and Planet Cheltenham initiatives.<br>9. Encouraging investment by all landowners and authorities in rapid charging points for electric vehicles.<br>We agree with this action<br>10. Adopting a policy for licensed taxis and private hire vehicles that immediately remove the most polluting vehicles and achieves a net zero emissions fleet by 2030.<br>We agree with this action, but we would also like to see a policy on taxies standing at taxi ranks, to ensure their engines are not running to power heaters or air-conditioning introduced if there is not one already in place.<br>11. Support Gloucestershire County Council as the local highways authority to deliver modal shift away from private cars, improvement in Cheltenham's walking and cycling routes by:<br>a. Developing strategic routes and closure of certain town centre roads to certain vehicle | status review is submitted to Defra each year. Provisions in the new Environment Act reinforce joint working arrangements between upper and lower tiered Authorities. The levels of $NO_2$ can be viewed on line and are low except within the AQMA. It is acknowledge that some of the measures can and are being done in house using existing resources but additional resources will be need for others and we will be further evaluating each measure during the planning phase. We will include the comment on taxis during any revision of our Licensing Policy on Private Hire and Taxis.<br>We will maintain a close working relationship with CheltZero as one of our key partners as we progress the action points. We will consolidate existing data regarding travel choices from the Active Travel team at GCC and CBC have an EV roll out programme and are currently consulting on various locations across the town to establish the most appropriate route for delivery.<br>Cheltenham Council is currently undergoing a strategic review of parking looking at how to serve individuals as well as deliver the wider outputs, including the cycle hub consultation which ended on 26th February 2023. We are carrying out a strategic review of car parking and spaces reserved for car sharing will be considered. Regarding the schools project we have secured some resourcing to progress this initiative. We will begin with schools as we feel this targeted sector will have greatest impact. It could be rolled out to other sectors when resources allow. New PM levels now set by Government |

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| | types.<br>b. Promoting cycling and upgrading infrastructure.<br>c. Adopting 'Twenty is Plenty' where possible.<br>d. Apply variable parking charges to incentivise use of EVs and hybrids.<br>e. Promote Workplace Travel Plans<br>f. Promote a 'No Idling Policy' for buses and taxis<br>We agree with all above and encourage that CheltenhamZero and Planet Cheltenham initiatives are engaged with any public awareness raising campaigns<br>12. Using available policy tools to support sectors containing more polluting vehicles to switch to cleaner vehicles:<br>a. Develop partnership for last mile delivery in town centre, by sustainable transport.<br>b. Build on existing progress to implement alternative fuel sources for business fleet within the council and its partner organisations.<br>13. Investigate setting targets for PM10 and PM2.5 in line with WHO guidance, and Emerging DEFRA requirements, due to be announced November 2022.<br>14. Maintain review and when possible expand air quality monitoring locations around the borough.<br>We agree with the above actions, but in 13, resources need to be set aside in preparationfor the introduction of more stringent measures.<br>Comments regarding Table 6<br>1 Engage with Royal Mail to move toward low emissions fleet<br>No comment, but support the idea<br>2 Improve data around AQMA (and beyond):<br>A) Commission a study to understand purpose of car trips (including start/end points)<br>through<br>B) AQMA B) Single person or multiple occupancy survey<br>C) How car parking generates trips through the AQMA<br>Surely some of this must already have been done and the information available?<br>3 Implement Junction improvements/traffic light changes in vicinity of AQMA Work should begin as quickly as practical<br>4 Create a Public Health Awareness Campaign around high levels of air pollution<br>Should be done as quickly as possible with a front end loading doing much of the work in early years<br>Invest resources into Planet Cheltenham initiative and invest more into CheltenhamZero initiative<br>5 Engage with local NHS Trust to raise awareness of the effects of exposure to poor air quality where limits are exceeded<br>Discussions should be initiated as quickly as possible<br>6 Ensure that the planning and design of the Golden Valley Development sets a standard | |

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| | for high air quality in an urban development including consolidation opportunities to reduce deliveries through AQMA<br>We support the action<br>7 Develop partnership for last mile delivery in town centre, by sustainable transport<br>We support the action<br>8 Offer more EV charging points in the streets surrounding the AQMA<br>We support the action but want it extended across the other parts of town<br>9 Extend the existing priority parking areas for Electric Vehicles within parking areas of AQMA<br>We support the action<br>10 Install Rapid Charging Points for Electric Vehicles<br>Expedite this action<br>11 Increase Car Sharing in AQMA<br>Approach a car sharing company and consider providing one or more dedicated parking places, promote its identification and reserve it for community shared vehicles only.<br>12 Continue to review and development of Air Quality Strategy for the borough, expanding on the actions and measures outlined in the Air Quality Action Plan through consultation and engagement with partners<br>Essential to continue and review<br>13 Aspire to reduce the levels of NO2 below the national target objective of 40µg of NO2/m3 and aim for continuous improvement in this measure<br>We support this action<br>14 Investigate setting targets for PM10 and PM2.5 in line with WHO guidance, and emerging DEFRA requirements<br>Need to up the game, the council needs to be ready to react to them as quickly as possible<br>15 Deliver a Schools AQ Project<br>Why stop at schools. Invest more in CheltenhamZero project to deliver info to businesses. | |
| 13 | I live within the AQAP and traffic is worse than ever across Swindon Road especially in 2022!. The plan has not looked at increased demand and has relied on data which is no longer relevant and focuses only on decarbonizing the transport with little or no reference to providing better cycling links along the A4019, (yes the road is wide enough to include a separate cycling lane down the whole AQAM area. As a resident of xxxx Street it makes reference to putting in electrical charging points however as a cyclist and non-car owner, I have little or no space to leave the bicycle inside the house, there are no safe cycling hangers within the area. Also every side street attached to the AQAM zone should be a 20mph speed limit. The amount of cars that speed, accelerate into the road is not only dangerous but it emits a lot more pollution. It would be good to see more trees along the route and new builds to consider having green walls. It is shame to have to live within this area where I cannot keep the windows open and the need for air purifiers are necessary.<br>I believe the link between the brewery and car park should include either an overpass/underpass to ensure better pedestrian provision whilst allowing the traffic to flow | To support the Connecting Cheltenham report we recently consulted on provision of a new cycle hub for the town centre to promote travel by bicycle. This closed on 26th February. We continue to work with our climate change team on areas which overlap air quality and steps to net zero. See point 10 for road safety comments. With regard to trees within the AQMA there are a number of native species along the AQMA. Recent planting of hawthorn and field maple has been carried out in Poole way car park. We will encourage Royal Mail to add additional vegetation on their boundary with advice from CBC Tree Officer. We have made a commitment to develop an SPD on air quality which would clarify the role trees may play in removing pollutants. The role of PMs has been included in the wider action plan. |

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| | better.<br>It is also interesting that the Lidl supermarket went through planning very easily without any remarks on air pollution and it is clear this supermarket has increased the traffic within this area.<br>I look forward to seeing substantial changes to this plan as electrifying transport is great for Nitrogen Dioxide yet it doesn't change the PM2.5 that includes brake dust etc. | |
| 14 | Not bold enough. | Not enough information provided |
| 15 | The draft plan is totally lacking in substance. It is very vague and there is little in the way of concrete ideas. Cheltenham has been monitoring pollution on and off for years, but no action has actually been taken to make the radical steps needed to make an effective change. This is a huge wasted opportunity and another 5 years will roll by with no action. I totally support the response made to this draft by the Clean Air Cheltenham group. | The draft plan developed by our experts and partners identified measures which bring about the most reduction in the pollutants which are causing most concern. We continue to meet our monitoring obligations which help inform data driven decision making. |
| 16 | With motor vehicles being a major emission source in Cheltenham for both NOx and PM, increasing rates of cycling would be one of the most rapid and effective ways of improving air quality within our urban area.<br>It offers an accessible mode of travel that can replace many short journeys of one to three miles, and through reducing short-trip congestion, offers benefits to improving reliability of public transport and other modes for longer journeys. Well designed initiatives supporting walking and cycling have been shown through independent research to deliver the multi percentage point benefits in air quality that are needed.<br>Having reviewed the action plan, the committee would like to record the following observations;<br><br>The strategy prioritises electric vehicle initiatives for improving air quality. These cannot equitably solve the challenges the council is facing within reasonable timescales. Electric vehicles are generally heavier, can present greater road danger, and still emit significant particulate matter from tyre and brake wear. We believe the strategy should instead adopt a clear hierarchy of measures, beginning with walking and cycling, rather than assuming very little modal share can be achieved.<br>Our assessment is that the LCWIP for Cheltenham (referenced p22), which the strategy relies on to deliver change, is incomplete and out of date. It omits several significant desire lines, particularly from the north west and south east of Cheltenham, and includes no meaningful cross-centre connectivity. There needs to be co-produced work now to progress Connecting Cheltenham to develop a truly ambitious plan for cycling in Cheltenham, and a plan for implementation.<br>We note the particular challenge of the area of exceedance surrounding Poole Way and its connection to the Lower High Street. The proposals to improve traffic in this area also need to acknowledge that the east-west corridor represents a major bottleneck to cycle routes into the town centre. Increasing vehicle speed or capacity should not be allowed to further increase hostility to cycle users in this area. We hope there will be opportunities to work with the authority throughout the process of attempts to address traffic levels in this area. | Cycling comments are addressed in our Connecting Cheltenham Strategy report. The action plan was produced in response to the exceedance of $NO_2$ and so reduction of petrol and diesel vehicles is the main focus. We acknowledge that this does not eliminate sources of PM and recognise the additional health benefits that cycling brings. The LCWIP is owned by GCC Transport planning team. Comments will be forwarded to them for inclusion in any revision and we continue to work with GCC and our Climate Change Team on this area. See comments regarding consultation for a cycle hub in the town centre. We have secured some resourcing to work with schools which will include measures to reduce pollution at the school gates. |

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| | A small, initial intervention would simply be to provide appropriate cycle parking and access for the royal mail depot and collection point, which currently offers no active transport opportunity. There is also opportunity with the neighbouring mini-holland scheme being developed by Gloucestershire County Council to simplify motor vehicle flows by reducing the substantial traffic flows into Swindon Road and Townsend Street, reducing idling times and junction phasing.<br>The report also references Cheltenham General Hospital. As previously highlighted in our consultation response to the Connecting Cheltenham, the hospital lacks convenient and direct cycle connections, particularly from Back Montpellier Terrace along Sandford Road. An education campaign targeting the local NHS acute Trust will not be successful without enabling measures to support modal shift on key transport corridors to the site.<br>We believe the plan would be improved by specifically considering 'school-run' sources of congestion, which receives only brief reference around education campaigns. With the pausing of further rollout of Gloucestershire County Council's school streets programme, we see a significant gap in plans to address the air quality challenge that these short trips create.<br>The council should include a clearer statement on how it believes school-run motor vehicle traffic can be reduced, and the practical support beyond education that it could offer to schools who want to enhance their active travel offer.<br>The action plan places all responsibility for improving cycling infrastructure on Gloucestershire County Council. We suggest that Cheltenham Borough Council needs to recognise the very significant assets it has within its own control, and that it can take steps to improve routes away from the highway network, particularly through upgrading park routes,removing barriers that exclude the full range of accessible cycles, and substantially increasing secure cycle parking availability across retail centres.<br>The council also needs to recognise the very significant role the Honeybourne Line will play in any future mobility plan, and that the current shared space arrangement is already struggling to support meaningful cycle speeds. We encourage Cheltenham Borough Council to focussed dialogue with Gloucestershire County Council on a clear maintenance and upgrade pathway, recognising the role of this key link within the highway network for non motorised vehicles.<br>Overall, we believe that to improve air quality, a significant number of private motor vehicle trips need to be replaced by sustainable transport. The current plan will not deliver this. Indeed, there is a major risk that attempts to improve traffic flow and speed will paradoxically induce additional trips through increased motor vehicle convenience, leading to further deterioration in air quality and more adverse conditions for cycling.<br>To truly reduce transport emissions, the evidence shows that bold steps are required to significantly reduce motor vehicle dominance. Whilst this will inevitably require greater collaboration with Gloucestershire County Council, we believe there are interventions where Cheltenham Borough Council can show meaningful leadership, and we hope there are opportunities to work with you to deliver these as the plan moves forwards. | |

| | | |
|---|---|---|
| 17 | Cheltenham's air quality challenges are very localised. The biggest impact would be preventing traffic from queuing at the west side of High Street - looking at traffic light phasing particularly. | New traffic signals were installed on the A4019 and contribute to reducing congestion and thus emissions, |
| 18 |  <br>Clean Air Cheltenham response to 2022 Draft AQAP.pdf | We thank Clean Air Cheltenham for their detailed comments. This plan aims to compliment not repeat existing work streams, plan, policies and statutory functions. Additional action have been included for PM control such as reviewing smoke control areas and acknowledging the role of clean air zones. We will continue to work closely with Gloucestershire County Council and partners through our Gloucestershire Air Quality and Health Partnership. GCC are working to fill staff vacancy of Air Quality officer and we are exploring the option for a CBC air quality officer post to help fulfil our ambitions and to ensure communication between County and all Districts continues. We provide monitoring data to GCC for inclusion on their website. GCC sustainability team have created a power BI report webpage with all districts air quality data collated. It will be hosted on GCC Greener Gloucestershire's page. GCC are awaiting approval for website software. We are working with GCC sustainability team on their bidding process for supplementary monitoring for PMs. We support the bid for funding for Mini Holland in Cheltenham in St Marks and the Honeyborne line |
| | the omission of the impact of open fires, wood-burning stoves and garden bonfires.<br>Why is air pollution from these sources and measures to control it not included anywhere in the draft plan? Why is there no part of the draft plan that deals with garden bonfires | More detail on SCA included. Bonfires are dealt with under our statutory nuisance provisions but we recognise the opportunity to provide information on the impact on air quality of such burning. |

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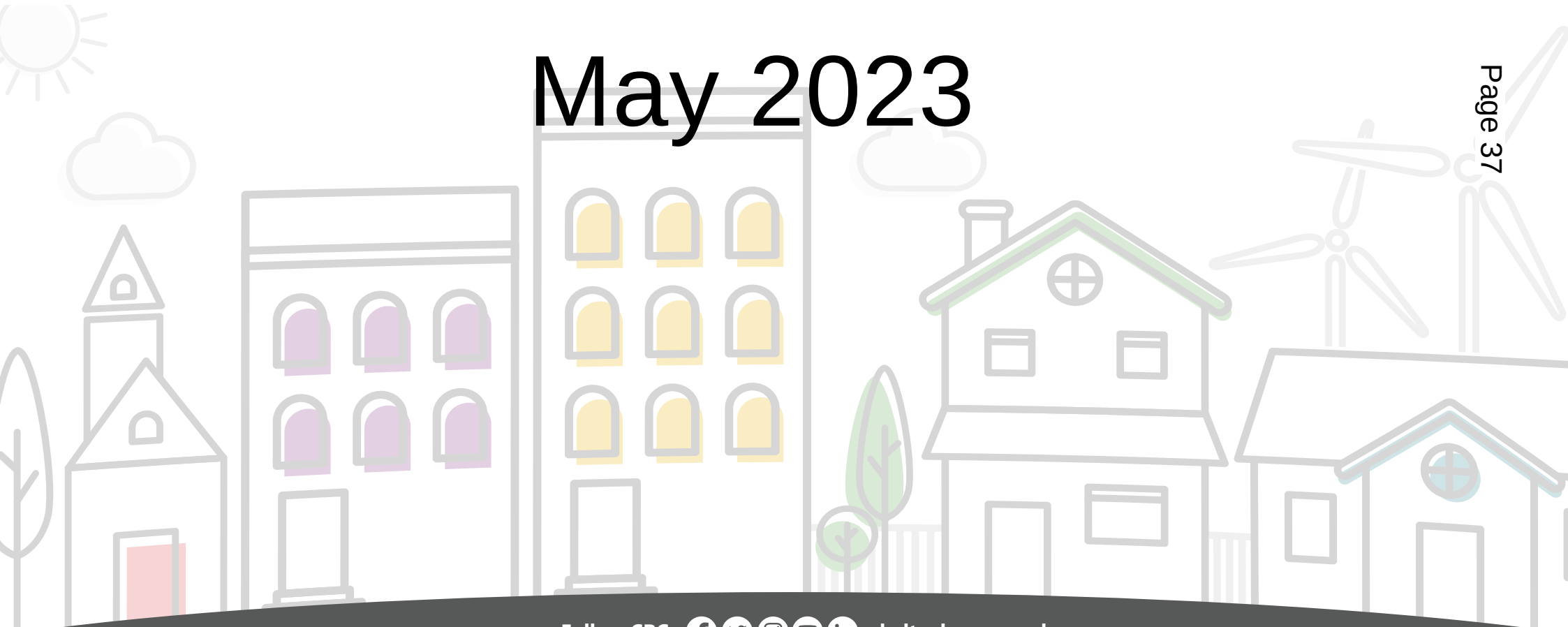
CHELTENHAM
BOROUGH COUNCIL

## CHELTENHAM BOROUGH COUNCIL'S

# Air Quality Action Plan

May 2023





# Foreword

Air quality is something that we can't see. That can make it seem a bit removed from our day-to-day lives, but it impacts all of us, and particularly the most vulnerable. Scientists tell us that there is simply no safe level of pollution. We have a duty to do everything we can to protect people. That means organisations like councils and health authorities taking a lead, but also individuals being willing to do their bit too.

Ella Adoo-Kissi-Debrah, who lived near the South Circular Road in Lewisham, south-east London, died in 2013. An inquest had found air pollution "made a material contribution" to her death. For the most part, Cheltenham's air quality is good and the levels of pollution we experience are nowhere near those that led to Ella's death. But that individual tragedy offers a salutary warning that must take this issue seriously.

Cheltenham Borough Council is responsible for reviewing the quality and the likely future quality of the air within its district and to declare an Air Quality Management Area (AQMA) where pollutant levels do not meet the prescribed air quality objectives. We have declared one such area and you can read more about that in the technical part of our report. However, that does not mean we are cutting back on our actions to tackle local air pollution in the rest of the town. On the contrary, this plan tackles air quality throughout the borough.

Vehicles are the major source of air pollution so this work will inevitably only be successful if we work together with Gloucestershire County Council, (GCC) communities and other partners, which is why we are pleased to be working with Gloucestershire County Council as the transport authority. The Borough Council's vision for sustainable travel is detailed in the Connecting Cheltenham report. This includes pedestrian friendly streets, a network of cycle paths, improvements to bus routes and much more besides. The county council has considered this as part of its Local Transport Plan and it will take the work further in its detailed Local Cycling and Walking Infrastructure Plan.

The link between this area of policy and health is clear. That's why we were are pleased to be working as partners in the One Gloucestershire Integrated Care System to improve the lives of people who live and work in the area. The Environment Act 2021 strengthens local powers in relation to air quality and ensures that the responsibility for action is shared across government organisations.

We won't solve this problem with one single action, but there is one way we can all make a contribution: by driving fewer miles. People who walk or cycle are also much less likely to suffer from a whole host of other health conditions so that should be enough motivation for all of us to make a small change in our lives, but a big difference to the quality of our air. And businesses, schools and other public bodies employers can play their part by encouraging their employees, students, suppliers and partners too.

Working together, as communities, as organisations and as individuals, we can all do our bit to make the air in Cheltenham cleaner and safer for everyone.

**Councillor Martin Horwood**
Lead Member for Customer and Regulatory Services

# Contents





# Introduction

## This plan aims:

1. **To detail the actions we will take to address air quality issues within the Borough**

2. **To summarise the actions we will take to reduce levels of Nitrogen dioxide ($NO_2$) within our declared Air Quality Management Area (AQMA) as required under the Environment Act 1995 (as amended).**

## Introduction:

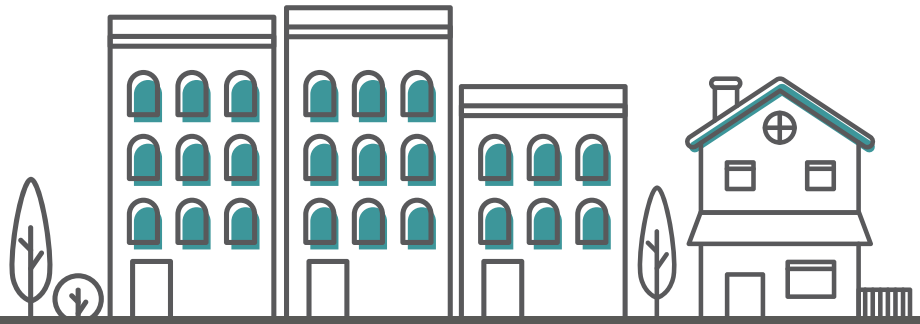
As a local authority, we have a duty to review and assess local air quality within our area against a set of health-based objectives for a number of specific air pollutants. If any area is identified where pollutants exceed the objectives, then we are required to declare an Air Quality Management Area (AQMA) and to prepare an Air Quality Action Plan (AQAP) setting out the measures we intend to introduce in order to reduce concentrations of air pollutants and achieve the air quality objectives.

In addition to these formal obligations for Local Air Quality Management, we are encouraged by the Department for Environment, Food and Rural Affairs (Defra) to implement wider plans and policies to support the achievement of the air quality objectives and to ensure air quality is considered within a wide range of frameworks. This was already our commitment in Cheltenham too so this action plan includes a range of actions across the whole borough.

The specific action plan relating to the AQMA must conform to format standards prescribed from Defra and the entire plan is at Appendix 1. It includes a technical and detailed modelling assessment prepared in conjunction with consultant experts Bureau Veritas. The report was compiled with the involvement report was compiled with the involvement of lead Cabinet Members, Clean Air Cheltenham, Cheltenham Borough Council licensing, parking, strategic transport, economic development, fleet management and climate change teams and Gloucestershire County Council. The Director of Public Health and the Head of Public Protection at Cheltenham Borough Council approved the plan and it was subject to the required consultation process. It outlines the action we will take to improve air quality in Cheltenham from now until 2027.The detailed modelling assessment focusses on the road network across Cheltenham to establish any changes in the spatial extent of $NO_2$ concentrations in order to identify any areas that are above or within 10% of the air quality annual mean objective. This plan will be submitted to Defra for their appraisal.

# Legal Background

At international level, emission-ceiling levels are set for various pollutants. This aims to control long-range transboundary pollution. Implementation at EU level is through various Directives and in the UK by various regulations including the National Emissions Ceiling Regulations 2018. There is also legislation relating to the air which immediately surrounds us. The Air Quality Standards Regulations 2010 as amended set out the air quality objectives. The World Health Organisation (WHO) also publish air quality guidelines on threshold limits. These are guidelines only. The UK government has a statutory monitoring network in place through Local Authorities so that it can meet the requirements of the above regulations with air quality modelling to supplement the monitored data. We are required through local air quality management systems, and the Environment Act, to assess the air quality within our District. Where an exceedance of the air quality objective is recorded or is likely to be recorded, we are required to declare an AQMA. This ensures our resources are targeted and focussed on reducing the pollutant of concern. Schedule 11 of the Environment Act 2021 strengthened these requirements. There are over 500 such management areas throughout England, mainly to address the contribution of $NO_2$ air pollution from traffic emissions. The air quality objectives for England are shown to the right.



| Pollutant | Air Quality Objective: Concentration | Air Quality Objective: Measured as |
|---|---|---|
| Nitrogen Dioxide ($NO_2$) | 200µg/m³ not to be exceeded more than 18 times a year | 1-hour mean |
| Nitrogen Dioxide ($NO_2$) | 40µg/m³ | Annual mean |
| Particulate Matter ($PM_{10}$) | 50µg/m³, not to be exceeded more than 35 times a year | 24-hour mean |
| Particulate Matter ($PM_{10}$) | 40µg/m³ | Annual mean |
| Sulphur Dioxide ($SO_2$) | 350µg/m³, not to be exceeded more than 24 times a year | 1-hour mean |
| Sulphur Dioxide ($SO_2$) | 125µg/m³, not to be exceeded more than 3 times a year | 24-hour mean |
| Sulphur Dioxide ($SO_2$) | 266µg/m³, not to be exceeded more than 35 times a year | 15-minute mean |

More information on the legal context and objectives can be found in the detailed modelling study at Appendix 1

Particulate matter is made up of a number of chemicals and materials some of which are toxic. Due to their size, they can enter the blood stream and travel around the body, lodging in the brain heart and other organs. There is growing concern around particulate matter $PM_{2.5}$.[1]

The Environment Act 2021 required the Government to set new air quality targets for $PM_{2.5}$. The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 have now been introduced which require an annual maximum mean concentration equal or less than 10µg/m3 to be met across England by 2040. The Regulations include details on how levels will be monitored and assessed. A target metric for reduction in population exposure has also been set recognising the adverse health effects even in areas which are within the limit value[2].

**1 if it passes through a size-selective inlet with a 50% efficiency cut-off at 2.5 micrometres aerodynamic diameter.**

**2 Air Quality Expert Group - PM Target setting**

# Summary of Air Quality in Cheltenham:

We have an extensive regime of air quality monitoring in Cheltenham. Environmental Health Officers (EHOs) within the Environmental Health Team at Cheltenham Borough Council monitor air quality using a network of 46 $NO_2$ diffusion tube sites across the Borough including one site with triplicate diffusion tubes co-located with a continuous automatic monitor. Exceedance of the $NO_2$ air quality objective in 2020 resulted in the declaration of an AQMA covering the area from the junction of Gloucester Road, Tewkesbury Road and High Street, through Poole Way along Swindon Road to the junction of St Georges Street. In addition to passive diffusion monitoring, nine AQ Mesh pods around the Borough monitor particulate matter as $PM_{2.5}$ and $PM_{10}$. We experienced technical issues with the units which have now largely been resolved and full data from this equipment will be published shortly. Detailed modelling assessments completed in 2021 predicted PM concentrations within the AQMA to be below the current annual objectives. In September 2022, Defra confirmed that our monitoring calculations were accurate for all sources and pollutants. We installed 2 Defra approved BAM beta attenuation mass monitors along the A40 at Benhall in November 2022. These monitor $PM_{2.5}$ and $PM_{10}$ and enable us to calibrate our existing AQmesh pod monitors. Provisional data is shown below*:

A 40 Gloucester Road Benhall PM (Monthly Averages)

| | Nov 2022 | Dec 2022 | Jan 2023 | Feb 2023 |
|---|---|---|---|---|
| **$PM_{10}$ (µg/m³)** | 20 | 20 | 19 | 25 |
| **$PM_{2.5}$ (µg/m³)** | 9 | 16 | 12 | 14 |

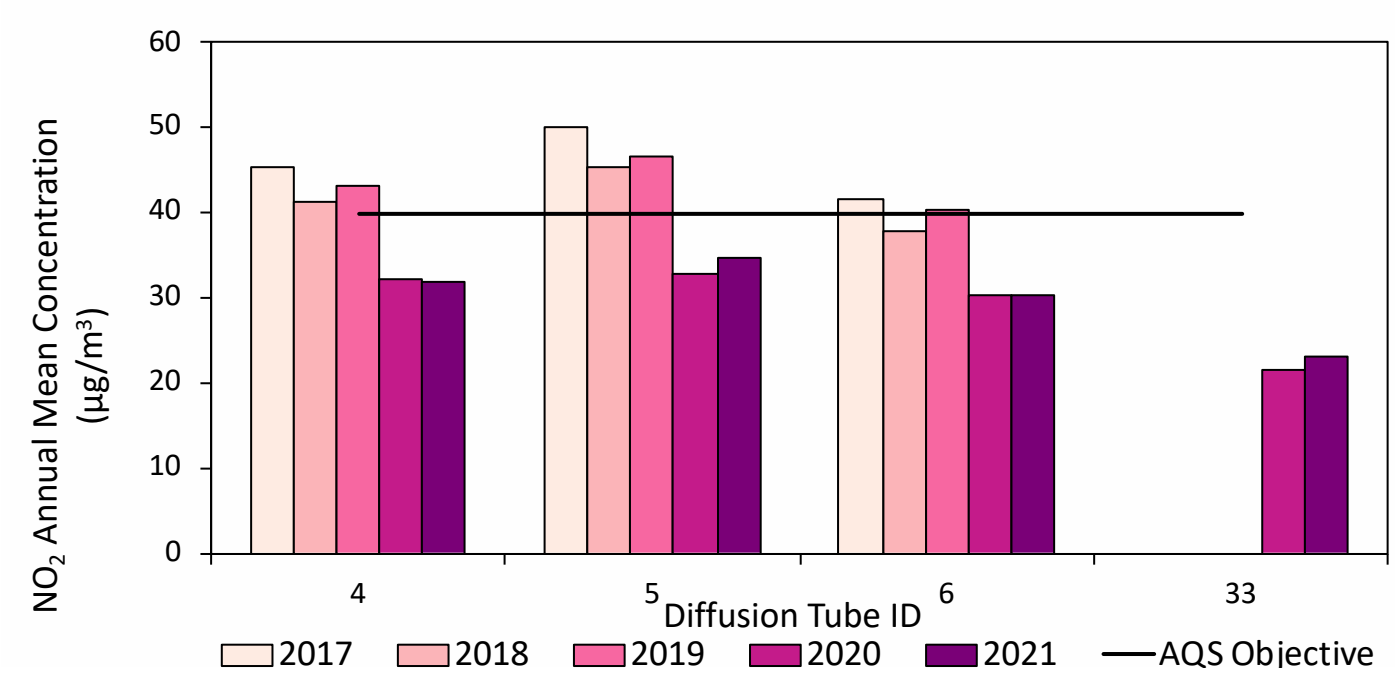
*we continue to work with our data consultants to ensure accurate and reliable results are published for PM monitoring in conjunction with modelled data and seasonal adjustments.

These initial results appear to be within current objectives but following the introduction of the new targets, we await further guidance from Defra on the new national approach to $PM_{2.5}$ monitoring and its integration into the local air quality management framework. More detailed information on our current monitoring is provided in the detailed modelling at Appendix 1.

Our annual status report was approved by Defra in September 2022 and affirmed that our monitoring data for diffusion tubes was applied correctly and accurately for our 2021 data and all sources and pollutants were correctly assessed. Defra concluded at that time that Cheltenham Borough Council was committed to maintaining good air quality. See our Annual Status Report 2022. Our Annual Status report for 2023 will be available in Autumn 2023.

Road traffic emissions are the main source of $NO_2$ in Cheltenham, mainly from the A40 (Gloucester Road), A4013 (Princess Elizabeth Way), A4019 (Swindon Road/Tewkesbury Road), A435 (London Road), A46 (High Street), and A46 (Bath Road). These roads, among others, form the main arterial highway network within Cheltenham and carry high volumes of road traffic. As a result, these roads tend to become congested, in particular through Cheltenham town centre, resulting in increased concentrations of $NO_2$. Outside of the AQMA, the annual mean limit of 40 µg/m³ has not been exceeded in the last five years, suggesting that there is no need to amend the current AQMA boundary. During 2021, the annual mean $NO_2$ concentration was not greater than 60 µg/m³ at any diffusion tube site and, therefore, an exceedance of the 1-hour mean objective at any location with the borough is considered unlikely. The automatic monitoring station did not record any hourly concentrations above 200 µg/m³ during 2021. Our monitoring data for 2022 shows no exceedance of the annual mean objective for $NO_2$.of 40µg/m³. The highest levels were recorded within the AQMA of 38.34µg/m³ and 35.48µg/m³. Data for 2022 will be reported within our Annual Status Report to DEFRA. The annual trend of $NO_2$ levels to 2021 within the AQMA is shown below:

Annual trends of $NO_2$ levels within the AQMA



# An action plan for the borough

**Action 1**

## Review and develop the air quality action plan for the borough

**Planning Phase/Target date: ongoing**

In order to meet our legal obligations and key priority within our corporate plan, a regular review of our policies and plans will ensure we continually improve the service to tackle poor air quality generally and at any local hotspots. We address air quality management in other strategies such as our Pathway to Net Zero to ensure we deliver services in an integrated manner. We have a duty to keep our AQAP up to date and any revision to it will be subject to a consultation process. The Environment Act 2021 strengthens the Local Air Quality Management framework by placing greater emphasis on Air Quality Action Plans (AQAPs) setting out how air quality standards and objectives are to be achieved.

**Action 2**

## Aspire to reduce the levels of NO2 below the national target objective

**Planning Phase/Target date: 2023**

All combustion processes in air produce oxides of nitrogen ($NO_X$). Nitrogen dioxide ($NO_2$) and Nitric Oxide (NO) are referred to as $NO_X$. Emissions from road transport is the main source and is the main reason for the declaration of AQMAs. The law sets a minimum objective of 40 µg /m³ in a calendar year and a one-hour level of 200µg/m³ not to be exceeded more than 18 times in a calendar year. As an Authority, we aspire to do more. We recognise that the World Health Organisation (WHO) global air quality guidelines recommend a much lower incremental target reduction to 10µg/m³. Reports suggest that since 1970 the emissions of nitrogen oxides have reduced by 69% and fell by a further 19% between 2010 and 2015[3]. There is no safe level of $NO_2$ below which there are no adverse health effects and so any reduction below the set air quality standards will bring additional health benefits. The road to net zero sets out the approach to reduce exhaust emissions from road transport. This is extremely important given that the AQMA is declared due to increased $NO_2$ levels heavily influenced by transport emissions. Our current exceedance is limited to a very small area and our action plans must reflect this. As a key partner we continue to engage with Gloucestershire County Council on the Local Transport Plan which sets out the long term strategic transport vision for the county to 2041. This will require significant resources and commitments from Cheltenham Borough Council and its partners to deliver the identified actions.


Cheltenham Borough Council Air Quality Management Area

Air quality monitoring within the AQMA

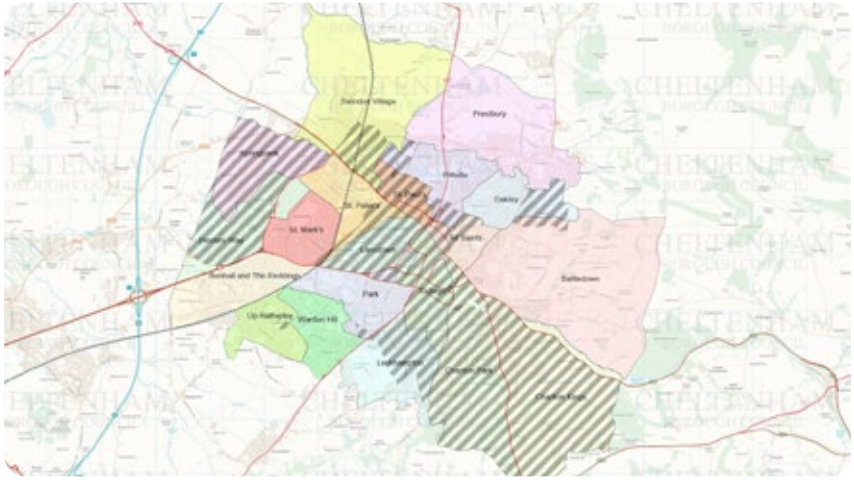
3 Defra UK Plan

## Action 3

# Reviewing the borough's Smoke Control Areas

**Planning Phase/Target date: 2023**

Statistics show that domestic burning from wood burners and coal fires is the single largest contributor to the emission of particulate matter. Recent legislation will ensure the most polluting fuels are phased out. As a Local Authority under the Clean Air Acts, we can designate smoke control areas. This is an area where individuals and businesses must not emit a substantial amount of smoke from chimneys and they must not buy or sell unauthorized fuel unless it is to be used in an appliance approved for use in a smoke control area. Currently approximately half of the Borough has been designated a smoke control area by way of over 20 separate orders. A map of the areas can be viewed here.



Cheltenham Borough Council Smoke Control Areas

We will review the current smoke control orders and explore the viability of declaring the whole Borough a smoke control area. Any such declaration would only be made following the statutory consultation process required by the Clean Air Act.

## Action 4

# Deliver a Schools Air Quality Project

**Planning Phase/Target date: 2023**

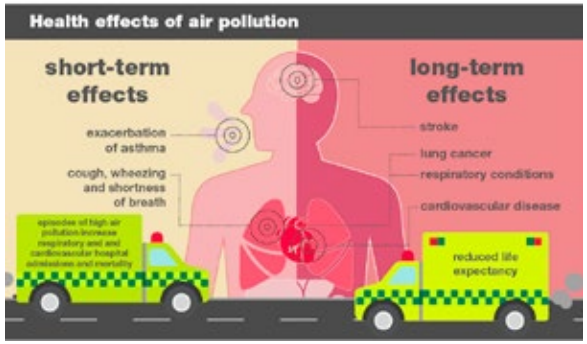
We will develop and deliver an educational awareness initiative within schools with strategic direction from The Director of Public Health. This will highlight the issues of local air pollution and measures that parents, carers, pupils and others can take to reduce their emissions.

Action 5

## Implement education and awareness campaigns

**Planning Phase/Target date: 2023**

We will work with the Director of Public Health and our One Gloucestershire Integrated Care system partners at a strategic level to support campaigns using a behavioural science approach. We will work with key target groups to understand what would enable them to change behaviour. We will aim to raise awareness of the health effects of exposure to poor air quality including the implications for Covid 19, lung disease and development, coronary heart disease, stroke, cancer, exacerbation of asthma and increased mortality[4]. We will use thematic data more effectively to inform and prioritise our actions[5].




4 CMO Report on air quality

5 Air Quality Briefing for Directors of Public Health

Action 6

## Adopt powers to enforce the 'stationary idling offence' for vehicles

**Planning Phase/Target date: 2023**

Motorists who leave vehicle engines running while stationary cause unnecessary emissions of harmful pollutants. This affects health and contributes to climate change. As a Local Authority we will adopt legislation and give powers to Officers under the Road Traffic (Vehicle Emissions) (Fixed Penalty) (England) Regulations 2002. This would require motorists to switch off their engine when asked to do so by an authorised officer. A proportionate approach to enforcement will be employed to bring about positive behaviour change. Enforcement will be a last resort following appropriate education and information campaigns. Where motorists are uncooperative and fail to comply, they could face a fixed penalty notice. Idling at school gates will be included within the schools air quality project.

Action 7

## Ensure that the planning and design of the Golden Valley Development sets a standard for high air quality in an urban development

**Planning Phase/Target date: 2023**

The Joint Core Strategy (JCS) adopted by Gloucester, Tewkesbury and Cheltenham sets out the strategic framework for the area including the broad expectations for the Golden Valley Development. The adopted supplementary Planning Document (SPD) builds on the JCS to set a more focused vision, masterplan and set of objectives for the development. The masterplan will provide an extensive network of streets and tracks to encourage active and sustainable travel choices and green infrastructure. The master plan will deliver mobility hubs to facilitate modal shifts between public transport, bicycles and other forms of micro mobility. It will consider off site effects from traffic accessing and egressing the site to ensure air quality objectives are met.


Action 8

## Support Gloucestershire County Council's delivery of an expanded Arle Court transport hub

**Planning Phase/Target date: 2023**

We support the planned improvements to the transport hub by Gloucestershire County Council to provide sustainable transport and high quality alternatives to car use.

Action 9

## Encourage investment by all landowners and authorities in rapid charging points for electric vehicles

**Planning Phase/Target date: 2023**

Monitoring and data modelling have shown that cars and large goods vehicles (LGV) are the main source of NOx pollution within Cheltenham. Full electric vehicles (EV) have zero exhaust emissions, however they still have non exhaust emissions including particulate matter thorough tyre and brake wear. This reinforces the importance of the measures supporting a modal shift away from private car use.

Reliable and easily accessible charge points within the Borough are the key to making the switch as easy as possible. We will be engaging with the County Council for the on street residential charge point scheme recognising the challenges faced by those living in flats, terraced properties and those without home charge points . GCC have appointed an EV charging operator to progress on street EV charging points across Cheltenham. Cheltenham Borough Council are undertaking a strategic car parking review looking at how car parks can better serve individuals as well as deliver wider economic, environmental and social outputs including improving air quality. We are engaging with EV operators on a range of suitable locations and investigating the most appropriate routes to delivery.

Action 10

## Adopt a policy for licensed taxis and private hire vehicles that immediately removes the most polluting vehicles and achieves a net zero emissions fleet by 2030

**Planning Phase/Target date: 2023**

Taxis and private hire vehicles are an essential form of transport in Cheltenham, with licensed taxis and private hire vehicles, undertaking thousands of journeys around the borough annually. Our air quality management regime has identified that vehicle exhaust emissions are the principle source of pollution, with particulate matter (PM) forming an increasingly important contributor to air pollution and poor air quality.

A revised emissions policy for licensed private hire vehicles and taxis was adopted in 2022 setting a clear path to achieving a carbon neutral licensed fleet by 2030. The policy seeks to take a staged approach whereby the most polluting vehicles are phased out as a matter of priority. The remaining licensed vehicles with better emission standards will gradually be phased out, thereby meeting the 2030 carbon neutral commitment.

Action 11

## Support Gloucestershire County Council as the local highways authority to deliver modal shift away from private cars to public transport with improvement in Cheltenham's walking and cycling routes.

**Planning Phase/Target date: 2023**

We recognise and support the critical role of the county council as Highway Authority and their role in traffic management and transport. They are fundamental in ensuring air quality objectives are met and integrating prevention measures with the Local Transport Plan. There has been considerable progress over the last 2 years with the West Cheltenham route.


The shift to low and ultra-low vehicle emissions is well under way as we move to 2030 at which point the Government will end the sale of all new conventional petrol and diesel cars and vans. This shift will resolve the main cause of poor air quality but it may not happen soon enough. A Clean Air Zone to reduce pollution from vehicular $NO_2$ and particulate matter could be considered by the county council. Due to the potential impact on individuals and businesses, this would be where no other options are viable and only if it can be demonstrated that it meets the expected outcomes as detailed in the Clean Air Framework Further monitoring and evidence gathering will be needed. We will support the work of GCC as the Highway Authority in initiatives such as adoption of 'Twenty is Plenty' where possible, apply variable parking charges to incentivise use of EVs and hybrids, and support a move to a mass rapid transit system.

Action 12

## Support sectors containing more polluting vehicles to switch to cleaner vehicles

**Planning Phase/Target date: 2023**

We will continue to build on our current progress of implementing alternative fuel sources within the Council and its partner organisations. The Ubico and Council fleet replacement plan was recently adopted which included amongst other things a move away from petrol and B7 diesel based fuel to electric and certified palm oil free hydrogenated vegetable oil (HVO). This will have a direct effect on the emissions of NOx and PM. We are also supporting Gloucestershire County Council with their 'last mile delivery' project aiming to reduce the amount of delivery vehicles entering the town centre.

**Action 13**

## Expand monitoring for $PM_{10}$ and $PM_{2.5}$

**Planning Phase/Target date: 2023**

Particulate matter (PM) is a generic term to describe a complex mixture of solid and liquid particles of varying size, shape and composition. They are classed as coarse $PM_{10}$ (less than 10µm in diameter), fine $PM_{2.5}$ (less than 2.5µm in diameter) and ultra-fine PM (less than 0.1µm in diameter). It includes natural sources such as pollen and manmade sources such as dust from exhausts, brakes and tyres. Particles less than 10 µm pose the greater risk as they can be deposited deep within the lungs. PM's can travel large distances thus originating from non-UK sources. The UK has made binding commitments to further reduce emissions. The limitations of compliance assessment based solely on monitoring are well known. High quality monitors are costly to maintain and no matter how many sites are instrumented, it is inevitable that the vast majority of the population will still live in locations where air quality is not directly measured. This creates the long-standing requirement for monitoring to be made representative of regions and the population as whole. Monitoring for PMs is complex. We have recently installed 2 Defra approved Beta attenuation mass monitors to monitor $PM_{10}$, and $PM_{2.5}$. They are also used to calibrate our 9 AQmesh pods which monitor PMs thus giving accurate reliable results on which to report and inform decision making. More detailed information can be found in our Annual Status Report. We continue to work with Defra and will respond to new guidance on the national approach to $PM_{2.5}$ monitoring and its integration into the local air quality management framework. We continue to work closely with our data consultants to ensure accurate and meaningful results are published in light of the above.

New air quality monitoring equipment

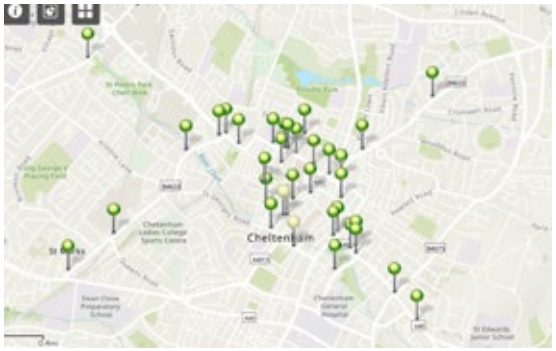


## Action 14

# Maintain and review air quality monitoring locations around the borough.

**Planning Phase/Target date: 2023**

Cheltenham Borough Council's air monitoring regime currently consists of 46 NOx diffusion tubes (passive monitoring) including the triplicate co located station. We have 9 mesh pods, 1 automated continuous and 2 Defra approved beta attenuation mass monitors. The mesh pods monitor real time localised NOx, $PM_{10}$ and $PM_{2.5}$. Although they are not accredited devices, such data is a useful indicator as to pollutant concentrations within the Borough. The continuous monitor is MCERTS approved mirroring compliance with EN 14211:2012 and measures NOx, $NO_2$ and NO. All the above require ongoing maintenance, calibration, data analysis and rental costs. CBC reviews its monitoring regime each year, responding to the data and to any legislative changes and requirements from Defra. Our monitoring provides an extensive picture to assist with planning requirements. Monitoring locations are determined by modelling reports. A full list of monitoring and locations can be found on our interactive website monitoring sites and within our Annual Status Report Monitoring of NOx within the AQMA and across the district will continue and results from our PM monitoring will be included within our next status report to DEFRA.




NOx Monitoring stations

## Action 15

# Adopt an air quality supplementary planning document

**Planning Phase/Target date: 2023**

Our Joint Core Strategy (JCS) and our Cheltenham plan recognise the importance of the protection and enhancement of our natural environment. Cheltenham Borough Council expects all developers to manage the air quality impact of all proposed developments and an air quality supplementary planning document will support these existing plans. It will give clear requirements to developers to assess the effects of air quality on the proposed development. It will detail the type and scale of developments which will require an air quality impact assessment and what the assessment must include. It will ensure transparent and consistent advice for developers where air quality needs to be addressed.

Action 16

## Produce a biodiversity supplementary planning document

**Planning Phase/Target date: 2023**

Our Joint Core Strategy (JCS) and our Cheltenham plan recognise the importance of the protection and enhancement of our natural environment. Cheltenham Borough Council expects all developers to manage the environmental impact of all proposed developments. A biodiversity supplementary planning document will support these existing plans by providing guidance to developers on what they must do to protect and enhance our natural environment throughout the full development cycle. We will reflect the role that trees, vegetation, nature corridors and ecosystems play in removing air pollution and improving air quality. It will detail the type and scale of development which will require an environmental impact assessment (EIA) and what the environmental impact assessment must include. It will ensure transparent and consistent advice where effects on the environment need to be addressed.

We will manage and maintain our trees as public assets using the CAVAT method.

# Cheltenham Air Quality Management Area (AQMA)

The revised 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. The approximate population of the AQMA is 76 people, based on the total area of the AQMA being ~0.03km² and the population density of Cheltenham being 2,550 per km² [6] The previous air quality action plan (AQAP) completed by Cheltenham Borough Council in April 2014 was developed for the previous borough-wide AQMA, which has now been revoked. The current 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 are or will take to improve air quality in the Borough to 2027.

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



# Summary Action Plan for the AQMA

| Measure No. | Measure | EU Category | EU Classification | Lead Authority | Planning Phase | Implementation Phase | Key Performance Indicator | Target Pollution Reduction in the AQM | Progress to Date | Estimated Completion 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):<br>A) Commission a study to understand purpose of car trips (including start/end points) through AQMA<br>B) Single person or multiple occupancy survey<br>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 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). |
| 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 |

| Measure No. | Measure | EU Category | EU Classification | Lead Authority | Planning Phase | Implementation Phase | Key Performance Indicator | Target Pollution Reduction in the AQM | Progress to Date | Estimated Completion Date | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 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.<br>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 1µg/m³ based upon a low to medium uptake. | n/a | | Streets – GCC<br>Car Parks - CBC |
| 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/m³ 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/m³ based upon a low to medium uptake. | | | Fast Electric charging points are installed at 3 sites.<br>Rapid chargers are installed at Cheltenham Railway Station.<br>Chargers installed at Tesco and [illegible] superstores.<br>Promenade charging has not be[en] installed to date.<br>Look to install within parking ar[eas] of AQMA.<br>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[1] available via GCC. |

1 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 AQM | Progress to Date | Estimated Completion Date | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Measures for Consideration as part of wider Air Quality Strategy** | | | | | | | | | | | |
| 12 | Adopt a Cheltenham Air Quality Strategy.<br>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 | | Under development | Strategy to be in place for ten years. | Strategy needs constant review and revision, not "shelving".<br>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 exceedances within the AQMA | 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 p needed before implementation, a no natural diversion routes aroun town centre, so closures / chargin zones could lead to pollution elsewhere. Needs to be a compor 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<br>(https://www.gloucestershire.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. |

| Measure No. | Measure | EU Category | EU Classification | Lead Authority | Planning Phase | Implementation Phase | Key Performance Indicator | Target Pollution Reduction in the AQM | Progress to Date | Estimated Completion Date | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 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.gloucestershire.gov.uk/media/2095888/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 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 | NOx emission reduction achieved by the Council will be able to be calculated annually. | | 2025 | Extend to Ubico / other ALMO and suppliers / contractors.<br>Extend to non-fleet users.<br>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 bee recent requirement for taxis to b 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/m³ 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.<br>Possible liaison with GCC planning more EVs at Taxi Ranks, CBC to be responsible for EVs in Car Parks.<br>Planning to seek funding on the basis that we want taxi rank infrastructure in place by 2026/7. |

| Measure No. | Measure | EU Category | EU Classification | Lead Authority | Planning Phase | Implementation Phase | Key Performance Indicator | Target Pollution Reduction in the AQM | Progress to Date | Estimated Completion Date | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 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.<br><br>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. |
| 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/m$^3$ | n/a | Ongoing | CBC are in the process of developing the policy to implement the Cabinet Membe 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. |



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23 05 23 CAB AQAP Appendix iv

# Cheltenham Borough Council

# Air Quality Action Plan

September 2022

BUREAU VERITAS

*Move Forward with Confidence*

# Document Control Sheet

| Identification | |
|---|---|
| **Client** | Cheltenham Borough Council |
| **Document Title** | Cheltenham Air Quality Action Plan |
| **Bureau Veritas Project No.** | 10276099 |

| Contact Details | | |
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| Configuration | | | | |
|---|---|---|---|---|
| **Version** | **Date** | **Author** | **Reason for Issue/Summary of Changes** | **Status** |
| 1 | 27/08/21 | D Clampin<br>A Spence | Issued to Client | Draft |
| 2 | 19/11/21 | D Clampin | Updated following feedback | First |
| 3 | 19/08/22 | D Clampin | Updated to account for new Policy/Technical Guidance | Second |
| 4 | 02/09/22 | D Clampin | Updated following comments | Third |

| | **Name** | **Job Title** | **Signature** |
|---|---|---|---|
| **Prepared By** | A Spence | Consultant |  |
| **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

| | |
|---|---|
| Local Authority Officer | Gareth Jones |
| Department | Environmental Health |
| Address | Cheltenham Borough Council<br>Promenade<br>Cheltenham<br>Glos<br>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

[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.

# Table of Contents



## List of Tables



## List of Figures

# 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.

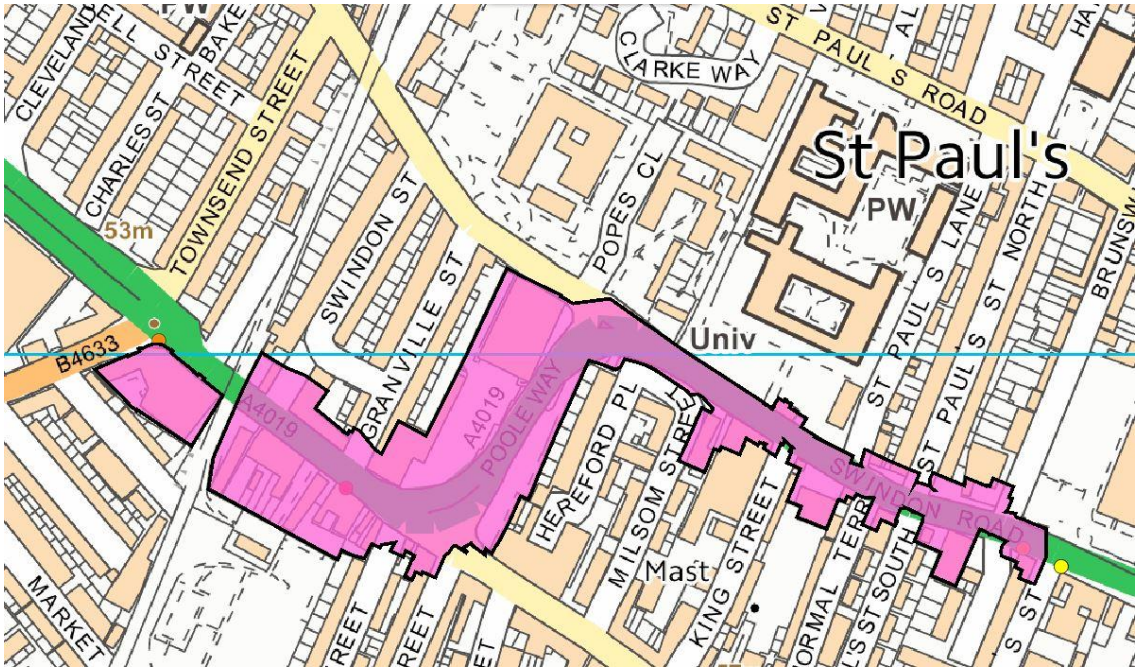
[5] Local Air Quality Management Policy Guidance LAQM.PG(22). August 2022. Published by Defra

# 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

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

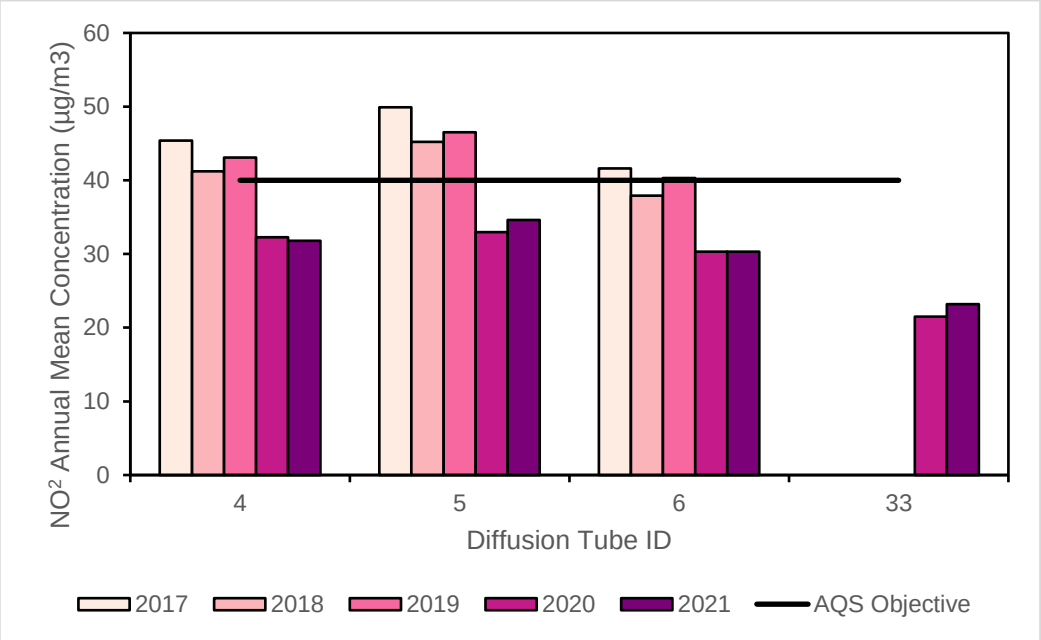
| Site ID | Location | Annual Mean Concentration (µg/m³) | | | | | |
|---|---|---|---|---|---|---|---|
| | | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
| Within AQMA | | | | | | | |
| 4 | 2 Gloucester Road | **43.2** | **45.4** | **41.2** | **43.1** | 32.3 | 31.5 |
| 5 | 422 High St | **45.5** | **49.9** | **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 $PM_{2.5}$ Concentrations within AQMA

$PM_{2.5}$ 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 $PM_{2.5}$ emissions/concentrations. While no monitoring of $PM_{2.5}$ is completed by Cheltenham Borough Council, the detailed modelling assessment included in Appendix E has modelled predicted $PM_{2.5}$ 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.

[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.

[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

[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

[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

[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

[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***

[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

[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

[18] https://www.cheltenham.gov.uk/downloads/download/1747/connecting_cheltenham

- 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 $NO_2$.

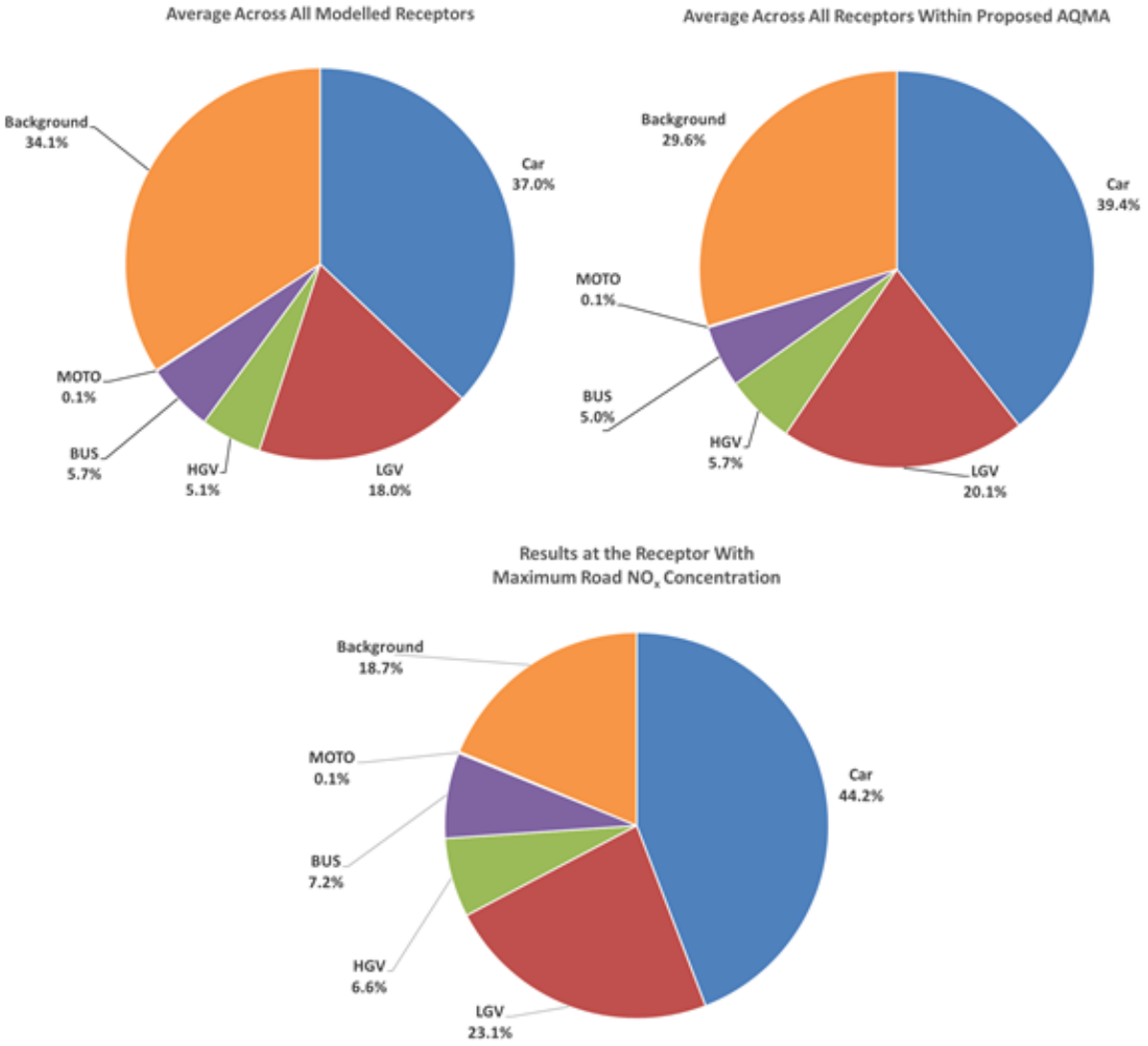
The findings of the above are summarised in Table 4.1 and Figure 4.1 below.

[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



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/$m^3$ (34.1%);
- Of the total road $NO_x$, Cars are highest contributing vehicle class accounting for 56.2% (19.9µg/$m^3$);
- LGVs are found to be the second highest contributing vehicle class accounting for 27.4% (9.7µg/$m^3$);
- HGVs and Buses account for similar total road NOx (HGVs – 7.7% (2.7µg/$m^3$) 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/$m^3$) 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/$m^3$) – 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/$m^3$). This observed percentage contribution is consistent with observations found across the whole domain and within the AQMA;
- HGVs account for 8.2% (7.5µg/$m^3$) 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

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

40µg/m$^3$. We have used a more stringent figure of 36µg/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 (µg/m$^3$) | 56.7 |
| Road $NO_x$ Concentration (µg/m$^3$) | 91.3 |
| Required Road $NO_x$ Reduction (µg/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

| 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 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):<br>A) Commission a study to understand purpose of car trips (including start/end points) through AQMA B) Single person or multiple occupancy survey<br>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 GC Highways department. I ıge 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 s - ideal focus fo initiatives. Ne discussion wi HS |
| 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 1µg/m$^3$ based upon a low to medium uptake. | n/a | | Streets – GCC Car Parks -CBC |

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 charge[illegible]re installed at Cheltenham [illegible]way Station. Chargers ins[illegible]d at Tesco and Li 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. |

[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".<br><br>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/m$^3$ $NO_2$ instead of the National objective of 40ug/m$^3$. | 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/m$^3$. | -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/m$^3$. | 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 / |

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 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.gloucestershire.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 bet public awarer 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.gloucestershire.gov.uk/media/2095888/cycling-and-walking-infrastructure-plan-final-20200828.pdf | | | | Elements of t measure are g brought forwa under the We 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 |

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | 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 Biofuel, poss for joint proje |
| 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 upta there has be recent requir 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.* |

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | *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 s ng projects. The ill be used to encourage businesses ir Cheltenham develop and implement si lar plans.<br><br>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. |

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 th olicy to implement Cabinet Mem Customer & Regulatory S es' ambition to m 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.<br>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 |

# Cheltenham Borough Council

## Detailed Modelling Study

August 2022

*Move Forward with Confidence*

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# Document Control Sheet

| Identification | |
|---|---|
| **Client** | Cheltenham Borough Council |
| **Document Title** | Detailed Modelling Study |
| **Bureau Veritas Ref No.** | AIR10276099 |

| Contact Details | | |
|---|---|---|
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| Configuration | | | | |
|---|---|---|---|---|
| **Version** | **Date** | **Author** | **Reason for Issue/Summary of Changes** | **Status** |
| 1.0 | 27/8/21 | A Spence | Issued to client for comment | Draft |

| | Name | Job Title | Signature |
|---|---|---|---|
| **Prepared By** | A Spence | Assistant Air Quality Consultant |  |
| **Approved By** | D Clampin | Senior Consultant |  |

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# Executive Summary

## Purpose of Assessment

Bureau Veritas has been commissioned by Cheltenham Borough Council (the Council) to complete an updated Air Quality Action Plan (AQAP) for the Council's new Air Quality Management Area (AQMA). Currently there is one AQMA within Cheltenham, declared as a result of exceedances of the 40 µg/m$^3$ annual mean objective for Nitrogen Dioxide ($NO_2$). This AQMA encompasses a continuous stretch of road, spanning A4019 Tewkesbury Road, A4019 Poole Way and A4019 Swindon Road – north of the Town Centre. The aim of this Detailed Modelling Study is to increase the Councils' understanding of pollutant concentrations within Cheltenham, in order to provide technical input into the updated AQAP.

This AQMA was declared in September 2020, in response to an assessment undertaken by Bureau Veritas in 2019 which evaluated the monitored $NO_2$ annual mean exceedances across Cheltenham. This study demonstrated that exceedances had become more localised to an area north of the town centre and, based on these findings, the previous borough-wide AQMA was revoked, and the new AQMA declared in order to provide a focus for the application of a more targeted set of measures.

In order to provide technical input into an updated AQAP that will cover the area within the revised AQMA boundary, the air quality modelling completed for the 2019 detailed assessment (which used 2018 data) has been updated to account for 2019 traffic data, 2019 monitoring data and the latest Local Air Quality Management (LAQM) tools. While data is now available for 2020, a baseline 2019 year has been maintained so as to not take account of any data which may be significantly different from normal traffic years in 2020 as a result of the COVID-19 pandemic.

The updated Detailed Modelling Assessment focusses on the road network across Cheltenham to establish any changes in the spatial extent of $NO_2$ concentrations in order to identify any areas that are above, or within 10%, of the AQS annual mean objective. The area was modelled using the advanced atmospheric dispersion model ADMS-Roads (Version 5.0.0.1) and latest emissions from the Emissions Factors Toolkit (Version 10.1), with annual mean $NO_2$ concentration outputs produced at 249 discrete receptor locations, and across a borough-wide receptor grid.

## Assessment Findings

Results show that the $NO_2$ annual mean AQS objective is observed to be exceeded at a total of 14 (5.6%) receptor locations, with 26 (10.4%) further locations within 10% of the objective. As expected, all discrete receptor locations which report annual mean $NO_2$ concentrations to be above or within 10% of the AQS objective, are located within the existing AQMA, or are limited to roadside locations of junctions where key arterial roads meet.

The highest annual mean concentrations of $NO_2$ was recorded at Receptor 60 with a concentration of 56.7µg/m$^3$. Receptor 60 is located within the AQMA, along a façade of a residential property which immediately fronts onto a stretch of the A4019 – High Street, susceptible to congestion due to the convergence of high capacity and town centre roads (M5, A4019 – Tewkesbury Road, A4019 – High Street, A4019 – Swindon Road and High Street). The junction's role as a major strategic connection within the region is believed to be the cause of the elevated $NO_2$ annual mean concentrations predicted at Receptor 60.

The empirical relationship given in LAQM.TG(16)[1] states that exceedances of the 1-hour mean objective for $NO_2$ are only likely to occur where annual mean concentrations are 60µg/m$^3$ or above. The $NO_2$ annual mean concentrations predicted at all receptors are below this hourly exceedance indicator, suggesting that hourly exceedance of the $NO_2$ AQS objective is unlikely.

The following areas were identified to report modelled concentrations in exceedance of the annual mean $NO_2$ AQS objective:

- Within the existing AQMA, the continuous stretch of road spanning A4019 Tewkesbury Road, A4019 Poole Way and A4019 Swindon Road north of the Town Centre; and

- Along stretches of other arterial roads connecting to the Town Centre (A4013 Princess Elizabeth Way, Benhall Roundabout, A46 London Road/Berkley Street intersection, and A46 Shurdington Road).

The following additional areas were identified to report modelled concentrations within 10% of the AQS objective:

- A4019 Fairview Road, A46 Clarence Road and Albion Street;

- A46 London Road;

- Bath Road;

- A40 Lansdowne Road/Suffolk Road intersection;

- A40 Gloucester Road/B4633 Gloucester Road intersection;

- A4013 Princess Elizabeth Way/Marsland Road/Edinburgh Place intersection.

**Conclusions and Recommendations**

Based on the conclusions of the assessment above, the following recommendations are made:

- Continue to monitor $NO_2$ across the Borough;

- Deploy and/or relocate existing monitoring within the Borough to the other locations predicted to be in exceedance, or near exceedance, of the $NO_2$ annual mean AQS objective limit, in order to validate modelled findings; and

- Based on source apportionment results, any future intervention measures should be targeted at reducing vehicle emissions from all vehicle types, notably Cars and LGVs, which are both observed to be the two largest contributors to total vehicle emissions in areas of exceedance.

Following the completion of this modelling exercise, it is hoped that the following topics can be discussed with air quality stakeholders to aid development of the AQAP:

- Possible action plan measures being considered by the Council; and

- Ability to test the effects of these measures using the current dispersion model set up.

# 1 Introduction

Bureau Veritas has been commissioned by Cheltenham Borough Council (the Council) to complete an updated Air Quality Action Plan (AQAP) for the Council's Air Quality Management Area (AQMA), declared in 2020. Currently there is one AQMA within Cheltenham, declared as a result of exceedances of the 40 µg/m$^3$ annual mean objective for Nitrogen Dioxide ($NO_2$). This AQMA encompasses a continuous stretch of road, spanning A4019 Tewkesbury Road, A4019 Poole Way and A4019 Swindon Road – north of the Town Centre.

Prior to this, a whole-borough AQMA had been in place. Cheltenham Whole Borough AQMA was declared on in November 2011 for the exceedance of the Nitrogen Dioxide ($NO_2$) annual mean UK Air Quality Strategy (AQS) objective of 40µg/m$^3$. This AQMA was declared in response to an assessment undertaken in 2011 which evaluated the monitored $NO_2$ annual mean exceedances across Cheltenham. As a result of the findings, an AQAP was published in 2014. Between 2014 and 2018, the Review and Assessment annual reporting process identified that $NO_2$ annual mean concentrations across the Borough appeared to have stabilised below the AQS objective limit, with exceedances localised to the north of the Town Centre during 2018, specifically along the A4019. This resulted in a detailed modelling assessment being undertaken by Bureau Veritas on behalf of the Council in 2019. Based on this assessment, the whole-borough AQMA was revoked on 15$^{th}$ September 2020 and the new AQMA declared.

In order to provide technical input into an updated AQAP that will cover the area within the revised AQMA boundary, the air quality modelling completed for the 2019 detailed assessment has been updated to account for 2019 traffic data, 2019 monitoring data and the latest Local Air Quality Management (LAQM) tools. This report details the findings of this updated analysis, and provides recommendation on matters related to $NO_2$ exceedances, in order to inform the update of the AQAP.

## 1.1 Scope of Assessment

It is the general purpose and intent of this assessment to determine, with reasonable certainty, the magnitude and geographical extent of any exceedances of the AQS objectives for $NO_2$, enabling the Council to provide for a focused consideration on updating measures as part of the revision of the AQAP.

The following are the objectives of the assessment:

- To assess the air quality at selected locations ("receptors") representative of worst-case exposure relative to the averaging period of focus (i.e. annual objective - façades of the existing residential units), based on modelling of emissions from road traffic on the local road network;
- To establish the spatial extent of any likely exceedances of the UK annual mean $NO_2$ AQS objective limit, and to identify the spatial extent of any areas within 10%;
- To establish the required reduction in emissions to comply with the UK AQS objectives; and
- To determine the relative contributions of various source types to the overall pollutant concentrations within the new AQMA, through source apportionment, in order to inform an updated AQAP.

The approach adopted in this assessment to assess the impact of road traffic emissions on air quality utilised the atmospheric dispersion model ADMS-Roads version 5.0.0.1, focusing on emissions of oxides of nitrogen ($NO_x$), which comprise of nitric oxide (NO) and nitrogen dioxide ($NO_2$). Particulate Matter emissions have also been considered for completeness.

In order to provide consistency with the Council's own work on air quality, the guiding principles for air quality assessments, as set out in the latest guidance provided by Defra for air quality assessment (LAQM.TG(16))[1], have been used.

[1] LAQM Technical Guidance LAQM.TG(22) – August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.

# 2 Air Quality – Legislative Context

## 2.1 Air Quality Strategy

The importance of existing and future pollutant concentrations can be assessed in relation to the national air quality standards and objectives established by Government. The Air Quality Strategy[2] (AQS) provides the over-arching strategic framework for air quality management in the UK and contains national air quality standards and objectives established by the UK Government and Devolved Administrations to protect human health. The air quality objectives incorporated in the AQS and the UK Legislation are derived from Limit Values prescribed in the EU Directives transposed into national legislation by Member States.

The CAFE (Clean Air for Europe) programme was initiated in the late 1990s to draw together previous directives into a single EU Directive on air quality. The CAFE Directive[3] has been adopted and replaces all previous air quality Directives, except the 4th Daughter Directive[4]. The Directive introduces new obligatory standards for $PM_{2.5}$ for Government but places no statutory duty on local government to work towards achievement of these standards.

The Air Quality Standards (England) Regulations[5] 2010 came into force on 11 June 2010 in order to align and bring together in one statutory instrument the Government's obligations to fulfil the requirements of the new CAFE Directive.

The objectives for ten pollutants – benzene ($C_6H_6$), 1,3-butadiene ($C_4H_6$), carbon monoxide (CO), lead (Pb), nitrogen dioxide ($NO_2$), sulphur dioxide ($SO_2$), particulate matter ($PM_{10}$ and $PM_{2.5}$), ozone ($O_3$) and Polycyclic Aromatic Hydrocarbons (PAHs), have been prescribed within the AQS[2].

The AQS objectives apply at locations outside buildings or other natural or man-made structures above or below ground, where members of the public are regularly present and might reasonably be expected to be exposed to pollutant concentrations over the relevant averaging period. Typically, these include residential properties and schools/care homes for long-term (i.e. annual mean) pollutant objectives and high streets for short-term (i.e. 1-hour) pollutant objectives. Table 2.1 taken from LAQM TG(16)[1] provides an indication of those locations that may or may not be relevant for each averaging period.

This assessment focuses on $NO_2$ due to the significance this pollutant holds within the Council's administrative area - evidenced by the declared borough-wide AQMA. Moreover, as a result of traffic pollution the UK has failed to meet the EU Limit Values for this pollutant by the 2010 target date. As a result, the Government has had to submit time extension applications for compliance with the EU Limit Values, which has since passed and its continued failure to achieve these limits is currently giving rise to infraction procedures being implemented. The UK is not alone as the challenge of $NO_2$ compliance at EU level includes many other Member States.

In July 2017, the Government published its plan for tackling roadside $NO_2$ concentrations[6], to achieve compliance with EU Limit Values. This sets out Government policies for bringing $NO_2$ concentrations within statutory limits in the shortest time period possible. Furthermore, the Clean Air Strategy was published in 2019, which outlines how the UK will meet international commitments

[2] Defra (2007), The Air Quality Strategy for England, Scotland, Wales and Northern Ireland.

[3] Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe.

[4] Directive 2004/107/EC of the European Parliament and of the Council of 15 December 2004 relating to arsenic, cadmium, mercury, nickel and polycyclic hydrocarbons in ambient air.

[5] The Air Quality Standards Regulations (England) 2010, Statutory Instrument No 1001, The Stationary Office Limited.
[6] Defra, DfT (2017), UK plan for tackling roadside nitrogen dioxide concentrations

to significantly reduce emissions of five damaging air pollutants by 2020 and 2030 under the adopted revised National Emissions Ceiling Directive (NECD).

The AQS objectives for these pollutants are presented in Table 2.2.

**Table 2.1 – Examples of where the Air Quality Objectives should apply**

| Averaging Period | Objectives should apply at: | Objectives should generally not apply at: |
|---|---|---|
| Annual mean | All locations where members of the public might be regularly exposed.<br>Building facades of residential properties, schools, hospitals, care homes etc. | Building facades of offices or other places of work where members of the public do not have regular access.<br>Hotels, unless people live there as their permanent residence.<br>Gardens of residential properties.<br>Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term |
| 24-hour mean and 8-hour mean | All locations where the annual mean objectives would apply, together with hotels.<br>Gardens or residential properties[1]. | Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term. |
| 1-hour mean | All locations where the annual mean and 24 and 8-hour mean objectives would apply.<br>Kerbside sites (e.g. pavements of busy shopping streets).<br>Those parts of car parks, bus stations and railway stations etc. which are not fully enclosed, where the public might reasonably be expected to spend one hour or more.<br>Any outdoor locations at which the public may be expected to spend one hour or longer. | Kerbside sites where the public would not be expected to have regular access. |
| 15-minute mean | All locations where members of the public might reasonably be expected to spend a period of 15 minutes or longer. | |

Note [1] For gardens and playgrounds, such locations should represent parts of the garden where relevant public exposure is likely, for example where there is seating or play areas. It is unlikely that relevant public exposure would occur at the extremities of the garden boundary, or in front gardens, although local judgement should always be applied.

**Table 2.2 – Relevant AQS Objectives for the Assessed Pollutants in England**

| Pollutant | AQS Objective | Concentration Measured as: | Date for Achievement |
|---|---|---|---|
| **Nitrogen dioxide ($NO_2$)** | 200 µg/m³ not to be exceeded more than 18 times per year | 1-hour mean | 31st December 2005 |
| | 40 µg/m³ | Annual mean | 31st December 2005 |
| **Particles ($PM_{10}$)** | 50µg/m³ not to be exceeded more than 35 times a year | 24-hour mean | 31st December 2004 |
| | 40µg/m³ | Annual Mean | 31st December 2004 |

| | | | |
|---|---|---|---|
| **Particles ($PM_{2.5}$)** | 25µg/m³ | Annual Mean | 2020 |

## 2.2 Local Air Quality Management (LAQM)

Part IV of the Environment Act 1995[7] places a statutory duty on local authorities to periodically review and assess air quality within their area, and determine whether they are likely to meet the AQS objectives set down by Government for a number of pollutants – a process known as Local Air Quality Management (LAQM). The AQS objectives that apply to LAQM are defined for seven pollutants: benzene, 1,3-butadiene, CO, Pb, $NO_2$, $SO_2$ and Particulate Matter.

Local Authorities were formerly required to report on all of these pollutants, but following an update to the regime in 2016, the core of LAQM reporting is now focussed on the objectives of three pollutants; $NO_2$, $PM_{10}$ and $SO_2$. Where the results of the Review and Assessment process highlight that problems in the attainment of the health-based objectives pertaining to the above pollutants will arise, the authority is required to declare an AQMA – a geographic area defined by high concentrations of pollution and exceedances of health-based standards.

The areas in which the AQS objectives apply are defined in the AQS as locations outside (i.e. at the façade) of buildings or other natural or man-made structures above or below ground where members of the public are regularly present and might reasonably be expected to be exposed to pollutant concentrations over the relevant averaging period of the AQS objective.

Following any given declaration, the Local Authority is subsequently required to develop an Air Quality Action Plan (AQAP), which will contain measures to address the identified air quality issue and bring the location into compliance with the relevant objective as soon as possible.

One of the objectives of the LAQM regime is for local authorities to enhance integration of air quality into the planning process. Current LAQM Policy Guidance[8] recognises land-use planning as having a significant role in term of reducing population exposure to elevated pollutant concentrations. Generally, the decisions made on land-use allocation can play a major role in improving the health of the population, particularly at sensitive locations – such as schools, hospitals and dense residential areas.

[7] http://www.legislation.gov.uk/ukpga/1995/25/part/IV
[8] Local Air Quality Management Policy Guidance LAQM.PG(16). April 2016. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.

# 3 Review and Assessment of Air Quality Undertaken by the Council

## 3.1 Local Air Quality Management

The Council currently has one AQMA (Cheltenham Borough Council AQMA 2020), declared in September 2020 for the exceedance of the $NO_2$ annual mean UK AQS objective of 40µg/m$^3$. The AQMA, as shown in Figure 3-1, encompasses a continuous stretch of road (A4019) just north of the Town Centre and was declared in response to a detailed assessment undertaken by Bureau Veritas in 2019 which recommended the previous borough-wide AQMA be amended to cover this more localised area of exceedances.

The Council's 2019 Local Air Quality Management (LAQM) Annual Status Report (ASR) identified the need to review the previous borough-wide AQMA boundary as a result of monitored annual mean $NO_2$ concentrations over the past several years that demonstrated a localisation of exceedances to the north of the town centre. Bureau Veritas was commissioned to undertake a detailed dispersion modelling assessment in 2019 as the next step in the review process, to understand the full extent of exceedances and support potential amendments to the AQMA boundary. The most recent LAQM report completed by the Council was the 2021 ASR[9].

In order to provide technical input into the updated AQAP, the air quality modelling undertaken in 2019 has been updated to account for updated traffic data, monitoring data and the latest Local Air Quality Management (LAQM) tools. This report details the findings of this updated analysis, and provides recommendation on matters related to $NO_2$ exceedances, in order to inform a new targeted set of measures within the updated AQAP. This modelling assessment has used a baseline year of 2019 so as not to account for the unusual traffic patterns occurring in 2020 as a result of the COVID-19 pandemic.

## 3.2 Review of Air Quality Monitoring

### 3.2.1 Local Automatic Air Quality Monitoring

During 2019, the Council undertook automatic (continuous) monitoring at one site within Cheltenham (CM1). CM1 is located north of the Town Centre along the A4019 – Swindon Road, adjacent to the St George's Street intersection within the AQMA. CM1 solely monitors $NO_2$ via a chemiluminescent analyser.

Details of CM1 are provided in Table 3.1 and 2019 monitoring results are presented in Table 3.1, whilst the location of the monitoring site is illustrated in Figure 3-2.

**Table 3.1 – Automatic Monitor CM1**

| Site ID | Site Location | Site Type | OS Grid Ref (E, N) | In AQMA | Pollutants Monitored | Inlet Height (m) |
|---|---|---|---|---|---|---|
| CM1 | St Georges Street | Kerbside | 394760, 222878 | Yes | $NO_2$ | 1.3 |

[9] Cheltenham Borough Council (2020), 2020 Annual Status Report

### Table 3.2 – Automatic Monitor CM1: $NO_2$ Annual Mean Concentrations

| Site ID | Valid Data Capture for 2019 (%) | $NO_2$ Annual Mean Concentration (µg/m³) | | | | |
|---|---|---|---|---|---|---|
| | | 2015 | 2016 | 2017 | 2018 | 2019 |
| CM1 | 97.3% | 35.0 | 34.0 | 36.0 | 32.7 | 36.0 |

### Table 3.3 – Automatic Monitor CM1: Number of $NO_2$ Hourly Means Exceedances

| Site ID | Valid Data Capture for 2018 (%) | Hourly Means in Excess of the 1-hour Objective (200 µg/m³) | | | | |
|---|---|---|---|---|---|---|
| | | 2015 | 2016 | 2017 | 2018 | 2019 |
| CM1 | 97.3 | 0 | 0 | 0 | 0 | 0 |

Whilst there were no recorded exceedances of either the annual mean or short term AQS objectives for $NO_2$ at CM1 between 2015 and 2019, annual mean $NO_2$ concentrations have been within 10% of the AQS objective limit in both 2017 and 2019. Hourly mean $NO_2$ concentrations recorded at CM1 have not reported an exceedance of 200µg/m³ within the past five years.

### 3.2.2 Local Non-Automatic Air Quality Monitoring

During 2019, the Council's non-automatic monitoring programme consisted of recording $NO_2$ concentrations using a network of 29 passive diffusion tubes – comprising 27 sites (with the provision of a triplicate co-location site). 25 of these locations are roadside sites and the remaining 2 are kerbside sites. Monitoring at Clarence Parade has been removed since 2018 and a new diffusion tube site installed (site 30) across the road on the same street, due to the diffusion tube often going missing at the original location.

The details of the diffusion tube monitoring within Cheltenham for 2019 are shown in Table 3.4, whereas results are presented in Table 3.4.

### Table 3.4 – Cheltenham Borough Council LAQM Diffusion Tube Monitoring

| Site ID | Site Location | Site Type | In AQMA | OS Grid Ref (X, Y) |
|---|---|---|---|---|
| 1 | Municipal Offices (Front) | R | Y | 394757, 222320 |
| 2 | Municipal Offices (Back) | R | Y | 394724, 222320 |
| 3 | Ladies College | R | Y | 394621, 222215 |
| 4 | 2 Gloucester Road | R | Y | 394237, 223006 |
| 5 | 422 High St | R | Y | 394350, 222923 |
| 6 | New Rutland | R | Y | 394738, 222888 |
| 7,8,9 | CM1 Co-location Study | R | Y | 394760, 222878 |
| 10 | 2 Swindon Road | K | Y | 394830, 222845 |
| 11 | Portland Street | R | Y | 395110, 222670 |
| 12 | Winchcombe/Fairview | R | Y | 395210, 222618 |
| 13 | Albion Street (outside no. 54) | K | Y | 395207, 222465 |
| 14 | 2 London Road | R | Y | 395362, 222000 |
| 15 | YMCA - High St | R | Y | 395182, 222183 |
| 16 | 8a Bath Road | R | Y | 395146, 222149 |
| 18 | 81 London Road | R | Y | 395660, 221670 |

| Site ID | Site Location | Site Type | In AQMA | OS Grid Ref (X, Y) |
|---|---|---|---|---|
| 19 | 264 Gloucester Road | R | Y | 393296, 222170 |
| 20 | 340 Gloucester Road | R | Y | 392912, 221862 |
| 21 | 14 Imperial Square | R | Y | 394809, 222060 |
| 22 | Hatherley Lane | R | Y | 391179, 221640 |
| 23 | St James Square | R | Y | 394577, 222424 |
| 24 | St Gregory's Church | R | Y | 394566, 222600 |
| 25 | St Georges Street | R | Y | 394708, 222763 |
| 26 | St Pauls Road | R | Y | 394902, 223004 |
| 27 | St Luke's College Road | R | Y | 395156, 221866 |
| 28 | Princess Elizabeth Way North | R | Y | 393081, 223643 |
| 29 | Princess Elizabeth Way South | R | Y | 392066, 222540 |
| 30 | Clarence Parade Alternative Location | R | Y | 394810, 222439 |

**Table 3.5 – Cheltenham Borough Council LAQM Diffusion Tube Monitoring**

| Site ID | Valid Data Capture for 2019 (%) | Annual Mean $NO_2$ Concentration (µg/m$^3$) | | | | |
|---|---|---|---|---|---|---|
| | | 2015 | 2016 | 2017 | 2018 | 2019 |
| 1 | 100.0 | - | - | 26.4 | 22.9 | 23.8 |
| 2 | 100.0 | - | - | 32.9 | 28.0 | 27.6 |
| 3 | 100.0 | 36.6 | 33.8 | 32.8 | 27.5 | 29.6 |
| 4 | 100.0 | **46.5** | **43.2** | **45.4** | **41.2** | **43.1** |
| 5 | 100.0 | **47.3** | **45.5** | **49.9** | **45.2** | **46.5** |
| 6 | 100.0 | **42.4** | **40.8** | **41.6** | 37.9 | **40.3** |
| 7,8,9 | 91.7 | 34.6 | 33.3 | 36.4 | 32.9 | 35.1 |
| 10 | 100.0 | 37.9 | 38.2 | 39.4 | 35.6 | 39.2 |
| 11 | 100.0 | 36.8 | 35.7 | 35.9 | 32.6 | 34.1 |
| 12 | 91.7 | 33.0 | 32.2 | 32.8 | 31.8 | 34.4 |
| 13 | 100.0 | - | - | 34.8 | 31.3 | 30.4 |
| 14 | 100.0 | **40.0** | 38.0 | 37.1 | 37.4 | 37.4 |
| 15 | 100.0 | 34.5 | 32.9 | 31.9 | 29.1 | 28.5 |
| 16 | 100.0 | **41.1** | 38.4 | 38.0 | 34.5 | 34.4 |
| 18 | 91.7 | **41.4** | 39.6 | 38.4 | 37.3 | 37.6 |
| 19 | 83.3 | 36.7 | 32.2 | 34.4 | 30.6 | 33.4 |
| 20 | 100.0 | 38.7 | 35.9 | 38.6 | 35.3 | 36.2 |
| 21 | 100.0 | - | - | - | 23.4 | 23.9 |
| 22 | 75.0 | - | - | - | 34.9 | 33.4 |
| 23 | 100.0 | - | - | - | 30.9 | 32.6 |
| 24 | 91.7 | - | - | - | 27.9 | 25.1 |
| 25 | 100.0 | - | - | - | 31.9 | 31.6 |
| 26 | 100.0 | - | - | - | 29.0 | 31.3 |
| 27 | 91.7 | - | - | - | 24.8 | 27.6 |
| 28 | 100.0 | - | - | - | 38.4 | 38.2 |

| Site ID | Valid Data Capture for 2019 (%) | Annual Mean $NO_2$ Concentration (µg/m$^3$) | | | | |
|---|---|---|---|---|---|---|
| | | 2015 | 2016 | 2017 | 2018 | 2019 |
| 29 | 100.0 | - | - | - | 31.2 | 33.7 |
| 30* | 58.3 | - | - | - | - | 31.6 |

**Notes**
* Annualisation performed due to data capture <75%
All values reported are bias adjusted as required and represent the monitoring location (i.e. absence of distance correction calculations)

Three monitoring locations (Sites 4, 5 and 6) reported annual mean $NO_2$ concentrations exceeding 40µg/m$^3$ in 2019. Sites 4 and 5 have consecutively reported annual mean $NO_2$ concentrations to be above 40µg/m$^3$ for the previous four years (2015 – 2018), whilst Site 6 reported exceedances in all but 2018, in which concentrations were within 10% of the AQS Objective. All three sites are located immediately north of Cheltenham Town Centre, along stretches of the A4019 – (Tewkesbury Road, High Street and Swindon Road) which connects to form a key arterial route to the M5 within the AQMA.

Site 5, within the AQMA, reported the highest annual mean $NO_2$ concentration within Cheltenham for 2019 (46.5µg/m$^3$) – a trend consistent since 2015, with concentrations peaking at 49.9µg/m$^3$ in 2017. Site 5 is situated along a façade of a residential property which immediately fronts onto a stretch of the A4019 (High Street), susceptible to congestion due to the convergence of high capacity and town centre roads (M5, A4019 – Tewkesbury Road, A4019 – High Street, A4019 – Swindon Road and High Street).

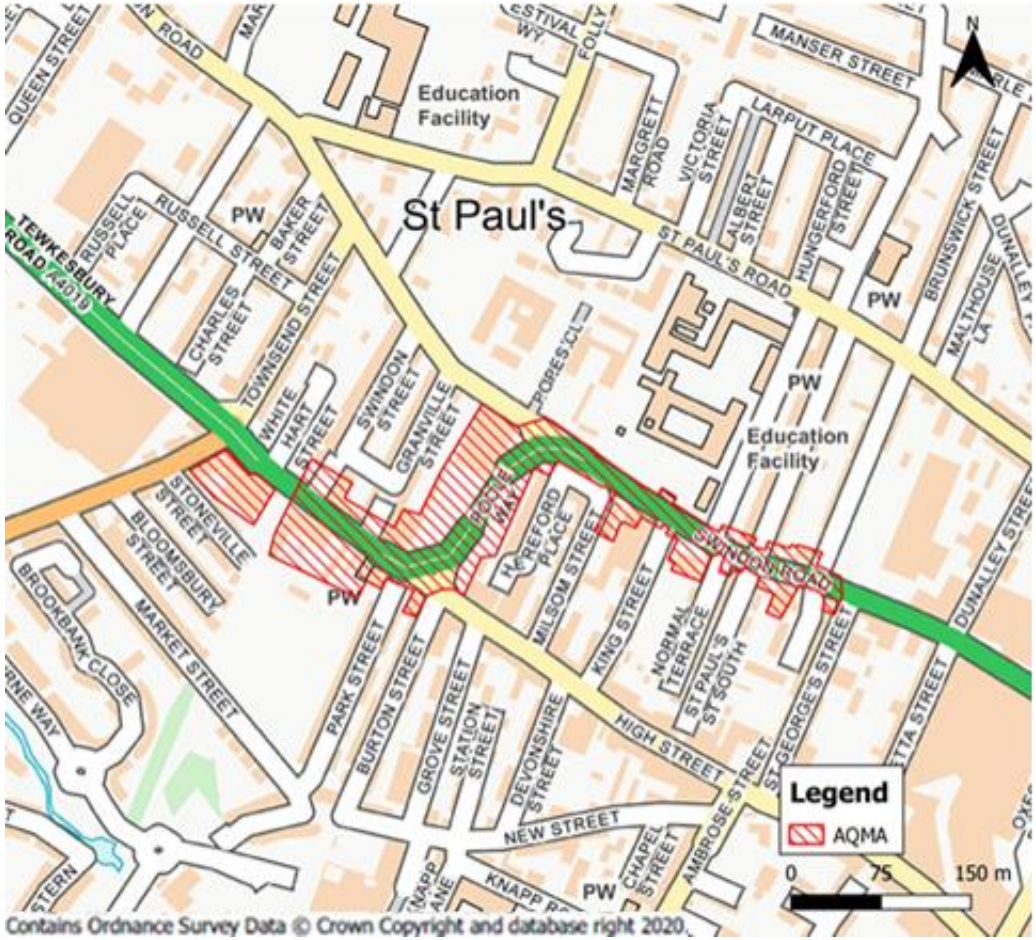
The empirical relationship given in LAQM.TG(16)[1] states that exceedances of the 1-hour mean objective for $NO_2$ is only likely to occur where annual mean concentrations are 60µg/m$^3$ or above at a location of relevant exposure (Table 2.1). This indicates that an exceedance of the 1-hour mean objective is unlikely to have occurred at these sites between 2015 and 2019.

Five monitoring locations (Site 10, 14, 18, 20 and 28) report annual mean $NO_2$ concentrations to be within 10% of the AQS objective limit for 2019. All five diffusion tubes are located adjacent to stretches of Cheltenham's main arterial road network.

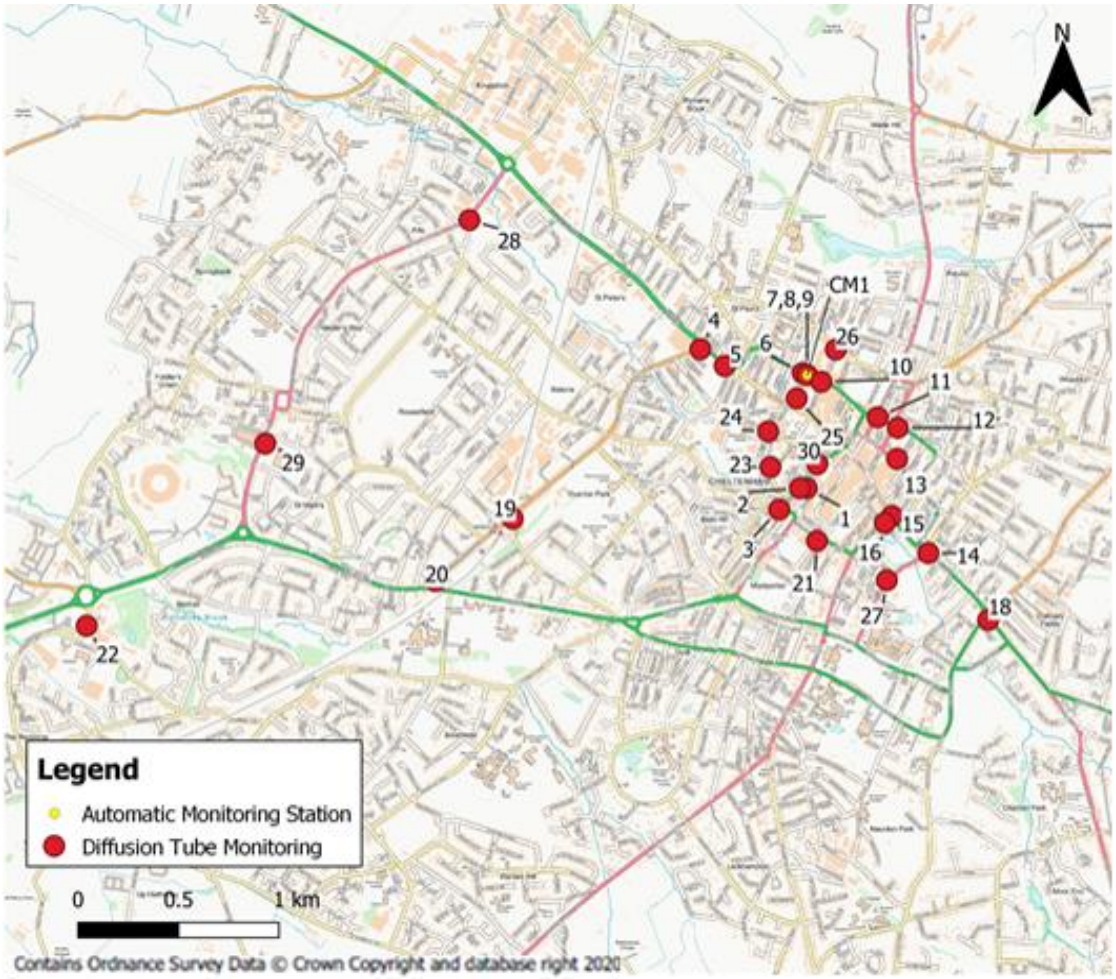
The results from the Council's 2019 monitoring programme demonstrate $NO_2$ annual mean concentrations across the borough to have stabilised below the AQS objective limit, with exceedances localised to areas of the main arterial road network, specifically the A4019 north of the town centre, London Road (A49), Princess Elizabeth Way (A4013) and the junction of Gloucester Road (B4633) with Lansdown Road (A40). This reaffirmed the need for revocation of the previous borough-wide AQMA and declaration of the current, more focused AQMA boundary in September 2020.

Cheltenham Borough Council AQMA boundary and all 2019 council-operated monitoring locations are presented in Figure 3-1 and Figure 3-2, respectively.

## Figure 3-1 - Cheltenham Borough Council AQMA Boundary



## Figure 3-2 – Local Monitoring Locations



## 3.3 Defra Background Concentration Estimates

Defra maintains a nationwide model of existing and future background air pollutant concentrations at a 1km x 1km grid square resolution. This data includes annual average concentration for $NO_x$, $NO_2$, $PM_{10}$ and $PM_{2.5}$, using a base year of 2018 (the year in which comparisons between modelled and monitoring are made)[10]. The model used to determine the background pollutant levels is semi-empirical in nature: it uses the National Atmospheric Emissions Inventory (NAEI) emissions to model the concentrations of pollutants at the centroid of each 1km grid square, but then calibrates these concentrations in relation to actual monitoring data.

Due to the absence of local background monitoring within Cheltenham, pollutant background concentrations used for the purposes of this assessment have been obtained from the Defra supplied background maps for the relevant 1km x 1km grid squares covering the modelled domain for the year 2019. The relevant annual mean background concentration will be added to the predicted annual mean road contributions in order to predict the total pollutant concentration at each receptor location. The total pollutant concentration can then be compared against the relevant AQS objective to determine the event of an exceedance.

The Defra mapped background concentrations for base year of 2019, which cover the modelled domain, are presented in Table B.1 of the Appendices. All of the mapped background concentrations presented are well below the respective annual mean AQS objectives.

[10] Defra Background Maps (2019), available at https://uk-air.defra.gov.uk/data/laqm-background-home

# 4 Assessment Methodology

To predict pollutant concentrations of road traffic emissions the atmospheric model ADMS Roads version 5.0.0.1 was used to model a 2019 baseline scenario. The guiding principles for air quality assessments as set out in the latest guidance and tools provided by Defra for air quality assessment (LAQM.TG(16)[1] have been used.

The approach used in this assessment has been based on the following:

- Prediction of $NO_2$ concentrations to which existing receptors may be exposed and comparison with the relevant AQS objectives;
- Quantification of relative $NO_2$ contribution of sources to overall $NO_2$ pollutant concentration; and
- Determination of the geographical extent of any potential exceedances in regard to the existing AQMA boundary.

## 4.1 Traffic Inputs

Traffic flows and vehicle class compositions for the 2019 baseline scenario were taken from the Gloucestershire County Council (GCC) roads traffic database and the Department for Transport (DfT) traffic count point database. The GCC monitoring programme comprises both permanent Automatic Traffic Count (ATC) and temporary survey points. Whilst data from the permanent count points was provided as annual average daily traffic, data for the temporary survey points was provided as average daily traffic. The Transport Officer at GCC advised it would be suitable to consider the average daily traffic data representative of typical flows.

On modelled road links where neither DfT nor GCC 2019 data was available, the 2017 traffic flows provided by GCC for the Detailed Assessment undertaken by Bureau Veritas in 2019 were used. A factor derived from the Government software TEMPro[11] was applied to predict 2019 concentrations from 2017 and it was assumed that the percentage of heavy goods vehicles in 2019 remained the same as those recorded in 2017.

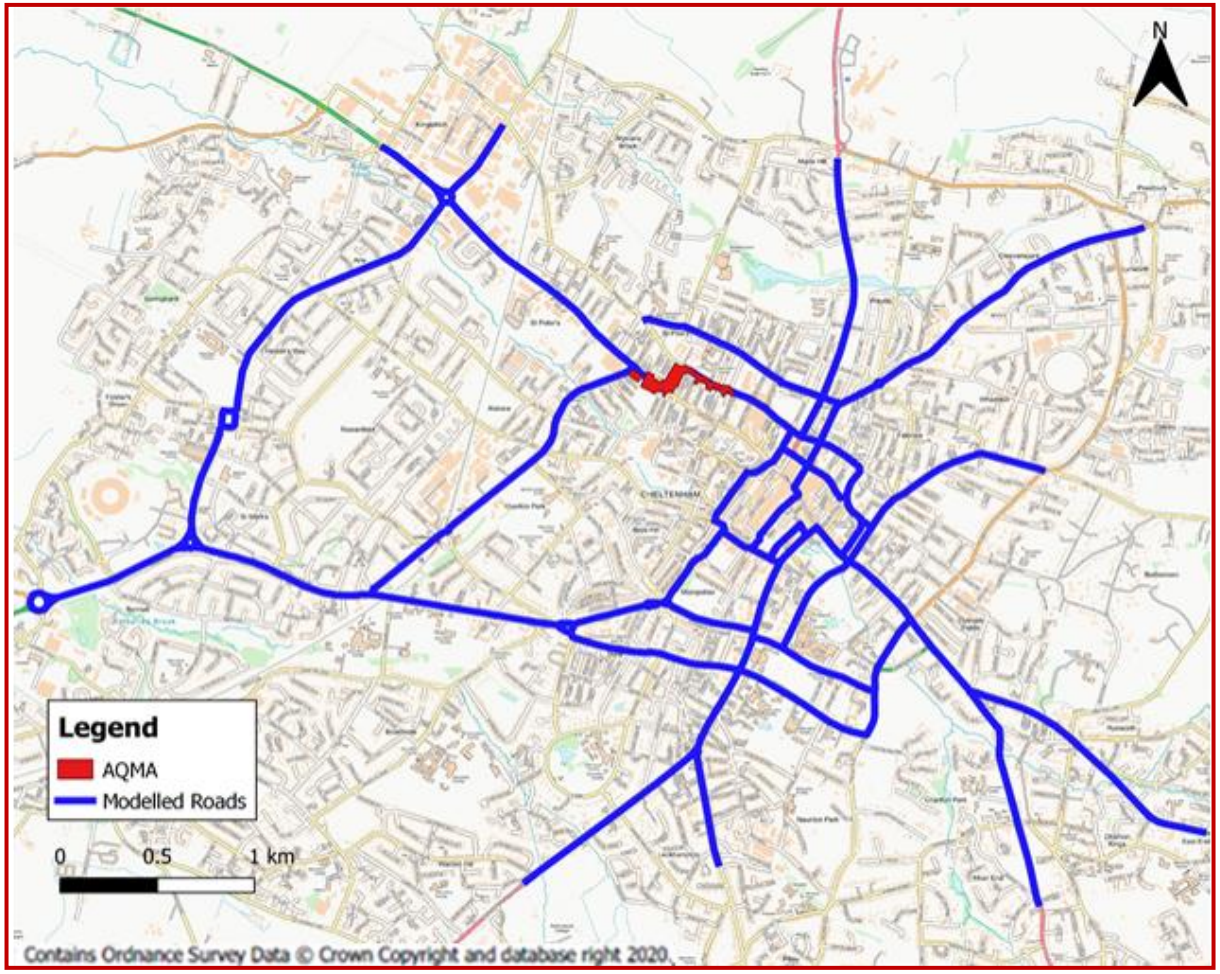
Traffic speeds were modelled at either the relevant speed limit for each road or, where available, monitored vehicle speeds provided by GCC. Where appropriate, vehicle speeds have been reduced in accordance with LAQM TG(16)[1] to simulate queues at junctions, traffic lights and other locations where queues or slower traffic are known to be an issue. Consultation with the Council has been undertaken throughout this process to identify areas where congestion is considered to be prevalent.

The Emissions Factors Toolkit (EFT) version 10.1 developed by Defra[12] has been used to determine vehicle emission factors for input into the ADMS-Roads model, based upon the traffic data inputs.

Details of the traffic flows used in this assessment are provided in Table C. 1 of the Appendices. The entire modelled road network across Cheltenham is presented in Figure 4-1.

[11] Department for Transport, TEMPro, available at: https://www.gov.uk/government/publications/tempro-downloads
[12] Defra, Emissions Factors Toolkit. https://laqm.defra.gov.uk/review-and-assessment/tools/emissions-factors-toolkit.html

## Figure 4-1 – City Wide Modelled Road Network



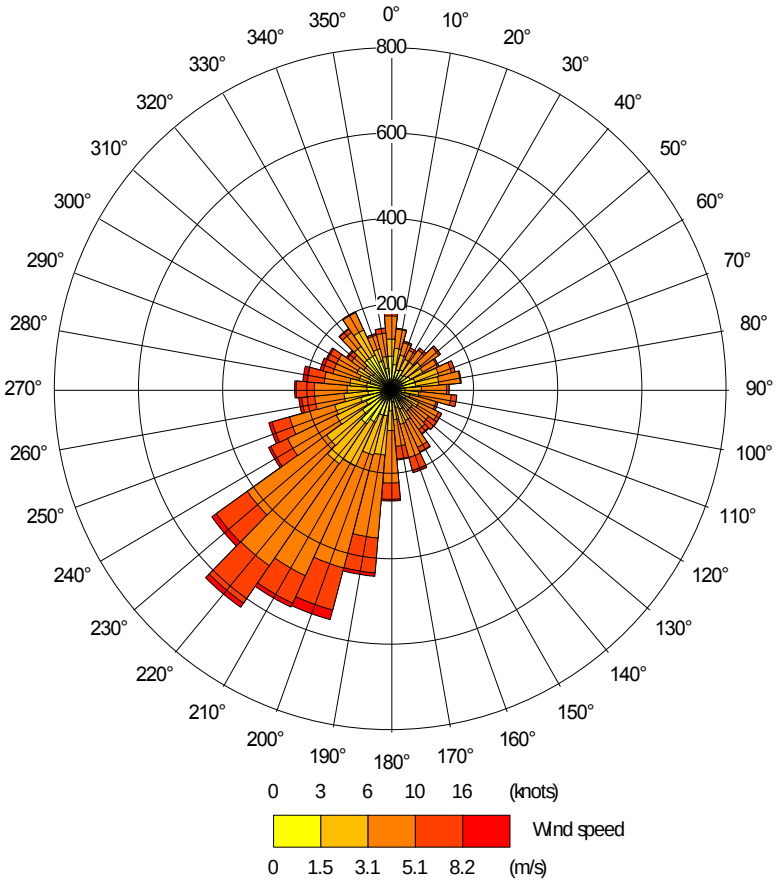
## 4.2 General Model Inputs

A site surface roughness value of 1 m was entered into the ADMS-roads model, consistent with the built-up nature of the modelled domain. In accordance with CERC's ADMS Roads User Guide[13], a minimum Monin-Obukhov length of 30 m was used for the ADMS Road model to reflect the urban topography of the model domain.

One year of hourly sequential meteorological data from a representative synoptic station is required by the dispersion model. 2019 meteorological data from Gloucestershire weather station has been used in this assessment. The station is located approximately 6.5 km west of Cheltenham town centre and is considered representative of the meteorological conditions experienced throughout the borough. A surface roughness value of 0.5 m was used for the area surrounding the meteorological station, more representative of the Gloucestershire airfield location.

A wind rose for this site for the year 2019 is shown in Figure 4-2.

**Figure 4-2 – Wind rose for Gloucestershire Data 2019**




Most dispersion models do not use meteorological data if they relate to calm winds conditions, as dispersion of air pollutants is more difficult to calculate in these circumstances. ADMS-Roads treats calm wind conditions by setting the minimum wind speed to 0.75m/s. It is recommended in LAQM.TG(16)[1] that the meteorological data file be tested within a dispersion model and the relevant output log file checked, to confirm the number of missing hours and calm hours that cannot be used

[13] CERC (2020), ADMS-Roads User Guide Version 5

by the dispersion model. This is important when considering predictions of high percentiles and the number of exceedances. LAQM.TG(16)[1] recommends that meteorological data should have a percentage of usable hours greater than 85%. If the data capture is less than 85% short-term concentration predictions should be expressed as percentiles rather than as numbers of exceedances. The 2019 meteorological data from Gloucestershire includes 8,666 lines of usable hourly data out of the total 8,760 for the year, i.e. 98.9% usable data. This is therefore suitable for the dispersion modelling exercise.

## 4.3 Sensitive Receptors

A total of 249 discrete receptors were included within the assessment to represent locations of relevant exposure. Details of the receptors are presented within Table D.1 of the Appendices and their locations are illustrated in Figure 4-3.

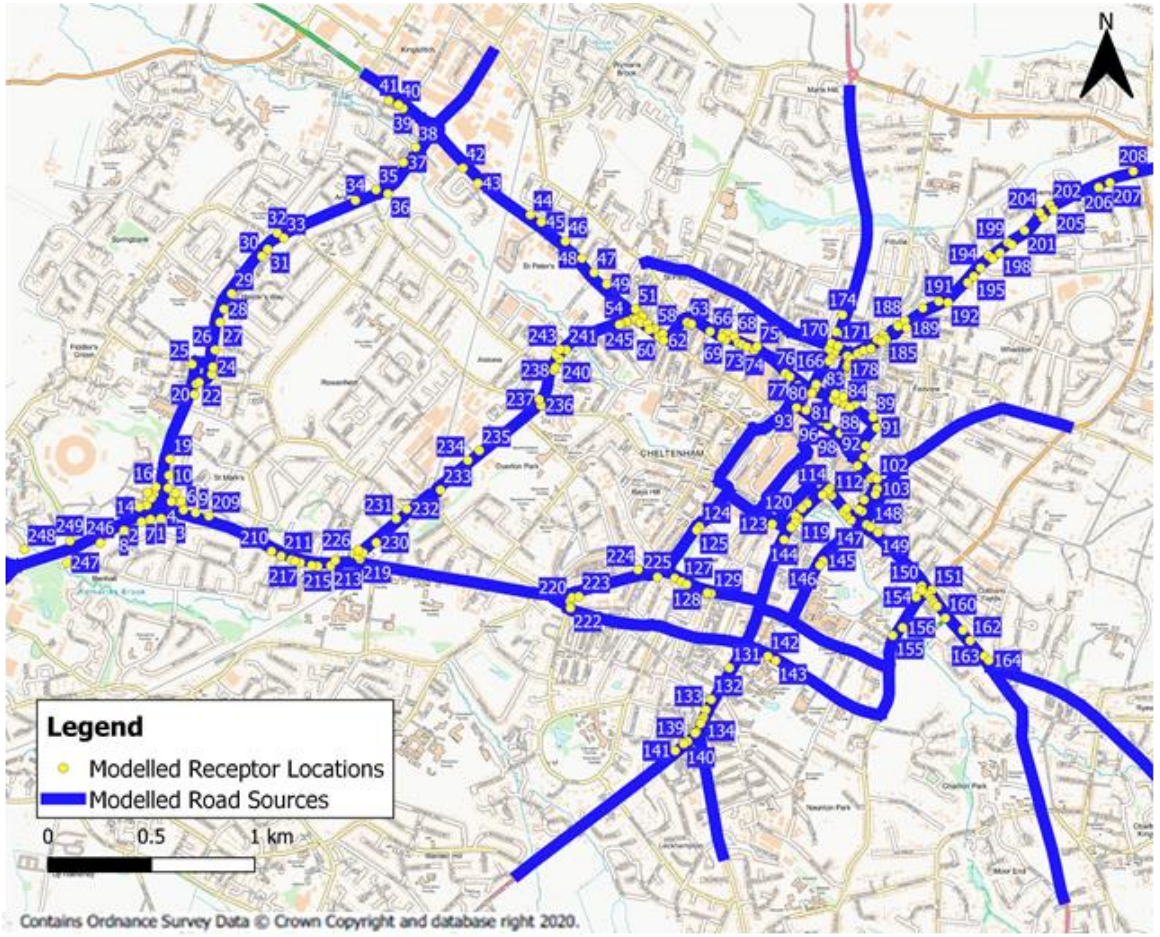
The majority of the receptors (169) were included at a height of 1.5 m to represent ground level exposure, whereas the remainder were included at various heights to represent relevant exposure relative to the adjacent modelled road link, e.g. where there is no residential use at ground level (Table 4.1).

Concentrations were also modelled across a regular gridded area, at a standardised height of 1.5m, covering the full extent of the model domain. The intelligent gridding option was applied to the ADMS-roads model meaning additional points were added at locations close to the roads for greater output resolution.

**Table 4.1 – Number of Receptors Included at Various Heights**

| Height (m) | Number of Receptors |
|---|---|
| 0.0 | 53 |
| 1.0 | 1 |
| 1.5 | 169 |
| 3.5 | 20 |
| 4.0 | 6 |

## Figure 4-3 – Receptor Locations Considered in the Assessment



## 4.4 Model Outputs

The background pollutant values discussed in Section 3.3 have been used in conjunction with the concentrations predicted by the ADMS-Roads model to calculate predicted total annual mean concentrations of $NO_x$.

For the prediction of annual mean $NO_2$ concentrations for the modelled scenarios, the output of the ADMS-Roads model for road $NO_x$ contributions has been converted to total $NO_2$ following the methodology in LAQM.TG(16)[1], using the $NO_x$ to $NO_2$ conversion tool developed on behalf of Defra. This tool also uses the total background $NO_x$ and $NO_2$ concentrations. This assessment has used version 8.1 (August 2020) of the $NO_x$ to $NO_2$ conversion tool[14]. The road contribution is then added to the appropriate $NO_2$ background concentration value to obtain an overall total $NO_2$ concentration.

For the prediction of short term $NO_2$ impacts, LAQM.TG(16)[1] advises that it is valid to assume that exceedances of the 1-hour mean AQS objective for $NO_2$ are only likely to occur where the annual mean $NO_2$ concentration is 60µg/m$^3$ or greater. This approach has thus been adopted for the purposes of this assessment.

In addition to annual mean concentrations, $NO_x$ source apportionment was carried out for the following vehicle classes:

- Cars;
- Light-Goods Vehicles (LGVs);
- Heavy-Goods Vehicles (HGVs);
- Bus and Coaches; and
- Motorcycles.

Verification of the ADMS-Roads assessment has been undertaken using a number of local authority diffusion tube monitoring locations. All $NO_2$ results presented in the assessment are those calculated following the process of model verification. Full details of the verification process are provided in Appendix A – ADMS Model Verification.

## 4.5 Uncertainty

Due to the number of inputs that are associated with the modelling of the study area there is a level of uncertainty that has to be taken into account when drawing conclusions from the predicted concentrations of $NO_2$. The predicted concentrations are based upon the inputs of traffic data, background concentrations, emission factors, street canyon calculations, meteorological data, modelling terrain limitations and the availability of monitoring data from the assessment area(s).

## 4.6 Uncertainty in $NO_x$ and $NO_2$ Trends

Recent studies have identified historical monitoring data within the UK that shows a disparity between measured concentration data and the projected decline in concentrations associated with emission forecasts for future years[15]. Ambient concentrations of $NO_x$ and $NO_2$ have shown two distinct trends over the past twenty-five years: (1) a decrease in concentrations from around 1996

[14] Defra $NO_x$ to $NO_2$ Calculator (2020), available at https://laqm.defra.gov.uk/review-and-assessment/tools/background-maps.html#NOxNO2calc
[15] Carslaw, D, Beevers, S, Westmoreland, E, Williams, M, Tate, J, Murrells, T, Steadman, J, Li, Y, Grice, S, Kent, Aand Tsagatakis, I. 2011, Trends in $NO_x$ and $NO_2$ emissions and ambient measurements in the UK, prepared for Defra, July 2011.

to 2002/04, followed by (2) a period of more stable concentrations from 2002/04 rather than the further decline in concentrations that was expected due to the improvements in vehicle emissions standards.

The reason for this disparity is related to the actual on-road performance of vehicles, in particular diesel cars and vans, when compared with calculations based on the Euro emission standards. Preliminary studies suggest the following:

- $NO_x$ emissions from petrol vehicles appear to be in line with current projections and have decreased by 96% since the introduction of 3-way catalysts in 1993;
- $NO_x$ emissions from diesel cars, under urban driving conditions, do not appear to have declined substantially, up to and including Euro 5. There is limited evidence that the same pattern may occur for motorway driving conditions; and
- $NO_x$ emissions from HDVs equipped with Selective Catalytic Reduction (SCR) are much higher than expected when driving at low speeds.

This disparity in the historical national data highlights the uncertainty of future year projections of both $NO_x$ and $NO_2$.

Defra and the Devolved Administrations have investigated these issues and have since published updated versions of the EFT that utilise COPERT 5 emission factors, which may go some way to addressing this disparity, but it is considered likely that a gap still remains. This assessment has utilised the latest EFT version 10.1 and associated tools published by Defra to help minimise any associated uncertainty when forming conclusions from the results.

# 5 Results

## 5.1 Modelled Concentrations

### 5.1.1 Baseline 2019 $NO_2$ Concentrations

The assessment has considered emissions of $NO_2$ from road traffic at 249 existing receptor locations representing locations of relevant exposure, and across a generic output grid covering the modelled area.

Table 5.1 provides a summary of the modelled receptors split into groups based on the predicted annual mean $NO_2$ concentration. It can be seen that of the 249 discrete receptors, 14 (5.6%) are predicted to be above the $NO_2$ annual mean AQS objective limit, with a further 26 (10.4%) within 10%.

**Table 5.1 – Summary of 2019 Modelled Receptor Results $NO_2$**

| Modelled $NO_2$ Concentration ($\mu g/m^3$) | Number of Receptors | Reference to the AQS Objective | Number of Receptors | % of Receptors |
|---|---|---|---|---|
| **>44** | 8 | **Above 40$\mu g/m^3$ AQS Objective** | **14** | **5.6%** |
| **40 - 44** | 6 | | | |
| 36 - 40 | 26 | Within 10% of AQS Objective | 26 | 10.4% |
| 32 - 36 | 58 | Below 36$\mu g/m^3$ AQS Objective | 209 | 83.9% |
| <32 | 151 | | | |

The highest annual mean $NO_2$ concentration was recorded at Receptor 60 with a concentration of 56.7$\mu g/m^3$. Receptor 60 is located along a façade of a residential property within the AQMA which immediately fronts onto a stretch of the A4019 – High Street, susceptible to congestion due to the convergence of high capacity and town centre roads (M5, A4019 – Tewkesbury Road, A4019 – High Street, A4019 – Swindon Road and High Street). The junction's role as a major strategic connection within the region is believed to be the cause of the elevated $NO_2$ annual mean concentrations predicted at Receptor 60.

The empirical relationship given in LAQM.TG(16)[1] states that exceedance of the 1-hour mean objective for $NO_2$ is only likely to occur where annual mean concentrations are 60 $\mu g/m^3$ or above. Given the $NO_2$ annual mean concentration recorded at Receptor 60 is below the hourly exceedance indicator (60$\mu g/m^3$), an exceedance of the hourly $NO_2$ AQS objective is unlikely at this location. In addition, on review of the annual mean $NO_2$ concentration isopleth presented in Figure 5-2 covering the modelled domain, there are no relevant locations with a modelled annual mean $NO_2$ concentration above 60$\mu g/m^3$, which suggests that an exceedance of the hourly $NO_2$ AQS objective is unlikely across the modelled area.

Figure 5-1 shows the locations of those receptors which are exceeding the 40$\mu g/m^3$ annual mean AQS objective and those receptors which are within 10% of the annual mean AQS objective (36 to 40$\mu g/m^3$). Based on these results, the following observations were made:

- Areas of exceedance or near exceedance of the annual mean $NO_2$ AQS objective were concentrated to roadside locations near junctions where key arterial roads meet, confirming vehicular traffic to be the main contributor to elevated levels of $NO_2$ concentrations within Cheltenham. Notable roads include: A4013 Princess Elizabeth Way, A4019 Tewkesbury Road, A4019 Swindon Road, A46 Berkeley Street, A46 Bath Road, and A46 London Road.

The following areas were identified to report modelled concentrations in exceedance of the annual mean $NO_2$ AQS objective:

- Within the existing AQMA, the continuous stretch of road spanning A4019 Tewkesbury Road, A4019 Poole Way and A4019 Swindon Road north of the Town Centre; and
- Along stretches of other arterial roads connecting to the Town Centre (A4013 Princess Elizabeth Way, Benhall Roundabout, A46 London Road/Berkley Street intersection, and A46 Shurdington Road).

The following additional areas were identified to report modelled concentrations within 10% of the AQS objective:

- A4019 Fairview Road, A46 Clarence Road and Albion Street;
- A46 London Road;
- Bath Road;
- A40 Lansdowne Road/Suffolk Road intersection;
- A40 Gloucester Road/B4633 Gloucester Road intersection;
- A4013 Princess Elizabeth Way/Marsland Road/Edinburgh Place intersection.

An expansion of the Council's monitoring network is recommended so as to include those locations outside of the AQMA that have been identified to have a modelled exceedance and/or near exceedance, in order to validate the modelled findings.

Monitoring sites within and/or adjacent to the locations identified to have a modelled exceedance and/or near exceedance outside of the declared AQMA area should be reviewed in order to validate predicted model findings.

A full set of concentration results for the discrete receptors used within the assessment is provided in Table D.1 of the Appendices. To provide further detail on the AQMA area, annual mean $NO_2$ concentrations were also predicted at generic gridded receptor locations (Figure 5-3).

**Figure 5-1 – Location of Discrete Receptors Predicted to be within 10% or Above the $NO_2$ Annual Mean AQS Objective**

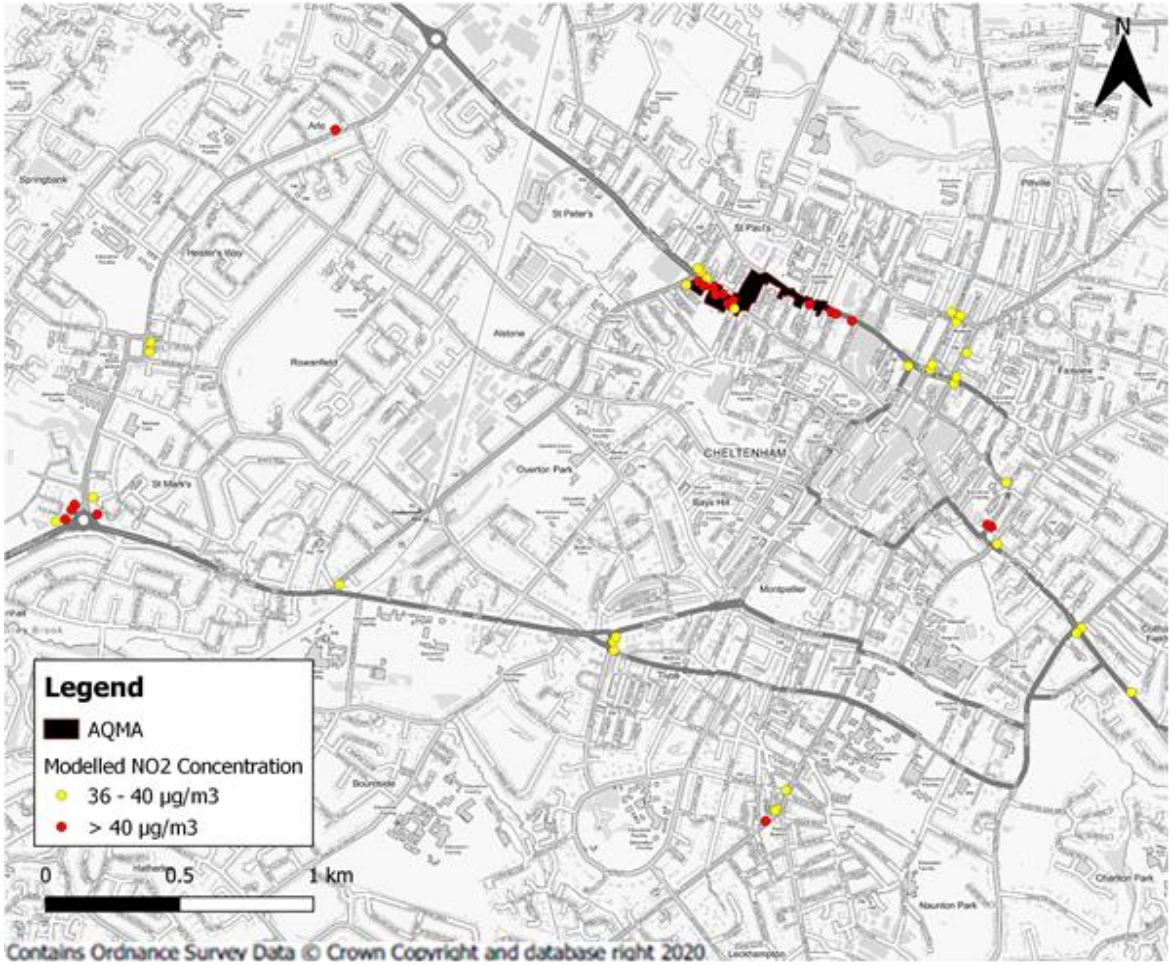


**Figure 5-2 – Annual Mean $NO_2$ Concentration Isopleths: Cheltenham**

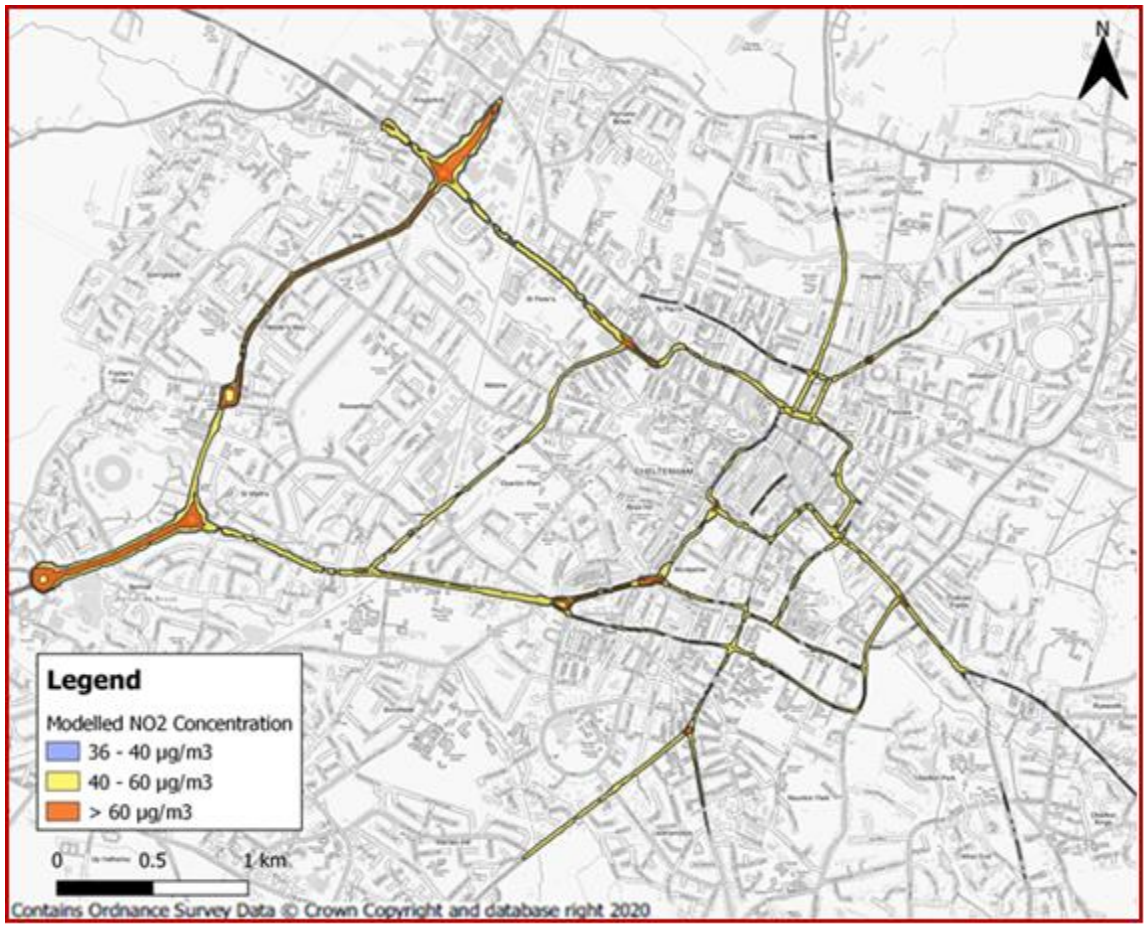
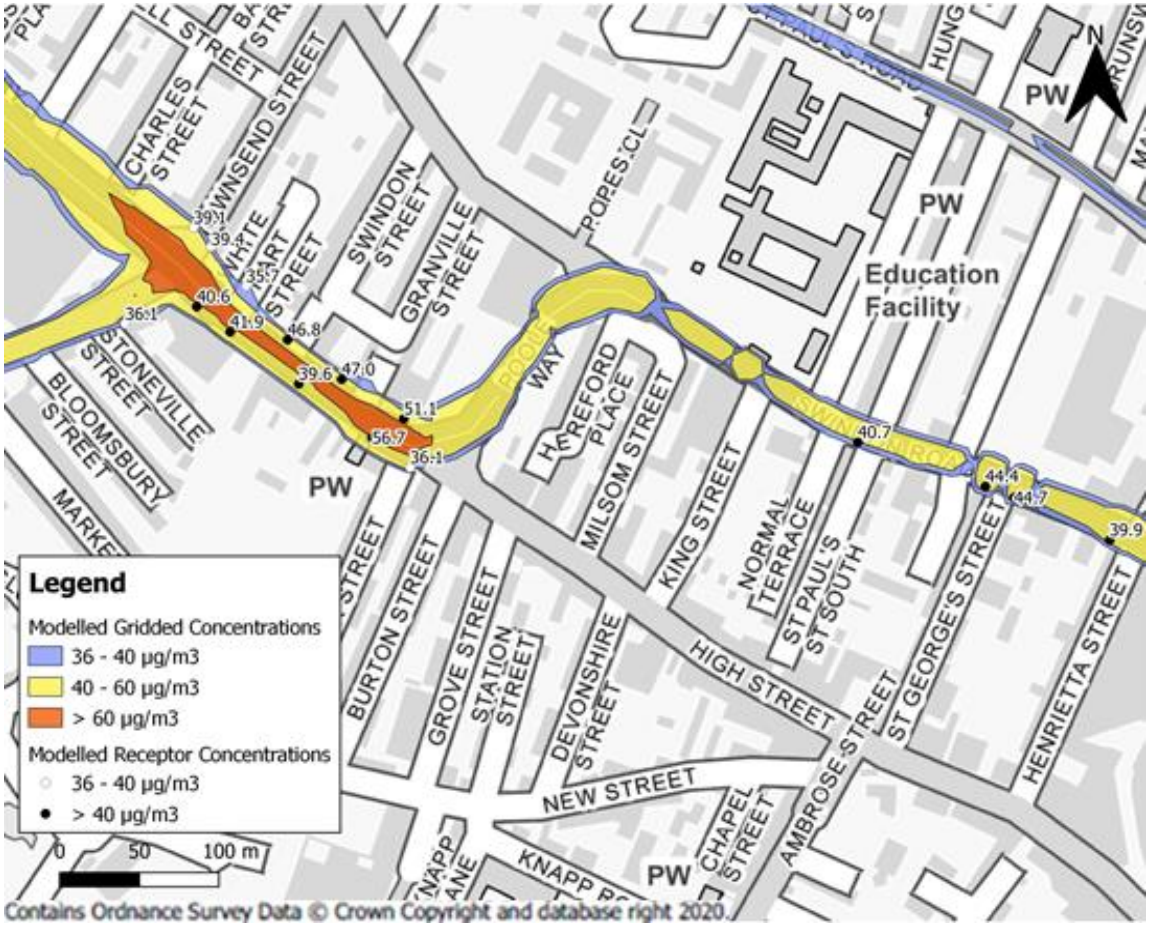


**Figure 5-3 – Annual Mean $NO_2$ Concentration Isopleths and Model Predictions at Discrete Receptor Locations within Declared AQMA**



## 5.2 Estimated Year of Compliance

Following the identification of exceedances of the AQS objectives, it is useful to provide an estimate of the year by which concentrations at the identified locations of exceedances will become compliant with the relevant AQS objective. This is initially provided below assuming only the trends for future air quality, as currently predicted by Defra, are realised. The implementation of specific intervention measures to mitigate the local air quality issues, as are currently being developed by the Council within a revised AQAP, would then be considered most likely to bring forwards the estimated date of compliance.

Following the methodology outlined in LAQM.TG(16)[1] paragraph 7.70 onward, the year by which concentrations at the identified locations of exceedances will become compliant with the $NO_2$ annual mean AQS objective has been estimated. This has been completed using the predicted modelled $NO_2$ concentrations from the 2019 Base scenario.

As a worst-case approach, the projection is based upon the receptor predicted as having the maximum annual mean $NO_2$ concentration, which in this case is Receptor 60. The appropriate roadside $NO_2$ projection factors, as provided on the LAQM Support website[16], are then applied to this concentration value to ascertain the estimated $NO_2$ annual mean reduction per annum, and hence the anticipated year of compliance. In this case, roadside projection factors for 'Rest of UK (HDV <10%)' have been applied, consistent with the worst-case receptor location.

The projected $NO_2$ annual mean concentrations following the above approach are presented in Table 5.2.

**Table 5.2 – Projected Annual Mean $NO_2$ Concentrations**

| Receptor 60 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **2019 Annual Mean Concentration (µg/m³)** | **Predicted Annual Mean Concentration (µg/m³)** | | | | | | | | |
| | **2020** | **2021** | **2022** | **2023** | **2024** | **2025** | **2026** | **2027** | **2028** |
| **56.7** | **53.9** | **50.9** | **48.0** | **45.5** | **43.1** | **40.8** | 38.8 | 37.0 | 35.4 |
| In **bold**, exceedance of the $NO_2$ annual mean AQS objective of 40µg/m³<br>Vehicle Adjustment Factor = Rest of UK (HDV <10%) | | | | | | | | | |

Table 5.2 indicates that the first year by which Receptor 60 will be exposed to a concentration below the annual mean $NO_2$ AQS objective will be 2026. Additionally, it is expected that concentrations are expected to drop below 10% of the annual mean $NO_2$ AQS objective by 2028. 2026 is therefore considered the predicted year of compliance for those receptors used within the model, which are believed to represent worst case exposure within Cheltenham, in the absence of the implementation of any specific intervention measures to further bring forward local air quality improvements in the area.

## 5.3 Source Apportionment

To help inform the development of measures as part of the action plan stage of the project, a $NO_x$ source apportionment exercise was undertaken for the following vehicle classes:

[16] https://laqm.defra.gov.uk/tools-monitoring-data/roadside-no2-projection-factor.html

- Cars;
- Light-Goods Vehicles (LGVs);
- Heavy-Goods Vehicles (HGVs);
- Bus and Coaches; and
- Motorcycles.

This will provide vehicle emission proportions of $NO_x$ that will allow the Council to design specific AQAP measures targeting a reduction in emissions from specific vehicle types.

It should be noted that 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 $NO_2$. 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 $NO_2$.

Table 5.3 and Table 5.4 detail the source apportionment results for NOx concentrations at modelled receptors for three scenarios:

- The average $NO_x$ contributions across all modelled receptors. This provides useful information when considering possible action measures to test and adopt. It will however understate road $NO_x$ concentrations in problem areas;
- 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; and
- 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 however 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 $NO_x$ (53.7µg/m$^3$), with background accounting for 18.3µg/m$^3$ (34.1%);
- Of the total road $NO_x$, Cars are highest contributing vehicle class accounting for 56.2% (19.9µg/m$^3$);
- LGVs are found to be the second highest contributing vehicle class accounting for 27.4% (9.7µg/m$^3$);
- HGVs and Buses account for similar total road $NO_x$ (HGVs – 7.7% (2.7µg/m$^3$) and Buses 8.6% (3.0µg/m$^3$)); 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 found:

- The predicted road traffic $NO_x$ percentage contribution is similar in comparison to all receptor locations, accounting for 70.4% (48µg/m$^3$) of the total $NO_x$ (68.3µg/m$^3$), with the background component percentage contribution 29.6% (20.2µg/m$^3$);

- 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/m$^3$);

- LGVs are similarly found to be the second highest contributing vehicle class, with a consistent percentage weighting observed (28.6% (13.7µg/m$^3$));

- 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/m$^3$)) - 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/m$^3$) 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/m$^3$) of the total averaged $NO_x$ (112.6µg/m$^3$) – 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$^3$). 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/m$^3$). This observed percentage contribution is consistent with observations found across the whole domain and within the AQMA;

- HGVs account for 8.2% (7.5µg/m$^3$) 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

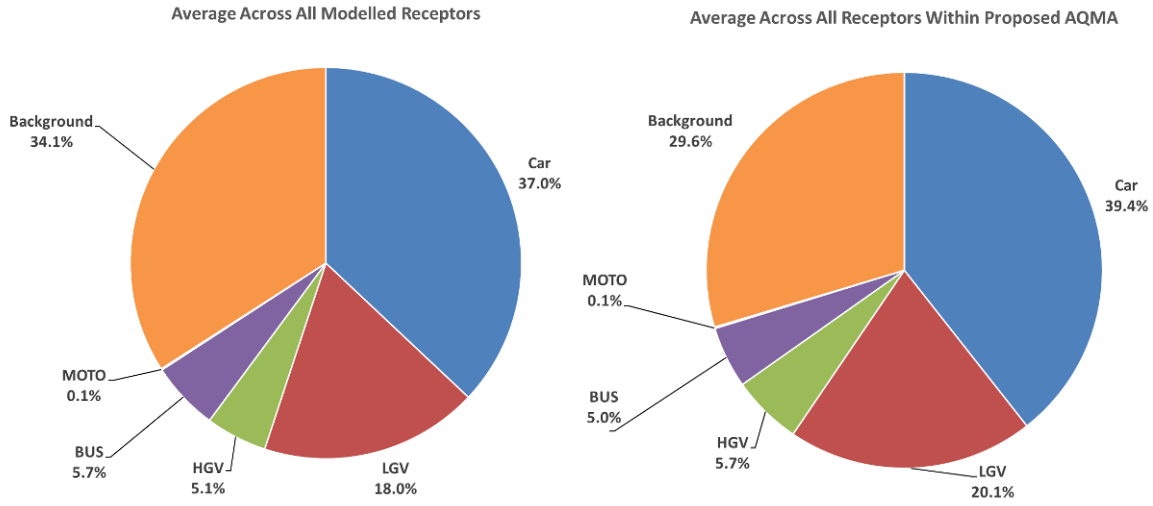
and HGV total road $NO_x$ contributions within the AQMA is owed to the strategic road network the area of exceedance is centred on (i.e. the A4019 – Tewkesbury Road, A4019 – High Street, A4019 – Swindon Road and High Street) – which connects the M5 (among other high capacity roads) to the Town Centre.

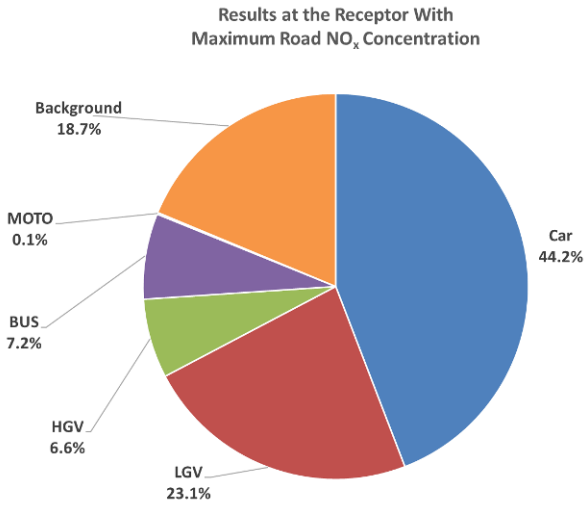
However, whilst taking the above into consideration, the observed variance in percentage contributions between vehicle classes largely didn't disrupt the observed ranking of contributing vehicle class exhibited throughout all scenarios. This suggests volume of traffic is considered to be the key contributor to elevated levels of $NO_2$ annual mean concentrations within the AQMA.

## Table 5.3 – 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 $NO_x$ 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 | - |

## Table 5.4 – Detailed Source Apportionment of $NO_x$ Concentrations




Results at the Receptor With
Maximum Road NOx Concentration
Background
18.7%
MOTO
0.1%
BUS
7.2%
HGV
6.6%
LGV
23.1%
Car
44.2%

# 6 Conclusions and Recommendations

The dispersion modelling exercise undertaken has provided the following updated perspective on $NO_2$ challenges within Cheltenham Town Centre and its associated strategic roads.

## 6.1 Predicted Concentrations

The model suggests that the 40µg/m$^3$ $NO_2$ annual mean AQS objective is exceeded at a total of 14 (5.6 %) receptor locations, with 26 (10.4 %) further locations within 10 % of the objective.

All of receptors reporting $NO_2$ annual mean concentrations to be above or within 10 % of the AQS objective limit are either located within the existing AQMA or are concentrated to roadside locations of junctions where key arterial roads meet and form the main transportation network within the region.

The highest annual mean concentration of $NO_2$ was recorded at Receptor 60 with a concentration of 56.7µg/m$^3$. Receptor 60 is located along a façade of a residential property which immediately fronts onto a stretch of the A4019 – High Street. This location is susceptible to congestion due to the convergence of high capacity and town centre roads (M5, A4019 – Tewkesbury Road, A4019 – High Street, A4019 – Swindon Road and High Street).

The empirical relationship given in LAQM.TG(16)[1] states that exceedances of the 1-hour mean objective for $NO_2$ is only likely to occur where annual mean concentrations are 60µg/m$^3$ or above at a location of relevant exposure (Table 2.1). Given the $NO_2$ annual mean concentration recorded at all receptors is below 60µg/m$^3$, exceedances of the hourly $NO_2$ AQS objective are unlikely.

The following areas were identified to report modelled concentrations in exceedance of the annual mean $NO_2$ AQS objective:

- Within the existing AQMA, the continuous stretch of road spanning A4019 Tewkesbury Road, A4019 Poole Way and A4019 Swindon Road north of the Town Centre; and
- Along stretches of other arterial roads connecting to the Town Centre (A4013 Princess Elizabeth Way, Benhall Roundabout, A46 London Road/Berkley Street intersection, and A46 Shurdington Road).

The following additional areas were identified to report modelled concentrations within 10% of the AQS objective:

- A4019 Fairview Road, A46 Clarence Road and Albion Street;
- A46 London Road;
- Bath Road;
- A40 Lansdowne Road/Suffolk Road intersection;
- A40 Gloucester Road/B4633 Gloucester Road intersection;
- A4013 Princess Elizabeth Way/Marsland Road/Edinburgh Place intersection.

An expansion of the Council's monitoring network is intended so as to include those locations outside of the AQMA that have been identified to have a modelled exceedance and/or near exceedance, in order to validate the modelled findings.

$PM_{10}$ and $PM_{2.5}$ concentrations have also been predicted as part of the modelling assessment. No modelled receptors recorded concentrations in exceedance of either of the annual mean objectives for these pollutants. The highest modelled $PM_{10}$ concentration was 22.1µg/m³ at R60. The highest modelled $PM_{2.5}$ concentration was 14.3µg/m³ at R60.

## 6.2 Source Apportionment

To help inform the development of measures as part of a future AQAP, a $NO_x$ source apportionment exercise was undertaken to provide an understanding of any potential similarities in vehicle emission contributors within the AQMA.

The $NO_x$ source apportionment exercise demonstrates a largely consistent ranking of contributing vehicle class exhibited throughout all scenarios (Cars, LGVs, HGVs, Buses and Coaches and Motorcycles), where Cars and LGVs are found to be the main contributors to total road $NO_x$ concentrations across Cheltenham.

Whilst comparing modelled contributions at the identified worst-case receptor location within the AQMA (Receptor 60) against the wider modelled domain, cars were observed to employ a slightly reduced influence total road $NO_x$ concentrations within the AQMA. Whilst increases to total road $NO_x$ contributions from LGVs, HGVs and buses were observed. The increase in contributions from these vehicle types to total road $NO_x$ within the AQMA is owed to the arterial 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.

## 6.3 Future Recommendations

Following the completion of the detailed modelling assessment, the following recommendations are made:

- Continue to monitor $NO_2$ across the Borough;
- Deploy and/or relocate existing monitoring within the Borough to the other locations predicted to be in exceedance, or near exceedance, of the $NO_2$ annual mean AQS objective limit, in order to validate modelled findings; and
- Based on source apportionment results, any future intervention measures should be targeted at reducing vehicle emissions from all vehicle types, notably Cars and LGVs, which are both observed to be the two largest contributors to total vehicle emissions in areas of exceedance.

Following the modelling exercise, it is hoped that the following topics can be discussed with air quality stakeholders to aid development of the AQAP:

- Possible action plan measures being considered by the Council; and
- Ability to test the effects of these measures using the current dispersion model set up.

# Appendices

# Appendix A – ADMS Model Verification

The ADMS-Roads dispersion model has been widely validated for this type of assessment and is specifically listed in the Defra's LAQM.TG(16)[1] guidance as an accepted dispersion model.

Model validation undertaken by the software developer (CERC) will not have included validation in the vicinity of the proposed development site. It is therefore necessary to perform a comparison of modelled results with local monitoring data at relevant locations. This process of verification attempts to minimise modelling uncertainty and systematic error by correcting modelled results by an adjustment factor to gain greater confidence in the final results.

The predicted results from a dispersion model may differ from measured concentrations for a large number of reasons, including uncertainties associated with:

- Background concentration estimates;
- Source activity data such as traffic flows and emissions factors;
- Monitoring data, including locations; and
- Overall model limitations.

Model verification is the process by which these and other uncertainties are investigated and where possible minimised. In reality, the differences between modelled and monitored results are likely to be a combination of all of these aspects.

Model setup parameters and input data were checked prior to running the models in order to reduce these uncertainties. The following were checked to the extent possible to ensure accuracy:

- Traffic data;
- Distance between sources and monitoring as represented in the model;
- Speed estimates on roads;
- Background monitoring and background estimates; and
- Monitoring data.

The traffic data for this assessment has been collated using a combination of data provided by the highways department at GCC and DfT traffic count data, as outlined in Section 4.1.

During 2019, concentrations of $NO_2$ were monitored at 27 sites across Cheltenham, comprising 29 diffusion tubes and one continuous monitor (CM1), with the provision of a triplicate colocation study (Table A.1) – all undertaken at roadside/kerbside locations. The following six passive monitoring locations tubes were sited outside of the modelled road network so were therefore removed from the verification:

- Site 1;
- Site 3;
- Site 22;

- Site 23;
- Site 24; and
- Site 25.

The details of the LAQM monitoring sites considered for the purposes of model verification are presented in Table A.1 below.

**Table A.1 – Local Monitoring Data Available for Model Verification**

| Site ID | OS Grid Reference | | 2019 Annual Mean $NO_2$ Concentration ($\mu g/m^3$) | 2019 Data Capture (%) |
|---|---|---|---|---|
| | X | Y | | |
| 2 | 394724 | 222320 | 27.6 | 100 |
| 4 | 394237 | 223006 | 43.1 | 100 |
| 5 | 394350 | 222923 | 46.5 | 100 |
| 6 | 394738 | 222888 | 40.3 | 100 |
| 7,8,9 | 394760 | 222878 | 35.1 | 91.7 |
| 10 | 394830 | 222845 | 39.2 | 100 |
| 11 | 395110 | 222670 | 34.1 | 100 |
| 12 | 395210 | 222618 | 34.4 | 91.7 |
| 13 | 395207 | 222465 | 30.4 | 100 |
| 14 | 395362 | 222000 | 37.4 | 100 |
| 15 | 395182 | 222183 | 28.5 | 100 |
| 16 | 395146 | 222149 | 34.4 | 100 |
| 18 | 395660 | 221670 | 37.6 | 91.7 |
| 19 | 393296 | 222170 | 33.4 | 83.3 |
| 20 | 392912 | 221862 | 36.2 | 100 |
| 21 | 394809 | 222060 | 23.9 | 100 |
| 26 | 394902 | 223004 | 31.3 | 100 |
| 27 | 395156 | 221866 | 27.6 | 91.7 |
| 28 | 393081 | 223643 | 38.2 | 100 |
| 29 | 392066 | 222540 | 33.7 | 100 |
| 30 | 394810 | 222439 | 31.6* | 58.3 |
| CM1 | 394760 | 222878 | 36.0 | 97.3 |

*Annualised concentration.

## $NO_2$ Verification Calculations

The verification of the modelling output was performed in accordance with the methodology provided in Chapter 7 of LAQM.TG(16)[1].

For the verification and adjustment of $NO_x/NO_2$, the 2019 monitoring data presented in Table A.1 was used. One passive monitoring location (Site 30) reported data capture to be below 75% for the duration of 2019, with annualisation subsequently performed to derive the reported $NO_2$ annual mean concentration.

Site 19 was removed from the verification process as the results presented were anomalous and it was not possible to confirm the location of the monitoring following a desktop review. In addition, passive monitoring location 7,8,9 has also been removed from the verification process due to being co-located with continuous monitor CM1. As a bias adjustment factor derived from CM1 was used to adjust all diffusion tubes in 2019, it is considered that the $NO_2$ concentration recorded by CM1 is more representative of the location than that at 7,8,9 and the automatic monitoring is generally considered more reliable than diffusion tube monitoring.

Verification was completed using the 2019 (2018 reference year) Defra background mapped concentrations for the relevant 1km x 1km grid squares within Cheltenham (i.e. those within which the model verification locations are located), as displayed in Table B.1 of the Appendices.

Table A.2 below shows an initial comparison of the monitored and unverified modelled $NO_2$ results for the year 2019, in order to determine if verification and adjustment was required.

**Table A.2 – Comparison of Unverified Modelled and Monitored $NO_2$ Concentrations**

| Site ID | Background $NO_2$ | Monitored total $NO_2$ (µg/m$^3$) | Unverified Modelled total $NO_2$ (µg/m$^3$) | Difference (modelled vs. monitored) (%) |
|---|---|---|---|---|
| CM1 | 15.3 | 36.0 | 20.8 | -42.2 |
| 2 | 15.3 | 27.6 | 18.5 | -32.9 |
| 4 | 12.1 | 43.1 | 20.6 | -52.3 |
| 5 | 15.3 | 46.5 | 23.0 | -50.7 |
| 6 | 15.3 | 40.3 | 21.3 | -47.0 |
| 10 | 15.3 | 39.2 | 20.7 | -47.3 |
| 11 | 14.2 | 34.1 | 21.3 | -37.8 |
| 12 | 14.2 | 34.4 | 19.1 | -44.4 |
| 13 | 14.2 | 30.4 | 17.3 | -43.2 |
| 14 | 12.9 | 37.4 | 21.5 | -42.5 |
| 15 | 14.2 | 28.5 | 20.1 | -29.4 |
| 16 | 14.2 | 34.4 | 21.6 | -37.2 |
| 18 | 12.9 | 37.6 | 22.8 | -39.5 |
| 20 | 12.6 | 36.2 | 18.9 | -47.9 |
| 21 | 15.3 | 23.9 | 19.5 | -18.5 |
| 26 | 12.1 | 31.3 | 15.5 | -50.5 |
| 27 | 12.9 | 27.6 | 18.2 | -33.9 |
| 28 | 14.3 | 38.2 | 20.0 | -47.7 |
| 29 | 12.6 | 33.7 | 17.5 | -48.0 |
| 30 | 15.3 | 31.6 | 18.6 | -41.3 |

The data in the table above shows that the model was under predicting at all verification points, with the highest under prediction between the modelled and monitored concentrations observed at Site 4 (-52.3 %). At this stage all model inputs were checked to ensure their accuracy, this includes road and monitoring sire geometry, traffic data, link emission rates, 2019 monitoring results, background concentrations and modelling features such as street canyons. Following a level of QA/QC completed upon the model, no further improvement of the modelled results could be obtained on this occasion. The difference between modelled and monitored concentrations was greater than -25% at the majority of locations, therefore adjustment of the results was necessary. The relevant data was then gathered to allow the adjustment factor to be calculated.

It was also decided that, for the purpose of verification, the model domain would be split into two distinct areas, in order to improve the robustness of the verification factors output and provide a more location specific factor for the AQMA. They are shown in

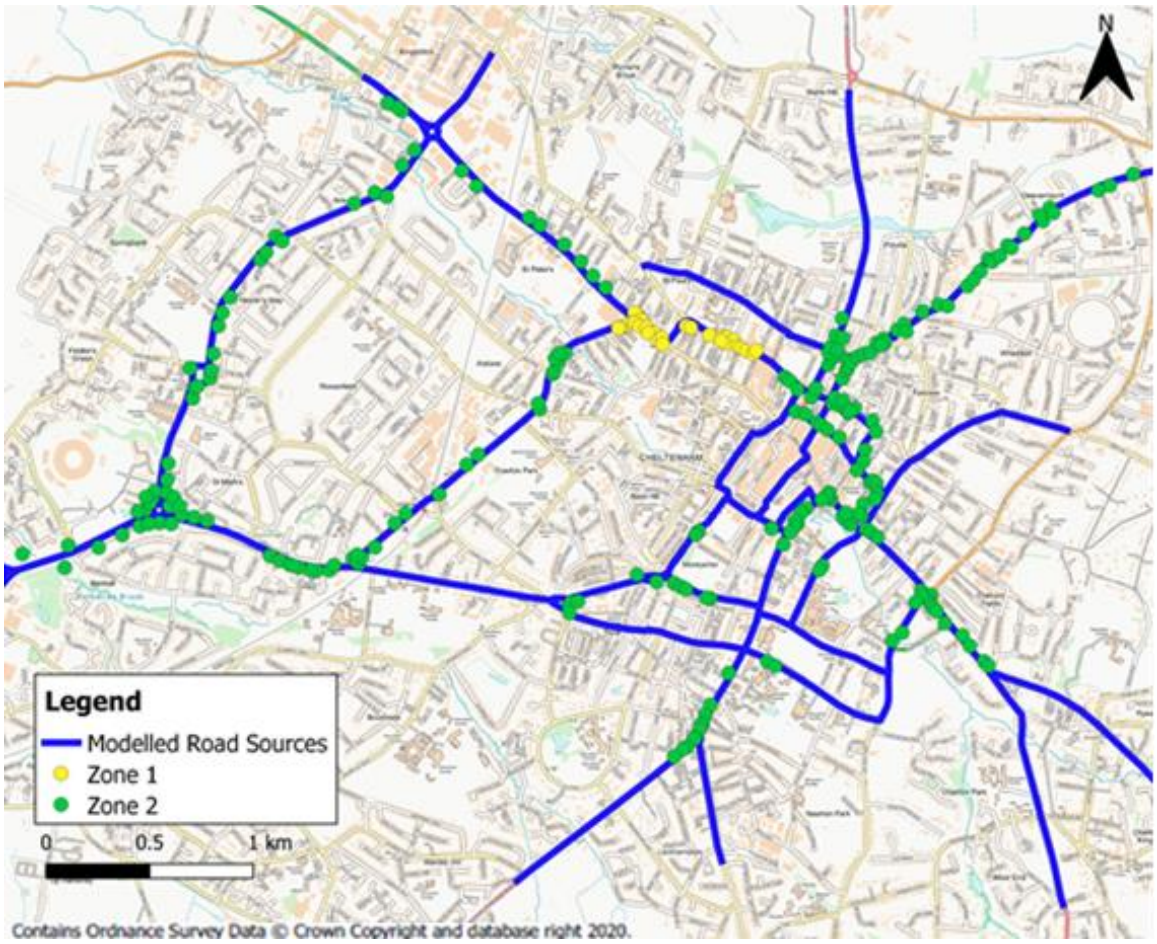
Figure A.1, and are listed as follows:

- Zone 1 – Areas within and surrounding the AQMA; and
- Zone 2 – All other areas within the model domain.

Model adjustment needs to be undertaken based on $NO_x$ and not $NO_2$. For the Council operated monitoring results used in the calculation of the model adjustment, $NO_x$ was derived from $NO_2$; these calculations were undertaken using a spreadsheet tool available from the LAQM website[17].

[17] http://laqm.defra.gov.uk/review-and-assessment/tools/background-maps.html#NOxNO2calc

## Figure A.1 – Verification Zones



## Zone 1 Verification (AQMA)

Table A.3 provides the relevant data required for Zone 1 to calculate the model adjustment based on regression of the modelled and monitored road source contribution to $NO_x$.

Figure A.2 provides a comparison of the Modelled Road Contribution $NO_x$ versus Monitored Road Contribution $NO_x$, and the equation of the trend line based on linear regression through zero. The Total Monitored $NO_x$ concentration has been derived by back-calculating $NO_x$ from the $NO_x/NO_2$ empirical relationship using the spreadsheet tool available from Defra's website. The equation of the trend lines presented in Figure A.2 gives an adjustment factor for the modelled results of 4.588.

**Table A.3 – Data Required for Adjustment Factor Calculation – Zone 1**

| Site ID | Monitored total $NO_2$ ($\mu g/m^3$) | Monitored total $NO_x$ ($\mu g/m^3$) | Background $NO_2$ ($\mu g/m^3$) | Background $NO_x$ ($\mu g/m^3$) | Monitored road contribution $NO_2$ (total - background) ($\mu g/m^3$) | Monitored road contribution $NO_x$ (total - background) ($\mu g/m^3$) | Modelled road contribution $NO_x$ (excludes background) ($\mu g/m^3$) |
|---|---|---|---|---|---|---|---|
| CM1 | 36.0 | 62.5 | 15.3 | 21.1 | 20.7 | 41.4 | 10.3 |
| DT4 | 43.1 | 80.3 | 12.1 | 16.2 | 30.9 | 64.0 | 13.0 |
| DT5 | 46.5 | 86.8 | 15.3 | 21.1 | 31.2 | 65.7 | 14.4 |
| DT6 | 40.3 | 72.0 | 15.3 | 21.1 | 25.0 | 50.9 | 11.3 |
| DT10 | 39.2 | 69.7 | 15.3 | 21.1 | 23.9 | 48.6 | 10.1 |

**Figure A.2 – Zone 1 Comparison of the Modelled Road Contribution $NO_x$ versus Monitored Road Contribution $NO_x$**

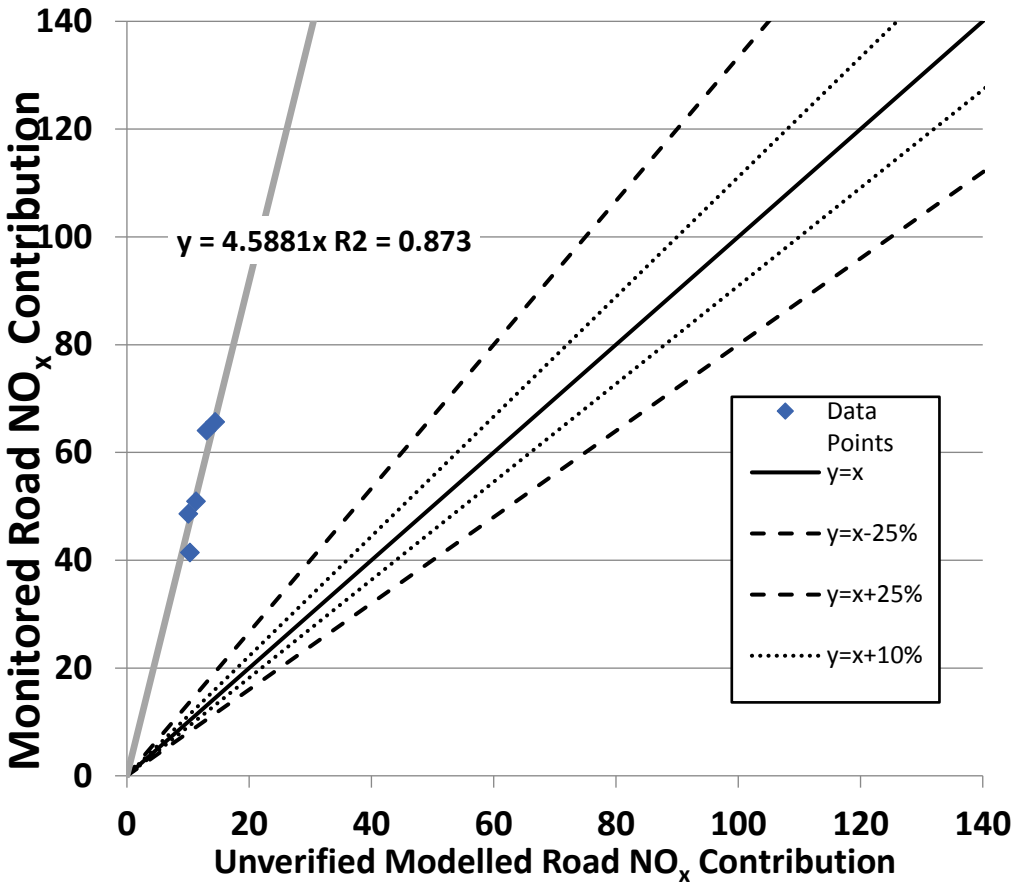



**Table A.4 – Zone 1 Adjustment Factor and Comparison of Verified Results against Monitoring Results**

| Site ID | Ratio of monitored road contribution $NO_x$ / modelled road contribution NOx | Adjustment factor for modelled road contribution $NO_x$ | Adjusted modelled road contribution $NO_x$ (µg/m³) | Adjusted modelled total $NO_x$ (including background $NO_x$) (µg/m³) | Modelled total $NO_2$ (based upon empirical $NO_x$ / $NO_2$ relationship) (µg/m³) | Monitored total $NO_2$ (µg/m³) | Difference (adjusted modelled $NO_2$ vs. monitored $NO_2$) (%) |
|---|---|---|---|---|---|---|---|
| CM1 | 4.0 | 4.588 | 47.3 | 68.4 | 38.7 | 36.0 | 7.4 |
| DT4 | 4.6 | | 59.8 | 76.0 | 41.3 | 43.1 | -4.2 |
| DT5 | 4.6 | | 66.3 | 87.4 | 46.8 | 46.5 | 0.5 |
| DT6 | 4.5 | | 51.9 | 73.0 | 40.7 | 40.3 | 1.1 |
| DT10 | 4.6 | | 46.1 | 67.2 | 38.1 | 39.2 | -2.8 |

**Figure A.3 – Zone 1 Comparison of the Verified Modelled Total $NO_2$ versus Monitored $NO_2$**

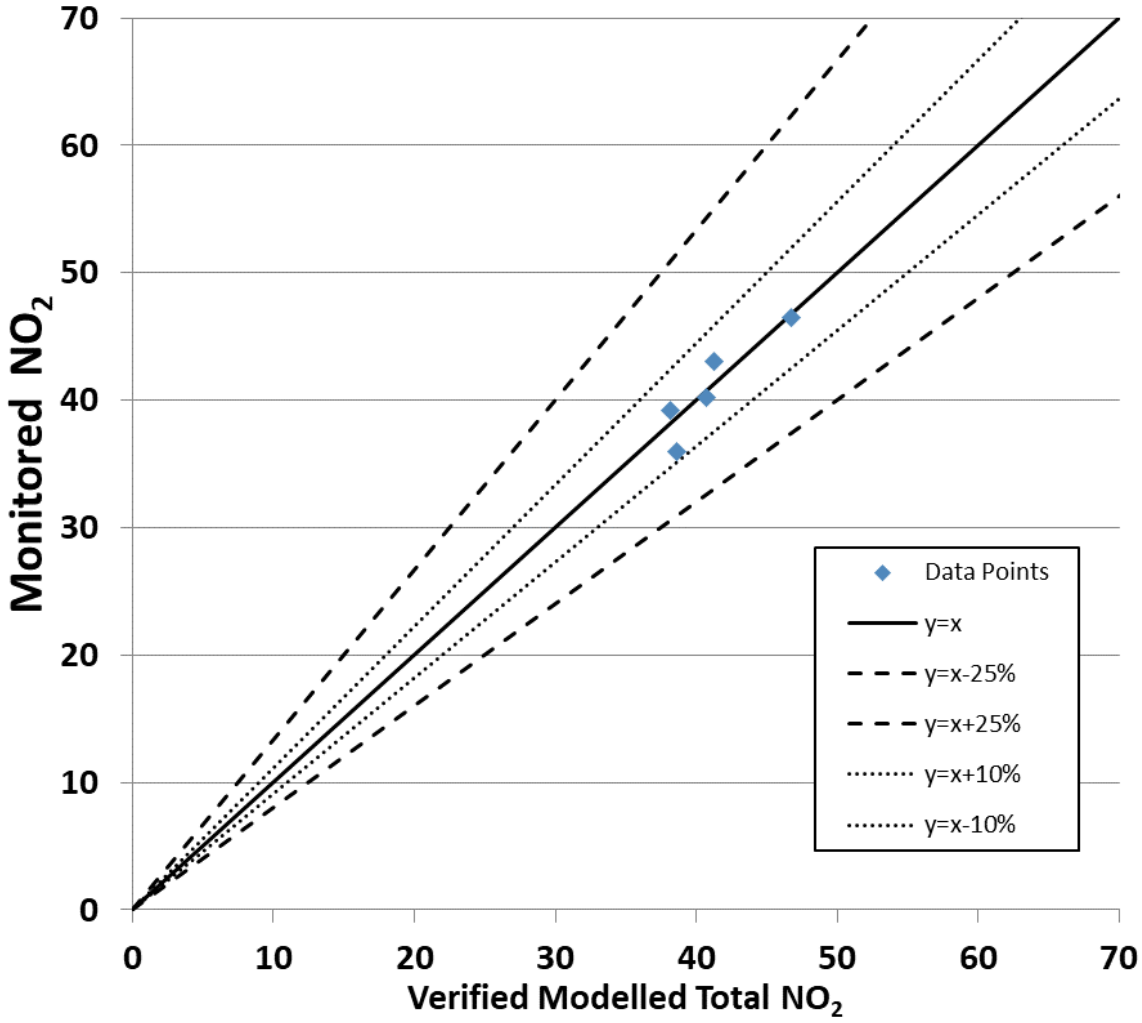



Table A.4 and Figure A.3 show the ratios between monitored and modelled $NO_2$ for each monitoring location after using the calculated adjustment factor. LAQM.TG(16)[1] states that:

*"In order to provide more confidence in the model predictions and the decisions based on these, the majority of results should be within 25% of the monitored concentrations, ideally within 10%."*

The sites show good agreement between the ratios of monitored and modelled $NO_2$, It can be seen that all of the verification points lie within the ±10% tolerance as detailed in LAQM.TG(16).

A factor of 4.588 reduces the Root Mean Square Error (RMSE) from a value of 20.0 to 1.5, which is in line with the guidance value of 4 µg/m$^3$ as stated within LAQM.TG(16).

The 4.588 Zone 1 adjustment factor was applied to the road contribution $NO_x$ concentrations predicted by the model to arrive at the final $NO_2$ concentrations in and around the AQMA (Figure A.1).

## Zone 2 Verification (All Other Areas)

Table A.5 provides the relevant data required for Zone 2 to calculate the model adjustment based on regression of the modelled and monitored road source contribution to $NO_x$.

Figure A.4 provides a comparison of the Modelled Road Contribution $NO_x$ versus Monitored Road Contribution $NO_x$, and the equation of the trend line based on linear regression through zero. The Total Monitored $NO_x$ concentration has been derived by back-calculating $NO_x$ from the $NO_x/NO_2$ empirical relationship using the spreadsheet tool available from Defra's website. The equation of the trend lines presented in Figure A.4 gives an adjustment factor for the modelled results of 3.725.

### Table A.5 – Data Required for Adjustment Factor Calculation – Zone 2

| Site ID | Monitored total $NO_2$ ($\mu g/m^3$) | Monitored total $NO_x$ ($\mu g/m^3$) | Background $NO_2$ ($\mu g/m^3$) | Background $NO_x$ ($\mu g/m^3$) | Monitored road contribution $NO_2$ (total - background) ($\mu g/m^3$) | Monitored road contribution $NO_x$ (total - background) ($\mu g/m^3$) | Modelled road contribution $NO_x$ (excludes background) ($\mu g/m^3$) |
|---|---|---|---|---|---|---|---|
| CM1 | 36.0 | 62.5 | 15.3 | 21.1 | 20.7 | 41.4 | 10.3 |
| DT2 | 27.6 | 44.9 | 15.3 | 21.1 | 12.3 | 23.8 | 6.1 |
| DT4 | 43.1 | 80.3 | 12.1 | 16.2 | 30.9 | 64.0 | 13.0 |
| DT5 | 46.5 | 86.8 | 15.3 | 21.1 | 31.2 | 65.7 | 14.4 |
| DT6 | 40.3 | 72.0 | 15.3 | 21.1 | 25.0 | 50.9 | 11.3 |
| DT10 | 39.2 | 69.7 | 15.3 | 21.1 | 23.9 | 48.6 | 10.1 |
| DT11 | 34.1 | 59.0 | 14.2 | 19.3 | 20.0 | 39.7 | 13.4 |
| DT12 | 34.4 | 59.4 | 14.2 | 19.3 | 20.2 | 40.2 | 9.4 |
| DT13 | 30.4 | 51.0 | 14.2 | 19.3 | 16.3 | 31.8 | 5.7 |
| DT14 | 37.4 | 66.7 | 12.9 | 17.4 | 24.5 | 49.3 | 16.1 |
| DT15 | 28.5 | 47.0 | 14.2 | 19.3 | 14.3 | 27.8 | 11.1 |
| DT16 | 34.4 | 59.5 | 14.2 | 19.3 | 20.2 | 40.2 | 14.0 |
| DT18 | 37.6 | 67.3 | 12.9 | 17.4 | 24.7 | 49.9 | 18.6 |
| DT20 | 36.2 | 64.2 | 12.6 | 16.9 | 23.6 | 47.4 | 11.7 |
| DT21 | 23.9 | 37.4 | 15.3 | 21.1 | 8.6 | 16.3 | 6.1 |
| DT26 | 31.3 | 53.7 | 12.1 | 16.2 | 19.1 | 37.5 | 6.1 |
| DT27 | 27.6 | 45.6 | 12.9 | 17.4 | 14.6 | 28.2 | 9.8 |
| DT28 | 38.2 | 67.9 | 14.3 | 19.5 | 23.9 | 48.3 | 10.1 |
| DT29 | 33.7 | 58.8 | 12.6 | 16.8 | 21.2 | 42.0 | 9.0 |
| DT30 | 31.6 | 53.1 | 15.3 | 21.1 | 16.3 | 32.0 | 6.2 |

**Figure A.4 – Zone 2 Comparison of the Modelled Road Contribution $NO_x$ versus Monitored Road Contribution $NO_x$**

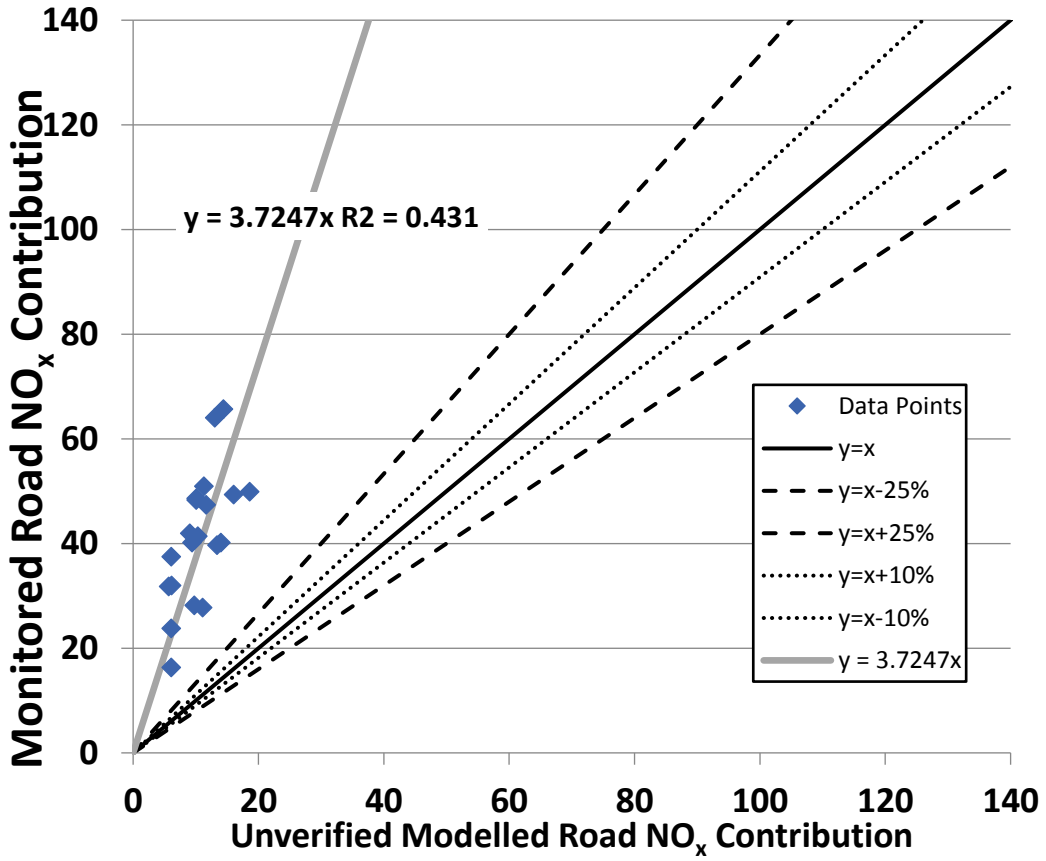
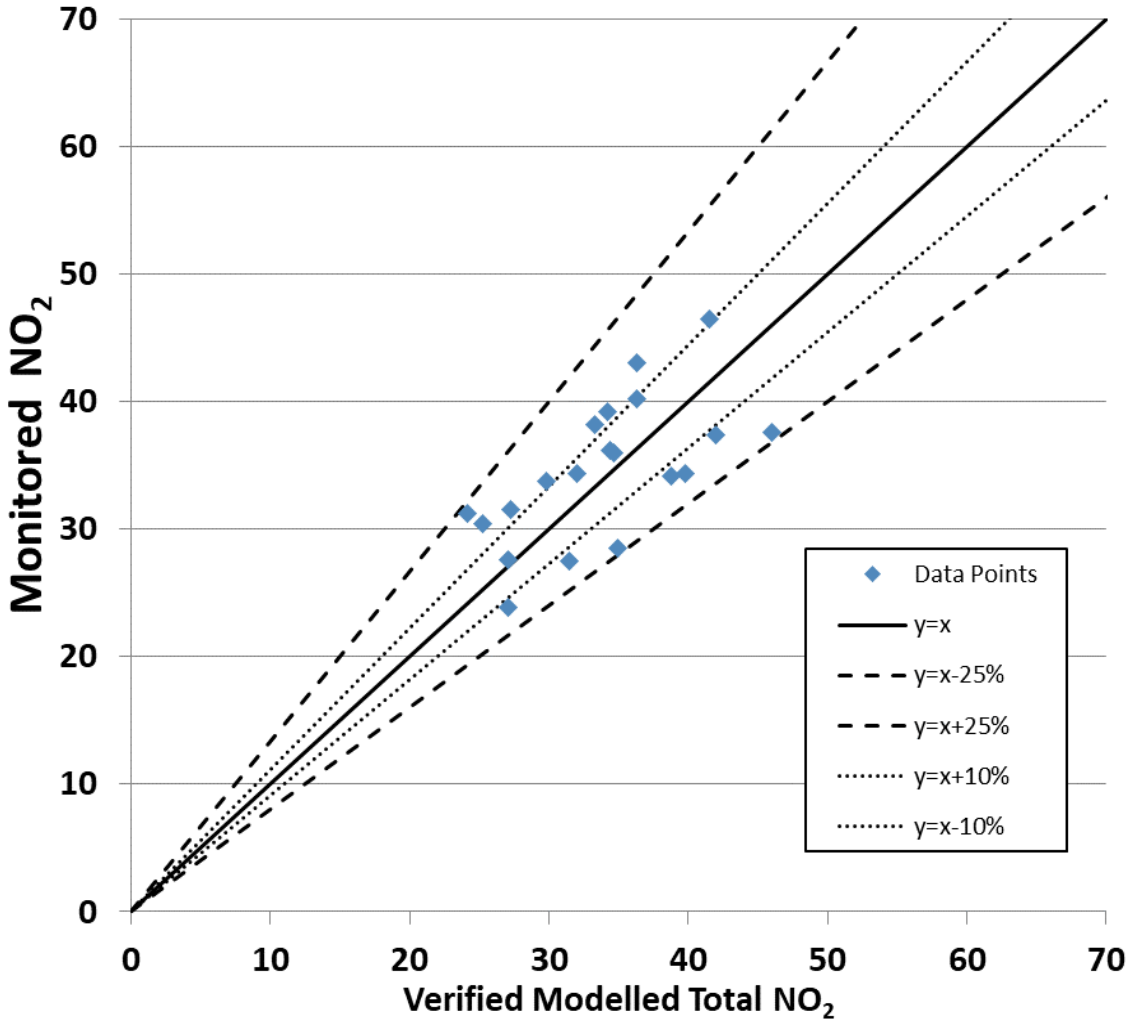



**Table A.6 – Zone 2 Adjustment Factor and Comparison of Verified Results against Monitoring Results**

| Site ID | Ratio of monitored road contribution $NO_x$ / modelled road contribution NOx | Adjustment factor for modelled road contribution $NO_x$ | Adjusted modelled road contribution $NO_x$ (µg/m³) | Adjusted modelled total $NO_x$ (including background $NO_x$) (µg/m³) | Modelled total $NO_2$ (based upon empirical $NO_x$ / $NO_2$ relationship) (µg/m³) | Monitored total $NO_2$ (µg/m³) | Difference (adjusted modelled $NO_2$ vs. monitored $NO_2$) (%) |
|---|---|---|---|---|---|---|---|
| CM1 | 4.0 | 3.725 | 38.4 | 59.5 | 34.6 | 36.0 | -3.8 |
| DT2 | 4.0 | | 22.7 | 43.8 | 27.1 | 27.6 | -1.9 |
| DT4 | 4.5 | | 48.5 | 64.8 | 36.3 | 43.1 | -15.6 |
| DT5 | 4.5 | | 53.8 | 74.9 | 41.5 | 46.5 | -10.8 |
| DT6 | 4.5 | | 42.2 | 63.3 | 36.3 | 40.3 | -9.8 |
| DT10 | 4.6 | | 37.5 | 58.6 | 34.2 | 39.2 | -12.9 |
| DT11 | 4.2 | | 49.9 | 69.1 | 38.7 | 34.1 | 13.4 |
| DT12 | 4.2 | | 35.2 | 54.4 | 32.0 | 34.4 | -6.8 |
| DT13 | 4.3 | | 21.2 | 40.5 | 25.3 | 30.4 | -17.0 |
| DT14 | 4.0 | | 59.8 | 77.2 | 42.0 | 37.4 | 12.2 |
| DT15 | 3.9 | | 41.4 | 60.7 | 34.9 | 28.5 | 22.6 |
| DT16 | 3.8 | | 52.2 | 71.4 | 39.8 | 34.4 | 15.6 |
| DT18 | 3.6 | | 69.3 | 86.7 | 46.0 | 37.6 | 22.1 |
| DT20 | 3.6 | | 43.4 | 60.3 | 34.4 | 36.2 | -4.9 |

| Site ID | Ratio of monitored road contribution $NO_x$ / modelled road contribution NOx | Adjustment factor for modelled road contribution $NO_x$ | Adjusted modelled road contribution $NO_x$ (µg/m³) | Adjusted modelled total $NO_x$ (including background $NO_x$) (µg/m³) | Modelled total $NO_2$ (based upon empirical $NO_x$ / $NO_2$ relationship) (µg/m³) | Monitored total $NO_2$ (µg/m³) | Difference (adjusted modelled $NO_2$ vs. monitored $NO_2$) (%) |
|---|---|---|---|---|---|---|---|
| DT21 | 3.6 | | 22.6 | 43.7 | 27.1 | 23.9 | 13.3 |
| DT26 | 3.7 | | 22.8 | 39.0 | 24.1 | 31.3 | -22.9 |
| DT27 | 3.6 | | 36.4 | 53.8 | 31.5 | 27.6 | 14.3 |
| DT28 | 3.7 | | 37.6 | 57.1 | 33.3 | 38.2 | -12.8 |
| DT29 | 3.7 | | 33.7 | 50.5 | 29.9 | 33.7 | -11.5 |
| DT30 | 3.7 | | 23.0 | 44.1 | 27.2 | 31.6 | -13.8 |

**Figure A.5 – Zone 2 Comparison of the Verified Modelled Total $NO_2$ versus Monitored $NO_2$**




A factor of 3.725 reduces the Root Mean Square Error (RMSE) from a value of 15.5 to 4.8. Ideally, as stated in LAQM.TG(16), an RMSE value of 4 µg/m³ (±10% tolerance) or less would be achieved; however, it can be seen that all of the verification points lie within the ±25% tolerance (10 µg/m³).

There is therefore considered to be an acceptable level of agreement between the ratios of monitored and modelled $NO_2$, given the area over which the borough-wide factor applies.

The 3.725 Zone 2 adjustment factor was applied to the road contribution $NO_x$ concentrations predicted by the model outside of the AQMA area (see Figure A.1) to arrive at the final $NO_x$ concentrations. .

# Appendix B – Background Concentrations Used

## Table B.1 – Defra Background Pollutant Concentrations Covering the Modelled Domain

| Grid Square (E,N) | 2019 Annual Mean Background Concentration (µg/m$^3$) [1] | | | |
|---|---|---|---|---|
| | Total Background $NO_x$ | Total Background $NO_2$ | Total Background $PM_{10}$ | Total Background $PM_{2.5}$ |
| 391500, 224500 | 13.6 | 10.4 | 13.5 | 8.9 |
| 392500, 224500 | 14.8 | 11.2 | 13.8 | 9.2 |
| 393500, 224500 | 19.9 | 14.5 | 14.3 | 9.5 |
| 394500, 224500 | 14.2 | 10.7 | 14.5 | 9.4 |
| 395500, 224500 | 13.8 | 10.4 | 13.8 | 9.0 |
| 396500, 224500 | 12.0 | 9.2 | 13.1 | 8.8 |
| 391500, 223500 | 13.7 | 10.4 | 13.9 | 9.4 |
| 392500, 223500 | 16.3 | 12.2 | 14.4 | 9.9 |
| 393500, 223500 | 19.5 | 14.3 | 14.5 | 9.9 |
| 394500, 223500 | 16.2 | 12.1 | 14.4 | 9.9 |
| 395500, 223500 | 15.5 | 11.6 | 13.8 | 9.4 |
| 396500, 223500 | 17.0 | 12.6 | 14.1 | 9.7 |
| 391500, 222500 | 17.0 | 12.7 | 13.9 | 9.4 |
| 392500, 222500 | 16.8 | 12.6 | 14.5 | 9.8 |
| 393500, 222500 | 18.2 | 13.4 | 14.3 | 9.9 |
| 394500, 222500 | 21.1 | 15.3 | 14.6 | 9.9 |
| 395500, 222500 | 19.3 | 14.2 | 14.9 | 10.1 |
| 396500, 222500 | 14.5 | 10.9 | 13.9 | 9.6 |
| 391500, 221500 | 19.1 | 14.1 | 14.6 | 9.7 |
| 392500, 221500 | 16.9 | 12.6 | 14.2 | 9.8 |
| 393500, 221500 | 16.1 | 12.1 | 13.9 | 9.5 |
| 394500, 221500 | 18.9 | 14.0 | 14.2 | 9.7 |
| 395500, 221500 | 17.4 | 12.9 | 14.1 | 9.6 |
| 396500, 221500 | 14.5 | 11.0 | 13.4 | 9.1 |
| 391500, 220500 | 14.6 | 11.0 | 13.8 | 9.2 |
| 392500, 220500 | 13.8 | 10.5 | 13.9 | 9.5 |
| 393500, 220500 | 13.7 | 10.4 | 13.8 | 9.3 |
| 394500, 220500 | 13.9 | 10.5 | 13.7 | 9.5 |
| 395500, 220500 | 12.3 | 9.4 | 13.1 | 9.0 |
| 396500, 220500 | 12.4 | 9.5 | 13.2 | 9.0 |

Note:
[1] Values obtained from the 2019 Defra Mapped Background estimates for the relevant 1km x 1km grid squares covering the modelled domain

# Appendix C – Traffic Inputs

## Table C. 1 – Traffic Data used in the Detailed Assessment

| Source | Traffic Point | Modelled Road Link | AADT | HGV (%) | Average Speed (kph) |
|---|---|---|---|---|---|
| DFT Traffic Data 2019 | 8569 | WnchmbeSt_JctN_A4019 | 7459 | 7.0 | 20.0 |
| DFT Traffic Data 2019 | 8569 | WnchmbeSt_Rd_1 | 7459 | 7.0 | 17.0 |
| DFT Traffic Data 2019 | 8569 | WnchmbeSt_Rd_2 | 7459 | 7.0 | 48.3 |
| DFT Traffic Data 2019 | 47170 | Cirences_Rd_1 | 8713 | 1.9 | 48.3 |
| DFT Traffic Data 2019 | 47170 | Cirences_Rd_2 | 8713 | 1.9 | 48.3 |
| DFT Traffic Data 2019 | 47170 | Cirences_JctN_A40 | 8713 | 1.9 | 20.0 |
| DFT Traffic Data 2019 | 47170 | Cirences_JctS_Lyefld | 8713 | 1.9 | 20.0 |
| DFT Traffic Data 2019 | 47170 | Cirences_Rd_4 | 8713 | 1.9 | 26.6 |
| DFT Traffic Data 2019 | 47170 | Cirences_Rd_3 | 8713 | 1.9 | 48.3 |
| DFT Traffic Data 2019 | 47170 | Cirences_JctN_Lyefld | 8713 | 1.9 | 20.0 |
| DFT Traffic Data 2019 | 48071 | SflkRd_JctW_ThirleRd | 10235 | 1.9 | 20.0 |
| DFT Traffic Data 2019 | 48071 | SflkRd_Rd_1 | 10235 | 1.9 | 48.3 |
| DFT Traffic Data 2019 | 48071 | SflkRd_JctE_ParkPlc | 10235 | 1.9 | 20.0 |
| DFT Traffic Data 2019 | 26442 | SflkRd_JctW_ParkPlc | 10235 | 1.6 | 20.0 |
| DFT Traffic Data 2019 | 26442 | SflkRd_Rd_2_Xin | 10235 | 1.6 | 20.0 |
| DFT Traffic Data 2019 | 26442 | SflkRd_Rd_3 | 10235 | 1.6 | 48.3 |
| DFT Traffic Data 2019 | 26442 | SflkRd_Rd_4 | 10235 | 1.6 | 28.9 |
| DFT Traffic Data 2019 | 17981 | A16_Jct_2 | 14470 | 2.3 | 34.6 |
| DFT Traffic Data 2019 | 17981 | HighSt_Rd_1_Xin | 14470 | 2.3 | 34.6 |
| DFT Traffic Data 2019 | 17981 | A16_Jct_1 | 14470 | 2.3 | 34.6 |
| DFT Traffic Data 2019 | 17981 | HighSt_Rd_2 | 14470 | 2.3 | 34.6 |
| DFT Traffic Data 2019 | 17981 | A435_JctW_HewlettRd | 14470 | 2.3 | 34.6 |
| DFT Traffic Data 2019 | 99377 | EveshamRd_JctN_Welli | 11679 | 4.7 | 20.0 |
| DFT Traffic Data 2019 | 99377 | EveshamRd_Rd_2 | 11679 | 4.7 | 26.9 |
| DFT Traffic Data 2019 | 99377 | EveshamRd_Rd_3 | 11679 | 4.7 | 48.3 |
| DFT Traffic Data 2019 | 48072 | A46_BathRd_Jct_N_A46 | 12337 | 1.4 | 20.0 |
| DFT Traffic Data 2019 | 48072 | A46_BathRd_Rd_6 | 12337 | 1.4 | 48.3 |
| DFT Traffic Data 2019 | 48072 | A46_BathRd_Rd_7_Xin | 12337 | 1.4 | 20.0 |
| DFT Traffic Data 2019 | 48072 | A46_BathRd_JctS_Sflk | 12337 | 1.4 | 20.0 |
| DFT Traffic Data 2019 | 48072 | A46_BathRd_Rd_5 | 12337 | 1.4 | 48.3 |
| DFT Traffic Data 2019 | 18552 | Tew_Rd_17_Jct | 24066 | 2.9 | 20.0 |
| DFT Traffic Data 2019 | 18552 | Tew_Rd_8_Jct | 24066 | 2.9 | 57.9 |
| DFT Traffic Data 2019 | 18552 | Tew_Rd_13_Jct | 24066 | 2.9 | 57.9 |
| DFT Traffic Data 2019 | 18552 | Tew_Rd_14_Jct | 24066 | 2.9 | 20.0 |
| DFT Traffic Data 2019 | 18552 | Tew_Rd_11_Jct | 24066 | 2.9 | 57.9 |
| DFT Traffic Data 2019 | 18552 | Tew_Rd_12 | 24066 | 2.9 | 64.4 |
| DFT Traffic Data 2019 | 18552 | Tew_Rd_15 | 24066 | 2.9 | 48.3 |
| DFT Traffic Data 2019 | 18552 | Tew_Rd_16_2Jct | 24066 | 2.9 | 24.1 |
| DFT Traffic Data 2019 | 18552 | Tew_Rd_5 | 24066 | 2.9 | 64.4 |
| DFT Traffic Data 2019 | 18552 | Tew_Rd_6 | 24066 | 2.9 | 64.4 |
| DFT Traffic Data 2019 | 18552 | Tew_Rd_MJct | 24066 | 2.9 | 10.0 |

| Source | Traffic Point | Modelled Road Link | AADT | HGV (%) | Average Speed (kph) |
|---|---|---|---|---|---|
| DFT Traffic Data 2019 | 18552 | Tew_Rd_9 | 24066 | 2.9 | 64.4 |
| DFT Traffic Data 2019 | 18552 | Tew_Rd_10_Jct | 24066 | 2.9 | 57.9 |
| DFT Traffic Data 2019 | 18552 | Tew_Rd_7_Jct | 24066 | 2.9 | 57.9 |
| DFT Traffic Data 2019 | 27679 | Tewke_Rd_MJct | 26028 | 2.5 | 10.0 |
| DFT Traffic Data 2019 | 27679 | Tew_Rd_2 | 26028 | 2.5 | 33.0 |
| DFT Traffic Data 2019 | 27679 | Tew_Rd_3_Split2_MJct | 26028 | 2.5 | 33.0 |
| DFT Traffic Data 2019 | 27679 | Tew_Rd | 26028 | 2.5 | 64.4 |
| DFT Traffic Data 2019 | 27679 | Tew_Rd_1 | 26028 | 2.5 | 64.4 |
| DFT Traffic Data 2019 | 27679 | Tew_Rd_4_Split2_MJct | 26028 | 2.5 | 33.0 |
| DFT Traffic Data 2019 | 28699 | A4013_Jct | 26222 | 2.3 | 41.0 |
| DFT Traffic Data 2019 | 28699 | A4013_4 | 26222 | 2.3 | 41.0 |
| DFT Traffic Data 2019 | 28699 | A4013_5 | 26222 | 2.3 | 41.0 |
| DFT Traffic Data 2019 | 28699 | A4013_2 | 26222 | 2.3 | 41.0 |
| DFT Traffic Data 2019 | 28699 | A4013_3 | 26222 | 2.3 | 41.0 |
| DFT Traffic Data 2019 | 99604 | CollegeRd_JctS_A435 | 9608 | 1.6 | 20.0 |
| DFT Traffic Data 2019 | 99604 | CollegeRd_Rd_1 | 9608 | 1.6 | 19.8 |
| DFT Traffic Data 2019 | 99604 | CollegeRd_JctN_Sandf | 9608 | 1.6 | 20.0 |
| DFT Traffic Data 2019 | 99377 | EveshamRd_JctN_Clare | 12401 | 4.7 | 20.0 |
| DFT Traffic Data 2019 | 99377 | EveshamRd_Rd_1 | 12401 | 4.7 | 48.3 |
| DFT Traffic Data 2019 | 99377 | EveshamRd_JctS_Welli | 12401 | 4.7 | 20.0 |
| DFT Traffic Data 2019 | 77984 | Shurdgtn_Rd_2 | 17386 | 2.0 | 48.3 |
| DFT Traffic Data 2019 | 77984 | Shurdgtn_JctE_Mooren | 17386 | 2.0 | 20.0 |
| DFT Traffic Data 2019 | 77984 | Shurdgtn_Rd_JctW_A46 | 17386 | 2.0 | 20.0 |
| DFT Traffic Data 2019 | 77984 | Shurdgtn_Rd_1 | 17386 | 2.0 | 48.3 |
| DFT Traffic Data 2019 | 77984 | Shurdgtn_JctW_Mooren | 17386 | 2.0 | 57.9 |
| DFT Traffic Data 2019 | 77984 | Shurdgtn_Rd_3 | 17386 | 2.0 | 33.9 |
| DFT Traffic Data 2019 | 77983 | A40_LndRd_Rd_5 | 11370 | 2.1 | 64.4 |
| DFT Traffic Data 2019 | 77983 | A40_LndRd_Rd_6_Xin | 11370 | 2.1 | 57.9 |
| DFT Traffic Data 2019 | 77983 | A40_JctW_GreenwayLn | 11370 | 2.1 | 20.0 |
| DFT Traffic Data 2019 | 77983 | A40_JctE_GreenwayLn | 11370 | 2.1 | 20.0 |
| DFT Traffic Data 2019 | 77983 | A40_LndRd_Rd_7 | 11370 | 2.1 | 64.4 |
| DFT Traffic Data 2019 | 77983 | A40_LndRd_Rd_8 | 11370 | 2.1 | 35.5 |
| DFT Traffic Data 2019 | 77983 | A40_LndRd_Rd_3_Xin | 11370 | 2.1 | 20.0 |
| DFT Traffic Data 2019 | 77983 | A40_LndRd_Rd_4 | 11370 | 2.1 | 48.3 |
| DFT Traffic Data 2019 | 77983 | A40_JctE_A435/Haywar | 11370 | 2.1 | 20.0 |
| DFT Traffic Data 2019 | 77983 | A40_LndRd_Rd_3 | 11370 | 2.1 | 48.3 |
| DFT Traffic Data 2019 | 70126 | A46_Fairvw_JctW_Winc | 12310 | 2.5 | 17.4 |
| DFT Traffic Data 2019 | 70126 | A46_Fairvw_JctE_Prtl | 12310 | 2.5 | 17.4 |

| Source | Traffic Point | Modelled Road Link | AADT | HGV (%) | Average Speed (kph) |
|---|---|---|---|---|---|
| DFT Traffic Data 2019 | 70122 | NStreet_JctS_A4019 | 5410 | 3.6 | 20.0 |
| DFT Traffic Data 2019 | 70122 | NStreet_JctM_AlbnSt | 5410 | 3.6 | 20.0 |
| DFT Traffic Data 2019 | 58258 | A40_6 | 24356 | 3.6 | 64.4 |
| DFT Traffic Data 2019 | 58258 | A40_7 | 24356 | 3.6 | 64.4 |
| DFT Traffic Data 2019 | 58258 | Glcster_Jct_Split | 24356 | 3.6 | 57.9 |
| DFT Traffic Data 2019 | 58258 | Glcster_2Jct_Split | 24356 | 3.6 | 32.2 |
| DFT Traffic Data 2019 | 58258 | A40_8 | 24356 | 3.6 | 64.4 |
| DFT Traffic Data 2019 | 58258 | A40_9_2Jct | 24356 | 3.6 | 32.2 |
| DFT Traffic Data 2019 | 5048 | AlbionSt_Rd_3_Xin | 4871 | 3.6 | 48.3 |
| DFT Traffic Data 2019 | 5048 | AlbionSt_Rd_1 | 4871 | 3.6 | 48.3 |
| DFT Traffic Data 2019 | 5048 | AlbionSt_Rd_2 | 4871 | 3.6 | 48.3 |
| DFT Traffic Data 2019 | 5048 | AlbionSt_Rd_4 | 4871 | 3.6 | 48.3 |
| DFT Traffic Data 2019 | 5030 | A46_BathRd_Rd_1 | 14470 | 3.6 | 34.6 |
| DFT Traffic Data 2019 | 48637 | A46_BathRd_Rd_2 | 14381 | 1.9 | 48.3 |
| DFT Traffic Data 2019 | 48637 | A46_BathRd_JctE_Bath | 14381 | 1.9 | 20.0 |
| DFT Traffic Data 2019 | 48637 | A46_BathRd_JctW_Bath | 14381 | 1.9 | 20.0 |
| DFT Traffic Data 2019 | 48072 | A46_BathRd_Rd_4 | 10873 | 1.4 | 48.3 |
| DFT Traffic Data 2019 | 48072 | A46_BathRd_JctN_Sflk | 10873 | 1.4 | 20.0 |
| DFT Traffic Data 2019 | 48071 | OldBathRd_JctS_Sandf | 11292 | 1.9 | 20.0 |
| DFT Traffic Data 2019 | 48071 | OldBathRd_Rd_4 | 11292 | 1.9 | 48.3 |
| DFT Traffic Data 2019 | 48071 | ThirleRd_Rd_1 | 11292 | 1.9 | 26.5 |
| DFT Traffic Data 2019 | 48071 | ThirleRd_JctE_SflkRd | 11292 | 1.9 | 20.0 |
| DFT Traffic Data 2019 | 48071 | OldBathRd_JctN_Thirl | 11292 | 1.9 | 20.0 |
| DFT Traffic Data 2019 | 48071 | ThirleRd_JctW_OldBat | 11292 | 1.9 | 20.0 |
| DFT Traffic Data 2019 | 38657 | Promenade_Jct_A46 | 11465 | 6.2 | 20.0 |
| DFT Traffic Data 2019 | 38657 | Promenade_Rd_1 | 11465 | 6.2 | 48.3 |
| DFT Traffic Data 2019 | 38657 | MntPelWalk_Rd_2 | 11465 | 6.2 | 48.3 |
| DFT Traffic Data 2019 | 38657 | MntPelWalk_JctN_Land | 11465 | 6.2 | 21.7 |
| DFT Traffic Data 2019 | 38657 | Promenade_Rd_2 | 11465 | 6.2 | 48.3 |
| DFT Traffic Data 2019 | 38657 | MntPelWalk_Rd_1 | 11465 | 6.2 | 48.3 |
| DFT Traffic Data 2019 | 38656 | A46_Fairvw_JctE_Winc | 12310 | 2.5 | 20.0 |
| DFT Traffic Data 2019 | 38656 | A46_Fairvw_Rd_3 | 12310 | 2.5 | 48.3 |
| DFT Traffic Data 2019 | 38656 | A46_Fairvw_JctW_AlbS | 12310 | 2.5 | 20.0 |
| DFT Traffic Data 2019 | 38656 | A46_Fairvw_Rd_1 | 12310 | 2.5 | 48.3 |
| DFT Traffic Data 2019 | 38656 | A46_Fairvw_Rd_2 | 12310 | 2.5 | 48.3 |
| DFT Traffic Data 2019 | 99605 | A16_Jct | 14029 | 2.7 | 20.0 |
| DFT Traffic Data 2019 | 99605 | A46_AlbionSt_Rd_2 | 14029 | 2.7 | 48.3 |
| DFT Traffic Data 2019 | 99605 | A46_Fairvw_JctE_AlbS | 14029 | 2.7 | 20.0 |
| DFT Traffic Data 2019 | 99605 | A46_AlbionSt_Rd_1 | 14029 | 2.7 | 48.3 |
| DFT Traffic Data 2019 | 99605 | A46_AlbS_JctW_StJame | 14029 | 2.7 | 20.0 |
| DFT Traffic Data 2019 | 28700 | A46_BathRd_Rd_3 | 6509 | 1.5 | 48.3 |

| Source | Traffic Point | Modelled Road Link | AADT | HGV (%) | Average Speed (kph) |
|---|---|---|---|---|---|
| DFT Traffic Data 2019 | 26442 | A40_2Jct_1 | 12023 | 1.6 | 16.6 |
| DFT Traffic Data 2019 | 26442 | SflkRd_Rd_6 | 12023 | 1.6 | 48.3 |
| DFT Traffic Data 2019 | 26442 | SflkRd_Rd_5_Xin | 12023 | 1.6 | 20.0 |
| DFT Traffic Data 2019 | 26442 | A40_1 | 12023 | 1.6 | 48.3 |
| DFT Traffic Data 2019 | 26442 | A40_2 | 12023 | 1.6 | 48.3 |
| DFT Traffic Data 2019 | 18553 | ImpSq_Jct_2 | 10852 | 1.9 | 20.0 |
| DFT Traffic Data 2019 | 18553 | ImpSq_Rd_2 | 10852 | 1.9 | 48.3 |
| DFT Traffic Data 2019 | 18553 | ImpSq_JctW_A46 | 10852 | 1.9 | 20.0 |
| DFT Traffic Data 2019 | 18275 | A4019_Swindon_Rd_1 | 14723 | 3.0 | 48.3 |
| DFT Traffic Data 2019 | 18275 | A4019_SwdnR_JctE_StG | 14723 | 3.0 | 20.0 |
| DFT Traffic Data 2019 | 18275 | A4019_Swindon_Rd_4 | 14723 | 3.0 | 48.3 |
| DFT Traffic Data 2019 | 18275 | A46_Fairvw_JctW_Prtl | 14723 | 3.0 | 20.0 |
| DFT Traffic Data 2019 | 18275 | A4019_Swindon_Rd_3 | 14723 | 3.0 | 48.3 |
| DFT Traffic Data 2019 | 18275 | A4019_SwdnR_JctW_StG | 14723 | 3.0 | 20.0 |
| DFT Traffic Data 2019 | 18275 | A4019_StMar_Rd_5 | 14723 | 3.0 | 48.3 |
| DFT Traffic Data 2019 | 18275 | A4019_StMar_JctW_MoA | 14723 | 3.0 | 20.0 |
| DFT Traffic Data 2019 | 18275 | A4019_SwdnR_JctW_DuS | 14723 | 3.0 | 20.0 |
| DFT Traffic Data 2019 | 18275 | A4019_SwdnR_JctE_DuS | 14723 | 3.0 | 20.0 |
| DFT Traffic Data 2019 | 18275 | A4019_StMar_JctW_NoP | 14723 | 3.0 | 20.0 |
| DFT Traffic Data 2019 | 18275 | A4019_StMar_JctE_NoP | 14723 | 3.0 | 20.0 |
| DFT Traffic Data 2019 | 18275 | A4019_StMar_JctE_MoA | 14723 | 3.0 | 20.0 |
| DFT Traffic Data 2019 | 18275 | A4019_StMar_Rd_6 | 14723 | 3.0 | 48.3 |
| DFT Traffic Data 2019 | 18275 | A4019_Swindon_Jct_1 | 14723 | 3.0 | 20.0 |
| DFT Traffic Data 2019 | 18275 | A4019_Swindon_Rd_2 | 14723 | 3.0 | 48.3 |
| DFT Traffic Data 2019 | 17981 | A435_JctN_A40/B4075 | 14182 | 2.3 | 20.0 |
| DFT Traffic Data 2019 | 17981 | A435_Rd_1 | 14182 | 2.3 | 23.4 |
| DFT Traffic Data 2019 | 17981 | A435_Rd_2 | 14182 | 2.3 | 48.3 |
| DFT Traffic Data 2019 | 17981 | A435_JctE_HewlettRd | 14182 | 2.3 | 20.0 |
| DFT Traffic Data 2019 | 16411 | A40_LndRd_Rd_2 | 17533 | 3.0 | 48.3 |
| DFT Traffic Data 2019 | 16411 | A40_JctS_A40/B4075 | 17533 | 3.0 | 20.0 |
| DFT Traffic Data 2019 | 16411 | A40_JctN_A435/Haywar | 17533 | 3.0 | 20.0 |
| DFT Traffic Data 2019 | 16411 | A40_LndRd_Rd_1 | 17533 | 3.0 | 48.3 |
| DFT Traffic Data 2019 | 8570 | MntTerr_Rd_2_Xin | 11598 | 1.8 | 20.0 |
| DFT Traffic Data 2019 | 8570 | MntTerr_Rd_3 | 11598 | 1.8 | 24.6 |
| DFT Traffic Data 2019 | 8570 | MntTerr_JctE_RdbLans | 11598 | 1.8 | 24.6 |
| DFT Traffic Data 2019 | 8570 | MntTerr_JctW_BathRd | 11598 | 1.8 | 20.0 |

| Source | Traffic Point | Modelled Road Link | AADT | HGV (%) | Average Speed (kph) |
|---|---|---|---|---|---|
| DFT Traffic Data 2019 | 8570 | MntTerr_Rd_1 | 11598 | 1.8 | 48.3 |
| DFT Traffic Data 2019 | 8569 | PrtlndSt_Rd_1 | 7892 | 7.0 | 23.6 |
| DFT Traffic Data 2019 | 8569 | Prtlnd_JctS_Clarence | 7892 | 7.0 | 20.0 |
| DFT Traffic Data 2019 | 8569 | PrtlndSt_JctN_A4019 | 7892 | 7.0 | 20.0 |
| DFT Traffic Data 2019 | 38372 | OldBathRd_Rd_1 | 11915 | 1.8 | 20.4 |
| DFT Traffic Data 2019 | 38372 | OldBathRd_Rd_2 | 11915 | 1.8 | 20.4 |
| DFT Traffic Data 2019 | 38372 | OldBathRd_Rd_3 | 11915 | 1.8 | 48.3 |
| DFT Traffic Data 2019 | 38372 | OldBathRd_JctN_Sandf | 11915 | 1.8 | 20.0 |
| DFT Traffic Data 2019 | 38372 | OldBathRd_JctN_CBath | 11915 | 1.8 | 20.0 |
| DFT Traffic Data 2019 | 38372 | OldBathRd_JctS_CBath | 11915 | 1.8 | 20.0 |
| DFT Traffic Data 2019 | 6436 | Lansdown_Rd | 18384 | 3.3 | 27.5 |
| DFT Traffic Data 2019 | 6436 | LndsRd_2Jct | 18384 | 3.3 | 32.2 |
| DFT Traffic Data 2019 | 6436 | LnsdwnRd_Jct_Rdbnt | 18384 | 3.3 | 20.0 |
| DFT Traffic Data 2019 | 6436 | LnsdwnRd_Rdbt | 18384 | 3.3 | 20.0 |
| DFT Traffic Data 2019 | 6436 | LnsdwnRd_JctE_Rdbt | 18384 | 3.3 | 57.9 |
| DFT Traffic Data 2019 | 58259 | ClrParade_JctS_Clrnc | 7921 | 4.3 | 20.0 |
| DFT Traffic Data 2019 | 58259 | RoyalWell_JctS_Crec | 7921 | 4.3 | 20.0 |
| DFT Traffic Data 2019 | 58259 | RoyalWell_Rd_1 | 7921 | 4.3 | 48.3 |
| DFT Traffic Data 2019 | 58259 | ClrParade_Rd_1 | 7921 | 4.3 | 48.3 |
| DFT Traffic Data 2019 | 58259 | ClrParade_JctN_CrecT | 7921 | 4.3 | 20.0 |
| DFT Traffic Data 2019 | 48638 | AlbionSt_Rd_5 | 4871 | 6.4 | 48.3 |
| DFT Traffic Data 2019 | 48638 | AlbionSt_JctW_StJmes | 4871 | 6.4 | 20.0 |
| DFT Traffic Data 2019 | 28699 | A4013_MJct | 26222 | 2.3 | 41.0 |
| DFT Traffic Data 2019 | 28699 | A4013 | 26222 | 2.3 | 41.0 |
| DFT Traffic Data 2019 | 18553 | ImpSq_Rd_1 | 12963 | 1.9 | 48.3 |
| DFT Traffic Data 2019 | 18553 | ImpSq_Jct_1 | 12963 | 1.9 | 20.0 |
| DFT Traffic Data 2019 | 18553 | ImpSq_JctE_A46 | 12963 | 1.9 | 20.0 |
| DFT Traffic Data 2019 | 8290 | ClarenceRd_JctW_A46 | 8787 | 2.9 | 20.9 |
| DFT Traffic Data 2019 | 28221 | Sndfrd_JctE_BathRd | 10090 | 2.0 | 20.0 |
| DFT Traffic Data 2019 | 28221 | Sndfrd_JctW_OldBathR | 10090 | 2.0 | 20.0 |
| DFT Traffic Data 2019 | 28221 | SndfrdRd_Rd | 10090 | 2.0 | 27.2 |
| County Traffic Data 2019 | 5032 | Prestbry_Rd_2_Xin | 10654 | 5.8 | 20.0 |
| County Traffic Data 2019 | 5032 | Prestbry_Rd_3 | 10654 | 5.8 | 48.3 |
| County Traffic Data 2019 | 5032 | Prestbry_Rd_5 | 10654 | 5.8 | 48.3 |
| County Traffic Data 2019 | 5032 | Prestbry_Rd_6 | 10654 | 5.8 | 48.3 |
| County Traffic Data 2019 | 5032 | Prestbry_NJct_Rdbt | 10654 | 5.8 | 20.0 |
| County Traffic Data 2019 | 5032 | Prestbry_Rd_9 | 10654 | 5.8 | 48.3 |
| County Traffic Data 2019 | 5032 | Prestbry_Rd_4 | 10654 | 5.8 | 48.3 |
| County Traffic Data 2019 | 5032 | Prestbry_Rd_7 | 10654 | 5.8 | 48.3 |
| County Traffic Data 2019 | 5032 | Prestbry_Rd_8 | 10654 | 5.8 | 48.3 |
| County Traffic Data 2019 | 5032 | Prestbry_Jct_A46 | 10654 | 5.8 | 20.0 |
| County Traffic Data 2019 | 5032 | Prestbry_Rd_1 | 10654 | 5.8 | 48.3 |
| County Traffic Data 2019 | 5032 | Prestbry_Jct_Rdbt | 10654 | 5.8 | 20.0 |

| Source | Traffic Point | Modelled Road Link | AADT | HGV (%) | Average Speed (kph) |
|---|---|---|---|---|---|
| County Traffic Data 2019 | 5032 | Prestbry_Rdbt | 10654 | 5.8 | 20.0 |
| County Traffic Data 2019 | 5021 | Poole_Way_Jct | 14008 | 1.4 | 20.0 |
| County Traffic Data 2019 | 5020 | A4019_High_St_1 | 24066 | 2.7 | 48.3 |
| County Traffic Data 2019 | 5021 | A4019_Poole_Way_1 | 14008 | 1.4 | 48.3 |
| County Traffic Data 2019 | 5020 | A4019_Jct | 24066 | 2.7 | 20.0 |
| County Traffic Data 2019 | 5021 | A4019_Poole_Way_2 | 20822 | 1.7 | 48.3 |
| County Traffic Data 2019 | 5069 | Winchombe_Jct | 3127 | 1.7 | 25.3 |
| County Traffic Data 2019 | 5047 | RodneyRd | 7408 | 1.8 | 48.3 |
| County Traffic Data 2019 | 5047 | RodneyRd_Jct | 7408 | 1.8 | 20.0 |
| County Traffic Data 2019 | 99185980_99185981 | RodneyRd_2 | 7880 | 3.1 | 29.9 |
| County Traffic Data 2019 | 99185980_99185981 | RodneyRd_1 | 7880 | 3.1 | 29.9 |
| County Traffic Data 2019 | 5037 | A40_MJct_Split2_1 | 44059 | 2.5 | 50.7 |
| County Traffic Data 2019 | 5036 | A4013_1_Xin | 26222 | 1.8 | 41.0 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 70 | Leckhampton_Rd_Jct | 10634 | 2.3 | 20.0 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 70 | Leckhampton_Rd | 10634 | 2.3 | 26.4 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 70 | Leckhampton_Rd_1 | 10634 | 2.3 | 48.3 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 118 | B4633_Jct_2 | 13648 | 2.5 | 20.0 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 118 | Glcs_Rd | 13648 | 2.5 | 48.3 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 118 | B4633_Jct_3 | 13648 | 2.5 | 20.0 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 118 | B4633_Glcster_Rd_1 | 13648 | 2.5 | 21.2 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 118 | B4633_Glcster_Rd_2 | 13648 | 2.5 | 48.3 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 118 | B4633_1_2Jct | 13648 | 2.5 | 24.1 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 118 | B4633_Glcster_Rd_5 | 13648 | 2.5 | 48.3 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 118 | B4633_Glcster_Rd_4 | 13648 | 2.5 | 48.3 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 118 | B4633_Glcster_Rd_3 | 13648 | 2.5 | 48.3 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 118 | B4633_2Jct | 13648 | 2.5 | 24.1 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 118 | B4633_Glcster_Rd_6 | 13648 | 2.5 | 48.3 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 118 | B4633_Jct | 13648 | 2.5 | 20.0 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 118 | B4633_Jct_1 | 13648 | 2.5 | 20.0 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 118 | Glcstr_Rd_Jct | 13648 | 2.5 | 20.0 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 118 | B4633_Jct_4 | 13648 | 2.5 | 20.0 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 78 | Hewlett_Rd_Rdbt | 5588 | 1.7 | 20.0 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 78 | Hewlett_Rd_Jct_2 | 5588 | 1.7 | 20.0 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 78 | Hewlett_Rd_Jct_1 | 5588 | 1.7 | 20.0 |

| Source | Traffic Point | Modelled Road Link | AADT | HGV (%) | Average Speed (kph) |
|---|---|---|---|---|---|
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 78 | Hewlett_Rd | 5588 | 1.7 | 48.3 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 78 | Hewlett_Rd_1 | 5588 | 1.7 | 27.2 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 137 | Hewlett_Rd_Jct | 5310 | 1.7 | 16.1 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 5054 | WellRd_Jct_2 | 894 | 1.8 | 20.0 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 5053 | WellRd | 997 | 1.8 | 48.3 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 5053 | WellRd_Jct_1 | 997 | 1.8 | 20.0 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 5053 | WellRd_Jct | 997 | 1.8 | 20.0 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 5034 | RoyalWell_Rd_2 | 14126 | 1.8 | 48.3 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 5034 | StGeorge_Jct | 14126 | 1.8 | 20.0 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 5060 | ClarenceSt_Rd_1 | 7921 | 4.7 | 48.3 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 5060 | Clrence_JctE_A46 | 7921 | 4.7 | 20.0 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 5060 | NorthSt_Rd_1 | 7921 | 4.7 | 48.3 |
| County Traffic Data 2017 (factored to 2019 using TEMPro) | 5060 | NorthSt_Rd_2 | 7921 | 4.7 | 48.3 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5068 | StPaulsRd_5 | 8971 | 2.9 | 48.3 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5068 | StPaulsRd_1 | 8971 | 2.9 | 48.3 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5068 | StPaulsRd_2 | 8971 | 2.9 | 48.3 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5068 | StPaulsRd_Jct | 8971 | 2.9 | 20.0 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5068 | StPaulsRd | 8971 | 2.9 | 48.3 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5068 | StPaulsRd_4 | 8971 | 2.9 | 48.3 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5068 | StPaulsRd_Jct_2 | 8971 | 2.9 | 20.0 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5068 | StPaulsRd_3 | 8971 | 2.9 | 48.3 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5068 | StPaulsRd_Jct_1 | 8971 | 2.9 | 20.0 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5062 | PEW_9_Split_Jct | 17034 | 2.1 | 20.0 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5062 | PEW_8_Jct | 17034 | 2.1 | 20.0 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5062 | PEW_2 | 17034 | 2.1 | 48.3 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5062 | PEW_3_Jct | 17034 | 2.1 | 20.0 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5062 | PEW_Jct | 17034 | 2.1 | 20.0 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5062 | PEW_1 | 17034 | 2.1 | 48.3 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5062 | PEW_6 | 17034 | 2.1 | 48.3 |

| Source | Traffic Point | Modelled Road Link | AADT | HGV (%) | Average Speed (kph) |
|---|---|---|---|---|---|
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5062 | PEW_7_Jct | 17034 | 2.1 | 20.0 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5062 | PEW_4_Jct | 17034 | 2.1 | 20.0 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5062 | PEW_5 | 17034 | 2.1 | 48.3 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5062 | PEW_Split_2Jct | 17034 | 2.1 | 24.1 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5050 | WnchmbeSt_JctS_A46 | 1717 | 4.1 | 20.0 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5050 | WnchmbeSt_Rd_4 | 1717 | 4.1 | 48.3 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5050 | WnchmbeSt_JctN_Albio | 1717 | 4.1 | 20.0 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5041 | Kingsditch_Rd_Jct | 22405 | 36.4 | 20.0 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5041 | Kingsditch_Rd | 22405 | 36.4 | 48.3 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5041 | Kingsditch_MJct | 22405 | 36.4 | 10.0 |
| County Traffic Count Data 2019, County Vehicle Composition Data 2017 | 5041 | Kingsditch_Rd_1 | 22405 | 36.4 | 48.3 |
| County Traffic Count Data 2019, DFT Vehicle Composition Data 2019 | 5037_77985 | A40_Glcster_Rd | 44059 | 2.5 | 50.7 |
| County Traffic Count Data 2019, DFT Vehicle Composition Data 2019 | 5037 _77985 | A40_MJct_Split2 | 44059 | 2.5 | 50.7 |
| County Traffic Count Data 2019, DFT Vehicle Composition Data 2019 | 5037E_77985 | GloucesterRd_J3 | 21229 | 2.5 | 53.6 |
| County Traffic Count Data 2019, DFT Vehicle Composition Data 2019 | 5037W_77985 | GloucesterRd_J4 | 22830 | 2.5 | 47.8 |
| County Traffic Count Data 2019, DFT Vehicle Composition Data 2019 | 5037_77985 | ArleCrt_Rdbt | 44059 | 2.5 | 20.0 |
| Calculated from surrounding links | 6436_58258_26442 | A_40_2Rdbt | 18254 | 1.4 | 20.0 |
| Calculated from surrounding links | 6436_58258_26442 | A40_10_2Jct | 18254 | 1.4 | 20.0 |
| Calculated from surrounding links | 6436_58258_26442 | A40_12 | 18254 | 1.4 | 64.4 |
| Calculated from surrounding links | 6436_58258_26442 | A40_2Jct | 18254 | 1.4 | 20.0 |
| Calculated from surrounding links | 6436_58258_26442 | A40_2Jct_2 | 18254 | 1.4 | 20.0 |
| Calculated from surrounding links | 6436_58258_26442 | A40_Jct | 18254 | 1.4 | 20.0 |
| Calculated from surrounding links | 6436_58258_26442 | A40_Jct_1 | 18254 | 1.4 | 20.0 |
| Calculated from surrounding links | 5069_99185980_99185981 | High_St_Jct_2 | 3127 | 1.7 | 20.0 |
| Calculated from surrounding links | 6436_58258_26442 | Lansdown_Rd_A40_1 | 18254 | 1.4 | 20.0 |
| Calculated from surrounding links | 6436_58258_26442 | Lansdown_Rd_A40_2 | 18254 | 1.4 | 20.0 |
| Calculated from surrounding links | 6436_38657_8570 | MntPelWalk_Rdbt | 14991 | 1.2 | 20.0 |
| Calculated from surrounding links | 5019_5041_5036_5020 | Tew_Rd_MRdbt | 26125 | 1.7 | 20.0 |
| Calculated from surrounding links, County Vehicle Composition Data 2017 | 5036_5062 | A4013_Rdbt | 21934 | 2.1 | 20.0 |

| Source | Traffic Point | Modelled Road Link | AADT | HGV (%) | Average Speed (kph) |
|---|---|---|---|---|---|
| Calculated from surrounding links, County Vehicle Composition Data 2017 | 77984_70_5025 | A46_BathRd_Rdbt | 14862 | 1.9 | 20.0 |
| Calculated from surrounding links, County Vehicle Composition Data 2017 | 5037_5062_58258 | PEW_2Rdbt_ | 41390 | 3.0 | 20.0 |

**Notes**

Traffic flows and vehicle class compositions were taken from the Gloucestershire County Council roads traffic database and the DfT traffic count point database

Traffic speeds were modelled at either the relevant speed limit for each road or where available monitored vehicle speeds

Where appropriate, vehicle speeds have been reduced to simulate queues at junctions, traffic lights and other locations where queues or slower traffic are known to be an issue – in accordance with LAQM TG(16)[1]

# Appendix D – Receptor Locations and Corresponding Modelled Predictions

## Table D.1 – Predicted 2019 Annual Mean Concentrations of $NO_2$, $PM_{10}$ and $PM_{2.5}$ at Discrete Receptor Locations

| Receptor ID | Verification Zone | X | Y | Height | Closest address/post code | 2019 Annual Mean Concentration (µg/m³) | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | $NO_2$ | $PM_{10}$ | $PM_{2.5}$ |
| 1 | 2 | 391956 | 222037 | 1.5 | GL51 6BW | 33.7 | 17.7 | 11.7 |
| 2 | 2 | 391862 | 222021 | 1.5 | GL51 6BP | 29.6 | 17.4 | 11.4 |
| 3 | 2 | 392013 | 222033 | 1.5 | GL51 6BN | 28.0 | 17.4 | 11.5 |
| 4 | 2 | 392006 | 222119 | 1.5 | GL51 7TY | 51.9 | 22.1 | 14.3 |
| 5 | 2 | 391990 | 222184 | 1.5 | GL51 7TX | 39.4 | 18.6 | 12.2 |
| 6 | 2 | 392064 | 222078 | 1.5 | GL51 7TT | 32.8 | 18.8 | 12.3 |
| 7 | 2 | 391905 | 222033 | 1.5 | GL51 6BP | 31.6 | 17.6 | 11.6 |
| 8 | 2 | 391777 | 221979 | 1.5 | GL51 6BP | 29.0 | 17.6 | 11.5 |
| 9 | 2 | 392123 | 222065 | 1.5 | GL51 7TW | 28.3 | 17.9 | 11.8 |
| 10 | 2 | 391994 | 222245 | 1.5 | GL51 7ST | 30.1 | 16.9 | 11.2 |
| 11 | 2 | 392027 | 222160 | 1.5 | GL51 7TY | 31.4 | 17.8 | 11.8 |
| 12 | 2 | 392053 | 222120 | 1.5 | GL51 7TS | 28.3 | 17.4 | 11.5 |
| 13 | 2 | 391887 | 222101 | 0.0 | GL51 0FS | 47.4 | 21.3 | 13.7 |
| 14 | 2 | 391851 | 222092 | 0.0 | GL51 0FQ | 35.7 | 18.7 | 12.2 |
| 15 | 2 | 391922 | 222156 | 0.0 | GL51 0FW | 39.7 | 18.8 | 12.3 |
| 16 | 2 | 391932 | 222189 | 0.0 | GL51 0FP | 33.2 | 17.5 | 11.5 |
| 17 | 2 | 391910 | 222136 | 0.0 | GL51 0FT | 42.7 | 19.6 | 12.7 |
| 18 | 2 | 391891 | 222162 | 0.0 | GL51 0FT | 28.2 | 16.8 | 11.1 |
| 19 | 2 | 391999 | 222324 | 1.5 | GL51 7SW | 27.4 | 16.8 | 11.1 |
| 20 | 2 | 392118 | 222637 | 1.5 | GL51 7SG | 26.4 | 16.9 | 11.3 |
| 21 | 2 | 392126 | 222688 | 4.0 | GL51 7SQ | 31.8 | 17.8 | 11.8 |
| 22 | 2 | 392140 | 222696 | 4.0 | GL51 7SF | 33.6 | 18.0 | 11.9 |
| 23 | 2 | 392201 | 222734 | 1.5 | GL51 7RS | 36.7 | 18.5 | 12.2 |
| 24 | 2 | 392206 | 222770 | 1.5 | GL51 7RS | 36.5 | 18.5 | 12.2 |
| 25 | 2 | 392106 | 222783 | 1.5 | GL51 0GY | 32.8 | 17.8 | 11.8 |
| 26 | 2 | 392217 | 222852 | 1.5 | GL51 7NZ | 35.1 | 19.0 | 12.5 |
| 27 | 2 | 392241 | 222986 | 1.5 | GL51 7PX | 30.8 | 18.2 | 12.0 |
| 28 | 2 | 392260 | 223050 | 1.5 | GL51 7PT | 30.6 | 18.2 | 12.1 |
| 29 | 2 | 392297 | 223125 | 1.5 | GL51 7NJ | 32.6 | 18.7 | 12.3 |
| 30 | 2 | 392443 | 223306 | 1.5 | GL51 7LT | 28.9 | 17.8 | 11.9 |
| 31 | 2 | 392471 | 223340 | 1.5 | GL51 7LR | 30.3 | 18.2 | 12.0 |
| 32 | 2 | 392518 | 223418 | 1.5 | GL51 0BL | 30.9 | 18.3 | 12.1 |
| 33 | 2 | 392549 | 223394 | 1.5 | GL51 7PN | 28.9 | 17.9 | 11.9 |
| 34 | 2 | 392895 | 223576 | 1.5 | GL51 7PF | 39.7 | 20.4 | 13.3 |
| 35 | 2 | 392995 | 223628 | 1.5 | GL51 7PE | 30.5 | 18.1 | 12.0 |
| 36 | 2 | 393052 | 223608 | 1.5 | , GL51 7NY | 26.8 | 17.0 | 11.4 |
| 37 | 2 | 393127 | 223760 | 1.5 | GL51 0UW | 28.3 | 17.3 | 11.5 |
| 38 | 2 | 393186 | 223833 | 1.5 | GL51 0UW | 32.0 | 18.0 | 11.9 |
| 39 | 2 | 393125 | 224021 | 1.5 | GL51 0BZ | 28.9 | 17.3 | 11.2 |
| 40 | 2 | 393103 | 224039 | 1.5 | GL51 0BZ | 28.1 | 17.2 | 11.1 |
| 41 | 2 | 393057 | 224059 | 1.5 | GL51 0BZ | 23.8 | 16.2 | 10.5 |
| 42 | 2 | 393415 | 223732 | 1.5 | GL51 9DZ | 27.4 | 17.3 | 11.5 |
| 43 | 2 | 393487 | 223659 | 1.5 | GL51 9EH | 26.7 | 17.2 | 11.5 |
| 44 | 2 | 393740 | 223507 | 1.5 | GL51 9DP | 29.3 | 17.9 | 11.9 |
| 45 | 2 | 393793 | 223471 | 1.5 | GL51 9DN | 28.7 | 17.7 | 11.8 |
| 46 | 2 | 393909 | 223378 | 1.5 | GL51 9BN | 28.4 | 17.7 | 11.8 |
| 47 | 2 | 394048 | 223227 | 1.5 | GL51 9AR | 29.3 | 17.8 | 11.9 |

| Receptor ID | Verification Zone | X | Y | Height | Closest address/post code | 2019 Annual Mean Concentration (µg/m³) | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | $NO_2$ | $PM_{10}$ | $PM_{2.5}$ |
| 48 | 2 | 393989 | 223296 | 1.5 | GL51 9AS | 29.6 | 18.0 | 11.9 |
| 49 | 2 | 394109 | 223171 | 1.5 | GL51 9HR | 29.1 | 17.6 | 11.8 |
| 50 | 1 | 394259 | 223038 | 1.5 | GL51 9HA | 39.4 | 19.2 | 12.7 |
| 51 | 1 | 394248 | 223050 | 1.5 | GL51 9HD | 39.1 | 19.2 | 12.7 |
| 52 | 1 | 394281 | 223013 | 1.5 | GL51 9ER | 35.7 | 18.9 | 12.5 |
| 53 | 1 | 394233 | 223001 | 3.5 | GL51 8DW | 35.1 | 18.5 | 12.3 |
| 54 | 1 | 394205 | 222989 | 1.5 | GL51 8PQ | 36.1 | 18.5 | 12.2 |
| 55 | 1 | 394250 | 223000 | 3.5 | GL51 8DW | 40.6 | 19.6 | 12.9 |
| 56 | 1 | 394271 | 222984 | 3.5 | GL51 9ER | 41.9 | 20.1 | 13.1 |
| 57 | 1 | 394307 | 222979 | 1.5 | GL50 3HZ | 46.8 | 21.5 | 13.9 |
| 58 | 1 | 394341 | 222954 | 1.5 | GL50 3HX | 47.0 | 21.4 | 13.8 |
| 59 | 1 | 394314 | 222951 | 3.5 | GL50 3JA | 39.6 | 19.7 | 12.8 |
| 60 | 1 | 394360 | 222917 | 1.5 | GL50 3JA | 56.7 | 22.1 | 14.3 |
| 61 | 1 | 394380 | 222929 | 1.5 | GL50 3HU | 51.1 | 20.9 | 13.7 |
| 62 | 1 | 394384 | 222898 | 1.5 | GL50 3NZ | 36.1 | 18.1 | 12.0 |
| 63 | 1 | 394497 | 222986 | 1.5 | GL50 4BE | 31.1 | 17.8 | 11.7 |
| 64 | 1 | 394609 | 222942 | 1.5 | GL50 4AS | 34.6 | 18.6 | 12.2 |
| 65 | 1 | 394519 | 222978 | 1.5 | GL50 4BD | 27.3 | 17.0 | 11.3 |
| 66 | 1 | 394670 | 222934 | 1.5 | GL50 4AH | 32.9 | 18.3 | 12.0 |
| 67 | 1 | 394691 | 222931 | 1.5 | GL50 4AH | 30.2 | 17.7 | 11.7 |
| 68 | 1 | 394727 | 222916 | 1.5 | GL50 4AH | 32.5 | 18.1 | 11.9 |
| 69 | 1 | 394684 | 222901 | 1.5 | GL50 4AH | 30.9 | 17.8 | 11.7 |
| 70 | 1 | 394665 | 222914 | 1.5 | GL50 4AS | 40.7 | 20.2 | 13.1 |
| 71 | 1 | 394745 | 222886 | 1.5 | GL50 4AL | 44.4 | 19.7 | 12.9 |
| 72 | 1 | 394763 | 222879 | 1.5 | GL50 4AL | 44.7 | 19.8 | 13.0 |
| 73 | 1 | 394788 | 222866 | 1.5 | GL50 4AL | 34.3 | 18.4 | 12.1 |
| 74 | 1 | 394823 | 222852 | 1.5 | GL50 4AL | 39.9 | 18.9 | 12.4 |
| 75 | 1 | 394835 | 222868 | 4.0 | GL50 4FF | 34.2 | 17.8 | 11.8 |
| 76 | 2 | 394973 | 222739 | 1.5 | GL50 4FB | 32.8 | 18.1 | 11.9 |
| 77 | 2 | 394994 | 222723 | 1.5 | GL50 4DZ | 32.4 | 18.0 | 11.9 |
| 78 | 2 | 395033 | 222681 | 1.5 | GL50 4FH | 35.9 | 18.5 | 12.2 |
| 79 | 2 | 395116 | 222668 | 3.5 | GL52 2NB | 35.8 | 18.3 | 12.1 |
| 80 | 2 | 395101 | 222643 | 3.5 | GL52 2NB | 30.6 | 17.5 | 11.6 |
| 81 | 2 | 395204 | 222614 | 1.5 | GL52 2NY | 35.5 | 18.4 | 12.2 |
| 82 | 2 | 395231 | 222606 | 1.5 | GL52 2NY | 32.8 | 18.4 | 12.1 |
| 83 | 2 | 395213 | 222640 | 1.5 | GL52 2NN | 37.7 | 18.6 | 12.3 |
| 84 | 2 | 395260 | 222588 | 1.5 | GL52 2AT | 29.1 | 17.8 | 11.8 |
| 85 | 2 | 395252 | 222625 | 1.5 | GL52 2AT | 28.7 | 17.6 | 11.7 |
| 86 | 2 | 395311 | 222590 | 1.5 | GL52 2JL | 26.0 | 17.2 | 11.4 |
| 87 | 2 | 395280 | 222567 | 1.5 | GL52 2AD | 25.2 | 17.0 | 11.3 |
| 88 | 2 | 395284 | 222575 | 3.5 | GL52 2AD | 27.1 | 17.5 | 11.6 |
| 89 | 2 | 395396 | 222527 | 1.5 | GL52 2EH | 25.5 | 17.1 | 11.4 |
| 90 | 2 | 395360 | 222389 | 1.5 | GL52 2LF | 28.2 | 17.5 | 11.6 |
| 91 | 2 | 395413 | 222477 | 1.5 | GL52 2EX | 26.2 | 17.3 | 11.5 |
| 92 | 2 | 395352 | 222332 | 1.5 | GL52 2LE | 30.8 | 17.7 | 11.7 |
| 93 | 2 | 395026 | 222573 | 3.5 | GL52 2LH | 24.3 | 16.8 | 11.2 |
| 94 | 2 | 395072 | 222561 | 3.5 | GL52 2LP | 24.0 | 16.7 | 11.2 |
| 95 | 2 | 395127 | 222521 | 3.5 | GL52 2LP | 25.0 | 16.9 | 11.3 |
| 96 | 2 | 395146 | 222509 | 3.5 | GL52 2RQ | 24.6 | 16.8 | 11.2 |
| 97 | 2 | 395178 | 222487 | 3.5 | GL52 2RQ | 23.3 | 16.6 | 11.1 |
| 98 | 2 | 395236 | 222449 | 1.5 | GL52 2RW | 24.1 | 16.8 | 11.2 |
| 99 | 2 | 395322 | 222292 | 1.5 | GL52 2UG | 27.4 | 17.1 | 11.4 |

| Receptor ID | Verification Zone | X | Y | Height | Closest address/post code | 2019 Annual Mean Concentration (µg/m³) | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | $NO_2$ | $PM_{10}$ | $PM_{2.5}$ |
| 100 | 2 | 395385 | 222232 | 1.5 | GL52 2SW | 33.5 | 18.8 | 12.4 |
| 101 | 2 | 395398 | 222240 | 1.5 | GL52 2SS | 38.8 | 20.1 | 13.1 |
| 102 | 2 | 395415 | 222228 | 1.5 | GL52 2SU | 33.5 | 18.8 | 12.3 |
| 103 | 2 | 395416 | 222180 | 1.5 | GL52 2SY | 32.4 | 18.6 | 12.2 |
| 104 | 2 | 395407 | 222154 | 1.5 | GL52 2SY | 30.1 | 18.1 | 11.9 |
| 105 | 2 | 395353 | 222127 | 1.5 | GL52 6GA | 30.7 | 18.1 | 12.0 |
| 106 | 2 | 395343 | 222072 | 1.5 | GL52 6GA | 39.9 | 19.6 | 12.9 |
| 107 | 2 | 395328 | 222080 | 1.5 | GL52 6DB | 40.8 | 19.7 | 12.9 |
| 108 | 2 | 395290 | 222028 | 1.5 | GL50 1DZ | 33.4 | 18.4 | 12.2 |
| 109 | 2 | 395267 | 222053 | 1.5 | GL50 1DZ | 31.6 | 18.1 | 12.0 |
| 110 | 2 | 395252 | 222069 | 1.5 | GL50 1EE | 30.5 | 17.9 | 11.9 |
| 111 | 2 | 395268 | 222086 | 1.5 | GL52 6DA | 35.1 | 18.9 | 12.4 |
| 112 | 2 | 395196 | 222149 | 3.5 | GL50 1EE | 32.9 | 18.4 | 12.2 |
| 113 | 2 | 395184 | 222161 | 3.5 | GL50 1EE | 32.7 | 18.4 | 12.1 |
| 114 | 2 | 395187 | 222183 | 4.0 | GL50 1DU | 30.2 | 17.9 | 11.8 |
| 115 | 2 | 395175 | 222170 | 3.5 | GL50 1EE | 35.3 | 18.9 | 12.4 |
| 116 | 2 | 395152 | 222150 | 3.5 | GL53 7HA | 32.2 | 18.0 | 12.0 |
| 117 | 2 | 395078 | 222109 | 1.5 | GL53 7HG | 32.7 | 18.6 | 12.3 |
| 118 | 2 | 395052 | 222086 | 1.5 | GL53 7HG | 30.4 | 18.2 | 12.0 |
| 119 | 2 | 395035 | 222036 | 1.5 | GL53 7HW | 31.3 | 18.4 | 12.1 |
| 120 | 2 | 395021 | 222049 | 0.0 | GL53 7HG | 34.8 | 19.2 | 12.6 |
| 121 | 2 | 395018 | 222016 | 1.5 | GL53 7HJ | 30.4 | 18.2 | 12.0 |
| 122 | 2 | 395000 | 221994 | 0.0 | GL53 7HJ | 29.3 | 17.3 | 11.5 |
| 123 | 2 | 394909 | 222010 | 1.5 | GL50 1XP | 25.5 | 16.5 | 11.0 |
| 124 | 2 | 394557 | 221997 | 4.0 | GL50 1NN | 26.3 | 16.6 | 11.1 |
| 125 | 2 | 394544 | 221981 | 4.0 | GL50 1SA | 26.0 | 16.5 | 11.1 |
| 126 | 2 | 394438 | 221748 | 0.0 | GL50 1US | 31.0 | 17.1 | 11.4 |
| 127 | 2 | 394470 | 221731 | 0.0 | GL50 1UX | 28.5 | 16.7 | 11.2 |
| 128 | 2 | 394496 | 221718 | 0.0 | GL50 1UX | 28.2 | 16.7 | 11.2 |
| 129 | 2 | 394614 | 221673 | 0.0 | GL50 2XH | 28.0 | 16.6 | 11.1 |
| 130 | 2 | 394595 | 221677 | 0.0 | GL50 2XL | 26.9 | 16.5 | 11.0 |
| 131 | 2 | 394702 | 221314 | 1.5 | GL53 7LS | 26.1 | 16.7 | 11.2 |
| 132 | 2 | 394614 | 221161 | 1.5 | GL53 7LY | 26.4 | 16.8 | 11.2 |
| 133 | 2 | 394588 | 221111 | 1.5 | GL53 7LZ | 27.5 | 16.9 | 11.3 |
| 134 | 2 | 394577 | 221075 | 1.5 | GL53 7ND | 38.7 | 18.6 | 12.3 |
| 135 | 2 | 394569 | 221063 | 0.0 | GL53 7NA | 34.2 | 17.7 | 11.8 |
| 136 | 2 | 394563 | 221045 | 0.0 | GL53 7NA | 35.1 | 17.9 | 11.9 |
| 137 | 2 | 394542 | 221004 | 3.5 | GL53 0JB | 38.9 | 18.5 | 12.3 |
| 138 | 2 | 394536 | 220998 | 1.5 | GL53 0JB | 38.0 | 18.5 | 12.3 |
| 139 | 2 | 394500 | 220958 | 1.5 | GL53 0JA | 40.7 | 20.5 | 13.4 |
| 140 | 2 | 394481 | 220947 | 1.5 | GL53 0JA | 31.5 | 18.2 | 12.1 |
| 141 | 2 | 394440 | 220913 | 1.5 | GL50 2DP | 30.5 | 18.0 | 12.0 |
| 142 | 2 | 394888 | 221370 | 1.5 | GL53 7AA | 27.8 | 16.7 | 11.2 |
| 143 | 2 | 394926 | 221349 | 1.5 | GL53 7AA | 28.4 | 16.8 | 11.3 |
| 144 | 2 | 394966 | 221934 | 1.5 | GL53 7JT | 26.1 | 16.7 | 11.2 |
| 145 | 2 | 395154 | 221832 | 0.0 | GL53 7HX | 27.5 | 16.5 | 11.0 |
| 146 | 2 | 395139 | 221810 | 0.0 | GL53 7HX | 28.7 | 16.7 | 11.2 |
| 147 | 2 | 395365 | 222007 | 0.0 | GL52 6DE | 38.6 | 19.1 | 12.6 |
| 148 | 2 | 395385 | 221995 | 0.0 | GL52 6DF | 32.4 | 17.4 | 11.6 |
| 149 | 2 | 395420 | 221969 | 0.0 | GL52 6DF | 31.9 | 17.3 | 11.5 |
| 150 | 2 | 395631 | 221711 | 1.5 | GL52 6DF | 30.6 | 17.0 | 11.4 |
| 151 | 2 | 395679 | 221690 | 0.0 | GL52 6DF | 37.8 | 18.2 | 12.1 |

| Receptor ID | Verification Zone | X | Y | Height | Closest address/post code | 2019 Annual Mean Concentration (µg/m³) | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | $NO_2$ | $PM_{10}$ | $PM_{2.5}$ |
| 152 | 2 | 395661 | 221670 | 1.5 | GL52 6DF | 37.9 | 18.3 | 12.1 |
| 153 | 2 | 395632 | 221689 | 1.5 | GL52 6EW | 30.7 | 17.0 | 11.4 |
| 154 | 2 | 395604 | 221656 | 0.0 | GL52 6EW | 28.4 | 16.6 | 11.1 |
| 155 | 2 | 395491 | 221471 | 1.5 | GL52 6EW | 27.9 | 16.6 | 11.1 |
| 156 | 2 | 395539 | 221509 | 1.0 | GL52 6EW | 32.1 | 17.3 | 11.5 |
| 157 | 2 | 395679 | 221645 | 0.0 | GL52 6EW | 33.2 | 17.5 | 11.7 |
| 158 | 2 | 395690 | 221629 | 0.0 | GL52 6EH | 29.9 | 17.2 | 11.5 |
| 159 | 2 | 395706 | 221612 | 0.0 | GL52 6EH | 30.5 | 17.6 | 11.7 |
| 160 | 2 | 395745 | 221555 | 0.0 | GL52 6EH | 26.2 | 16.8 | 11.2 |
| 161 | 2 | 395830 | 221496 | 1.5 | GL52 6EH | 29.5 | 17.6 | 11.7 |
| 162 | 2 | 395865 | 221446 | 0.0 | GL52 6EH | 37.9 | 19.7 | 12.9 |
| 163 | 2 | 395934 | 221371 | 1.5 | GL52 6SD | 31.6 | 17.9 | 11.9 |
| 164 | 2 | 395955 | 221350 | 0.0 | GL52 6SD | 33.8 | 17.7 | 11.8 |
| 165 | 2 | 395121 | 222686 | 3.5 | GL52 2NP | 35.4 | 18.1 | 12.0 |
| 166 | 2 | 395183 | 222799 | 0.0 | GL52 2NB | 33.7 | 17.9 | 11.9 |
| 167 | 2 | 395200 | 222829 | 0.0 | GL52 2NB | 34.4 | 17.9 | 11.9 |
| 168 | 2 | 395213 | 222847 | 1.5 | GL52 2AY | 35.7 | 18.2 | 12.1 |
| 169 | 2 | 395183 | 222858 | 0.0 | GL52 2AU | 35.0 | 18.2 | 12.0 |
| 170 | 2 | 395195 | 222885 | 0.0 | GL52 2AB | 38.1 | 18.8 | 12.4 |
| 171 | 2 | 395227 | 222872 | 0.0 | GL52 2AA | 39.0 | 18.9 | 12.5 |
| 172 | 2 | 395218 | 222939 | 0.0 | GL52 2AB | 29.4 | 17.7 | 11.7 |
| 173 | 2 | 395252 | 222929 | 0.0 | GL52 2AA | 28.3 | 17.4 | 11.6 |
| 174 | 2 | 395249 | 223022 | 0.0 | GL52 2AB | 26.8 | 16.3 | 10.9 |
| 175 | 2 | 395251 | 222732 | 0.0 | GL52 2NL | 35.4 | 17.8 | 11.9 |
| 176 | 2 | 395271 | 222773 | 0.0 | GL52 2NL | 34.5 | 17.7 | 11.8 |
| 177 | 2 | 395278 | 222788 | 0.0 | GL52 2NL | 34.1 | 17.8 | 11.8 |
| 178 | 2 | 395272 | 222823 | 1.5 | GL52 2AZ | 34.1 | 18.2 | 12.1 |
| 179 | 2 | 395292 | 222811 | 1.5 | GL52 2PN | 31.8 | 17.8 | 11.8 |
| 180 | 2 | 395323 | 222836 | 3.5 | GL52 2PN | 30.4 | 17.8 | 11.8 |
| 181 | 2 | 395351 | 222850 | 3.5 | GL52 2PN | 28.9 | 17.6 | 11.7 |
| 182 | 2 | 395386 | 222859 | 1.5 | GL52 2PP | 26.5 | 17.1 | 11.4 |
| 183 | 2 | 395416 | 222903 | 0.0 | GL52 2PW | 33.4 | 18.6 | 12.2 |
| 184 | 2 | 395448 | 222922 | 0.0 | GL52 2PW | 32.6 | 18.3 | 12.1 |
| 185 | 2 | 395457 | 222904 | 0.0 | GL52 2PN | 31.0 | 18.0 | 11.9 |
| 186 | 2 | 395437 | 222893 | 0.0 | GL52 2HP | 30.2 | 17.9 | 11.9 |
| 187 | 2 | 395516 | 222968 | 1.5 | GL52 2BY | 32.9 | 17.9 | 11.9 |
| 188 | 2 | 395550 | 222994 | 0.0 | GL52 2BZ | 27.7 | 17.4 | 11.6 |
| 189 | 2 | 395559 | 222958 | 0.0 | GL52 2BZ | 25.0 | 16.8 | 11.2 |
| 190 | 2 | 395636 | 223055 | 0.0 | GL52 3EP | 23.5 | 16.1 | 10.8 |
| 191 | 2 | 395714 | 223088 | 1.5 | GL52 3EP | 24.6 | 16.4 | 10.9 |
| 192 | 2 | 395758 | 223082 | 1.5 | GL52 2DJ | 21.7 | 15.8 | 10.6 |
| 193 | 2 | 395853 | 223178 | 1.5 | GL52 3EP | 23.5 | 16.2 | 10.8 |
| 194 | 2 | 395915 | 223249 | 1.5 | GL52 5DW | 23.6 | 16.2 | 10.8 |
| 195 | 2 | 395883 | 223208 | 1.5 | GL52 3EP | 21.9 | 15.9 | 10.6 |
| 196 | 2 | 395954 | 223309 | 1.5 | GL52 2DU | 25.4 | 16.6 | 11.0 |
| 197 | 2 | 395973 | 223295 | 1.5 | GL52 3EP | 23.0 | 16.1 | 10.7 |
| 198 | 2 | 396009 | 223322 | 1.5 | GL52 3EP | 23.8 | 16.3 | 11.0 |
| 199 | 2 | 396047 | 223373 | 1.5 | GL52 3EP | 31.9 | 18.1 | 12.0 |
| 200 | 2 | 396066 | 223362 | 1.5 | GL52 3EP | 22.5 | 16.0 | 10.8 |
| 201 | 2 | 396128 | 223430 | 1.5 | GL52 3EP | 26.5 | 16.9 | 11.3 |
| 202 | 2 | 396251 | 223555 | 1.5 | GL52 3EP | 25.5 | 16.7 | 11.2 |
| 203 | 2 | 396218 | 223491 | 1.5 | GL52 5ED | 21.8 | 15.9 | 10.7 |

| Receptor ID | Verification Zone | X | Y | Height | Closest address/post code | 2019 Annual Mean Concentration (µg/m³) | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | $NO_2$ | $PM_{10}$ | $PM_{2.5}$ |
| 204 | 2 | 396201 | 223518 | 1.5 | GL52 3EP | 23.2 | 16.2 | 10.9 |
| 205 | 2 | 396268 | 223530 | 1.5 | GL52 3EP | 20.7 | 15.7 | 10.6 |
| 206 | 2 | 396486 | 223639 | 1.5 | GL52 3DA | 20.8 | 15.7 | 10.6 |
| 207 | 2 | 396540 | 223662 | 1.5 | GL52 3DB | 21.4 | 15.8 | 10.7 |
| 208 | 2 | 396653 | 223717 | 1.5 | GL52 3DB | 29.5 | 17.5 | 11.7 |
| 209 | 2 | 392187 | 222049 | 1.5 | GL51 7TH | 26.8 | 17.7 | 11.7 |
| 210 | 2 | 392490 | 221878 | 1.5 | GL51 7TB | 25.7 | 17.2 | 11.5 |
| 211 | 2 | 392536 | 221855 | 1.5 | GL51 7TB | 25.8 | 17.2 | 11.5 |
| 212 | 2 | 392585 | 221837 | 1.5 | GL51 7TB | 26.0 | 17.3 | 11.5 |
| 213 | 2 | 392776 | 221809 | 1.5 | GL51 7AY | 30.2 | 18.2 | 12.0 |
| 214 | 2 | 392798 | 221834 | 1.5 | GL51 7AY | 35.3 | 19.3 | 12.7 |
| 215 | 2 | 392713 | 221806 | 0.0 | GL51 7AS | 26.0 | 17.2 | 11.5 |
| 216 | 2 | 392684 | 221810 | 0.0 | GL51 7AT | 26.0 | 17.2 | 11.5 |
| 217 | 2 | 392629 | 221823 | 1.5 | GL51 8NS | 26.4 | 17.4 | 11.6 |
| 218 | 2 | 392603 | 221831 | 1.5 | GL51 7TB | 26.2 | 17.3 | 11.5 |
| 219 | 2 | 392917 | 221841 | 1.5 | GL51 6QR | 35.2 | 18.1 | 12.1 |
| 220 | 2 | 393932 | 221637 | 1.5 | GL50 2TR | 36.4 | 18.0 | 11.9 |
| 221 | 2 | 393942 | 221655 | 1.5 | GL50 2HY | 35.5 | 17.9 | 11.8 |
| 222 | 2 | 393934 | 221604 | 1.5 | GL50 2TL | 36.8 | 18.7 | 12.3 |
| 223 | 2 | 393975 | 221659 | 0.0 | GL50 2HT | 26.7 | 16.4 | 10.9 |
| 224 | 2 | 394260 | 221789 | 0.0 | GL50 2HT | 28.5 | 16.9 | 11.3 |
| 225 | 2 | 394355 | 221753 | 0.0 | GL50 2QG | 33.4 | 17.4 | 11.6 |
| 226 | 2 | 392888 | 221866 | 0.0 | GL51 7AN | 29.2 | 17.2 | 11.5 |
| 227 | 2 | 392910 | 221854 | 1.5 | GL51 7AE | 36.9 | 18.7 | 12.4 |
| 228 | 2 | 392932 | 221871 | 1.5 | GL51 7AE | 34.7 | 18.1 | 12.0 |
| 229 | 2 | 392910 | 221884 | 1.5 | GL51 7AE | 30.1 | 17.3 | 11.6 |
| 230 | 2 | 392996 | 221920 | 1.5 | GL51 7AE | 30.3 | 17.1 | 11.5 |
| 231 | 2 | 393092 | 222036 | 1.5 | GL51 7AE | 31.2 | 17.1 | 11.6 |
| 232 | 2 | 393143 | 222083 | 1.5 | GL51 7HX | 28.9 | 16.7 | 11.3 |
| 233 | 2 | 393306 | 222175 | 1.5 | GL51 8QA | 28.5 | 16.8 | 11.4 |
| 234 | 2 | 393438 | 222318 | 0.0 | GL51 8NJ | 29.6 | 17.6 | 11.8 |
| 235 | 2 | 393494 | 222366 | 1.5 | GL51 8NQ | 27.2 | 17.1 | 11.5 |
| 236 | 2 | 393791 | 222585 | 1.5 | GL51 8NE | 28.2 | 16.7 | 11.3 |
| 237 | 2 | 393783 | 222613 | 1.5 | GL51 8NE | 35.3 | 18.1 | 12.2 |
| 238 | 2 | 393854 | 222754 | 1.5 | GL50 3RP | 29.9 | 17.1 | 11.5 |
| 239 | 2 | 393861 | 222768 | 1.5 | GL50 3RB | 29.7 | 17.0 | 11.5 |
| 240 | 2 | 393880 | 222809 | 1.5 | GL51 8NZ | 28.7 | 17.2 | 11.6 |
| 241 | 2 | 393913 | 222853 | 1.5 | GL51 8PA | 27.1 | 17.0 | 11.4 |
| 242 | 2 | 393865 | 222830 | 1.5 | GL51 8NE | 28.6 | 17.3 | 11.6 |
| 243 | 2 | 393883 | 222855 | 1.5 | GL51 8NE | 30.1 | 17.7 | 11.8 |
| 244 | 1 | 394179 | 222979 | 1.5 | GL51 8LN | 34.5 | 18.5 | 12.1 |
| 245 | 1 | 394170 | 222975 | 1.5 | GL51 8LN | 33.8 | 18.3 | 12.1 |
| 246 | 2 | 391663 | 221919 | 1.5 | GL51 6BW | 27.6 | 17.3 | 11.4 |
| 247 | 2 | 391500 | 221823 | 1.5 | GL51 6BL | 22.7 | 16.3 | 10.7 |
| 248 | 2 | 391296 | 221888 | 1.5 | GL51 0UA | 28.0 | 17.1 | 11.2 |
| 249 | 2 | 391516 | 221929 | 1.5 | GL51 0FH | 31.7 | 18.3 | 11.9 |

## Appendix vi: Consultation Responses:

### Cheltenham Borough Council Air Quality Action Plan

### Consultation responses

| | Feed Back Received | Officer Comments |
|---|---|---|
| 1 | Air quality is not good in Cheltenham Traffic is bad across the town | Monitoring has highlighted 1 hotspot where $NO_2$ is exceeded and the air quality action plan to improve air quality specifically targets this area. We recognize the emphasis on PM control. |
| 2 | The traffic in Cheltenham is shocking. Moving around the town difficult. Bus fares are too expensive to incentivise people to use buses and leave cars at home. CBC needs to do much more. We have no bus station - over 25 yrs ago old black and white demolished and turned into a car park ! Royal well needs more facilities. Cheltenham is a festival town yet no decent facilities re public transport. All of this poor planning contributes to situation our town is now in | The Borough's vision for sustainable travel is detailed in the Connecting Cheltenham report. All levels of Local government are expected to commit to taking action and The Environment Act 2021 reinforces that responsibility for solutions to poor air quality is shared across local government. Cheltenham Borough Council have developed a collaborative approach reflecting the need for upper and lower tiers and key partners to work together to reduce pollution and improve air quality. GCC have produced the Local Transport plan to address this and we continue to work with them. |
| 3 | Energy crisis leading to more wood burning stoves used. These are particularly polluting.<br>What mitigation actions are we considering for these? How are we enforcing the recent ban on burning green wood?<br><br>The most polluted junction I know is the bridge over the train tracks where Gloucester Road meets the A40. Average levels are not representative of the harmful photochemical smog there on a sunny and still day. This is a major transit route for Dean Close and Bournside Schools with hundreds of children a day crossing the junction. It is also the main commuter cycle route into/from town. Please set up some monitoring, no results are included in this report. | Technically the action plan only has to deal with reducing pollutants within the declared air quality management area as this is where the identified problem requires specific targeted action within a defined time. $NO_2$ is the pollutant causing the exceedance, hence the declared AQMA. Wood burning stoves are not the main contributor to the $NO_2$ problem but as part of a wider action plan, we acknowledge the effect that wood burning stoves have on the levels of PMs and so have now included reference to this. Monitoring is carried out in this vicinity along the A40 and locations can be viewed on our website and within the technical reports. |
| 4 | Lacks concrete action to cut down on or even better prevent use of log burners for domestic heating. These have been shown to be a major cause air pollution in urban areas, they are completely unnecessary and their use is only going to increase as people try and save on heating bills - at the further expense of air quality in residential areas. | See comments at 3 above |
| 5 | Too many cars and not enough 'good' cycle provision. | More specific information would enable comments but cycling provision is referenced in this plan and in supporting documents |
| 6 | I believe there is an option to work with the county council and have a county approach to traffic and clean air. Consider changing bus lanes into green lanes. Self fund for green vehicles to pay for a green plate to enable use of the green lane. Approach can be for a 5 year green lane license. Adjust central areas of town into green zones and make some | The new Environment Act strengthens the statutory responsibly for upper and lower tier organisations to work together and this will be reflected as we work through the actions. These initiatives such as green plates will form part of a wider conversation with GCC as with CAZ |

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| | spaces in car parks free for green plates. Make cou aspirational. | |
| 7 | We need to build a bypass, so that traffic is taken away from the town , not driven through,<br>The bus service is a failure<br>The cycle path is a failure, we keep building houses, but the roads stay the same, grid lock is on the horizon, without a bypass | The Cheltenham plan in conjunction with the JCS ensures development is assessed in terms of traffic and travel patterns. Comments regarding a bypass will be discussed with GCC and incorporated into any revision if appropriate. |
| 8 | Although transport is clearly a major source of air pollution the action plan only focuses on this. It ignores the high levels of pollution created by the generators used to power the events held in Montpellier and Imperial Gardens. The Ice Rink in 2021/22 consumed 34,540 litres of fuel, the Literature Festival 14,004. Add in all the other events and you are looking at in excess of 70,000 litres. How many thousand car journeys through Cheltenham would you need to consume 70k litres? How many tonnes of CO2 are emitted, how much NOx and Particulate pollution? It is not just the air pollution but the loss of access to these important green spaces. These events are all due to CBC policies and are totally in their control. There are alternative ways to deliver these events but I do not see anything in the Air Quality Action Plan to address this.<br><br>The air quality monitoring programme in Cheltenham does not cover the sites where these events take place. This is significant air pollution and both Imperial and Montpellier Gardens should be monitored. | Our climate emergency impact assessment tool has been introduced for key decisions and policies. This will highlight activities of concern regarding air pollution. We are also working with Chelt Zero, Cheltenham Festival, Climate Team and our Green Space Team to promote the 'green events code for event organisers. We review our monitoring commitments regularly and will consider the request of specific monitoring sites where appropriate. |
| 9 | Current WHO guidelines demand air quality standards beyond CBC targets and indicate most areas of Cheltenham beyond the AQAA are unsatisfactory levels of pm2. 5 and nitrous oxides. | The WHO targets are guidelines. They have recently revised the level for $NO_2$ from 40 to10µg/$m^3$ and for PM2.5 from 10µg/$m^3$ to 5 µg/$m^3$ to reflect that there is no 'safe' level of pollution. Most areas would exceed this level and will be difficult to achieve without substantial investment and commitment but they are levels we would aspire to. New regulations require the UK to achieve as a minimum annual mean levels of PM 2.5 of 10µg/$m^3$ by 2040 |
| 10 | A lot of the plans involve 'encouraging' various things such as taxis not idling. It is naive to expect that encouragement will do anything on a large scale.<br><br>The biggest issue in my opinion is that there is no real plan for alternatives to car. Cheltenham is uniquely placed to be a very car free city because of its size but the infrastructure is so incredibly poor. I would love to cycle locally but it is so dangerous. So many of the roads are narrow and so parked up with cars that there is really only room for traffic in one direction but are still 2 way. In particular, St Paul's road comes to mind. This makes cyclist incredibly vulnerable as cars try to squeeze past. There are very few proper cycle lanes and to encourage people to feel safe enough to cycle you need proper, segregated lanes. There are some appalling example of cycling infrastructure across Cheltenham including a symbol just being painted on the road, or cycle lanes just disappearing at narrow pinch points. The roads are also full of potholes - unpleasant in a car but potentially lethal on a bike. The Honeybourne line is always full of cyclists (and not just leisure cyclists but people using It as a means of transport) which just goes to show that is safe cycle infrastructure is there people | It is recognised that some action are more tangible than others. Some are enforceable by law and some are not. Encouragement can have more sustained behaviour change. Enforcement in most cases would always adopt a graduated approach starting with education and encouragement. GCC road safety policy was out for consultation for 8 weeks from 18th July 2022 to 11 September 2022. The long-term aspiration was 'vision zero' to aspire to stop all traffic fatalities and serious injuries by 2050, increasing safe and healthy travel for all aiming to increase safety for cycling. We will continue to work with County who have responsibility for pavements and on street parking responsibilities. We will continue to work with GCC on active travel. |

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| | will use it. Even for pedestrians most of the pavements horrible to walk on. I am near this high pollution zone and on the pavements Cars are often parked half on/half off pavements or they are filled with bins. The pavements themselves are filled with cracks or on such a slope that no wheelchair or pram could safely use them.<br><br>The report clearly identifies the overwhelming issue is from transport yet there are no meaningful solutions for this. You need to have a proper plan for cycling to be a viable alternative, waking to be pleasant and reliable and regular bus services for those not able to walk/cycle. | |
| 11 | Royal Mail is proud to deliver a one-price-goes-anywhere universal postal service to residents and businesses in Cheltenham, connecting our customers with the rest of the country. We collect and deliver letters and parcels to every address across the UK and have launched – and are continuing to develop – new services, such as our parcel collection service 'Parcel Collect', Sunday parcel deliveries and the expansion of our pharmaceutical delivery services. This requires driving in Cheltenham, including in the proposed Clean Air Zone (CAZ), every day.<br><br>As part of this, we recognise the impact we have on the environment and take our responsibilities to the communities we serve extremely seriously. As a result, Royal Mail recently launched an ambitious new environment plan, Steps to Zero, which includes a long term target to bring down the average carbon emissions per parcel we deliver in the UK by c.75%, from 205gCO2e today to 50gCO2e. We have also brought forward our net zero target by a decade to 2040. We are committing to near term emissions targets in line with climate science, reducing absolute Scope 1 and 2 greenhouse gas emissions by 25% by 2025/26 and Scope 3 emissions by 25% by 2030, from a 2020/1 base year.<br><br>Royal Mail is unique in that, unlike other parcel operators, the majority of our last mile deliveries in Cheltenham town involve an element of 'on foot' transportation – either our postmen and women use a high-capacity trolley for their entire route, or they use a combination of on foot delivery with some van-based transport that we call "park and loop". This helps to keep emissions low and reduce congestion with fewer vehicles on the road.<br><br>Based on our own analysis, we offer the lowest reported CO2 per parcel of any major UK delivery operator. Royal Mail is working hard to transform its vehicles to low or zero emission standards. We now have over 3,700 EVs across over 100 sites in the UK. We have made a commitment to increasing this to c.5,000 EVs with an investment of £12.5m in charging infrastructure in 2022/23. We continue to replace diesel vans with electric vans to level-up our operation and to help improve air quality in local communities.<br><br>Delivering the universal postal service requires a diverse fleet. In Cheltenham, this includes 96 vans and 20 7.5 tonne trucks (transporting the mail between the local mail centre (Bristol Mail Centre, Gloucester Road North, BS34 7ST) and into the Delivery Office each day). We recognise that the Delivery Office is located on the parameter of the proposed zone (on Swindon Road, GL50 4BB) and have spoken to you before about the impact our vehicles have on Cheltenham. Currently | We thank Royal Mail for their update and continued engagement regarding their business operations and the potential impact within the AQMA. No CAZ has yet been proposed. It is an initiative which has been implemented in some urban areas where the data determines it is necessary and further discussions and evaluation by GCC will be necessary. |

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| | around 50% of the vehicles are compliant under the proposed CAZ. We are striving for 100% of our vehicles to be compliant when the CAZ comes into force.<br><br>We want to prioritise electrifying Cheltenham Delivery Office but have faced a number of challenges. These include the costs associated with upgrading the power supply to the site which are much higher than elsewhere, and the limited space on site available to us:<br>Two independent contractors have reviewed the site and have come to the same conclusion that introducing EV charging at the delivery office would be extremely challenging. We have instructed a third to review again. This will include load balancing etc. to try and reduce the required electricity supply.<br><br>This is a difficult site to electrify. At present the only option available is to swap older non-compliant diesel and petrol vans out with compliant Euro 6 vans. However, we recognise the importance of reducing emissions in Cheltenham and want to work with you to do so. We would therefore welcome the opportunity to discuss this with you to understand if we can work collaboratively to resolve and overcome these challenges. We are equally interested to discuss any plans for funding grants for electric vehicle charging infrastructure. This office uses public parking so we particularly welcome discussion regarding plans for public charging infrastructure and how it might be made available to Royal Mail vehicles.<br><br>We look forward to hearing from you to discuss how we can work together to electrify Royal Mail's Cheltenham Delivery Office. | |
| 12 | Vision 21 has mixed views on the AQAP. The aspirations are good, but the implementation period needs to be timetabled. Also, air quality levels are relatively poor throughout the town and the AQMA itself is only 0.03km2 in area, which is to small, since virtually all of the town's population and greater than 99% of the town is actually outside of the AQMA. As such, we ask that the AQMA is extended as quickly as practical to include other parts of the town.<br><br>Comments on the plan<br>1. Continue to review and develop the Air Quality Strategy for the borough, expanding on The actions and measures outlined in the Air Quality Action Plan through consultation and engagement with partners.<br>We feel it is particularly important that at a review is undertaken on an annual basis and the AQAP is revised to meet any new legislation or to take opportunities concerning new planning developments into consideration.<br><br>2. Work with Gloucestershire County Council Highways to explore the viability of creating Car-free Zones and/or Emissions Charging Zones.<br>We want to see greater cooperation between the two authorities and we would like to see active progress towards the introduction of car free zones and possible emission charging zones.<br><br>3. Aspire to reduce the levels of NO2 below the national target objective of 40µg of NO2/m3 and aim for continuous improvement in this measure.<br>We would like to see active steps included within the AQAP to back up this aspiration and see it stated that new steps will be | We will ensure that all actions have an appropriate time frame assigned. The declaration of an AQMA is a statutory process and made when levels of pollutants exceed or are likely to exceed set objective/limits. Where there data indicates any exceedance then the management area will be declared. We will continually review the data and act according but the additional wider actions will have benefits across the Town as a whole. Internal progress reports will be submitted every 6 months and an annual status review is submitted to Defra each year. Provisions in the new Environment Act reinforce joint working arrangements between upper and lower tiered Authorities. The levels of $NO_2$ can be viewed on line and are low except within the AQMA. It is acknowledge that some of the measures can and are being done in house using existing resources but additional resources will be need for others and we will be further evaluating each measure during the planning phase. We will include the comment on taxis during any revision of our Licensing Policy on Private Hire and Taxis.<br><br>We will maintain a close working relationship with CheltZero as one of our key partners as we progress the action points. We will consolidate existing data regarding travel choices from the Active Travel team at GCC and CBC have an EV roll out programme and |

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| | introduced should any new limitations be introduced during the lifetime of the plan<br><br>4. Review the borough's Smoke Control Zones.<br>We agree with this action without comment<br><br>5. Undertake education and awareness campaigns:<br>a. Engage with NHS Gloucestershire to raise awareness of the effects of exposure to poor air quality where limits are exceeded.<br>b. Create a Public Health Awareness Campaign around high levels of air pollution in partnership with the county council.<br><br>6. Engage with the university, Gloucestershire College, schools and their students to raise awareness of air quality issues and action possible to improve air quality<br><br>7. Ensure that the planning and design of the Golden Valley Development sets a standard For high air quality in an urban development.<br><br>8. Support Gloucestershire County Council's delivery of an expanded Arle Court transport hub to further contribute to higher air quality standards in Cheltenham.<br><br>We agree with the above statements, but would like to see them timetabled as well as linked along with appropriate resources to CheltenhamZero and Planet Cheltenham initiatives.<br><br>9. Encouraging investment by all landowners and authorities in rapid charging points for electric vehicles.<br>We agree with this action<br><br>10. Adopting a policy for licensed taxis and private hire vehicles that immediately remove the most polluting vehicles and achieves a net zero emissions fleet by 2030.<br><br>We agree with this action, but we would also like to see a policy on taxies standing at taxi ranks, to ensure their engines are not running to power heaters or air-conditioning introduced if there is not one already in place.<br><br>11. Support Gloucestershire County Council as the local highways authority to deliver modal shift away from private cars, improvement in Cheltenham's walking and cycling routes by:<br>a. Developing strategic routes and closure of certain town centre roads to certain vehicle types.<br>b. Promoting cycling and upgrading infrastructure.<br>c. Adopting 'Twenty is Plenty' where possible.<br>d. Apply variable parking charges to incentivise use of EVs and hybrids.<br>e. Promote Workplace Travel Plans<br>f. Promote a 'No Idling Policy' for buses and taxis<br><br>We agree with all above and encourage that CheltenhamZero and Planet Cheltenham initiatives are engaged with any public awareness raising campaigns<br><br>12. Using available policy tools to support sectors containing more polluting vehicles to switch to cleaner vehicles:<br>a. Develop partnership for last mile delivery in town centre, by sustainable transport. | e currently consulting on various locations across the town to establish the most appropriate route for delivery. Cheltenham Council is currently undergoing a strategic review of parking looking at how to serve individuals as well as deliver the wider outputs, including the cycle hub consultation which ended on 26th February 2023. We are carrying out a strategic review of car parking and spaces reserved for car sharing will be considered. Regarding the schools project we have secured some resourcing to progress this initiative. We will begin with schools as we feel this targeted sector will have greatest impact. It could be rolled out to other sectors when resources allow. New PM levels now set by Government |

b. Build on existing progress to implement alternativ sources for business fleet within the council and its partner organisations.

13. Investigate setting targets for PM10 and PM2.5 in line with WHO guidance, and emerging DEFRA requirements, due to be announced November 2022.

14. Maintain review and when possible expand air quality monitoring locations around the borough.
We agree with the above actions, but in 13, resources need to be set aside in preparation for the introduction of more stringent measures.

Comments regarding Table 6
1 Engage with Royal Mail to move toward low emissions fleet
No comment, but support the idea

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

Surely some of this must already have been done and the information available?

3 Implement Junction improvements/traffic light changes in vicinity of AQMA
Work should begin as quickly as practical

4 Create a Public Health Awareness Campaign around high levels of air pollution
Should be done as quickly as possible with a front end loading doing much of the work in early years. Invest resources into Planet Cheltenham initiative and invest more into CheltenhamZero Initiative

5 Engage with local NHS Trust to raise awareness of the effects of exposure to poor air quality where limits are exceeded.
Discussions should be initiated as quickly as possible

6 Ensure that the planning and design of the Golden Valley Development sets a standard for high air quality in an urban development including consolidation opportunities to reduce deliveries through AQMA
We support the action.

7 Develop partnership for last mile delivery in town centre, by sustainable transport
We support the action

8 Offer more EV charging points in the streets surrounding the AQMA
We support the action but want it extended across the other parts of town

9 Extend the existing priority parking areas for Electric Vehicles within parking areas of AQMA
We support the action

10 Install Rapid Charging Points for Electric Vehicles
Expedite this action

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| | 11 Increase Car Sharing in AQMA<br>Approach a car sharing company and consider providing one or more dedicated parking places, promote its identification and reserve it for community shared vehicles only.<br><br>12 Continue to review and development of Air Quality Strategy for the borough, expanding on the actions and measures outlined in the Air Quality Action Plan through consultation and engagement with partners<br>Essential to continue and review<br><br>13 Aspire to reduce the levels of NO2 below the national target objective of 40µg of NO2/m3 and aim for continuous improvement in this measure<br>We support this action<br><br>14 Investigate setting targets for PM10 and PM2.5 in line with WHO guidance, and emerging DEFRA requirements<br>Need to up the game, the council needs to be ready to react to them as quickly as possible<br><br>15 Deliver a Schools AQ Project<br>Why stop at schools. Invest more in CheltenhamZero project to deliver info to businesses. | |
| 13 | I live within the AQAP and traffic is worse than ever across Swindon Road especially in 2022!. The plan has not looked at increased demand and has relied on data which is no longer relevant and focuses only on decarbonizing the transport with little or no reference to providing better cycling links along the A4019, (yes the road is wide enough to include a separate cycling lane down the whole AQAM area. As a resident of xxxx Street it makes reference to putting in electrical charging points however as a cyclist and non-car owner, I have little or no space to leave the bicycle inside the house, there are no safe cycling hangers within the area. Also every side street attached to the AQAM zone should be a 20mph speed limit. The amount of cars that speed, accelerate into the road is not only dangerous but it emits a lot more pollution. It would be good to see more trees along the route and new builds to consider having green walls. It is shame to have to live within this area where I cannot keep the windows open and the need for air purifiers are necessary.<br>I believe the link between the brewery and car park should include either an overpass/underpass to ensure better pedestrian provision whilst allowing the traffic to flow better.<br><br>It is also interesting that the Lidl supermarket went through planning very easily without any remarks on air pollution and it is clear this supermarket has increased the traffic within this area.<br><br>I look forward to seeing substantial changes to this plan as electrifying transport is great for Nitrogen Dioxide yet it doesn't change the PM2.5 that includes brake dust etc | To support the Connecting Cheltenham report we recently consulted on provision of a new cycle hub for the town centre to promote travel by bicycle. This closed on 26th February. We continue to work with our climate change team on areas which overlap air quality and steps to net zero. See point 10 for road safety comments. With regard to trees within the AQMA there are a number of native species along the AQMA. Recent planting of hawthorn and field maple has been carried out in Poole way car park. We will encourage Royal Mail to add additional vegetation on their boundary with advice from CBC Tree Officer. We have made a commitment to develop an SPD on air quality which would clarify the role trees may play in removing pollutants. The role of PMs has been included in the wider action plan. |
| 14 | Not bold enough. | Not enough information provided |
| 15 | The draft plan is totally lacking in substance. It is very vague and there is little in the way of concrete ideas. Cheltenham has been monitoring pollution on and off for years, but no action has actually been taken to make the radical steps | The draft plan developed by our experts and partners identified measures which bring about the most reduction in the pollutants which are causing most concern. We continue to meet our |

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| | needed to make an effective change. This is a huge opportunity and another 5 years will roll by with no action. I totally support the response made to this draft by the Clean Air Cheltenham group. | monitoring obligations which help inform data driven decision making. |
| 16 | With motor vehicles being a major emission source in Cheltenham for both NOx and PM, increasing rates of cycling would be one of the most rapid and effective ways of improving air quality within our urban area. It offers an accessible mode of travel that can replace many short journeys of one to three miles, and through reducing short-trip congestion, offers benefits to improving reliability of public transport and other modes for longer journeys. Well designed initiatives supporting walking and cycling have been shown through independent research to deliver the multi percentage point benefits in air quality that are needed.<br><br>Having reviewed the action plan, the committee would like to record the following observations;<br><br>The strategy prioritises electric vehicle initiatives for improving air quality. These cannot equitably solve the challenges the council is facing within reasonable timescales. Electric vehicles are generally heavier, can present greater road danger, and still emit significant particulate matter from tyre and brake wear. We believe the strategy should instead adopt a clear hierarchy of measures, beginning with walking and cycling, rather than assuming very little modal share can be achieved.<br><br>Our assessment is that the LCWIP for Cheltenham (referenced p22), which the strategy relies on to deliver change, is incomplete and out of date. It omits several significant desire lines, particularly from the north west and south east of Cheltenham, and includes no meaningful cross-centre connectivity. There needs to be co-produced work now to progress Connecting Cheltenham to develop a truly ambitious plan for cycling in Cheltenham, and a plan for implementation.<br><br>We note the particular challenge of the area of exceedance surrounding Poole Way and its connection to the Lower High Street. The proposals to improve traffic in this area also need to acknowledge that the east-west corridor represents a major bottleneck to cycle routes into the town centre. Increasing vehicle speed or capacity should not be allowed to further increase hostility to cycle users in this area. We hope there will be opportunities to work with the authority throughout the process of attempts to address traffic levels in this area.<br><br>A small, initial intervention would simply be to provide appropriate cycle parking and access for the royal mail depot and collection point, which currently offers no active transport opportunity. There is also opportunity with the neighbouring mini-holland scheme being developed by Gloucestershire County Council to simplify motor vehicle flows by reducing the substantial traffic flows into Swindon Road and Townsend Street, reducing idling times and junction phasing.<br><br>The report also references Cheltenham General Hospital. As previously highlighted in our consultation response to the Connecting Cheltenham, the hospital lacks convenient and direct cycle connections, particularly from Back Montpellier Terrace along Sandford Road. An education campaign targeting the local NHS acute Trust will not be successful | Cycling comments are addressed in our Connecting Cheltenham Strategy report. The action plan was produced in response to the exceedance of $NO_2$ and so reduction of petrol and diesel vehicles is the main focus. We acknowledge that this does not eliminate sources of PM and recognise the additional health benefits that cycling brings. The LCWIP is owned by GCC Transport planning team. Comments will be forwarded to them for inclusion in any revision and we continue to work with GCC and our Climate Change Team on this area. See comments regarding consultation for a cycle hub in the town centre. We have secured some resourcing to work with schools which will include measures to reduce pollution at the school gates. |

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| | without enabling measures to support modal shift on transport corridors to the site.<br><br>We believe the plan would be improved by specifically considering 'school-run' sources of congestion, which receives only brief reference around education campaigns. With the pausing of further rollout of Gloucestershire County Council's school streets programme, we see a significant gap in plans to address the air quality challenge that these short trips create.<br><br>The council should include a clearer statement on how it believes school-run motor vehicle traffic can be reduced, and the practical support beyond education that it could offer to schools who want to enhance their active travel offer.<br><br>The action plan places all responsibility for improving cycling infrastructure on Gloucestershire County Council. We suggest that Cheltenham Borough Council needs to recognise the very significant assets it has within its own control, and that it can take steps to improve routes away from the highway network, particularly through upgrading park routes, removing barriers that exclude the full range of accessible cycles, and substantially increasing secure cycle parking availability across retail centres.<br><br>The council also needs to recognise the very significant role the Honeybourne Line will play in any future mobility plan, and that the current shared space arrangement is already struggling to support meaningful cycle speeds. We encourage Cheltenham Borough Council to focussed dialogue with Gloucestershire County Council on a clear maintenance and upgrade pathway, recognising the role of this key link within the highway network for non motorised vehicles.<br><br>Overall, we believe that to improve air quality, a significant number of private motor vehicles need to be replaced by sustainable transport. The current plan will not deliver this. Indeed, there is a major risk that attempts to improve traffic flow and speed will paradoxically induce additional trips through increased motor vehicle convenience, leading to further deterioration in air quality and more adverse conditions for cycling.<br><br>To truly reduce transport emissions, the evidence shows that bold steps are required to significantly reduce motor vehicle dominance. Whilst this will inevitably require greater collaboration with Gloucestershire County Council, we believe there are interventions where Cheltenham Borough Council can show meaningful leadership, and we hope there are opportunities to work with you to deliver these as the plan moves forwards. | |
| 17 | Cheltenham's air quality challenges are very localised. The biggest impact would be preventing traffic from queuing at the west side of High Street - looking at traffic light phasing particularly. | New traffic signals were installed on the A4019 and contribute to reducing congestion and thus emissions, |
| 18 |  <br>Clean Air Cheltenham response to 2022 Draft AQAP.pdf | We thank Clean Air Cheltenham for their detailed comments. This plan aims to compliment not repeat existing work streams, plan, policies and statutory functions. Additional action have been included for PM control such as reviewing smoke control areas and |

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| | | knowledging the role of clean air zones. We will continue to work closely with Gloucestershire County Council and partners through our Gloucestershire Air Quality and Health Partnership. GCC are working to fill staff vacancy of Air Quality officer and we are exploring the option for a CBC air quality officer post to help fulfil our ambitions and to ensure communication between County and all Districts continues. We provide monitoring data to GCC for inclusion on their website. GCC sustainability team have created a power BI report webpage with all districts air quality data collated. It will be hosted on GCC Greener Gloucestershire's page. GCC are awaiting approval for website software. We are working with GCC sustainability team on their bidding process for supplementary monitoring for PMs. We support the bid for funding for Mini Holland in Cheltenham in St Marks and the Honeybourne line |
| 19 | the omission of the impact of open fires, wood-burning stoves and garden bonfires.<br>Why is air pollution from these sources and measures to control it not included anywhere in the draft plan?<br>Why is there no part of the draft plan that deals with garden bonfires | More detail on SCA included. Bonfires are dealt with under our statutory nuisance provisions but we recognise the opportunity to provide information on the impact on air quality of such burning. |

# Cheltenham Borough Coun

# Cabinet – 23 May 2023

# Information Governance

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**Accountable member:**

Cllr Rowena Hay, Leader of the Council

**Accountable officer:**

Claire Hughes, Corporate Director and Monitoring Officer

**Ward(s) affected:**

n/a

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**Key/Significant Decision:**

No

**Executive summary:**

This report updates the Councils practices and procedures in relation to Information Governance

**Recommendation:**

**That Cabinet agrees to adopt the following policies with effect from 1 June 2023:**

1. **Information Governance Framework**
2. **Data Protection Policy**
3. **Data Protection Impact Assessment Policy**
4. **Anonymisation and Pseudonymisation Policy**
5. **Data Quality Policy**
6. **Data Retention Policy**

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## 1. Implications

### 1.1. Financial implications

There are no direct financial implications arising from the recommendations.

**Signed off by:** Gemma Bell, Director of Finance and Assets, gemma.bell@cheltenham.gov.uk

### 1.2. Legal implications

The Council is required to demonstrate their compliance with data protection legislation and must put in place appropriate technical and organisational measures. This includes adopting, implementing and maintaining appropriate data protection policies. The Council must also be able to show that that they have adhered to the policies, which could include awareness raising, training, monitoring and audits.

One Legal has not been consulted on the preparation of the draft policies.

One Legal
Tel: 01684 272 691 Email: legalservices@onelegal.org.uk

### 1.3. HR implications

There are no direct HR implications arising from this report.

**Signed off by:** HR

### 1.4. Environmental and climate change implications

There are no direct environmental or climate change implications arising from this report.

**Signed off by:** Laura Tapping, Climate Change Programme Officer, laura.tapping@cheltenham.gov.uk

### 1.5. Property/asset implications

There are no direct property or assets implications arising from the recommendations.

**Signed off by:** Gemma Bell, Director of Finance and Assets, gemma.bell@cheltenham.gov.uk

### 1.6. Corporate policy framework implications

The recommendations, if approved, will support the good governance of the council which in turn will enable the council to be better able to deliver its corporate plan

**Signed off by:** Claire Hughes, Corporate Director and Monitoring Officer

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## 2. Promoting equality and reducing discrimination

There are no direct equality impacts arising from this report

## 3. Performance management – monitoring and review

n/a

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## 4. Introduction

**4.1.** The council generates and receives a huge amount of data. It therefore acknowledges that information is one of its key assets and as such requires the same discipline to its management that it would to other important assets such as people, buildings and finances.

Information assets can be either electronic or paper and include records and data sets held in back-office systems, network/shared drives, and within email systems.

**4.2.** It is vital that the council applies a robust management system in relation to information governance and that it has an effective framework in place which details how it collects, processes, accesses, stores, shares and deletes information.

**4.3.** A recent review of the council's information governance framework identified that some policies were in need of a review and that further work could be done to bolster assurance. Failure to update policies and/or have robust procedures in place can place the council at risk to complaints, intervention and fines from the Information Commissioners Office and ultimately of legal challenge.

**4.4.** This report seeks approval from Cabinet for a number of updated policies which will ensure that the council has complaint practices in place and mitigates against the identified risks.

## 5. Data Protection

**5.1.** A recent self-assessment identified the council as GREEN in this area. However a number of areas were identified for further review including:

- The council should complete a data audit across each business area to identify the data it processes and how it flows into, through and out of the council
- The council should maintain records of processing activities i.e what data it collects and uses, detailing what personal data it holds, where it came from, who its shared with and what we do with it
- The council should make it clear to individuals how they can challenge the data we hold, how they can request rectification of errors, and their rights to erasure and restrict processing
- The council should have processes in place for the deletion of information, including having a written retention policy
- The council should establish a policy which sets out when it is necessary to conduct a Data Protection Impact Assessment (an assessment of the impacts on individuals associated with processing their personal data)

**5.2.** Officers are in the process of conducting a data audit and completing a register of processing activities, this work, combined with the revised policies will address the areas identified as requiring improvement. It is anticipated that this work will be completed by October 2023.

## 6. Records Management

**6.1.** The self assessment in this area highlighted that the council were at AMBER. It identified the following as areas for further review:

- Services should have allocated record 'owners' who take the lead on data within their service area
- The council should have processes in place for the deletion of information, including having a written retention policy
- Periodic checks on compliance should be carried out
- Central log or information asset register for each area should be produced

**6.2.** The attached Data Retention Policy will go some way to fulfilling the actions identified. Work on establishing record owners and completing regular compliance checks is ongoing and should be completed by October 2023.

## 7. Data Quality

**7.1.** Data quality is a measure of the condition of data based on factors such as accuracy, completeness, consistency, reliability and whether it's up to date. It is a core component of the overall information governance framework. Poor data quality can lead to significant consequences such as fines and findings of non-compliance with regulatory regimes.

**7.2.** Whilst the council had a data quality policy, which set out a number of key considerations it was out of date. The revised policy brings the council in line with the most recent data quality standards and reflects the corporate branding utilised by CBC.

## 8. Reasons for recommendations

**8.1.** To ensure that the Council remains up to date with best practice and legislative requirements.

## 9. Alternative options considered

**9.1.** None but Council could decide not to approve the updated policies

## 10. Consultation and feedback

**10.1.** Leadership Team

## 11. Key risks

**11.1.** As identified in Appendix 1

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### Report author:

Claire Hughes, Corporate Director and Monitoring Officer, claire.hughes@cheltenham.gov.uk

### Appendices

1. Risk Assessment
2. Information Governance Framework
3. Data Protection Policy
4. Data Protection Impact Assessment Policy
5. Anonymisation and Pseudonymisation Policy
6. Data Quality Policy
7. Data Retention Policy

### Background information:

Existing policies as available on the website www.cheltenham.gov.uk

## Appendix 1: Risk Assessment

| Risk ref | Risk description | Risk owner | Impact score (1-5) | Likelihood score (1-5) | Initial raw risk score (1 - 25) | Risk response | Controls / Mitigating actions | Control / Action owner | Deadline for controls/ actions |
|---|---|---|---|---|---|---|---|---|---|
| 1 | If the Council does not have an adequate information governance framework in place then it risks increased complaints | Claire Hughes | 2 | 4 | 8 | Reduce | Ensure procedures and policies are up to date and applied across the council | Claire Hughes | September 2023 |
| 2 | If the Council does not have an adequate information governance framework in place then it risks being fined by the Information Commissioner | Claire Hughes | 4 | 3 | 12 | Reduce | Ensure procedures and policies are up to date and applied across the council | Claire Hughes | September 2023 |
| 3 | If the Council does not have an adequate information governance framework in place then it risks being subject to legal challenge | Claire Hughes | 4 | 3 | 12 | Reduce | Ensure procedures and policies are up to date and applied across the council | Claire Hughes | Septembe 2023 |
| 4 | If any of the risks identified in 1-3 are materialised then the council also risks reputational damage | Claire Hughes | 4 | 3 | 12 | Reduce | Ensure procedures and policies are up to date and applied across the council | Claire Hughes | September 2023 |

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# Cheltenham Borough Council Information Governance Framework

## Version control

**Document name:** Information Governance Framework

**Version:** 1.0

**Responsible officer**

- Claire Hughes, Corporate Director and Monitoring Officer

**Approved by:** Cabinet

**Next review date:** May 2025

**Retention period:** Delete one year after new version

## Revision history

| Revision date | Version | Description |
|---|---|---|
| May 2023 | 1 | New Framework |
| | | |

## Consultees

### Internal

- Corporate Governance Group and Leadership Team

### External

- N/A

## Distribution

All Staff and Council Website

## Contents

## 1. Introduction and purpose of this framework

1.1. Cheltenham Borough Council (the Council) generates and receives a huge amount of data. It therefore acknowledges that information is one of its key assets and as such requires the same discipline to its management that it would to other important assets such as people, buildings and finances. Information assets can be both electronic and paper and include records and data sets held in back-office systems, network/shared drives, and within email systems.

1.2. It is vital that the Council applies a robust management system in ensuring the efficient and effective operation of services, meeting security and regulatory requirements, and demonstrating accountability for decisions and activities taken.

1.3. Councils must have in place an effective framework in place for how they collect, process, access, store, share and delete information and it is important to have a consistent approach. This framework sets out best practices and standards which must be maintained together with responsibilities of individuals' for managing the information assets.

1.4. The purpose of the Information Governance Framework is to set out the Council's responsibilities and activities in relation to information governance in accordance with current legislation and professional principles.

1.5. Information governance describes the approach within which accountability, standards, policies and procedures are developed and implemented, to ensure that all information created, obtained or received by the Council is held and used appropriately.

1.6. This framework will provide a consistent approach and summarises the relevant regulations and commits the Council to their application where appropriate.

## 2. Scope of the framework

2.1. This framework extends to all employees, contractors, agents, consultants, partners or other persons engaged in the Council's service delivery, together with elected members (in terms of information received, created or held by an elected member on behalf of the Council)

## 3. Aims and Objectives

3.1. The aim of Information Governance is to achieve excellence in the management of Information assets and records so that the Council can:

- Comply with regulatory, legal, audit and discovery requests, ensuring that there is clear guidance for all staff.
- Access the right information from wherever it is needed, with permissions granted to the appropriate staff.
- Share business information both inside and outside the organisation where appropriate, using sharing agreements. Data sharing will be undertaken in accordance with the Information Commissioner's Data Sharing Code of Practice
- Manage records using good practice standards, including identifying records and their systems and ensuring that they are protected. Ensure that at least annually, the record of Processing Activities is completed by all Service areas and the Record of Processing register is updated to reflect any changes.
- Control the unnecessary proliferation of information and remove duplicate or useless information, by encouraging staff to work closely together and enabling better use of resources and reducing the number of opportunities for data to be compromised.
- Dispose of information as soon as it reaches its legal and business usefulness in line with published Retention Policies
- Build an information governance culture where information and records are managed coherently and consistently across the Council.
- Align business systems with Information Governance standards
- Educate employees about their Information Governance roles and responsibilities, by implementing a robust training plan over the next 6 – 12 months, which sets out competencies for staff and the various ways to access learning.
- Be open and transparent by keeping publications scheme up-to-date and responding to requests for information as mandated by the government

3.2. Documented procedures for Freedom of Information Requests and Environmental Information Requests are also available to the public on the Council's website

## 4. Regulatory Environment

4.1. The Council recognises the need to fully comply with the requirements and obligations of the:

- General Data Protection Regulation (GDPR) 2018 – Regulates the processing of personal data and sets out the rights of data subjects
- Data Protection Act (DPA) 2018 – Clarifies some parts of the GDPR in the UK.
- Common law duty of confidentiality - Common law is not written out in one document like an Act of Parliament. It is a form of law based on previous court cases decided by judges; hence, it is also referred to as case law. The

law is applied by reference to those previous cases, so common law is also said to be based on precedent. The general position is that, if information is given in circumstances where it is expected that a duty of confidence applies, that information cannot normally be disclosed without the data subject's consent.

- Freedom of Information Act (FOIA) 2000 - Provides a right of access to the recorded information held by public bodies.
- Freedom of Information & Data Protection (Appropriate limits and fees) Regulations 2004 - Sets the Appropriate Limit and the Fees chargeable for FOIA and DPA.
- Environmental information Regulations (EIR) 2004 - Provides a right of access to the environmental information held by public bodies.
- Regulation of Investigatory Powers Act (RIPA) 2000 – This governs the use of covert surveillance by public bodies. This includes bugs, video surveillance and interceptions of private communications (e.g. phone calls and emails), and even undercover agents ('covert human intelligence sources').
- Human Rights Act 1998 – Article 8 provides rights in relation to privacy.

## 5. Information Governance Management

5.1. There are several key governance bodies which are relevant in the information governance framework, which meet to review and monitor action plans, including Internal Audit, Corporate Governance Group and the Audit, Compliance and Governance Committee.

5.2. The following policies and procedures form part of the Information Governance framework and individually provide further details on the specific areas.

- Data Protection Policy
- Data Protection and Security Incident Reporting Policy
- Information Security Policy
- Data Retention Policy
- Data Quality Policy
- Publication Scheme
- Anonymisation & Pseudonymisation Policy

## 6. Records Management

6.1. Good records management supports good data governance and data protection. Wider benefits include supporting information access, making sure that you can find information about past activities, and enabling the more effective use of resources.

6.2. The Council recognises that its records are an important asset and are available to those who are entitled to see them. They are a key resource for the effective operation and accountability of the Council. As with other assets, they require careful management and the Document Retention Policy set out the Council's responsibilities and activities to do this.

6.3. All information will have a defined owner(s). It will be their responsibility to manage, protect and to make it available to others where required.

6.4. The management and retention of information will take into account its value to the Council. Information will only be as retained as long as there is a business need and to ensure compliance with the relevant legal and regulatory requirements in line with the Council's Document Retention Policy.

6.5. Disposal of information of a personal or confidential nature will be carried out securely and when there is no longer a legal or business need to keep it.

6.6. Information ownership rights will be observed in that Information from third party sources will only be used in accordance with the licence or permissions granted

## 7. Compliance with the General Data Protection Regulation (GDPR) and Confidentiality Requirements

### Compliance with GDPR

7.1. The Council is fully committed to compliance with the requirements of the General Data Protection Regulation (GDPR). A Data Protection Policy and well-designed procedures have been developed to ensure that all employees, elected members, contractors, partners or any other persons engaged with the Council, who have access to any personal information held by or on behalf of the Council, abide by their duties and responsibilities under the regulation.

7.2. The Data Protection Policy applies to all personal information held by the Council or held on behalf of the Council. This includes information held on paper and in electronic formats, including personal information collected by CCTV cameras.

7.3. In line with GDPR there are a number of general principles that local authorities must use when reviewing its use of client information and these are set out below:

(a) Lawfulness, fairness and transparency - processed lawfully, fairly and in a transparent manner in relation to individuals
(b) Purpose limitation - collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes; further processing for archiving purposes in the public interest, scientific or

historical research purposes or statistical purposes shall not be considered to be incompatible with the initial purposes

(c) Data minimisation - adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed

(d) Accuracy - accurate and, where necessary, kept up to date; every reasonable step must be taken to ensure that personal data that are inaccurate, having regard to the purposes for which they are processed, are erased or rectified without delay

(e) Storage limitation - kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the personal data are processed; personal data may be stored for longer periods insofar as the personal data will be processed solely for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes subject to implementation of the appropriate technical and organisational measures required by the GDPR in order to safeguard the rights and freedoms of individuals

(f) Integrity and confidentiality - processed in a manner that ensures appropriate security of the personal data, including protection against unauthorised or unlawful processing and against accidental loss, destruction or damage, using appropriate technical or organisational measures

**Collecting and using information**

7.4. In line with GDPR principles, the Council processes personal information according to the given lawful purpose. There is a corporate Privacy Notice on the Council's website which explains how we use the personal information that we collect, and also sets out how individual service areas will also use such information.

7.5. When collecting information with need to tell people how and why are using their information and that we publish Privacy notices

**Sharing Information**

7.6. The Council is committed to using and sharing information in order to carry out its duties and it recognises the importance of maintaining confidentiality to its service users. Data sharing will be undertaken in accordance with the Information Commissioner's Office Data Sharing Code of Practice.

7.7. A register of Data Sharing Agreements will be maintained by the Data Protection Officer.

7.8. Service Head's or responsible managers within each service area, have overall responsibility for any Information Sharing agreements into which they enter. These should be in place and reviewed regularly where information is to be shared on a large scale or on a regular basis.

7.9. The Council supports the sharing of information internally where appropriate and where there is a business need to do so for efficient service delivery. Access to additional network resources is restricted by ICT based on requirements of individual Service Areas. Structured controls are in place to prevent access to information where that information needs to be protected. Controls are also put in place to lessen the impact of virus and malware outbreaks should such an event occur. Manager's must complete an IT ticket if permissions need to be granted to share access to folders.

**Information Data Flows**

7.10. The Council will ensure that all data flows are identified and recorded on the Information Asset Register and that this is reviewed on an annual basis by each Service area. Where necessary, a Data Sharing Agreement should be set up as outlined in Section 7.6 above.

**Data Protection Impact Assessments**

7.11. DPIAs are an essential part of our accountability obligations. Conducting a DPIA is a legal requirement for any type of processing where the Council uses new technologies or when the processing is likely to result in a high risk to the rights and freedoms of individuals.

7.12. A DPIA must be completed by Directors or Heads of Service and they must contain a description of the processing operations and the purposes, including where applicable, the legitimate interests pursued by the Data Controller; an assessment of the necessity and proportionality of the processing in relation to the purpose; an assessment of the risk to individuals; the measures in place to address risk, including security and to demonstrate that the Council complies.

7.13. Heads of Service/Directors must submit a written record of their DPIA to the Data Protection Officer for the Council's records.

7.14. By considering the risks related to our intended processing before we begin, we also support compliance with another general obligation under UK GDPR: data protection by design and default.

7.15. However, DPIAs are not just a compliance exercise. An effective DPIA allows the Service area to identify and fix problems at an early stage

## 8. Compliance with the Freedom of Information Act (FOI) 2000

8.1. The Freedom of Information Act requires every public authority to adopt and maintain a Publication Scheme which has been approved by the Information Commissioner, and to publish information in accordance with the scheme. They

also have to deal with individual requests for information that give a public right of access to general information, unless an exemption applies.

8.2. The Information Commissioner's Office expects councils to make the information in this publication scheme available unless:

- it does not hold the information;
- the information is exempt under one of the FOIA exemptions or Environmental Information Regulations exceptions, or its release is prohibited by another statute;
- the information is readily and publicly available from an external website; such information may have been provided by the public authority or on its behalf. The authority must provide a direct link to that information;
- the information is archived, out of date or otherwise inaccessible; or,
- it would be impractical or resource-intensive to prepare the material for routine release. The guidance is not meant to give an exhaustive list of everything that should be covered by a publication scheme. The legal commitment is to the model publication scheme, and public authorities should look to provide as much information as possible on a routine basis.

8.3. Generally such requests need to be responded to within 20 working days and this can only be achieved if information is being well managed.

## 9. Compliance with the Environmental Information Regulations

9.1. The Council will comply with The Environmental Information Regulations 2004 which provides public access to environmental information held by public authorities.

9.2. The Regulations do this in two ways:

a) public authorities must make environmental information available proactively; and
b) members of the public are entitled to request environmental information from public authorities.

9.3. The Council will aim to response to all requests within the statutory period of 20 working days following receipt of a valid request. An extension may be sought, however, where the request is complex or voluminous. Regulation 8 of the EIR does however, allow the council to charge for making such information available provided the charge is reasonable and does not act as an obstacle to access

## 10. Information Complaints

10.1. If someone feels that their request under the FOIA, EIR or the GDPR has not been dealt with in a satisfactory way, it will be dealt with in line with the process set out on the Council's website.

## 11. Information Request Charging/Re-Use

11.1. As part of the Government's drive to ensure local Councils are fully accountable for their spending they have introduced a Transparency agenda. This is to make data more readily available to the public and enable residents to hold local Councils to account over where the money goes and how it delivers its services.

11.2. The Council is committed to being as transparent as possible in how it spends tax payers' money and, as part of this, is publishing a range of information in line with the Local Government Transparency Code. However, where information is protected under the Data Protection Act or is deemed commercially sensitive then it is excluded or redacted accordingly in line with the guidance.

11.3. Under the FOIA we are permitted to refuse to comply with a request if to do so would exceed the fee limit set out in the Freedom of Information and data protection (Appropriate Limit & Fees) Regulations 2004. The fee limit for public authorities is £450. This fee limit is reached if it is estimated that the time taken to carry out the activities requested would exceed 18 hours of employee time based on a £25 per hour rate. Where it is estimated that the £450 fee limit would be exceeded the requester will receive a refusal notice explaining the calculation and provide advice and assistance to, if possible, revise the request so that it remains within the fees limit.

11.4. All of the information published in accordance with this code is available for re-use under the terms of the Government Open Licence for public sector information.

## 12. De-identification (Anonymisation and Pseudonymisation)

12.1. Confidentiality of service user information is protected when appropriate, through the use of de-identification techniques, which turn information into a form which does not identify individuals and where re-identification is not likely to take place.

12.2. There are several instances where the Council will need to remove personal data from information prior to release, as follows:

- When responding to Subject access requests under the DPA;

- When proactively making information available under the Freedom of Information Act (FOIA) or the Environmental Information Regulations (the EIR);
- When responding to information requests under FOIA or the EIR and disclosing third party personal data would breach one of the data protection principles;
- When redacting information that is outside the scope of an FOIA or EIR request is the most efficient way of releasing relevant information that should be disclosed;
- When making personal data available for re-use under the Reuse of Public Sector Information Regulations (RPSI) would breach the data protection principles

12.3. The ICO has written the following guide "How to disclose information safely."

12.4. The Council does use redaction tools such as IDOX Redact within Planning and access is restricted to named individuals.

12.5. The Council's Anonymisation and Pseudonymisation Policy provides further information on procedures.

## 13. Information Security and Transportation, Transfer and sharing of Data

13.1. The Council expects to protect its information assets from all threats, whether internal or external, deliberate or accidental. The Information Security Policy sets out the controls and processes that staff should adhere to. The purpose of security in an information system is to preserve an appropriate level of:

- Confidentiality: to prevent unauthorised disclosure of information
- Integrity: to prevent the unauthorised amendment or deletion of information ensuring it is authentic, accurate and complete.
- Availability – to prevent unauthorised withholding of information or resources and ensuring that authorised people can access it when they need to in the right ways.

## 14. Risk Management

14.1. There are significant risks in not managing information appropriately as this can have consequences for the Council's reputation and its finances.

14.2. The Council will provide protection by managing risks to the confidentiality, integrity and availability of information to assist our business to function effectively. Information Risk management forms a key part of the Risk Management Strategy, and is embedded into Council processes and functions.

## 15. Data Quality Assurance

15.1. In order to be able to provide excellent services for local people, it is vital that accurate quality data is available. The Council must ensure that any information that is used is reliable: that the data we produce and share with other agencies is robust, and that the data provided to us by third parties, is equally assured in terms of data quality. Good quality data will contribute to good quality decisions, and thereby drive improvement in service delivery for the benefit of our local people. Data quality is therefore an integral part of the Council's service Information Governance Framework.

15.2. If an individual challenges the accuracy of their personal data, the Council will consider whether the information is accurate and, if it is not, will delete or correct it. Individuals have the absolute right to have personal data rectified.

15.3. Individuals do not have the right to erasure because data is inaccurate, however, the accuracy principle requires us to take all reasonable steps to either erase or rectify inaccurate data without delay.

## 16. Network Management

16.1. The Council's network is controlled and configured to protect sensitive Council information systems from unauthorised access. Firewalls and other secure access controls such as Virtual Private Networks and email encryption software, are used to control remote access across the Internet. Our IT services also use other appropriate technologies e.g. digitally signed certificates, patch management and monitoring software. Routers and switches segregate the internal network where necessary to optimise performance and separate workstation from servers.

16.2. The Public services network (PSN) connects the Council to partner organisations and the Internet. Secure network connection controls are in place and proactively monitored. The security controls are configured so that computer connections and information flows are restricted in line with the Council's business and security requirements

16.3. The Councils network provider complies with the PSN COCO PSN Code of Connection (CoCo) - GOV.UK (www.gov.uk) requirements of information assurance, and provides assurance that it is maintained.

16.4. Annual audit and penetration testing – Annual testing will be completed during March and April and a certificate of compliance presented to the Data Protection Officer.

## 17. Incident Management and Data Protection Breaches

17.1. The Council is responsible for the security and integrity of all the information it holds and must protect this information using all means necessary, by ensuring that any near miss or actual incident, which could cause damage to the Council's assets and reputation, is prevented and/or minimised.

17.2. The Council has a Data Protection and Security Incident Policy which outlines the process to follow should a breach or 'near miss' occur. The member of staff who discovers or receives a report of a data breach, must follow the Data Protection and Security Incident Response Plan and Reporting Process and complete the Data Protection and Security Incident Reporting Form

## 18. Information Systems Control

18.1. An Information Asset Register (IAR) is maintained which offers improved understanding and visibility. Having this well-maintained IAR, also plays an important role in being able to demonstrate that the Council understands and protects those assets, as required under GDPR. The IAR also increases visibility of data flows which can further help to mitigate the risk of data breaches. As we share our data with third parties, GDPR places the responsibility to protect shared data on the original holder of that data. This means that if any of the third parties that we share data with are a victim of a data breach, we will be able to assess exactly what data has been compromised and what further steps we need to make to reduce any reputational or financial damage. Therefore, the IAR will help us minimise any subsequent business risks that arise from GDPR.

18.2. Each Service Area has a dedicated Information Asset Owner (usually the service manager), who is responsible for ensuring that the systems in their Services, both electronic and paper based are documented on the IAR and that they have appropriate controls and procedures in place. The Information Asset Owner will also be responsible for ensuring that where required, access is restricted to the appropriate staff and that a record of Permissions is maintained.

## 19. Roles and Responsibilities

19.1. Responsibilities for information governance are assigned to specific staff and this is written into their employment contracts. Guidance and information on all aspects of information governance is available on the Intranet and the Council's website.

**Senior Information Risk Owner (SIRO)** – The SIRO is concerned with the management of all information assets and is a senior officer familiar with information risks and leads the organisation's response. The SIRO provides board level accountability and greater assurance that information risks are addressed, fosters a

culture for protecting and using information and provides a focal point for managing information risks and incidents.

**Information Asset Owner (IAO)** – IAOs are concerned with the information used within their particular areas of business. They are senior individuals and their role is to understand what information is held, what is added and what is removed, how information is moved, and who has access and why.

**Data Protection Officer (DPO)** – The DPO is a statutory role and is responsible for overseeing data protection strategy and implementation to ensure compliance with GDPR requirements.

**All employees** and those acting on behalf of the Council are responsible for the data and information they generate. All staff will be made aware of their responsibilities and in particular those of the GDPR, FOI and EIR and the duties they place on the Council as a public authority.

## 20. Audit

20.1. This framework, standards and procedures will be audited periodically as part of our internal audit plan. Any improvement or recommendations will be actioned accordingly.

## 21. Training and Awareness

21.1. It is important that our staff have the skills and knowledge they need to safeguard the information in their trust. A mandatory Data Protection course has been designed to ensure that staff understand their responsibilities with regards to Data Protection & GDPR. This is first undertaken as part of the Induction process and completed annually thereafter. Additional training on areas such as Data Sharing and for Information Asset Owners is also provided as required.

## 22. Useful Contacts

The Information Commissioner's Office via www.ico.org.uk

Data Protection Officer: Data.Protection@cheltenham.gov.uk

Freedom of Information: customerrelations@cheltenham.gov.uk

## Glossary of terms

| | |
|---|---|
| **Anonymisation** | The UK GDPR refers to 'Anonymous information' as information that does not relate to an individual, and is therefore is no longer 'personal data' and is not subject to the obligations of the UK GDPR. |
| **Aggregation** | Is an Anonymisation technique in which information is only presented as totals, so that no information identifying individuals are shown. Small numbers in total are a risk here and may need to be omitted or 'blurred' through random addition and subtraction. |
| **Consent** | A freely given, specific, informed and unambiguous indication of the data subject's wishes by which he or she, by a statement or by clear affirmative action, signifies agreement to the processing of personal data |
| **Controller** | Cheltenham Borough Council - who decides how and why to process data |
| **Data Protection Act** | The Data Protection Act 2018, which sits alongside the UK GDPR and sets out the framework for data protection in the UK |
| **Data Protection Impact Assessment** | This is a process to help identify and minimise the data protection risks of a project. You must do a DPIA for processing that is **likely to result in a high risk** to individuals. |
| **DPO** | Data Protection Officer |
| **Data Quality** | The processes we have in place to make sure the records containing personal data are accurate, adequate and not excessive |
| **Data Retention** | The time period for which data will be kept until destroyed |
| **Data Sharing** | Although there is no formal definition of data sharing, the scope of the data sharing code is defined by section 121 of the DPA 2018 as "the disclosure of personal data by transmission, dissemination or otherwise making it available" |
| **Data Sharing agreements** | set out the arrangements and a common set of rules to be adopted by the organisations involved in data sharing |
| **GDPR** | The General Data Protection Regulation (EU) 2016/679 (EU GDPR). Since the UK left the EU, this has been incorporated into UK data protection law as the UK GDPR, which sits alongside the DPA 2018. The EU GDPR may still apply to you if you operate in the European Economic Area (EEA), or monitor the behaviour of individuals in the EEA. |

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|---|---|
| **Information Sharing Agreement (ISA)** | Another name for a data sharing agreement. |
| **Personal Data** | Any information relating to an identified or identifiable natural person ('data subject'). |
| **Personal Identifiable Information (PII).** | Data which relate to a living individual who can be identified: -<br>(a) From those data<br>(b) from those data and any other information which is in the possession of, or is likely to come into the possession of, the data controller, and includes any expression of opinion about the individual and any indication of the intentions of the data controller or any other person in respect of the individual.<br>Personal data has to be about a living person, meaning that the DPA does not apply to mortality or other records about the deceased, although such data could still be protected by confidentiality or other legal rules |
| **Primary use** | refers to the use of information for the purpose of delivering council services to individuals. This also includes relevant supporting administrative processes and audit/assurance of the quality of services provided. Primary use requires information at the person identifiable level. |
| **Privacy information/Notice** | The information that the Council needs to provide to individual data subjects about the collection and use of their data. For general data processing, this is specified in Articles 13 and 14 of the UK GDPR |
| **Processing** | In relation to personal data, this means any operation or set of operations which is performed on it. This includes collecting, storing, recording, using, amending, analysing, disclosing or deleting it |
| **Processor** | A person (usually an organisation) who processes personal data on behalf of a controller. |
| **Pseudonymisation** | Data that can no longer be attributed to a data subject without the use of additional information. You must ensure that the additional information is kept separately, and that appropriate technical and organisational controls are in place to ensure that re-identification of an individual is not possible |
| **Publication scheme** | The scheme which sets out the information which is publically available |

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|---|---|
| **Re-identification or de-Anonymisation** | Where anonymised information is turned back into personal information through the use of for example data matching or similar techniques. Where Anonymisation is being undertaken, the process must be designed to minimise the risk of re-identification |
| **Secondary use** | Refers to the use of information about individuals for research purposes, audits, service management, commissioning, and contract monitoring and reporting. When PII is used for secondary uses the information should, where appropriate be limited and de-identified so that the secondary use process does not enable individuals to be identified. |
| **Sensitive processing** | This term is used in Part 3 of the DPA 2018 in relation to law enforcement processing. It is defined in section 35(8) of the DPA 2018 as:<br>(a) the processing of personal data revealing racial or ethnic origin, political opinions, religious or philosophical beliefs or trade union membership;<br>(b) the processing of genetic data, or of biometric data, for the purpose of uniquely identifying an individual;<br>(c) the processing of data concerning health; or<br>(d) the processing of data concerning an individual's sex life or sexual orientation.<br>This type of data processing needs greater protection. |
| **Special category data** | This term is used about general data processing under the UK GDPR and Part 2 of the DPA 2018. It is defined in Article 9.1 of the UK GDPR as personal data revealing racial or ethnic origin, political opinions, religious or philosophical beliefs, or trade union membership, and the processing of genetic data, biometric data for the purpose of uniquely identifying a natural person, data concerning health or data concerning a natural person's sex life or sexual orientation. The processing of this type of data needs greater protection |
| **UK GDPR** | The UK version of the EU GDPR, as amended and incorporated into UK law from the end of the transition period by the European Union (Withdrawal) Act 2018 and associated Exit Regulations. |

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# Cheltenham Borough Council Data Protection Policy

## Version control

**Document name:** Data Protection Policy

**Version:** 1.0

**Responsible officer**

- Claire Hughes, Corporate Director and Monitoring Officer

**Approved by:** Cabinet

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| May 2023 | 1 | New Policy |
| | | |

## Consultees

### Internal

- Corporate Governance Group and Leadership Team

### External

- N/A

## Distribution

All Staff and Council Website

## Contents

## 1. Introduction

1.1. The purpose of this policy is to ensure that Cheltenham Borough Council (the Council) and individuals working for, or on its behalf, are aware of their obligations under, and comply with, UK Data Protection Law.

1.2. The Council collects and processes different types of information about the people with whom it deals and communicates with in order to provide its services to the community.

1.3. It is the Council's obligation, as the Data Controller, to ensure compliance with UK Data Protection Law.

1.4. The following policy outlines the Council's responsibilities and processes surrounding the personal data which is processed by the Council and its employees.

## 2. Scope

2.1. This policy applies to:

- all forms of information and data owned, administered, stored, archived or controlled by the Council, including electronic and hard copy formats;
- information and data in test, training and live environments, however it is hosted;
- all elected members and staff of the Council including temporary and contract staff, volunteers and third parties accessing or using the Council's information, data and/or network;
- all electronic and communication devices owned, administered, controlled or sanctioned for use by the Council; and
- all Service users and members of the public whose personal information is held by the Council in order to provide its services.

## 3. Policy Statement

3.1. The Council is required to collect and use personal and/or sensitive information about people in order to operate. This includes information about;

- members of the public, service users, clients and customers;
- current, past and prospective employees; and
- suppliers and other third parties.

3.2. In addition, the authority may have to collect and use information in order to comply with the legal requirements of central government. This personal information must also be handled in line with the law

3.3. Therefore, the Council is committed to:

- complying with both law and good practice;
- respecting individuals' rights;
- being open and honest with individuals whose data is collected and held;
- providing training and support for staff who handle personal data, so that they can act confidently and consistently;
- ensure retention & disposal of personal information is adhered to;
- Implement appropriate technical and organisational security measures to safeguard personal information are in place;
- ensure personal information is not transferred abroad without suitable safeguards or adequate protection; and
- ensure the quality of information used by the Council.

3.4. To this end the Council will only process personal or special category data where an appropriate legal basis can be identified.

3.5. The lawful basis for processing are set out in Article 6 of the UK General Data Protection Regulation (UK GDPR). At least one of these must apply whenever the Council is processing personal data. Click here for full details of the Lawful Basis for processing

3.6. Further conditions are available within the Data Protection Act 2018, for help and advice in determining the appropriate condition contact: Data.Protection@cheltenham.gov.uk

3.7. Where the Council is processing personal data it fully endorses and follows the principles of UK GDPR outlined below.

3.8. Personal data shall be:

- processed lawfully, fairly and in a transparent manner in relation to the data subject ('lawfulness, fairness and transparency');
- collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes; further processing for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes shall, not be considered as being incompatible with the initial purposes;
- adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed ('data minimisation');

- accurate and, where necessary, kept up to date; every reasonable step must be taken to ensure that personal data that are inaccurate, having regard to the purposes for which they are processed, are erased or rectified without delay;
- kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the personal data are processed. Personal data may be stored for longer periods insofar as the personal data will be processed solely for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes; and
- processed in a manner that ensures appropriate security of the personal data, including protection against unauthorised or unlawful processing and against accidental loss, destruction or damage. Furthermore, the Council is responsible for, and must be able to demonstrate compliance with the 6 principles above ('accountability').

## 4. Duties and Responsibilities

4.1. The Council is registered as a Data Controller. It is responsible for the fair and lawful processing of personal and/or sensitive personal information, this rests with the Chief Executive on behalf of Council as a whole.

4.2. However, it is the responsibility of all employees and elected members to handle information and data correctly. As an individual representing, working for, or on behalf of, the Council it is essential that you:

- follow Corporate and/or departmental policy, procedures and guidance on the collection and use of personal/special information and data;
- handle all personal information in accordance with the Council's security policies and procedures; be clear why you are using personal/special information;
- tell people why their information is being collected, what it will be used for and how it will be managed from collection to destruction;
- collect only the minimum amount of personal/special data needed, and use it only for the purposes specified or in line with legal requirements;
- only access the personal/special data that you require to carry out your role and no more;
- ensure the personal/special information is input correctly and accurately;
- if you receive a request from an individual for information held by the Council about them you should email it to: Data.Protection@cheltenham.gov.uk
- understand and undertake the mandatory training relating to Information Security and Data Protection within two weeks of starting in post and in a timely manner when renewing annual training.

4.3. The Council will ensure that;

- employee and member training needs are identified, and training provided to ensure that those managing and handling personal/sensitive information understand their responsibilities and follow good practice; and
- anyone who makes a request regarding their personal information to the Council is responded to.

## 5. Data Subject Rights

5.1. The UK GDPR outlines several data subject rights and the Council will ensure that the rights of people about whom information is held can be fully exercised. The rights are as follows:

a) The right to be informed Individuals have the right to be informed about the collection and use of their personal data. This is a key transparency requirement under the UK GDPR.

b) The right of access (also known as Subject Access Requests) Under the UK GDPR, individuals will have the right to obtain:
   - confirmation that their data is being processed;
   - access to their personal data; and
   - other supplementary information – this largely corresponds to the information that should be provided in a privacy notice (see Article 15).

This Council must provide a copy of the information free of charge. However, a 'reasonable fee' can be charged when a request is manifestly unfounded or excessive, particularly if it is repetitive. The fee must be based on the administrative cost of providing the information.

Information must be provided without delay and at the latest within one month of receipt.

This can be extended by a further two months where requests are complex or numerous. If this is the case, the Council must inform the individual within one month of the receipt of the request and explain why the extension is necessary.

Where requests are manifestly unfounded or excessive, in particular because they are repetitive, the Council can:

- charge a reasonable fee taking into account the administrative costs of providing the information; or
- refuse to respond.

Where the Council refuses to respond to a request, it must explain why to the individual, informing them of their right to complain to the supervisory authority and to a judicial remedy without undue delay and at the latest within one month.

The Council must verify the identity of the person making the request, using “reasonable means”. If the request is made electronically, the Council should provide the information in a commonly used electronic format.

If you receive a subject access request, please contact Data.Protection@cheltenham.gov.uk

c) The right to rectification - Individuals have the right to have inaccurate personal data rectified or completed if it is incomplete.
   - An individual can make a request for rectification verbally or in writing.
   - The Council has one calendar month to respond to a request.
   - In certain circumstances you can refuse a request for rectification. Contact the Data Protection Officer should you receive a request of this nature.

d) The right to erasure - Individuals have a right to have personal data erased. The right to erasure is also known as ‘the right to be forgotten’.
   - Individuals can make a request for erasure verbally or in writing.
   - You have one month to respond to a request.
   - The right is not absolute and only applies in certain circumstances. Contact the SAR Team should you receive a request of this nature.

e) The right to restrict processing - Individuals have the right to request the restriction or suppression of their personal data.
   - This is not an absolute right and only applies in certain circumstances.
   - When processing is restricted, the Council is permitted to store the personal data, but not use it.
   - An individual can make a request for restriction verbally or in writing.
   - The Council have one calendar month to respond to a request.
   - This right has close links to the right to rectification and the right to object. Contact the Data Protection Officer should you receive a request of this nature.

f) The right to data portability - The right to data portability allows individuals to obtain and reuse their personal data for their own purposes across different services. It allows them to move, copy or transfer personal data Contact the Data Protection Officer should you receive a request of this nature.

g) The right to object Individuals have the right to object to:

   - processing based on legitimate interests or the performance of a task in the public interest/exercise of official authority (including profiling);
   - direct marketing (including profiling); and
   - processing for purposes of scientific/historical research and statistics.

**Objections where the Council processes personal data for the performance of a legal task or my organisation's legitimate interests?**

Individuals must have an objection on "grounds relating to his or her particular situation". The Council must stop processing the personal data unless:

- it can demonstrate compelling legitimate grounds for the processing, which override the interests, rights and freedoms of the individual;
- or the processing is for the establishment, exercise or defence of legal claims.

The Council will inform individuals of their right to object "at the point of first communication" and in its Fair Processing Notice.

**Objections where the Council processes personal data for direct marketing purposes?**

The Council must stop processing personal data for direct marketing purposes as soon as it receives an objection. There are no exemptions or grounds to refuse.

The Council must deal with an objection to processing for direct marketing at any time and free of charge.

The Council will inform individuals of their right to object "at the point of first communication" and in its Fair Processing Notice.

**Objections where the Council processes personal data for research purposes?**

Individuals must have "grounds relating to his or her particular situation" in order to exercise their right to object to processing for research purposes. If the Council is conducting research where the processing of personal data is necessary for the performance of a public interest task, it is not required to comply with an objection to the processing.

Email: Data.Protection@cheltenham.gov.uk should you receive any requests outlining an objection to processing.

h) Rights in relation to automated decision making and profiling.

The UK GDPR has provisions on:

- automated individual decision-making (making a decision solely by automated means without any human involvement);
- and profiling (automated processing of personal data to evaluate certain things about an individual). Profiling can be part of an automated decision-making process.

The UK GDPR applies to all automated individual decision-making and profiling. This type of decision-making can only be done where the decision is:

- necessary for the entry into or performance of a contract; or
- authorised by Union or Member state law applicable to the controller; or
- based on the individual's explicit consent.

If the Council is conducting this type of decision making it must:

- give individuals information about the processing;
- introduce simple ways for them to request human intervention or challenge a decision;
- carry out regular checks to make sure that your systems are working as intended.

5.2. If you wish to process information in this way, then contact the Data Protection Officer prior to doing so.

## 6. Special Category Data

6.1. There are additional requirements placed upon the data controller where the holding of "special category data" is concerned. Special category data relates to the following:

- race;
- ethnic origin;
- politics;
- religion;
- trade union membership;
- genetics;
- biometrics (where used for ID purposes);
- health;
- sex life; or
- sexual orientation.

6.2. Where the Council processes any of the above categories of special personal data there should be higher levels of security in place and greater restrictions on sharing and processing this data. There will also be a need to complete a Data Protection Impact Assessment prior to commencing the processing.

## 7. Information Sharing

7.1. Where the Council regularly shares personal information with our partners and other organisations an Information Sharing Agreement should be put in place. This agreement is signed by all partners to the sharing and agrees a set of standards and best practice surrounding Data Protection.

7.2. Any Council department which shares personal information externally on a regular basis should email: Data.Protection@cheltenham.gov.uk for advice.

7.3. The Council is signed up to an Information Sharing Protocol, along with various other organisations in Gloucestershire. The protocol outlines the best practices surrounding the sharing of personal information and the agreed processes between partners whilst ensuring Data Protection law is adhered to.

7.4. Details of the Information Sharing Protocol can be found on the County Council's website.

## 8. Use of Personal Data in Marketing and Promotion

8.1. The Council complies with the Privacy of Electronic Communications Regulations (PECR).

8.2. PECR is a law in the UK which makes it unlawful to send direct marketing (or any promotional material with regards to goods and services) by electronic means without the consent of the receiver.

8.3. Further advice can be found on the intranet.

## 9. Responsibility of Staff and Members

9.1. All staff and elected members, whether permanent or temporary, are required to read, understand and accept any policies and procedures that relate to personal data that they may handle in the course of their work.

9.2. All have a responsibility for Data Protection and are required to follow this policy.

9.3. All have a responsibility to ensure they have completed the mandatory Data Protection training, along with all other mandatory training under the Information Governance umbrella.

9.4. The Data Protection Policy sits in accordance with other policies in order to support UK GDPR compliance, these should be read in conjunction with the data Protection Policy.

9.5. The following policies contain further guidance in some areas of Data Protection – they are all available on the intranet:

- Information Governance Policy
- Data Retention Policy
- Anonymisation and Pseudonymisation Policy
- Privacy Notice Guidance
- Access to Information Rules – Part 4E of the Constitution
- Data Protection and Security Incident Reporting Policy

- Information Security and Acceptable Use Policy

## 10. Data Protection Governance

10.1. Information on the following will be reported quarterly to the Governance Group

- Training stats
- SAR requests
- Incidents (number and trends)

10.2. The reporting will be based around the following Key Performance Indicators (KPI's):

- 90% of incidents reported investigated in time frame as defined in the incident process
- 90% of incidents reported within timescales defined in incident process
- 90% of actions identified from incidents completed within timeframe
- 95% of staff completed the mandatory training
- 80% of SARs answered within statutory timeframes

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# Cheltenham Borough Council Data Protection Impact Assessment Policy

## Version control

**Document name:** Data Protection Impact Assessment Policy

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**Responsible officer**

- Claire Hughes, Corporate Director and Monitoring Officer

**Approved by:** Cabinet

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## Revision history

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| May 2023 | 1 | New Policy |
| | | |

## Consultees

### Internal

- Corporate Governance Group and Leadership Team

### External

- N/A

## Distribution

All Staff and Council Website

## Contents

## 1. Introduction and purpose of the policy

1.1. Conducting a Data Protection Impact Assessment (DPIA) is a legal requirement for any type of processing, including certain specified types of processing that are likely to result in a high risk to the rights and freedoms of individuals.

1.2. Cheltenham Borough Council (the Council) is committed to using people's personal data properly and legally, to ensure it is used only in ways people would reasonably expect and that it stays safe. Everyone has rights with regard to the way in which their personal data is handled. During the course of our activities we collect, store and process personal data about our citizens, service users, employees, suppliers and other third parties. We recognise that the correct and lawful treatment of this data maintains trust and confidence in the organisation and provides for successful service delivery.

1.3. This policy sets out the Council's obligations to undertake a DPIA where any processing of personal data is 'likely to result in a high risk to the rights and freedoms of individuals', as set out in Articles 35 and 36 of the UK GDPR and section 64 of the DPA 2018.

1.4. It provides the details on when a DPIA is required, the responsibility of completing a DPIA and also the implications regarding the failure to carry out a DPIA to the organisation.

1.5. Employees of the Council are obliged to comply with data protection laws when processing personal data on our behalf. A breach of the data protection laws may result in criminal proceedings and may result in disciplinary action which could result in dismissal.

1.6. Data Processors acting on the instructions of the Council are obliged to comply with this policy when processing personal data on our behalf, as detailed in the contract between the Council and the processor.

1.7. The policy should be read and complied with in conjunction with our Data Protection Policy

## 2. What is a DPIA and how to undertake them

2.1. A Data Protection Impact Assessment is a written assessment which helps the Council identify, evaluate, and mitigate risks and privacy impacts to data subjects arising as a result of processing their personal data.

2.2. An effective DPIA allows us to identify and fix problems at an early stage, bringing broader benefits for both individuals and our organisation.

2.3. A DPIA must be undertaken before the processing of any personal data which is 'likely to result in a high risk to the rights and freedoms' of data subjects or to where processing is of a large scale, involves automatic decision-making including profiling or monitoring which decides on access to services and opportunities or involves sensitive data or vulnerable individuals or where data matching across various datasets is carried out. The ICO provides details on when a DPIA must be undertaken in their guidance: ICO guidance. They also provide a template.

2.4. High risk activity examples may include:

- Anything that has an automated component that can deny someone a service (financial applications, credit check etc)
- Large scale profiling of individuals
- Biometric – workplace entry systems, facial recognition, fingerprint access controls
- Data Matching – fraud prevention, personal usage of statutory services or benefits
- Invisible processing – re-use of publicly available data
- Tracking – employee location data, lone workers devices, tracing services

2.5. A DPIA ensures compliance with data protection legislation and other legal and regulatory requirements. It helps to:

- identify privacy risks to individuals
- anticipate and address the likely impacts
- foresee problems and find solutions
- protect our reputation and offer assurance to stakeholders.

2.6. Responsibility for carrying out the DPIA process sits with the Project Manager who should ensure that the need for a DPIA is assessed and that a DPIA is completed if required. This assessment and completion should be done at the outline business case stage of a project or before a change to existing processing activities.

2.7. The completed DPIA should form part of the project risk assessment and official project documentation.

## 3. Conclusion

3.1. The DPIA process is a fundamental part of our compliance with data protection laws. If you need further assistance please consult the ICO website: www.ico.org.uk or contact the data protection officer Data.Protection@cheltenham.gov.uk

# Cheltenham Borough Council Anonymisation and Pseudonymisation Policy

## Version control

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**Responsible officer**

- Claire Hughes, Corporate Director and Monitoring Officer

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## Consultees

### Internal

- Corporate Governance Group and Leadership Team

### External

- N/A

## Distribution

All Staff and Council Website

## Contents

## 1. Introduction and purpose of the policy

1.1. The Data Protection Act 2018 and General Data Protection Regulation (GDPR) requires the Council to use the minimum personal data necessary for a purpose. Secondary uses of personal information must not breach our obligations of confidentiality and respect for private and family life.

1.2. This policy identifies how the Council will use Anonymisation and Pseudonymisation to share information safely. This includes the presentation and publication of statistics relating to individuals.

1.3. Anonymisation and Pseudonymisation enables the council to undertake secondary use of personal data in a safe, secure and legal way.

1.4. We share and publish information in order to undertake our functions as a council and through a number of channels we collect customer information such as name, address and date of birth. However, if we remove these identifiable details, information can then be used for secondary purposes without fear of breaching the General Data Protection Regulation.

1.5. This process is called Anonymisation. By removing the personal information, it allows the council to share or publish more data with fewer restrictions.

1.6. The purpose of this policy is to ensure a standardised approach to enable consistency throughout the council, with regard to how and when to anonymise information correctly

## 2. Scope of the policy

2.1. This policy extends to all employees who process information on behalf of the Council to perform its everyday business functions.

2.2. All employees must comply with this policy where anonymised information is to be produced or published from individual level data

2.3. This policy does not cover the use of information sharing agreements (ISAs) or other tools used to share personal data safely.

## 3. What is Anonymisation and Pseudonymisation

3.1. Anonymisation and pseudonymisation both relate to the concealment of an individual's identity

3.2. Anonymisation is the process of removing, replacing and/or altering any identifiable information (identifiers) that can point to the person it relates to.

3.3. Pseudonymisation is the technical process of replacing the identifying information to protect the individual's identity, whilst allowing the recipients to link different pieces of information together. A nickname is an example of pseudonymisation, although other identifying information such as age, ethnicity, gender or specific medical condition may also be changed to prevent a person being identified. It is the process of distinguishing individuals in a dataset by using a unique identifier which does not reveal their 'real world' identity.

## 4. Why Anonymise

4.1. The primary reason for undertaking Anonymisation is to protect individuals' privacy when making available the data resources that activities such as research and planning rely on. It is legitimate to use personal data for certain purposes, for example where the intention is to inform decisions about particular individuals, or to provide services to them. However, where the use of personal data is not necessary, then the objective should generally be to use anonymised data instead.

4.2. The GDPR is concerned with 'personal data' which relates to living individuals who can be identified from such data. Anonymised data where the prospect of identifying individuals is remote is not seen as personal data. The GDPR is therefore not applicable.

4.3. Further information on Anonymisation can be found in the ICO's Anonymisation Code of Practice

## 5. Benefits and Anonymisation

5.1. The DPA requires all organisations that process personal data to protect it from inappropriate use or disclosure. However, the same organisations may want, or be required through the Transparency Code, to publish information derived from the personal data they hold. Anonymisation helps organisations to comply with their data protection obligations whilst enabling them to make information available to the public.

5.2. Any organisation processing personal data has to comply with the data protection principles. The principles regulate the disclosure of personal data, and in some circumstances can prevent this. This means that, in general, it is easier to disclose anonymised data than personal data as fewer legal restrictions will apply.

## 6. Risk of re-identification of Anonymised Information

6.1. When anonymising information, the council must be sure that information is assessed and risks mitigated. This includes assessing whether other information is available that is likely to facilitate re-identification of the anonymised information.

6.2. The GDPR states that personal information is information which relates to a living individual who can be identified from that information, or from those information and other information which is in the possession of, or is likely to come into the possession of, the data controller.

6.3. When assessing whether information has been anonymised effectively, it is necessary to consider whether other information is available that, in combination with the anonymised information, would result in a disclosure of personal information. This is most likely where the circumstances described by the combined information are unusual or where population sizes are small.

6.4. Anyone considering Anonymisation should carry out a 'motivated intruder' test, recommended by the Information Commissioner's Office as a means to check whether information has been effectively anonymised. This checks whether a reasonably competent individual who wished to de-Anonymise information, could successfully do so. The test involves finding out whether information in the anonymised dataset could be combined with searches of easily available online or other information, e.g. the electoral register, social media, press archives or local library resources to reveal the identity of individuals.

6.5. Issues to consider are as follows:

- What is the risk of a 'jigsaw attack', piecing different items of information together to create a more complete picture of someone? Does the information have characteristics which facilitate information linkage?
- What other 'linkable' information is easily available?
- What technical measures might be used to achieve re-identification?
- What re-identification vulnerabilities did the motivated intruder test reveal?
- How much weight should be given to individuals' personal knowledge?

6.6. Re-identification would lead to the unintentional disclosure of personal or sensitive personal information and would therefore be an information security incident. This should be reported as soon as possible using the council's information security incident process.

## 7. Anonymisation/De-identification

7.1. Staff should only have access to the information that is necessary for the completion of the business activity they are involved in. This principle applies to the use of PII for secondary or non-direct purposes. Through de-identification, users are able to make use of individual information for a range of secondary purposes without having to access the identifiable information items.

7.2. The aim of de-identification or Anonymisation is to obscure the identifiable information items within the person's records sufficiently that the risk of potential identification of the information subject is minimised to acceptable levels: this will provide effective Anonymisation.

7.3. De-identification can be achieved via a range of techniques. Whether de-identification is achieved depends on the fit of the technique with the specific dataset. Techniques include:

- Aggregation so that information is only viewed as totals.
- Removing person identifiers.
- Using identifier ranges, for example: age ranges instead of age, full or partial postcode or super output area instead of full address, age at activity event instead of date of birth.
- Using pseudonyms.

7.4. De-identified information that goes down to the level of the individual should still be used within a secure environment with staff access on a need to know basis.

## 8. Pseudonymisation

8.1. When pseudonymisation techniques are consistently applied, the same pseudonym is provided for individuals across different datasets and over time. This allows datasets and other information to be linked in ways that would not be possible if person identifiable information was removed completely.

8.2. To effectively pseudonymise information, the following actions must be taken:

- Each field of PII must have a unique pseudonym;
- Pseudonyms to be used in place of e.g. Council Tax Account Numbers and similar fields must be of the same length and formatted on output to ensure readability. For example, in order to replace Council Tax Account Numbers in existing report formats, the output pseudonym should generally be of the same field length, but not of the same characters.
- Other identifiable fields should be replaced by alternatives which render the information less specific (e.g. age at activity event replacing date of birth, lower super output area replacing postcode).
- It should be clear from the format of pseudonym information that it is not 'real' information to avoid confusion, e.g. adding letters that would not ordinarily appear in Council Tax Account numbers.
- Consideration needs to be given to the impact on existing systems, both in terms of the maintenance of internal values and the formatting of reports;
- Where used, pseudonyms for external use must give different pseudonym values in order that internal pseudonyms are not compromised;

- The secondary use output must, where pseudonyms are used, only display the Pseudonymised data items that are required;
- Pseudonymised information should have the same security as PII.

## 9. Effectiveness of Anonymisation

### Freedom of Information and personal data

9.1. The Council has to assess Freedom of Information requests to make a decision on whether personal information can be disclosed or if this would breach the GDPR.

9.2. Anonymised information given to a member of the public could breach the GDPR if other information was then combined to produce information that related to and identified a particular individual. This is now personal information.

9.3. Before releasing information that related at one stage to individuals, the council must assess if an organisation or member of the public could identify any individual from the information being released, either in itself or in combination with other available information (re-identification). The risk involved will vary according to the local information environment and particularly who has access to information.

### Risk of Re-identification

9.4. Re-identification is when information does not in itself identify anyone (anonymised information) but by analysing it or combining it with other information an individual is identified.

9.5. There are cases in which it will be difficult to determine whether there is a reasonable likelihood of re-identification taking place. For example, it is difficult to determine the risk of re-identification of Pseudonymised data sets, because even though Pseudonymised information does not identify individuals to those who do not have access to the 'key', the possibility of linking several Pseudonymised datasets to the same individual can be a precursor to identification.

9.6. When sensitive information is involved which could significantly affect an individual's privacy, the information must be released with caution and be risk assessed. In borderline cases where the consequences of re-identification could be significant because they would leave an individual open to damage, distress or financial loss, for example, the approach should be to:

- Adopt a more rigorous form of risk analysis;
- Adopt a more rigorous form of Anonymisation to reduce the likelihood of re-identification to acceptably low levels, e.g. for aggregate data, using 'barnardisation', where small value statistics are manipulated in a random

way, or by changing the level of aggregation e.g. increasing the size of geographical areas or the breadth of age bands.

- Obtain data subject consent for the disclosure of the information, explaining its possible consequences; and/or
- In some scenarios, only disclose within a properly constituted closed community and with specific safeguards in place.

## 10. Is consent needed to produce or disclose Anonymised Information

10.1 An individual's properly informed consent is needed for the publication of personal data. However, there are obvious problems in this approach particularly where an individual decides to withdraw consent. In reality, it may be impossible to remove the information from the public domain, so that the withdrawal of consent will have no effect. Publishing anonymised information rather than personal data is safer even where consent could be obtained for the disclosure of personal data.

10.2 The 'necessity' rules in the GDPR mean that it could be against the law for the Council to publish personal data where anonymised information could serve the same purpose.

10.3 In the Information Commissioner's view, it is generally acceptable to anonymise personal data and to disclose it without the data subject's consent provided that:

- The Anonymisation will be done effectively, with due regard to any privacy risk posed to individuals – a privacy impact assessment could be used here;
- The purpose for which the Anonymisation takes place is legitimate and has received any necessary ethical approval;
- Neither the Anonymisation process, nor the use of the anonymised information, will have any direct detrimental effect on any particular individual;
- The data Controller's privacy policy/notice – or some other form of notification – explains the Anonymisation process and its consequences for individuals; and
- There is a system for taking individuals' objections to the Anonymisation process or to the release of their anonymised information into account.

## 11. Personal Information and Spatial Information

11.1 Postcodes and other geographical information will constitute personal data in some circumstances under the GDPR. For example, information about a place or property is, in effect, also information about the individual associated

with it. In other cases, it will not be personal data. The context of the related information and other variables, such as the number of households covered by a postcode, is the key.

11.2 Where postcodes are accessed in full as an interim step, e.g. enabling data about individuals to be aggregated or Pseudonymised by assigning them to particular geographical areas such as school catchments or Childrens Centres, the data that includes full postcodes may be personal data, and should be managed as such.

11.3 The more complete a postcode or the more precise a piece of geographical information, the more possible it becomes to analyse it or combine it with other information to disclose personal data.

11.4 The Council should approach the use of postcodes and other spatial information by the size of the dataset, where necessary considering the position on a postcode by postcode basis. For example, this may be necessary where a Freedom of Information Act (FOI) request is for specific information about small cohorts linked to postcodes.

11.5 It may also be necessary to process postcodes, removing certain of their elements to reduce the risk of identification. When anonymising postcodes, the following average characteristics of postcodes should be considered:

- Full postcode = approximately 15 households (although some postcodes only relate to a single property)
- Postcode minus the last digit = approximately 120/200 households
- Postal sector = 4 outbound (first part of the postcode) digits + 1 inbound = approximately 2,600 households
- Postal district = 4 outbound (first part of the postcode) digits = approximately 8,600 households
- Postal area = 2 outbound (first part of the postcode) digits = approximately 194,000 households

## 12. Publication and limited disclosure

12.1 The Council must make a decision whether to publish even anonymised information. The open data agenda relies on the public availability of information, and information released in response to a Freedom of Information Act request cannot be restricted to a particular person or group.

12.2 This means of making information, whether anonymised or not, available to third parties or the general public includes the following three approaches. Publication decisions should be informed by the realistic scope to control the use to which information is put following its release.

12.3 **Publication.** This is where information is made publicly available and anyone can see it and, in reality, use it for their own purposes. This can further transparency and deliver other benefits but, once published, no strict controls can be placed on re-identification, although other elements of the law may still apply - for example where information is subject to copyright. However, any third party performing re-identification will take on its own data protection liabilities. In reality, publication under licences such as the Open Government Licence falls into this category, as do disclosures made under Freedom of Information or the transparency agenda. The Open Government Licence does not apply to the use or reuse any personal information contained in a publication.

12.4 **Publication under specific licence terms**. This is an attempt to make information publicly available but to place certain specific restrictions on the way it is used. Whilst this can provide useful protection in respect of recipients that respect the rules, this form of publication can clearly present a privacy risk if the conditions attached to the information are either unlikely to be respected or not enforceable.

12.5 **Access control.** This is where anonymised information or, in some cases, personal data, are disclosed but only to particular recipients, with conditions attached to the disclosure. This is often used between groups of researchers. It is appropriate for handling anonymised information that is particularly sensitive in nature or where there is a significant risk of re-identification. The great advantage of this approach is that disclosure is controlled.

## 13. Useful Contacts

13.1 For further advice and examples of other techniques please refer to the Information Commissioner's code of practice Anonymisation: managing data protection risk, or contact the Information Governance or Research and Intelligence Teams via www.ico.org.uk

13.2 For the ICO Anonymisation Code of Practice, click here.

# Cheltenham Borough Council Data Quality Policy

## Version control

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**Responsible officer**

- Claire Hughes, Corporate Director and Monitoring Officer

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## Consultees

### Internal

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## Contents

## 1. Introduction

1.1. Cheltenham Borough Council (the Council) is committed to high standards of data quality. Every care will be taken to ensure that the data and information used to support decision making is accurate, valid, reliable, timely, relevant and complete in line with the this Policy.

1.2. The Council recognises the importance that reliable information has on its ability to deliver and manage services, inform users and improve performance. Good quality, accurate and timely data is essential in the provision of reliable performance and financial information to support decision making at all levels. This Policy therefore provides an overarching, corporate approach to the management of data quality to support decision-making and compliance with the Data Protection Legislation[1]

1.3. This Policy is one of a suite of Council policies that have been implemented to ensure that the Council's data is not only of high quality but is maintained securely and is protected from external corruption. This Policy is supported by the following:

- Corporate Risk Register; Data Protection Policy;
- Email & Internet Use Policy;
- Information Security Policy;
- Gloucestershire Information Sharing Agreement;
- Risk Management Strategy;
- Data Protection and Security Incident Reporting Policy;
- CCTV Policy

1.4. This policy applies to managing the quality of data provided from systems:

(a) owned and managed by the Council e.g. where services are provided directly by the Council;
(b) co-owned by the Council and managed by a third party delivering services on behalf of the Council e.g. a shared services' arrangements.

## 2. Purpose and Scope

2.1. The purpose of this policy is to have in place arrangements for managing the quality of the data collected and used by the Council and sets out the Council's approach to ensuring that:

[1] means the UK GDPR derived from the General Data Protection Regulation (EU) 2016/679) and any national implementing laws, regulations and secondary legislation, as amended or updated from time to time and any successor legislation to the UK GDPR or the Data Protection Act 2018 and all applicable laws and regulations relating to processing of personal data and privacy, including where applicable the guidance and codes of practice issued by the Information Commissioner

(a) information is of high quality, accurate, valid, reliable, timely, relevant and complete;
(b) data quality is fully embedded across all services and is a key consideration in collecting, processing or using data to support decision-making.

2.2. Given the variety of data held by the Council, and the impact on service users in maintaining accurate and transparent records, maintaining high levels of data quality is vital. The consequences of poor data quality for the Council can be very serious. Poor data can:

- undermine accountability and damage public trust;
- weaken frontline service delivery;
- lead to financial loss and poor value for money;
- leave the vulnerable at risk;
- undermine partnership working.

2.3. By achieving high standards of data quality, the Council will:

(a) have assurance in the information supplied so that there will be confidence in the decision making processes and strength in the relationship between it and its customers, partners and other stakeholders;
(b) provide and publish data which is reliable, timely and robust;
(c) be able to respond effectively to service provision and quality of life issues affecting its communities.

2.4. Data is commonly defined as “Groups of information that represent the qualitative or quantitative attributes of a variable or set of variables.”

2.5. This policy supports any data collection which in practical terms, means information held or produced by the Council, whether it is written or numerical and includes information about people, businesses, properties and specific Council operations such as the Customer Contact Centre, number of bins collected etc.

2.6. Data and information is also increasingly used by the local community. The public place reliance on the information that the Council provides. It is therefore important that any information or data that is provided to residents, is of the highest quality.

2.7. Data is used by external bodies, especially those who carry out inspections or audits of the Council. Data will be used in preparation for external assessments and it is therefore essential that any data the Council produces is of the highest quality and is ultimately accurate.

## 3. What makes good quality data?

3.1. Producing robust data is an integral part of the Council's operational, performance management and governance arrangements.

3.2. The following are the six key characteristics/principles of good quality data

(a) **Accurate** – Data should be sufficiently accurate for its intended purposes. Accuracy is most likely to be achieved if data is captured as close to the point of activity as possible. Data should be captured once only, although it may have multiple uses. The importance of the uses for the data must be balanced with the costs and effort of collection. Where compromises have to be made on accuracy, the resulting limitations of the data should be clear.

(b) **Valid** - Data should be recorded in an agreed format and used in compliance with recognised Council and national standards. Where proxy data is used to compensate for an absence of actual data, consideration should be given to how well this data is able to satisfy the intended purpose.

(c) **Reliable** - Data should reflect stable and consistent data collection processes across the Council. This will ensure progress made is 'real' rather than due to changes in calculation methods.

(d) **Timely** - Data should be available within a reasonable time period, quickly and frequently enough to support information needs. This ensures informed decisions can be made based on up-to-date information rather than data that is out of date and potentially of less value.

(e) **Relevant -** Data captured should be relevant to the purposes for which it is used. This entails periodic reviews of requirements to reflect changing needs.

(f) **Complete -** All data captured should be based on the information needs of the Council and data collection processes matched to these requirements. Monitoring missing, incomplete, or invalid records can provide an indication of data quality and can also point to problems in the recording of certain data items.

3.3. The principles of data quality are not limited to corporate performance statistics but cover other types of information held by the Council, such as details of individuals, businesses etc. It is important that any issues relating to the quality of data are treated seriously and promptly.

3.4. Data quality concerns may include:

- incorrect recording of personal information;
- delays completing and submitting statutory returns; and
- missing information relating to the ability to process or action further areas of work.

3.5. Departments must have in place, specific arrangements for dealing with data quality concerns. Any concerns regarding the quality of data should be raised, in the first instance, with a relevant manager. Depending on the severity of the data quality issue, this may be escalated to the relevant Director and/or the Data Protection Officer.

## 4. Data quality objectives

4.1. The Council's corporate objectives for data quality define a framework of management arrangements which will assure its customers, partners and other stakeholders that the quality of its data is reliable and sustainable:

(a) to ensure that arrangements for governance, monitoring and review of data are formalised and an organisational culture that values the quality and reliability of data is fostered;
(b) to provide a framework of systems, policies and procedures to improve management of data within the Council and in partnership with others to ensure the highest possible data quality whilst ensuring that resources put into ensuring data quality are proportionate to the benefit gained;
(c) to provide effective training for staff on expectations in terms of the standards of data quality;
(d) to ensure that the information processed and used is held securely and confidentially in accordance with the Data Protection Act 2018, Freedom of Information Act 2000 and other applicable laws;
(e) to ensure that published information is accessible, timely, valid and accurate.

## 5. Data quality standards

5.1. The Council is committed to collecting and processing data according to national, or where these are not available, locally defined standards. A formal set of quality requirements will be applied to all data that is used by the Council, shared externally, or provided by a third-party organisation.

## 6. Systems and processes

6.1. The Council will ensure that appropriate systems are in place for the collection, recording, analysis and reporting of data. The Council will use the principle of 'collect once and use numerous times' (COUNT) to underpin data collection and storage. See the Annex to this Policy for 'Tips to help you improve the accuracy in data entry'.

## 7. Data Security

7.1. The Council will ensure that data is stored in a secure environment with appropriate security and system backups for all business critical systems. The access and use of data should be appropriate to the data user and comply with relevant legislation (such as the Data Protection Act 2018). Systems will be

regularly tested to ensure processes are secure. Adequate business continuity plans will be developed and maintained.

7.2. Data erasure is a large part of the UK GDPR. It is one of the seven data protection principles: Article 5(e) states that personal data can be stored for “no longer than is necessary for the purposes for which the personal data are processed.” Data erasure is also one of the personal rights protected by the UK GDPR in Article 17, the famous “right to be forgotten.” “The data subject shall have the right to obtain from the controller the erasure of personal data concerning him or her without undue delay.” There are some exceptions to this latter requirement, such as the public interest. But generally speaking, the Council has an obligation to erase personal data it no longer needs.

7.3. Email data erasure can be quite simple and often it can be automated. The Council will apply an expiring email option that allows users to set messages for deletion after a designated length of time.

7.4. Links and attachments from unknown email accounts should never be clicked or downloaded. Once an attacker gains access to one account or device, it’s often easy to access others, meaning a mistake by one employee could compromise vast amounts of Council data.

## 8. Partnership Working

8.1. Information sharing is crucial to partnership working. It is essential that the Council has confidence in shared data or data supplied by third parties. The Council will ensure that a formal framework for data sharing with partners is put in place. This includes identifying and complying with all relevant legal, compliance and confidentiality standards. A validation process will be established for all data provided by partners or other third parties.

## 9. Data use and reporting

9.1. The Council will ensure that data is used appropriately and in the right forum, so that reliable data is at the centre of decision making. Arrangements will be put in place to ensure that data is also used to manage and improve the delivery of services. Reported information will be made available to staff who produce it to reinforce understanding of the way it is used.

## 10. Internal control and validation

10.1. The Council will ensure that it has effective validation procedures in place to ensure the accuracy of data used. Data returns will be supported by a clear and complete audit trail and subject to service, corporate and internal audit verification checks. Any errors discovered during the audit will be corrected within established

timescales and any improvement actions will be acted upon in order to continuously improve the Council's approach to data quality.

## 11. Responsibilities

11.1. To ensure that data quality is managed effectively and to secure a culture of data quality throughout the Council, it is important to provide a clear assignment of responsibility throughout the Council:

| | |
|---|---|
| Directors | Have overall responsibility for the quality of data within their directorates and for ensuring the six principles of data quality are met (see section 3.2 of this Policy). |
| Managers | Responsible for:<br>• the administration of their department/service's data system and ensuring that the data in the system is accurate;<br>• data quality and driving improvements within their departments/services including raising awareness of this Policy and ensuring that all staff understand their own area of responsibility in relation to data quality;<br>• ensuring that adequate, safe systems are in place, which hold an acceptable standard of information;<br>• ensuring that the performance information they provide is accurate, timely and meets relevant guidance;<br>• regularly reviewing and reporting on compliance with this Policy and liaising with the appropriate officers to rectify any non-compliance;<br>• ensuring that all data collection processes are documented;<br>• ensuring that the day to day aspects of data collection are maintained;<br>• undertaking reviews of data accuracy for any medium and high risk data prior to submission;<br>• monitoring the quality of data shared under the Gloucestershire Information Sharing Agreement;<br>• managing the risks associated with data quality;<br>• Compiling returns for the 'single data set' (see section 12 of this Policy). |
| Senior Information Risk Officer | Responsible for ensuring this Policy is embedded within the Council and that key actions are developed and regularly monitored and reviewed |
| Data Protection Officer | Responsible for monitoring compliance with the Data Protection Legislation |
| Internal Audit | Responsible for<br>• Providing assurance on the effectiveness of the overall framework for data quality; |

| | |
|---|---|
| | • providing advice and guidance on establishing data quality controls for new system developments and providing assurance on the effectiveness of data quality controls in existing systems;<br>Independently test checking data linked to the internal audit review programme to provide assurance on accuracy |
| All Council staff | Responsible for:<br>• adhering to this Policy;<br>• ensuring that data is handled in a responsible way;<br>• making all reasonable efforts to ensure the quality of data;<br>• inputting, storing, retrieving or otherwise managing data to ensure that it is of the highest quality;<br>keeping personal data accurate and up to date in line with requirements of the Data Protection Act 2018 |

## 12. Statutory data returns – the Single Data Set

12.1. The 'single data set' comprises a list of all the data that the Government expects local authorities to produce and submit to it in any given year. In general terms, the 'single data set' was established to support the delivery of local statutory services and enable the Government to apply evidence-based decision making in local government. The 'single data set' is a catalogue of all data returns for local authorities and is not a list of target based performance measures.

12.2. Managers are responsible for compiling data for the returns that apply to the Council, ensuring they are accurate and produced on a timely basis.

## 13. Third party data quality

13.1. Data quality is a key element in partnership working. It is important that, when establishing any new partnership, data quality forms an integral part to the partnership's governance arrangements.

13.2. Departments that rely on data from third party sources must ensure that they have mechanisms by which they are able to check the data for accuracy so that reliance can be placed on the data being received.

## 14. Data Sharing

14.1. Sharing of information is crucial to the successful delivery of local services. The Council is a signatory to the Gloucestershire Information Sharing Agreement (GISPA).

14.2. The GISPA provides for openness and transparency in information sharing, as well as appropriate governance and support, in order to assist signatory organisations and public bodies to share personal information lawfully, safely and securely.

14.3. Data shared under the GISPA must be of high quality i.e. meet the six principles of data quality (see section 3 of this Policy).

## 15. Performance data

15.1. Agreed performance targets will be entered onto the Clearview system, with any supporting information needed to verify the data. The data will be reported to Management Team on a monthly basis and on a quarterly basis, to Cabinet and the Overview and Scrutiny Committee.

# Cheltenham Borough Council Data Retention Policy

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**Document name:** Data Retention Policy

**Version:** 1.0

**Responsible officer**

- Claire Hughes, Corporate Director and Monitoring Officer

**Approved by:** Cabinet

**Next review date:** May 2026

**Retention period:** Delete one year after new version

## Revision history

| Revision date | Version | Description |
|---|---|---|
| May 2023 | 1 | New Policy |
| | | |

## Consultees

### Internal

- Corporate Governance Group and Leadership Team

### External

- N/A

## Distribution

All Staff and Council Website

## Contents

## 1. Introduction

1.1. Cheltenham Borough Council (the Council) recognises that its records are an important public asset, and are a key resource to accountability and effective operation. They require careful management and this Policy sets out the Council's responsibilities and activities in regard to the management and retention of its records. It is applicable to both employees and elected members.

1.2. In the course of carrying out its functions and activities, the Council collects information from individuals and external organisations and generates a wide range of data and information. This can be retained as hard copies or in electronic form.

1.3. Retention of specific documents may be necessary to fulfil statutory or other regulatory requirements, evidence events in the case of a dispute and preserve documents of historic and other value.

1.4. The untimely destruction of documents could cause the Council to face difficulties in defending litigious claims, meet operational requirements or fail to comply with the Freedom of Information or Data protection legislation.

1.5. Conversely, the permanent retention of data and information is unfeasible and appropriate disposal is necessary to allow for adequate storage space and compliance with Data Protection legislation.

1.6. The effective management of records in all formats depends as much on their efficient disposal as well as their long-term preservation. As a Local Authority we must be consistent in the way we handle and dispose of our information. These guidelines will assist the Council by ensuring a consistent approach to record keeping across the organisation.

## 2. Scope and Purpose

2.1. The purpose of this policy is to provide a corporate framework to govern how particular documents (or sets of documents) should be: -

- Retained – and if so, in what format, and for what period of time; or
- Disposed of – and if so, when and by what method

## 3. The Retention/Disposal Protocol

3.1. Any decision whether to retain or dispose of a document should be taken in accordance with this Policy, including the of the key disposal/retention considerations criteria checklist, set out in Appendix 1 and the retention schedules set out in Appendix 2.

## 4. Roles and Responsibilities

4.1. Responsibility for determining (in accordance with the Retention/Disposal checklist and schedule) whether to retain or dispose of specific documents rests with the Head of Service

4.2. The Corporate Director & Monitoring Officer can advise on whether minimum retention periods are prescribed by law. However, they cannot be expected to possess the operational or background knowledge required to assess whether a particular document may be required by the department concerned for operational need. This is the responsibility of the relevant Head of Service.

4.3. The Corporate Director & Monitoring Officer is available to provide guidance on effective records management practices.

## 5. Disposal

5.1. Disposal can be achieved by a range of processes:

- Confidential waste;
- Physical destruction onsite (shredding);
- Deletion – where computer files are concerned;
- Migration of documents to an external body.

5.2. The following considerations should be taken into account when selecting any method of disposal:

- Under no circumstances should paper documents containing personal data or confidential information be simply deposited in non-confidential bins. If steps are taken to make data virtually impossible to retrieve then this will be regarded as equivalent to deletion.
- Migration of documents to a third party (other than for destruction or recycling) will be relevant where documents or records are of historic interest and/or have intrinsic value. Migration can include the transfer of data to a third party service provider.

## 6. UK General Data Protection Regulation

6.1. All staff need to be aware that under the UK General Data Protection Regulation (UK GDPR) personal data processed for any purpose must not be kept for any longer than is necessary for that purpose. In other words, retaining documents or records that contain personal data beyond the length of time necessary for the purpose for which that data was obtained is unlawful. If legislation is silent on this provision; it is a matter for reasonable judgement and common sense as to how long personal data (which falls outside legislative guidance) should be retained.

## 7. Format of Records

7.1. This Data Retention Policy is relevant to records which are electronic, paper or record which have been transferred to another format such as microfiche.

## Appendix 1: Key disposal/Retention Considerations

No document should be earmarked for disposal unless due regard has been given to the five Key Disposal/Retention considerations detailed in this Appendix and with reference to the Retention Schedules at Appendix 2.

**Key Consideration 1**:

Has the document been appraised?

As a first step, the nature/contents of any document being considered for disposal should be ascertained. No document(s) should be earmarked or designated for disposal unless this has been done. Insofar as existing documents are concerned it follows that the above can only be achieved by the carrying out of physical inspection and appraisal. The process may only take a few minutes – perhaps even seconds. Nonetheless it can be a skilled task – depending on the complexity of the document(s) concerned – and should only be undertaken by officers who possess the sufficient operational knowledge to enable them to identify the document concerned and its function within both the individual Department and corporate frameworks. Any decision to the effect that future documents of a specified description be disposed of on expiry of a specified retention period should be an informed one i.e. taken with a full appreciation and understanding of the nature and function of such documents.

The above is largely common-sense, and hardly needs to be stated. However, if appraisal is inadvertently overlooked or carried out negligently, or by an employee who lacks the necessary background operational knowledge, the Council runs the risk of important documents being destroyed in error.

**Key Consideration 2**:

Is retention required to fulfil statutory or other regulatory requirements?

There is, in fact, very little specific legislation that stipulates mandatory retention periods for documents in Local Government. The pieces of legislation which do, either directly or indirectly, impose minimum retention periods are as follows:

Tax Legislation: Minimum retention period for certain financial records are imposed by statutes such as the VAT Act 1994, and the Taxes Management Act 1970. The relevant retention periods are identified in the Retention Schedules Document.

Statutory Register: Various Local Government statutes require to be kept of certain events, notifications, or transactions. It is implicit with such legislative requirement that these records be maintained on a permanent basis, unless the legislation concerned stipulates otherwise.

The Audit Commission Act 1998: This provides auditors with a right of access to every document relating to the Council that appears necessary for the purpose of carrying out the auditor's function under the Act.

The Local Government Act 1972, s.225: Any document deposited with “the proper officer” of the Council in accordance with Statute should be retained permanently. Part VA of the

Local Government Act 1972: This governs public access to certain documents relating to Council and Committee meetings. Certain documents that form part of the public part of the agenda are required to be available for inspection by members of the public.

**Key Consideration 3:**

Is retention required to evidence events in the case of dispute?

On occasions, the Council becomes involved in disputes with third parties. Such disputes, if not satisfactorily resolved, can result in the dissatisfied party bringing legal proceedings against the Council, usually (but not always) with a view to obtaining monetary compensation. Conversely, the Council may wish to institute legal proceedings against an individual or organisation e.g. to recover an unpaid debt, or in respect of faulty workmanship. Where a dispute arises, or litigation has been commenced it is important that the Council has access to all correspondence and other documentation that is relevant to the matter. Without such, there is the danger that the Council’s position will be compromised, and the possibility that an unmeritorious claim might succeed, or that the Council may be unable to assert legal entitlements. The Limitations Act 1980 specifies time limits for commencing litigation. The starting point therefore, is that the retention period is the length of time that has to elapse before a claim is barred.

**Key Consideration 4**:

Is retention required to meet the operational needs of the department?

In some cases retention may be desirable (whether permanent or otherwise) even though no minimum retention period applies. Heads of Services (or designated officers) should be open to the danger of discarding documents or records that might be useful for future reference purposes (e.g. training), as precedence, or for performance management (performance indicators, benchmarking and comparison exercises). A professional judgement needs to be made as to the usefulness of a particular document.

**Key Consideration 5:**

Is retention required because the document or record is of historical interest or intrinsic value?

In most cases this consideration will not be applicable. However, it is certainly possible that some documents may be of historic interest and/or even have some monetary value. Where it is suspected that the document falls within this description, appropriate enquires should always be made before taking any further action. Even if the document is of historical or monetary value, disposal rather than retention by the Council may well be the appropriate option.

## Appendix 2: Retention Schedules

Where no period for retention is specified the document can be destroyed 3 years after its use has concluded.

All retention periods commence from the date on which the use of the document was concluded, unless otherwise stated.

Except where required to meet a statutory period all emails should be deleted after 3 years.

Retention schedules can be accessed (internally): http://cbci.cbc-local.cbc.gov.uk/about-the-council/strategies-policies-and-procedures/gdpr-data-protection#guidance

# Cheltenham Borough Council

# Cabinet – 23rd May 2023

# Application for designation of a Neighbourhood Forum by the Hesters Way Neighbourhood Development Forum

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**Accountable member:**

Councillor Martin Horwood, Cabinet Member for Customer & Regulatory Services

**Accountable officer:**

Tracey Birkinshaw, Director of Community & Economic Development

**Ward(s) affected:**

Benhall and The Reddings, Hesters Way, Springbank

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**Key Decision:** No

**Executive summary:**

Cheltenham Borough Council has a statutory duty to advise or assist communities in the preparation of Neighbourhood Development Plans (NDP). Cabinet approved the designation of a Neighbourhood Area (the Hesters Way Neighbourhood Development Forum Area) and the designation of Hesters Way Neighbourhood Development Forum on 5th December 2017. The designation of the Neighbourhood Area still stands, but as per Section 61F(8) of the Town and Country Planning Act 1990, the designation with regard to the neighbourhood forum expired on 5th December 2022.

A new application to designate Hesters Way Neighbourhood Development Forum as the neighbourhood forum has been received. The application has been assessed against requirements set out in the legislation and is considered to meet the requirements to enable designation of the neighbourhood forum. Approval of this application enables the Hesters Way Neighbourhood Development Forum to act in relation to the neighbourhood area. Consultation on the neighbourhood forum application ran for 6 weeks from March to April. One supportive representation was received.

**Recommendations:**

1. To approve the designation of the Hesters Way Neighbourhood Development Forum as neighbourhood forum for the Hesters Way Neighbourhood Development Forum Area.
2. The Director of Community & Economic Development formally write to Hesters Way Neighbourhood Development Forum to recommend that they consider reviewing the designated

**Neighbourhood Area to fully assess the impacts of the future boundary changes, including engagement with Benhall & The Reddings and Springbank ward councillors.**

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## 1. Implications

### 1.1 Financial, Property and Asset implications

Additional financial contributions are available from DLUHC to support Neighbourhood Planning. This is in recognition of the legal obligations placed upon the Council to provide advice and support to those seeking to introduce a Neighbourhood Development Plan (NDP). This advice and support also includes arranging for the examination of the NDP and the referendum on the NDP. The Council may submit claims to DLUHC to cover the expenditure within the set limits. At present, a local authority may submit claims for consideration by DLUHC, made up of £20,000 from when they issue a decision statement detailing their intention to send the plan to referendum; £5,000 for the first five neighbourhood areas designated and £5,000 for the first five neighbourhood forums designated.

There will be resource implications for Officers due to the requirement to provide some assistance and advice to communities in the preparation of a Neighbourhood Plan; checking a submitted Plan meets legal requirements; arranging for the independent examination of the Plan; determining whether the Neighbourhood Plan meets the basic conditions and other legal requirements; arranging a referendum; and, subject to the results of the referendum, bringing the Plan into force.

Appropriate claims to DLUHC will need to be made to ensure the additional cost burden to the Council is mitigated.

**Signed off by:** Andrew Taylor, Principal Commercial Accountant, andrew.taylor@cheltenham.gov.uk

### 1.2 Legal implications

Section 61F of Town and Country Planning Act 1990 (applied to neighbourhood planning by s38C of the Planning and Compulsory Purchase Act 1990), provides for the designation by the Council of an organisation or body as a neighbourhood forum for a designated neighbourhood area provided the Council is satisfied the organisation or body meets certain conditions (as set out at Appendix 2). The section also provides that a neighbourhood forum designation ceases to have effect at the end of the period of 5 years beginning with the day on which it is made.

As per the Neighbourhood Planning (General) Regulations 2012 (as amended), the Council publicised the Forum application as soon as possible after receiving it, specifically on 1st March 2023 for six weeks. The Council must determine the application by the date which is the last day of the period of 13 weeks beginning with the day immediately following the date on which the application has been first publicised, which gives a deadline of 31st May 2023.

If approved, the Forum's designation allows them to act on behalf of the Hesters Way Development Forum Area regarding the formation of a Neighbourhood Plan. A Neighbourhood Plan, if adopted, would form part of the Borough's Development Plan in the consideration of planning applications in the Hesters Way Development Forum Area.

**Signed off by:** Cheryl Lester, Chief Planning Lawyer, One Legal: legalservices@onelegal.org.uk

### 1.3 Environmental and climate change implications

All council projects should be in support of the net zero 2030 target and the aims of the Climate Pathway. There are no known implications at this stage; however a neighbourhood development plan

may require a strategic environmental assessment (SEA) under the EU Regulations and/or a Habitat Regulations Assessment (HRA). This will depend on the content of the neighbourhood plan.

Preparation of Neighbourhood Development Plans could have implications for biodiversity, habitats, energy usage, waste and recycling and/or protected species. These would need to be considered by the body preparing the Plan as appropriate.

The responsibility resides with the authorised body however the Borough Council may wish to support the authorised body to undertake a SEA/HRA screening of draft plans to determine whether a SEA and/or HRA will be required.

**Signed off by:** Laura Tapping, Climate Emergency Programme Officer, laura.tapping@cheltenham.gov.uk

### 1.4 Corporate Plan Priorities

This report contributes to the following Corporate Plan Priorities:

- Making Cheltenham the Cyber Capital of the UK
- Working with residents, communities and businesses to help make Cheltenham #netzero by 2030
- Increasing the number of affordable homes through our £180m housing investment plan
- Ensuring residents, communities and businesses benefit from Cheltenham's future growth and prosperity
- Being a more modern, efficient and financially sustainable council

### 1.5 Equality, Diversity and Inclusion Implications

The forum will be made accessible to a diverse range of residents in the local area. As per the Neighbourhood Planning Regulations (General) 2012 (as amended), a Forum must be able to demonstrate a membership of at least 21 individuals who live, work or have a business in the area. Membership is open to anyone who meets those same criteria.

### 1.6 Performance management – monitoring and review

The main consideration for the Council is to ensure it carries out its duty to determine the application within thirteen weeks of the application first being publicised. This will have been achieved if a determination is made by 31 May 2023.

As per Section 61F(8) of the Town and Country Planning Act 1990, the designation with regard to the Forum expires five years after its approval. Should Cabinet agree to approve the designation of the Forum, it will expire on 23rd May 2028. It will be for the members of the Forum to arrange for its renewal but the Council will support them in this process.

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## 2 Background

2.1 On 5 December 2017, the council's Cabinet approved the designation of a neighbourhood area and neighbourhood forum comprising the Hesters Way ward.

2.2 Since designation in December 2017 the Hesters Way Neighbourhood Development Forum (the Forum) have engaged with residents, local employees and volunteers to gather evidence to support a plan for the improvement of the Hesters Way Ward.

2.3 The Hesters Way Neighbourhood Plan (2020-2039), has evolved from its early drafts into a document that provides a background to the area and expresses the vision and aspirations of the community. The plan addresses key issues such as housing and health, business and employment, environment and parks, transport, and parking with the aim to ensure sustainable development for the future.

2.4 The plan has considered improvements for the existing residential area whilst also taking account of the Golden Valley/Cyber Hub developments in the west of the ward. It is noted that the Forum have stated that the integration of new and existing communities and the mutual benefits that can be achieved have been the highest priority.

2.5 As per Section 61F(8) of the Town and Country Planning Act 1990, the designation with regard to the Forum expired on 5th December 2022, five years after its initial designation. The Forum must renew its status to continue its work on the neighbourhood plan.

2.6 It is worth noting that the prospective Forum will need to consider the impact of future proposed boundary changes (also see Appendix 6). Currently, the adopted Neighbourhood Area covers the existing Hesters Way ward area. In 2024, the Boundary Commission is proposing to change the boundaries of a number of Cheltenham wards. Benhall & The Reddings will grow to include Fiddler's Green. Hesters Way will grow north into Springbank. In light of this, a further recommendation has been added into this report as reasoned at paragraph 3.5 of this report.

## 3 Reasons for recommendations

3.1 Cheltenham Borough Council has a statutory duty to advise or assist communities in the preparation of neighbourhood plans.

3.2 Officers have considered the application for the Forum's renewed designation and determine it to be consistent with the Neighbourhood Planning (General) Regulations 2012 (as amended).

3.3 The priorities of the Council are aligned with the Forum. The approval of its designation would enable the Forum to continue their work producing an important Development Plan document. This should help the local community to better engage with the development that takes place in its area. With the nearby Golden Valley development continuing, a neighbourhood plan should help the Hesters Way area to benefit from potential future growth and prosperity.

3.4 Priorities like affordable housing provision are also met here as the local community would have the opportunity to decide how that is provided in their area.

3.5 Recommendation 2 has been included in order to future-proof the Hesters Way Neighbourhood Forum and its Area. The current Neighbourhood Area boundary matches the current Hesters Way ward boundary. The Boundary Commission is proposing to alter the Hesters Way's boundary as well as neighbouring Benhall & The Reddings and Springbank wards' boundaries in 2024. If the intention of the Forum is to have their Neighbourhood Area match their ward boundary, then the Forum could, at a later date, seek to update the Neighbourhood Area boundary to match the proposed 2024 ward boundary.

3.6 It is the opinion of officers that this should not impact this Cabinet decision of whether to approve the designation of the Neighbourhood Forum but has been included as a recommendation in order to aid the Neighbourhood Forum's members regarding a potential future consideration.

## 4 Alternative options considered

4.1 The neighbourhood forum application process is provided for by statute and sign off is to be by Cabinet as per the Council's Neighbourhood Planning Protocol, adopted on 14th December 2015. If

the Council refuses to designate a neighbourhood forum, it must give reasons and publish a statement setting out those reasons. It is recommended that the designation be approved as it is considered that there are no reasons not to approve the designation.

## 5 Consultation and feedback

5.1 Public consultation was held for six weeks up to 12th April 2023. One representation was received. It was from a ward councillor who supported the designation of the Hesters Way Neighbourhood Development Forum.

## 6 Key risks

6.1 Local authorities are required to provide assistance to parish councils and neighbourhood forums in the neighbourhood planning process. They must take decisions as soon as possible and within statutory time periods. If the Council does not act constructively and make decisions on time then there is a risk that it will fail its statutory duties.

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## Report author:

Alexander Bethell, Planning Policy Officer, alexander.bethell@cheltenham.gov.uk

## Appendices:

i. Risk Assessment
ii. Extracts from legislation
iii. Forum application form
iv. Forum constitution
v. Consultation representations
vi. Proposed ward boundary changes

## Background information:

All background information regarding the application will be made available on the Council's website.

**Appendix 1: Risk Assessment**

| Risk ref | Risk description | Risk owner | Impact score (1-5) | Likelihood score (1-5) | Initial raw risk score (1 - 25) | Risk response | Cor Miti acti |
|---|---|---|---|---|---|---|---|
| | Local authorities are required to provide assistance to parish councils and neighbourhood forums in the neighbourhood planning process. They must take decisions as soon as possible and within statutory time periods. If the Council does not act constructively and make decisions on time then there is a risk that it will fail its statutory duties. | Tracey Birkinshaw | 2 | 2 | 4 | Accept | Non |

## Appendix 2: Extracts from legislation

### Extract from The Town and Country Planning Act 1990 as amended

### 61F Authorisation to act in relation to neighbourhood areas

(5) A local planning authority may designate an organisation or body as a neighbourhood forum if the authority are satisfied that it meets the following conditions—

(a) it is established for the express purpose of promoting or improving the social, economic and environmental well-being of an area that consists of or includes the neighbourhood area concerned (whether or not it is also established for the express purpose of promoting the carrying on of trades, professions or other businesses in such an area),

(b) its membership is open to—

(i) individuals who live in the neighbourhood area concerned,

(ii) individuals who work there (whether for businesses carried on there or otherwise), and

(iii) individuals who are elected members of a county council, district council or London borough council any of whose area falls within the neighbourhood area concerned,

(c) its membership includes a minimum of 21 individuals each of whom—

(i) lives in the neighbourhood area concerned,

(ii) works there (whether for a business carried on there or otherwise), or

(iii) is an elected member of a county council, district council or London borough council any of whose area falls within the neighbourhood area concerned,

(d) it has a written constitution, and

(e) such other conditions as may be prescribed.

(6) A local planning authority may also designate an organisation or body as a neighbourhood forum if they are satisfied that the organisation or body meets prescribed conditions.

(7) A local planning authority—

(a) must, in determining under subsection (5) whether to designate an organisation or body as a neighbourhood forum for a neighbourhood area, have regard to the desirability of designating an organisation or body—

(i) which has secured (or taken reasonable steps to attempt to secure) that its membership includes at least one individual falling within each of sub-paragraphs (i) to (iii) of subsection (5)(b),

(ii) whose membership is drawn from different places in the neighbourhood area concerned and from different sections of the community in that area, and

(iii) whose purpose reflects (in general terms) the character of that area,

(b) may designate only one organisation or body as a neighbourhood forum for each

neighbourhood area,

(c) may designate an organisation or body as a neighbourhood forum only if the organisation or body has made an application to be designated, and

(d) must give reasons to an organisation or body applying to be designated as a neighbourhood forum where the authority refuse the application.

(8) A designation—

(a) ceases to have effect at the end of the period of 5 years beginning with the day on which it is made but without affecting the validity of any proposal for a neighbourhood development order made before the end of that period, and

(b) in the case of the designation of an unincorporated association, is not to be affected merely because of a change in the membership of the association.

(9) A local planning authority may withdraw an organisation or body's designation as a neighbourhood forum if they consider that the organisation or body is no longer meeting—

(a) the conditions by reference to which it was designated, or

(b) any other criteria to which the authority were required to have regard in making the designation;

and, where an organisation or body's designation is withdrawn, the authority must give reasons to the organisation or body.

(10) A proposal for a neighbourhood development order by a parish council or neighbourhood forum may not be made at any time in relation to a neighbourhood area if there is at that time another proposal by the council or forum in relation to that area that is outstanding.

(11) Each local planning authority must make such arrangements as they consider appropriate for making people aware as to the times when organisations or bodies could make applications to be designated as neighbourhood forums for neighbourhood areas.

(12) Regulations—

(a) may make provision in connection with proposals made by qualifying bodies for neighbourhood development orders, and

(b) may make provision in connection with designations (or withdrawals of designations) of organisations or bodies as neighbourhood forums (including provision of a kind mentioned in section 61G(11)(a) to (g)).

(13) The regulations may in particular make provision—

(a) as to the consequences of the creation of a new parish council, or a change in the area of a parish council, on any proposal made for a neighbourhood development order,

(b) as to the consequences of the dissolution of a neighbourhood forum on any proposal for a neighbourhood development order made by it,

(c) suspending the operation of any duty of a local planning authority under paragraph 6 or 7 of Schedule 4B in cases where they are considering the withdrawal of the designation of an

organisation or body as a neighbourhood forum;

(d) for determining when a proposal for a neighbourhood development order is to be regarded as outstanding, and

(e) requiring a local planning authority to have regard (in addition, where relevant, to the matters set out in subsection (7)(a)) to prescribed matters in determining whether to designate an organisation or body as a neighbourhood forum.

**Extract from The Neighbourhood Planning (General) Regulations 2012**

**Application for designation of a neighbourhood forum**

**9.** Where an organisation or body submits a neighbourhood forum application to the local planning authority it must include—

(a) the name of the proposed neighbourhood forum;

(b) a copy of the written constitution of the proposed neighbourhood forum;

(c) the name of the neighbourhood area to which the application relates and a map which identifies the area;

(d) the contact details of at least one member of the proposed neighbourhood forum to be made public under regulations 9 and 10; and

(e) a statement which explains how the proposed neighbourhood forum meets the conditions contained in section 61F(5) of the 1990 Act.

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**Appendix 3: Neighbourhood Forum Application**

# Neighbourhood Forum Application Information

Below is the information prepared for Cheltenham Borough Council in relation to the application process for designation of a neighbourhood forum.

## 1. Name of the proposed Neighbourhood Area

Hesters Way

## 2. Name of the proposed/designated Neighbourhood Forum

Hesters Way Neighbourhood Forum

## 3. Written Constitution (attached)

The constitution for the neighbourhood forums contains the following:

- the name and purpose of the neighbourhood forum,
- aims and objectives
- working arrangements including sub-groups, partners and their roles,
- pattern of meetings and details of how decisions will be made,
- details of governance, including official positions,
- arrangements for management and financial management,
- membership rules and regulations.

## 4. Contact/s for proposed Neighbourhood Forum

The contact details below are of two steering committee members.

| | |
|---|---|
| Title: Mrs<br><br>First Name: Charmian<br><br>Surname: Sheppard<br><br>Address:<br><br>Postcode:<br><br>Email: | Title: Mr<br><br>First Name: Andy<br><br>Surname: Hayes<br><br>Address: Hesters Way Community Resource Centre, Cassin Drive, Cheltenham<br><br>Postcode: GL51 7SU<br><br>Email andyhayes@hwpartnership.org.uk |

## 5. Statement

*This section provides / includes the purpose, aims and ambitions of the neighbourhood forum and enables it to demonstrate how its membership is representative of the local community.*

Please set out the purpose, aims and ambitions of the proposed neighbourhood forum here:

The proposed Hesters Way Neighbourhood Forum purpose is to produce a Neighbourhood Plan which will achieve amongst others the following goals;

- To further the social, economic, health, educational and environmental well-being of Hesters Way
- To allocate sites for business, retail and housing development including affordable housing
- To make public realm improvements
- To detail aspirations for transport, traffic and parking
- To mitigate the effects of climate change.

Membership is open to anyone living or working in Hesters Way, as well as any county or borough council member whose area falls within Hesters Way. We have gathered over 21 individuals including local residents and employees of local businesses plus the requisite local councillors to establish the forum (a list is attached). These members represent a wide range of local interests from across the area and consider themselves to be a 'relevant body' capable of being designated as a Neighbourhood Forum.

We have established a constitution for the forum to guide this project which is attached

Our vision statement is as follows;

"Hesters Way must be a safe, green and sustainable place that people are proud to call home, with work, leisure and community facilities that are accessible and inclusive and encourage community togetherness. It should be a beautiful and welcoming place where people thrive."

## 6. Membership of proposed Neighbourhood Forum

The attached spreadsheet includes the names and addresses the forum members

## 7. Map of proposed Neighbourhood Forum

A map of the Neighbourhood Forum area is attached

## 8. Declaration

We hereby apply to designate a neighbourhood forum as described on this form and the accompanying information.

Name(s): Charmian Sheppard Date; 18 01 23
Name(s): Andy Hayes Date: 18 01 23

**Appendix 4: Neighbourhood Forum Constitution**

# HESTERS WAY NEIGHBOURHOOD DEVELOPMENT FORUM

# CONSTITUTION

**1. Background**
The Forum has been established to draw up and maintain a Neighbourhood Development Plan for Hesters Way in Cheltenham, using the powers in the Localism Act 2011.

**2. Area covered by the Forum**
The Area covered by the Forum is the council ward of Hesters Way defined by the attached map.

**3. Aims & purposes of the Forum**
The Forum shall:

- Draw up a **plan for the future development** of the area.
- Further the **social, economic, health, educational and environmental well-being** of Hesters Way Cheltenham.
- **Allocate sites for business, retail and housing development** including affordable housing.
- Plan for **public realm improvements** and **consider and recommend improvements** for the street environment in the area.
- Express aspirations for **transport, traffic and parking.**
- Ensure developments **mitigate against the effects of climate change.**
- Seek to **protect existing buildings/areas of note** and worth.
- Aim to **support local businesses, associations, organisations and employers**.
- Consider and **recommend improvements for the street environment** in the area.
- Seek to **protect and improve community resources** and facilities such as libraries, community centres and public facilities.
- Consider how to **protect green spaces** and bring environmental benefits to the area.
- **Involve as many residents**, local workers and local businesses in the process as possible.
- **Attract wide support** for the plan across the area, taking in a range of views.
- **Campaign to have the plan adopted** by relevant bodies and by referendum.
- Work **to maintain and update the plan** as necessary.
- Plan to **improve community safety.**

The Forum shall aim to be as inclusive as possible and shall not discriminate on the grounds of age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion or belief; sex; sexual orientation.
The Forum will be open to local councillors and other politicians who represent the area, but shall not be a party political body.

**4. Membership**

- Membership will be open to anyone who lives or works or has a business in the area defined in Article 2. Associate membership may be given to any interested local resident living or working outside the area.

- Individuals will become members of the Forum once they have given their contact details (Including where possible an email address) to the Secretary or other officer.

- An up to date record of the membership shall be kept by the Secretary. It is the obligation of members to notify the secretary in writing of changes of circumstance that affect their membership rights.

- Members may resign from the Forum at any time in writing to the Secretary or verbally at a meeting.

- There shall be no group membership of the Forum. However, residents' associations and other local groups shall be encouraged to support and assist the work of the Forum.

**5. Officers**

- Members of the Forum shall elect by simple majority officers to carry out the business of the Forum. In order to stand for election as an officer, a candidate will need to be a member of the Forum. He/she will also need to be proposed and seconded by two other members of the Forum. Associate members of the Forum shall not be eligible for election.

- The officers of the Forum shall be:

    - A Chair - who shall chair the meetings.
    - A Vice-Chair– who shall provide support and assistance to the Chair.
    - A Secretary - who shall be responsible for the taking of minutes; keeping a record of members; and distribution of internal paperwork and emails.
    - A Treasurer - who shall be responsible for the Forum's bank accounts.
    - A Marketing and Communications officer – who shall be responsible for external paper/electronic circulars and a website.

- Any vacancies for these posts shall be filled by an election at a subsequent general meeting, provided at least 14 days' notice is given of the meeting and the election.

- Any officer who does not attend two consecutive meetings without apology will be deemed to have resigned effective from the second meeting.

**6. General Meetings**

- The Forum will hold general meetings open to all members.

- The Secretary shall ensure that notice of the date of all general meetings is given to all members (by email where possible) not less than 14 days before the meeting.

- The minutes of all general meetings shall be available (by email where possible) to all members and associate members, as well as those who have attended recent meetings. Minutes of each meeting shall be approved by the following meeting.

- The quorum for all general meetings shall be 8 members including Chair or Vice-Chair and one other officer.

- In the event of a general meeting failing to achieve a quorum, business may be discussed and proposals put to the next meeting for ratification. In the event of two consecutive ordinary meetings being inquorate, the second meeting may call a Special General Meeting. Such a Special General Meeting will be deemed to be quorate.

- A general meeting may decide, by majority vote, to establish a steering committee to lead the day-to-day running of the Forum. A general meeting may also, by majority vote, decide to establish sub-committees and working groups to work on specific areas to be covered by the Plan. All committees and working groups shall report on their work to general meetings.

**7. Special General Meetings**

- The Chair, the Vice-Chair or the Secretary may at any time call a Special General Meeting of the Forum, either for the purpose of altering the Constitution, or for considering any matters which the officers may decide should be specially referred to members.

- A Special General Meeting may also be called at the written request to the Secretary of not less than 5 members, who must give reasons for their request. Any matters notified to the Secretary 14 days before the Special General Meeting shall be discussed at the meeting.

- The Secretary shall give at least 14 days' notice to members of a Special General Meeting called in the circumstances set out in Article 6(v) above.

**8. Voting**

- Voting at all meetings shall be by a show of hands of members, unless otherwise resolved. Each member present shall have one vote. Votes are not transferable. Associate members shall not have a vote, unless otherwise resolved.

- A simple majority of votes shall prevail, except where otherwise provided in these rules. In the event of a tied vote, the Chair shall have a second or casting vote.

- Any member or associate member with a conflict of interest on an issue being discussed at a meeting shall declare it. A conflict of interest is any situation in which a member or associate member's personal interests, or duties which they owe to another body, and those of the Forum arise simultaneously or appear to clash.
- Proxy voting is not accepted.

**9. Financial Records & Funding**

- The Treasurer shall open a bank account in the name of the Forum. The account shall have at least three signatories. Any payments over £500 need to be agreed by the Forum, authorised by two signatories and countersigned by a third signatory. All other payments need to be authorized by at least two of the signatories, and counter-signed by a third.

- The Treasurer shall keep proper financial records and produce annual accounts, which will be presented at appropriate meetings.

- The Forum shall seek to raise money from individuals and local groups. This shall pay for the running costs of the Forum, such as administration, printing and room hire.

- Where appropriate, the Forum may apply for grants and donations from public authorities, charities and other organisations.

- The Forum may also seek funds and sponsorship from local businesses. However, in order to avoid any conflict of interest, all donations/gifts of more than £100 will need to be approved by a majority vote at a general meeting of the Forum.

- All money raised by the Forum shall be spent for the purposes laid out in the Aims of the Forum (Article 3).

**10. Changes to the Constitution**

- The Constitution may be altered at a Special General Meeting.

- Any proposed changes must be given to the Secretary at least 21 days before the meeting. Any proposed changes must be circulated to all members at least 14 days before a Special General Meeting where they will be discussed. Any proposed changes must be circulated on paper to all members present at the meeting where they are being discussed.

- Changes to the Constitution must be agreed by at least two-thirds of members present.

**11. Dissolution**

- If a meeting by simple majority decides that it is necessary or appropriate to close down the Forum, a Special General Meeting shall be called by the Secretary to consider whether or not to do so.

- The Forum may only be dissolved at a Special General Meeting called for that purpose. All members must be notified of such a meeting at least 21 days before it takes place.

- Upon dissolution, funds and possessions held by the Forum will be disposed of according to
    (a) the wishes of the meeting and
    (b) in so far as not disposed of under (a), for any of the aims and purposes set out in Article 3.

(This Constitution was readopted as the Constitution of the Hesters Neighbourhood Forum at a meeting held on 1st Feb 2023).

## Appendix 5: Consultation representations

To Planning,

I have been involved with the Hesters Way Neighbourhood Forum since its conception.

It is a group that has worked extremely hard to put together a Neighbourhood Plan. A sub-group has been meeting nearly every Wednesday, year round, for 1-2 hours, for several years. This dedicated group has also been out on the doorsteps in Hesters Way, gathering views from residents and attending planning consultation and training events. Of particular interest has been the Golden Valley Development, where sub-group members have been an important voice for the community, articulating residents views to the developers and asking important questions.

I fully support the re-designation of the Forum and look forward to the Forum completing its goal of finalising the Neighbourhood Plan and, hopefully, seeing it adopted.

Kind regards,

Wendy Flynn

Cheltenham Borough Councillor (Hesters Way)

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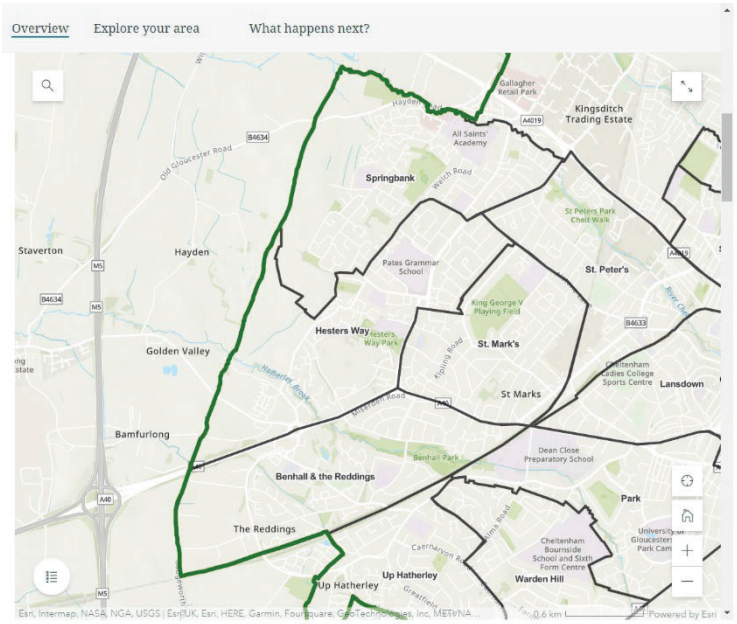
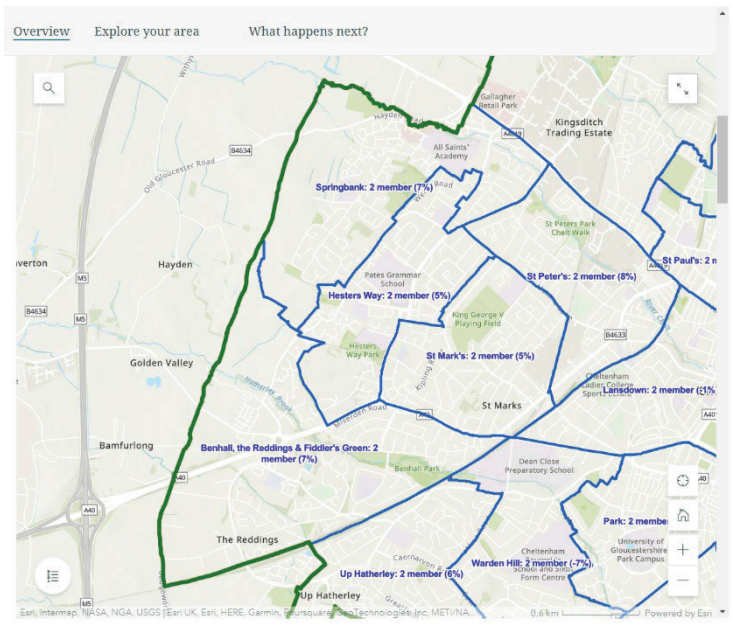
## Appendix 6: Proposed ward boundary changes

Available at: https://www.lgbce.org.uk/all-reviews/cheltenham

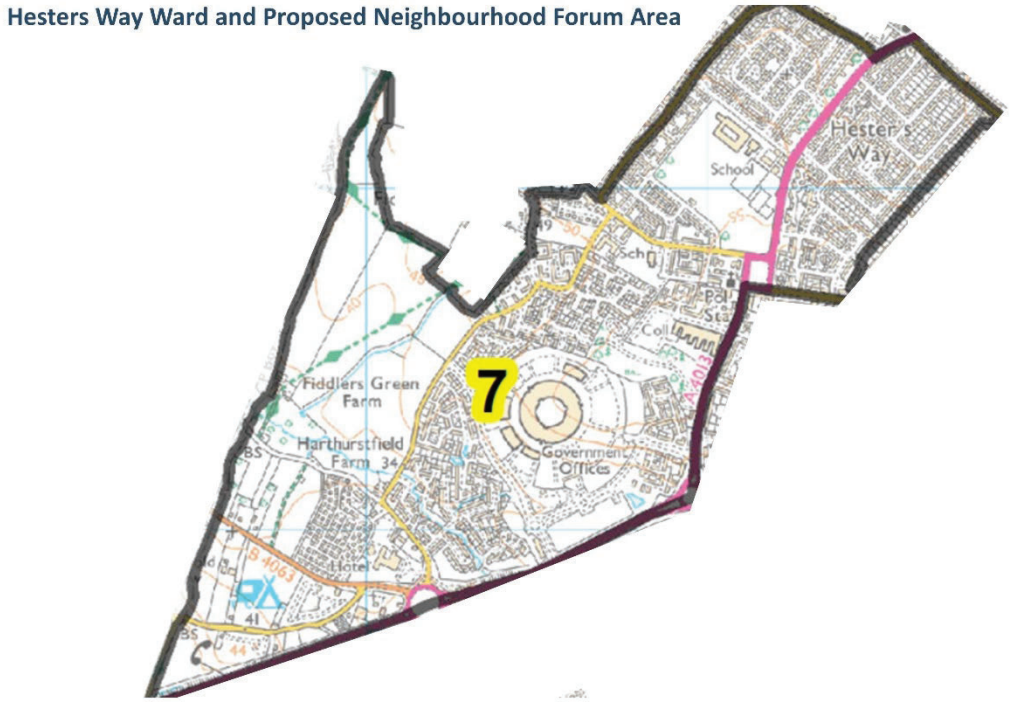
Existing




Proposed




Current Neighbourhood Area



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# Cheltenham Borough Council

# Cabinet – 23rd May, 2023

# Approval of countywide Memorandum of Understanding – Co-operation on Biodiversity Net Gain through the Gloucestershire Nature and Climate Fund

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**Accountable member:**

Cllr Alisha Lewis, Cabinet member

**Accountable officer:**

Mike Redman, Director of Climate Change and Place Services

**Ward(s) affected:**

All

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**Key Decision:** No

## Executive summary:

The government has announced that developers in England will be required to deliver 10% biodiversity net gain (BNG) when building housing, industrial or commercial developments from November 2023.

In circumstances where biodiversity improvements are not possible, developers will be able to pay for improvements on other sites by purchasing “units” via a private, off-site market.

Gloucestershire local authorities have been working in association with the Gloucestershire Local Nature Partnership (GLNP) to establish a countywide mechanism to provide options for developers locally, which will reduce the risk of BNG payments being used for biodiversity enhancement outside of the county. This mechanism is intended to establish a Gloucestershire Nature and Climate Fund (GNCF), which will offer an option to developers for the delivery and monitoring of off-site BNG, where this cannot be achieved on the application site.

BNG was introduced by the Environment Act 2021 and forms part of the government’s plans to halt species decline by 2030.

To underpin the innovative partnership work that has been taking place, authorities in the county are being encouraged to sign a Memorandum of Understanding (MoU) which will provide greater transparency in relation to the work taking place, whilst making clear that GNCF will not be the only off-site BNG option available to developers and that it is not the intention that this should create a monopoly service. **The draft MoU is attached as Appendix 2 to this report.**

## Recommendations:

1. Cabinet is recommended to approve the principle of continued co-operation on Biodiversity Net Gain through the Gloucestershire Nature and Climate Fund. Whilst it will not be the only option available to developers unable to provide the required minimum 10% biodiversity uplift on-site, GNCF is designed to provide a robust off-site option for retaining developer investment in BNG within the county;

2. To delegate authority to the Cabinet member for Climate Emergency to sign the MoU on behalf of the authority.

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## 1. Implications

### 1.1 Financial, Property and Asset implications

1.1.1 There are no direct financial, property or asset implications arising from the recommendations in this report. This is because the memorandum of understanding is not a legally binding agreement. Whilst all parties are requested to comply with the terms of the MoU, there is no legal obligation to do so and no legal consequence if they do not. There is therefore flexibility for the Council when considering development proposals which means that decisions can be taken which balance both climate priorities with the financial needs of the Council.

**Signed off by:** Gemma Bell, Director of Finance & Assets, *gemma.bell@cheltenham.gov.uk*

### 1.2 Legal implications

1.2.1 The Authority is being asked to sign up to a memorandum of understanding which is not a legally binding agreement. This means that whilst all parties are requested to comply with the terms of the MoU, there is no legal obligation to do so and no legal consequences if they do not do so.

1.2.2 Advice has been given to officers on the content of the MoU and this arrangement. We have also requested changes to some of the provisions of the MoU. For example, currently there are no termination provisions meaning that, unless changed, the MoU will continue until all parties agree to terminate the MoU, or allow one council to withdraw.

1.2.3 We are instructed that GNCF is not carrying out services on behalf of the Authorities and that GNCF could undertake their roles without involvement from the Authorities. Should the Authority require services of this nature to be provided, a compliant procurement will need to be undertaken in accordance with the Authority's Contract Procedure Rules.

1.2.4 There is no obligation upon developers to make use of the option offered by GNCF and they are able to make their own arrangements to demonstrate BNG compliance.

1.2.5 GNCF is a company limited by guarantee and not set up to earn profits for shareholders. However, it is not a company that is owned by public bodies, nor is it a charity or a community interest company so there are no restrictions in law about its ability to make, or how to use profits.

**Signed off by:** Donna Ruck, Solicitor, One Legal. legalservices@onelegal.org.uk

## 1.3 Environmental and climate change implications

1.3.1 GNCF will provide a mechanism within the county to encourage off-site biodiversity net gain where this cannot be delivered on-site. The arrangement has been designed specifically to support nature and help to mitigate the impact of climate change, both through carbon sequestration, but also by enhancing habitat on those sites which attract BNG funding.

**Signed off by:** Laura Tapping, Climate Emergency Programme Officer, laura.tapping@cheltenham.gov.uk

## 1.4 Corporate Plan Priorities

This report contributes to the following Corporate Plan Priorities:

- Working with residents, communities and businesses to help make Cheltenham #netzero by 2030
- Ensuring residents, communities and businesses benefit from Cheltenham's future growth and prosperity

## 1.5 Equality, Diversity and Inclusion Implications

1.5.1 There are no equality, diversity or inclusion implications arising from the recommendations in this report.

## 1.6 Performance management – monitoring and review

1.6.1 As the GNCF will operate independently of local authorities and their property and planning responsibilities, there will be no direct performance management implications arising from the report. However, it is worth noting that planning authorities will need to establish mechanisms for monitoring the delivery of BNG commitments by developers and the GNCF offers a potentially robust and funded mechanism for effectively carrying out this monitoring against an established baseline for each BNG site identified by the scheme as capable of delivering BNG units.

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## 2 Background to the Gloucestershire Nature and Climate Fund

2.1 The GNCF has a role to play in supporting the county to reach 'net-zero' emissions. GNCF biodiversity net gain principles and the spatial operating strategy are set out in Appendix 3.

2.2 Within organisations and communities, when emissions have been reduced to their lowest possible level, there will be residual emissions remaining, many falling into the 'too difficult to fix now' category.

2.3 Some of the enabling technology and infrastructure to reduce the residuals (hydrogen fusion, small nuclear reactors, affordable EVs and solar power storage, safe rural cycling routes and e-buses) will not come on-line until after the net-zero deadline, which this authority has set at 2030. While the Gfirst LEP and Gloucestershire Local Nature Partnership (GLNP) have a role in championing these, we also have a role in enabling business and organisations in Gloucestershire to reach their net-zero deadlines with integrity.

2.4 The role of the GNCF is to leverage funds to help restore and enhance nature in Gloucestershire. It should also support businesses to meet legislative requirements and environmental goals. Reduction in emissions must be tackled first, and while 'offsetting emissions' is the last resort on our net-zero pathway, the GNCF can help to ensure that it is delivered with scientific rigour. The GNCF will not promote offsetting as an excuse for 'business as usual'. The Fund's position on this will be made clear.

2.5 The main offer of the GNCF, will be the facilitation of biodiversity net gain through the supply of biodiversity credits. Its secondary offer, will be carbon credits that adhere to the methodology of the 'woodland carbon code' and provide a local narrative showing where carbon is stored. GNCF will deliver more than just carbon storage with each carbon credit that is sold; multiple benefits such as natural flood management, air pollutant removal and recreation will be identified and locked in. The Gloucestershire Tree Strategy has already identified the Fund as a key entity, enabling "multiple funding streams to be utilised to deliver multiple benefits through a wide range of delivery partners whilst ensuring delivery of this strategy".

2.6 While carbon offsetting is a nation-wide and global option, GNCF should be at the table, offering high integrity carbon credits that benefit the ambitious Tree Strategy, wetland creation and soil protection initiatives planned across Gloucestershire, creating a more climate resilient and climate positive landscape.

## 3 Reason for recommendations

3.1 Signing the Memorandum of Understanding will provide transparency in relation to the partnership work being undertaken by county local authorities in establishing a mechanism for the delivery of off-site BNG where this cannot be effectively provided on the application site. **Note:** This will still be subject to overview by planning authorities and sequential testing will be applied to ensure that wherever practicable, BNG mitigation takes place either on, or in reasonable proximity to application sites.

## 4 Alternative options considered

4.1 No suitable alternative options have been identified, but GNCF will **not** be a monopoly service and alternative market offers are likely to be available to developers needing to identify off-site BNG provision. Some of these options could include BNG units available on sites outside of the county, which whilst also being subject to sequential testing, may dilute the positive impact which BNG could otherwise bring about within Gloucestershire.

## 5 Consultation and feedback

5.1 Consultation has taken place with planning authorities in the county, including elected members and Climate Leadership Gloucestershire is also supportive of the scheme. Gloucestershire County Council is also a proposed signatory to the MoU and has offered loan funding to assist with the establishment of the GNCF.

## 6 Key risks

6.1 If there is no effective mechanism established for the delivery of off-site BNG in relation to local developments, there is a risk that developers will purchase BNG units from national providers, with the loss of potential benefits for nature in Gloucestershire.

6.2 In the absence of viable alternatives for off-site BNG and Suitable Alternative Natural Greenspace to offset development impacts on the protected Cotswolds Beechwoods, development proposals could be delayed, adding to existing housing delivery and economic growth challenges.

6.3 There is a risk in signing the MoU that participating authorities may be viewed as favouring GNCF over other BNG options available to developers. This is not the intention and any such perceptions should be mitigated by the independence of the planning process in determining the acceptability of developers' proposed BNG arrangements.

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## Report author:

Mike Redman, Director of Climate Change & Place Services, mike.redman@cheltenham.gov.uk

## Appendices:

1. Risk Assessment
2. Draft Memorandum of Understanding
3. GNCF biodiversity net gain principles and spatial operating strategy
4. Climate Change Impact Assessment

## Appendix 1: Risk Assessment

| Risk ref | Risk description | Risk owner | Impact score (1-5) | Likelihood score (1-5) | Initial raw risk score (1 - 25) | Risk response | Controls / Mitigating actions | Control / Action owner | Deadline for controls/ actions |
|---|---|---|---|---|---|---|---|---|---|
| | If there is no effective mechanism established for the delivery of off-site BNG in relation to local developments, there is a risk that developers will purchase BNG units from national providers, with potential benefits for nature in Gloucestershire being lost. | Director for Climate Change & Place Services | 3 | 2 | 6 | Reduce | Approve report recommendations | Cabinet | May 2023 |
| | In the absence of viable BNG alternatives to offset development impacts, planning proposals could be delayed, adding to existing housing delivery and economic growth challenges. | Director for Climate Change & Place Services | 4 | 3 | 12 | Reduce | Approve report recommendations | Cabinet | May 2023 |
| | There is a risk in signing the MoU that participating authorities may be viewed as favouring GNCF over other BNG options that | Director for Climate Change & Place | 3 | 2 | 6 | Accept | Any perceptions should be mitigated by the independence of the planning process in determining the | Cabinet | May 2023 |

| Risk ref | Risk description | Risk owner | Impact score (1-5) | Likelihood score (1-5) | Initial raw risk score (1 - 25) | Risk response | Controls / Mitigating actions | Control / Action owner | Deadline for controls/ actions |
|---|---|---|---|---|---|---|---|---|---|
| | may be available to developers. | Services | | | | | acceptability of developers' proposed BNG arrangements. | | |

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# Memorandum of Understanding

This agreement is dated

**PARTIES**

(1) Gloucestershire Nature and Climate Fund Ltd (GNCF)

*Planning Authorities*

(2) Cheltenham Borough Council (CBC)
(3) Cotswold District Council (CDC)
(4) Forest of Dean District Council (FoDDC)
(5) Gloucester City Council (GCC)
(6) Gloucestershire County Council as Waste and Mineral County Planning Authority (WMCPA)
(7) Stroud District Council (SDC)
(8) Tewkesbury Borough Council (TBC)

**BACKGROUND**

**1. This MoU outlines the terms and conditions that guide how Biodiversity Net Gain (BNG) funding will be administered by the GNCF for each Local Planning Authority (LPA) in Gloucestershire and the County Council (hereafter referred to as the 'Planning Authorities').**

1.1 BNG funding is collected from developments where there is a requirement for off-site biodiversity gain to 'offset' the impacts of the development and deliver a net gain for biodiversity.

**2. If following best practice principles in its application, BNG legislation and local planning policy offers the opportunity to strategically create and improve natural habitats in the right places and restore nature's network across Gloucestershire. In addition to improving and enhancing biodiversity, a range of multiple benefits and ecosystem services can be delivered at the same time to the local communities of Gloucestershire.**

2.1 BNG payments will be brokered to landowners by GNCF to support restoration, improved management of habitat or habitat creation, sufficient to deliver the required number of biodiversity units to support planning applications. GNCF is building a pipeline supply of BNG units across Gloucestershire. The land providing BNG uplift will be privately owned or owned by one of the Gloucestershire Planning Authorities, or owned by another public body. In designing and allocating BNG monies the GNCF will follow the Good Practice Principles and associated guidance (CIEEM, CIRIA and IEMA, 2016 and 2019) and use the following broad criteria to assess projects submitted. Projects likely to be successful are those that can demonstrate that:

- the proposed works demonstrate additionality;

- the project makes a significant contribution to the Nature Recovery Network (and/or forthcoming Local Nature Recovery Strategy);
- they make important connections between existing priority habitats and/or within or near to the Nature Recovery Network (NRN);
- they are aimed at extending, linking, buffering, or protecting nationally or locally designated sites. These include statutory conservation sites such as Special Areas of Conservation (SAC), Sites of Special Scientific Interest (SSSI) (where this does not invoke additionality), and non-statutory conservation sites such as Local Nature Reserves (LNR), Local Wildlife Sites (LWS), ancient woodland and the NRN;
- the project(s) are aimed principally at extending the area of well managed and appropriate habitat and buffering it from the harmful effects of other land uses;
- the project provides significant habitat enhancements to habitat networks within the vicinity of the site impacted by the development;
- the project(s) can deliver other ecosystems services and green infrastructure aspirations

**3. The Gloucestershire Planning Authorities will direct Developers that require off-site biodiversity net gain units to local opportunities for purchase of those units at the pre-application stage of the planning process, with trusted suppliers such as the Gloucestershire Nature + Climate Fund.**

**4. All the suppliers and purchasers of BNG units will be required by GNCF to comply with the following criteria:**

4.1 All suppliers will be required to provide full details of the habitat creation/restoration methodologies to be used. In addition, suppliers will be expected to provide details of how success will be monitored, or remedies put in place over an agreed timescale, in addition to GNCF's monitoring programme.

4.2 All projects will be required to provide a biodiversity net gain management plan or landscape and ecological management plan, outlining how the site will be managed and a commitment to managing the site for biodiversity over a 30-year period. The contract will take the form of a conservation covenant between GNCF and the supplier.

4.3 Details of any additional benefits such as improved countryside access, improved ecosystem services, opportunities for outdoor education and interpretation.

4.4 The purchasers of biodiversity net gain units will be required to demonstrate, using an independent provider that they have made best endeavours to retain any habitat provision on site, before requiring purchase of off-site BNG units, as per the mitigation hierarchy.

**5. Managing BNG funding:**

5.1 GNCF confirms that BNG funding will be accounted for per Planning Authority, allowing for clear audit trails of expenditure.

5.2 BNG funding allocations may be matched with other BNG funding or other grant funds to support larger, more strategic projects. For example, it is permitted to stack BNG and Habitat Regulations Assessment funding for Suitable Alternative Natural Greenspace. Bundling and stacking will be allowed in accordance with government guidance/regulations.

5.3 GNCF is a not-for-profit organisation and will charge a broker's fee, initially trialling 15-20% of final BNG unit transactions, to cover the business running costs. This fee covers the full service provided, including promotion of the availability of the fund, working with partners to develop project ideas, processing applications from offset providers, project assessment, scrutiny by the GNCF Project Board(s), supporting the delivery of the projects and ongoing monitoring against the agreed management plan.

5.4 GNCF seeks opportunities to work with other organisations with expertise and local knowledge to assist with matching of funds and the strategic allocation of funds.

**6. Geographical area of allocation:**

6.1 In the initial years of establishment (2022-2025) GNCF will use reasonable endeavours to keep the purchase and sale of BNG units within the same Local Planning Authority as the development site that requires them. Beyond that there may be a need to secure biodiversity net gain agreements across Planning Authority boundaries, depending on supply of BNG units available in each Planning Authority and the locality of the development requiring off-site biodiversity net gain.

6.2 GNCF will look to establish working relationships with the Planning Authorities in Herefordshire, Monmouthshire, Worcestershire, Oxfordshire, and South Gloucestershire to ensure that any cross-boundary BNG arrangements can be made equitably.

**7. BNG transactions:**

7.1 A BNG planning condition can require a developer to prove that they are able to deliver (directly or through a third party such as GNCF) the required off-site biodiversity net gain units (BNG). GNCF acts as a provider of BNG units and monies can be paid direct to GNCF by the developer to deliver the necessary net gain requirements and comply with the planning condition. GNCF aims to hold a conservation covenant with the landowner to enable the transaction of BNG units. GNCF will provide evidence to the Planning Authority that the BNG scheme has been delivered and is being monitored.

**8. Reporting and monitoring procedures:**

8.1 The County, City, District and Borough Councils of Gloucestershire will be represented on GNCF BNG project boards.

8.2 Each GNCF off-site BNG project will be subject to an agreed monitoring and compliance procedure.

8.3 Once funds have been allocated to a BNG unit supplier (landowner), the BNG unit provider will report regularly to GNCF over an agreed time frame on project progress.

8.4 GNCF will provide annual reports summarising biodiversity net gain projects for each Planning Authority signatory to this agreement. The information will be held on a GNCF

register of offsite BNG and provide the required information for the National government off-site BNG register.

8.5 This MoU will be reviewed by GNCF once the government has released secondary legislation on biodiversity net gain to ensure that this document is still compliant.

**9. Status**

9.1 This MoU is not intended to be legally binding, and no legal obligations or legal rights shall arise between the parties from this MoU. The parties enter into the MoU intending to honour their obligations.

**10. Signatures**

Signed by: _____

Position: _____

**On behalf of GNCF**

Signed by: _____

Position: _____

**On behalf of Cheltenham Borough Council**

Signed by: _____

Position: _____

**On behalf of Cotswold District Council**

Signed by: _____

Position: _____

**On behalf of Forest of Dean District Council**

Signed by: _____

Position: _____

**On behalf of Gloucester City Council**

Signed by: _____

Position: _____

**On behalf of Stroud District Council**

Signed by: _____

Position: _____

**On behalf of Tewkesbury Borough Council**

Signed by: _____

Position: _____

**On behalf of Gloucestershire County Council as Waste, Minerals & County Planning Authority**

Signed by: _____

Position:

Date:

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# GNCF biodiversity net gain principles and spatial operating strategy

| | |
|---|---|
| **Title:** | GNCF Biodiversity net gain principles and spatial operating strategy |
| **Author:** | Lenane, Rachel |
| **Date:** | 20/12/2022 |

## Summary

### Introduction

The secondary legislation for BNG is not yet published, and operating process and different business models for biodiversity net gain are still under development. This paper sets out how the Gloucestershire Nature + Climate Fund will operate as a viable trading business and meet its goals of strategic placement of biodiversity net gain, transparency and equitability.

The principles for biodiversity net gain are generally agreed on and well understood and GNCF will adopt the principles and guidance from 'CIEEM, CIRIA, IEMA (2016). BNG Good practice principles for development' (figure I).

Biodiversity Net Gain - Good practice principles for development

**Principle 1.** Apply the Mitigation Hierarchy
**Principle 2.** Avoid losing biodiversity that cannot be offset by gains elsewhere
**Principle 3.** Be inclusive and equitable
**Principle 4.** Address risks
**Principle 5.** Make a measurable Net Gain contribution
**Principle 6.** Achieve the best outcomes for biodiversity
**Principle 7.** Be additional
**Principle 8.** Create a Net Gain legacy
**Principle 9.** Optimise sustainability
**Principle 10.** Be transparent

**Figure 1. CIEEM, CIRIA, IEMA (2016). BNG Good practice principles for development**

Implicit within the way that BNG legislation is written and can be applied is that habitat which is entered into and protected by a BNG scheme for 30 years is likely to be required to be protected in perpetuity (principle 8: create a net gain legacy)

In developing a strategy for site selection and prioritisation we will need to acknowledge the potential 'perpetuity' of the schemes within GNCF conversations and contracts, or at least the uncertainty of what comes after the 30 year contract has ended; and secondly ensure that we have a mixed portfolio of sites that helps to mitigate any potential social and economic inequity arising from this legislation (section 1.1).

# GNCF biodiversity net gain principles and spatial operating strategy

In addition to the *CIEEM, CIRIA, IEMA (2016). BNG Good practice principles for development* it is proposed that GNCF:

1. Reviews the 10% minimum requirement for BNG in 2024 and opens discussions with Local Planning Authorities about whether 10% is sufficient.

2. Ensures that GNCF operates an independent risk-based monitoring and compliance programme for the BNG schemes it has brokered.

3. Puts due diligence procedures in place to ensure quality information is provided from developers and that metrics (both onsite and offsite) have been completed by competent and qualified individuals.

4. Adopts a 'biodiversity comes first' approach when applying BNG policy. Biodiversity gain should take precedence and not lose out to public space, developer concerns, proximity to development, etc.

5. Is precautionary in BNG predictions to ensure the uplift potential is not over-estimated.

6. Avoids good quality agricultural land being used for BG (except where clear rationale e.g. connecting corridor).

7. Agrees an approach to Open Mosaic Habitat (OMH). OMH on previously developed land is classed as 'Highly Distinctive' in the Defra 3.1 metric. While there is no doubt that this is an important habitat, it is arguably the type of habitat most often created, as urban sites are left derelict. Trading rules in the metric suggest that the loss of OMH should be compensated for by the gain of the same habitat. However, securing a site appropriate for OMH creation is problematic from a price perspective as nearly all will be appropriate for development. Additionally, creating OMH on land that has never had a hard surface is likely to involve the introduction of aggregate or substrate and removal of topsoil etc. Introducing man-made elements into a "green" habitat is inappropriate. A policy could be adopted to compensate for losses of OMH with the creation of other habitat classified as highly distinctive by the metric e.g. lowland meadow, lowland mixed deciduous woodland or lowland heathland.

## Section 1. The GNCF site prioritisation process and spatial strategy

To be a functioning and solvent business the Gloucestershire Nature + Climate Fund must have a pipeline of land from which to sell BNG units. In the first couple of years of trading GNCF will need to prove itself as a business by reputation and word of mouth between peers and neighbours. To do that we need a pipeline of BNG units to trade and to outcompete competitors in the market. Given the restrictions on landowners that are able to sign up to a BNG scheme (see separate paper on BNG Landowner profiles) it is likely that GNCF will not have the luxury of selecting our BNG units entirely from the Nature Recovery Network, at least in the first couple of years. We must also note that the NRN, while based on the best available evidence, is not ground-truthed and needs to be considered alongside evidence on habitat/site suitability from a site visit.

We may be able to build selected sites into the new LNRS and because neighbours talk to one another and provide a word-of-mouth route into environmental stewardship schemes, use schemes to create connectivity and join up with the NRN in the medium to long term.

### 1.1 GNCF Spatial strategy

The GNCF strategic spatial prioritisation process is built on the premise of Lawton's principles of improving the condition of priority habitats for nature, expanding suitable sites for biodiversity and connecting up existing biodiverse sites (Figure 2.)

In addition to the Lawton principles, GNCF needs to ensure transparency in the site selection process and equal opportunities for access to the BNG market, within the limitations of the legislation. GNCF will work to ensure that:

- BNG receptor sites are in proximity to development sites (in proximity within the planning authority district);

- BNG receptor sites fall within the Local Nature Recovery Strategy, and until the LNRS is in place, within or in proximity to the Gloucestershire Nature Recovery Network (created by Gloucestershire Wildlife Trust);

- Each Planning Authority in Gloucestershire has a mixed portfolio of BNG receptor sites to support equal opportunity to access. This includes:

- Green infrastructure (GI) around the more urban areas of the PA, preferably with public access;
- Rural habitat creation and restoration;
- A mix of privately owned and publicy owned land in each PA.

# GNCF biodiversity net gain principles and spatial operating strategy

Guided by:

- Lawton's principles, from 'Rebuilding Nature'

(enhancing the resilience and coherence of England's ecological network: more, bigger, better and joined; reducing pressures)

- Local Nature Recovery Strategy (and Nature Recovery Network and NC mapping)

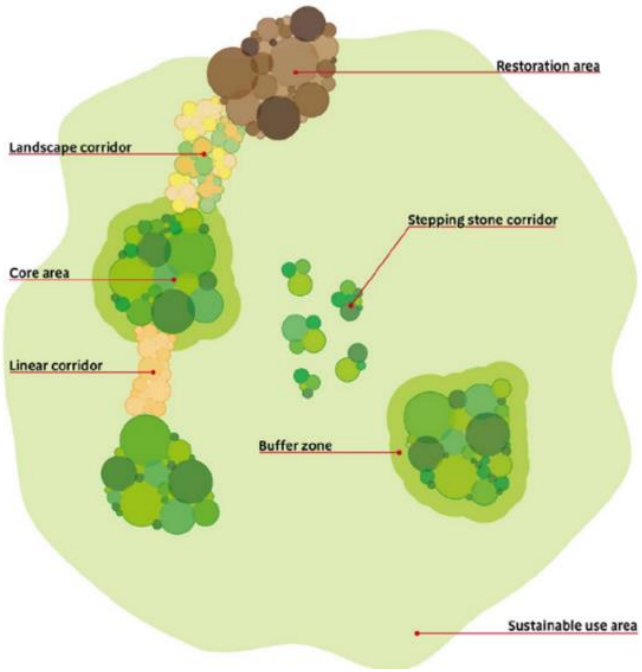


**Figure 2.** The GNCF strategic spatial priority is based on Lawton's principles

## 1.1 GNCF prioritisation process

- Call for sites from privately owned land from beginning of October to end of February each year, because this fits with the need to survey sites in Spring/Summer. GNCF will be open to enquiries throughout the year, but a marketing push will happen Oct - Feb.

- Work throughout the year with Gloucestershire Local Planning Authorities to identify any suitable land holdings of theirs for BNG schemes which sit within or adjacent to the Nature Recovery Network

- GNCF should have a target number of hectares for BNG sign up each year, corresponding to the business case – and adjust these dynamically according to how the market responds each year; a minimum 3 different landowners per PA; and different BNG receptor site characteristics per PA.

## 1.2 Steps for identifying privately owned land for BNG schemes

**Step 1. Expression of interest in a BNG scheme – landowners submit an email with the following BNG baseline criteria check**:

- Landowner permission for participation, and willingness for land use to be changed in perpetuity (30+years)
- Economy of scale – we are initially looking for sites of ~7+ hectares per landowner (if in an urban area smaller land parcels may be considered)
- Potential for significant improvements in existing habitat
- Commitment of proposing organisation and other partners to contribute time to the development of the project
- Previous experience in successful habitat creation, or willingness to engage experts to do so

**Step 2.a. GNCF BNG land prioritisation criteria check:**
GNCF will check to see whether the proposed site falls within the existing Nature Recovery Network (or the future Local Nature Recovery Strategy) and/or is in proximity to a priority habitat.

**Step 2.b. Additional GNCF BNG land prioritisation criteria check per Planning Authority (see annexe I).**
These have been suggested by Gareth Parry, former Strategic Nature Director, GWT). These checks are going to the LNP Nature Recovery Group for any amendments and sign off on 13th December.

**Step 3. Site assessment (by GNCF Manager) (see separate pdf pro forma 'Stage 1_BNG scheme proposal' for site assessment form)**

**Step 4. Confirm site selection by GNCF Board and sign off by LPA representative**

GNCF recommends sites to the GNCF Board and confirms they meet the spatial strategy. BNG receptor sites must then be signed off as suitable by a representative from the Planning Authority, (BNG units are bought/sold to resolve planning conditions and therefore the Local Planning Authority must agree that each site meets their BNG requirements).

**Step 5. After sign off by GNCF Board and LPA – take site forward to investment readiness**

At this point where the Planning Authority has agreed that they are happy with the placement of the BNG receptor site, the landowner can commission the BNG surveys for their land and begin to get land 'BNG investment ready' (following the GNCF BNG process).

## Annexe I

**Additional GNCF BNG land prioritisation criteria check per planning authority.** These have been suggested by Gareth Parry, former Strategic Nature Director, GWT). These checks (text below) are going to the LNP Nature Recovery Group for any amendments and sign off.

**Strategic gaps in the Gloucestershire Nature Recovery Network**

Based on current data this is where enhancement is likely to deliver the biggest ecological benefits for the county.

- Woodland network from the Wye Valley/Forest of Dean of Dean to the Malvern Hills
- East west woodland and grassland network across the central Severn vale, Stroud Valleys up to the escarpment
- Major wetland stepping stones along the River Severn and Vale into Worcestershire.
- An arc of grassland and wetland network from Barnsley Warren SSSI heading south the Water Park and Cricklade and east into Oxfordshire
- Wetland and grassland network along the Windrush Valley.

**District level priority opportunities (Blue = NRN strategic priority)**

Stroud

- Wetland network along the River Severn and Vale (north-south)
- Woodland and grassland network east-west from the Severn, along the Stroud Valleys to the escarpment.
- New GI provision close to urban areas to reduce recreational pressure on the Cotswold Commons and Beechwoods and Severn Estuary.

Cheltenham

- New GI just to reduce recreational pressure on Cotswold Beechwoods SAC, Crickley Hill, Leckhampton Hill, Cleeve Common and Coombe Hill SSSIs e.g. Crickley Hill and Leckhampton Hill extension or within west of Cheltenham development (Tracey accepts there is not much room left in the town)
- Woodland/grassland network between Leckhampton Hill and Cleeve Common
- GI ‘fingers’ linking the town with surrounding landscapes

Gloucester

- New multifunctional wetland/ recreational space at Severnside Nature Park.
- Wetland network along the River Severn and Vale (north-south)

Cotswolds

- New GI just to reduce recreational pressure on Cotswold Beechwoods SAC, Crickley Hill SSSI – Crickley Extension.

- Arc of grassland and wetland network from Barnsley Warren SSSI heading south to the Water Park and Cricklade and east into Oxfordshire
- Wetland and grassland network along the Windrush Valley (Bourton to Buford via Sherborne)
- Cross border woodland network connectivity with South Gloucestershire, going through Lower Woods to Westonbirt
- Alternative GI provision for recreation close to Water Park

Tewkesbury

- Wetland network along the River Severn and Vale (north-south).
- Enhanced GI around Tewkesbury Garden Town to reduce recreation pressure on land functionally linked to the Severn Estuary SPA.

Forest of Dean

- Woodland network from the Wye Valley/Forest of Dean of Dean to the Malvern Hills
- Wetland network along the River Severn and Vale (north-south). Key opportunities around Chaxhill, Westbury and Lydney and improving condition of Leadon catchment.
- Network of woodland/heathland mosaics across the District (most of Gloucestershire's heathlands are in the District and much is in poor condition)
- Expanding, enhancing and connecting species rich grassland around Blakeney
- Traditional orchards moving north from Cinderford and Chaxhill

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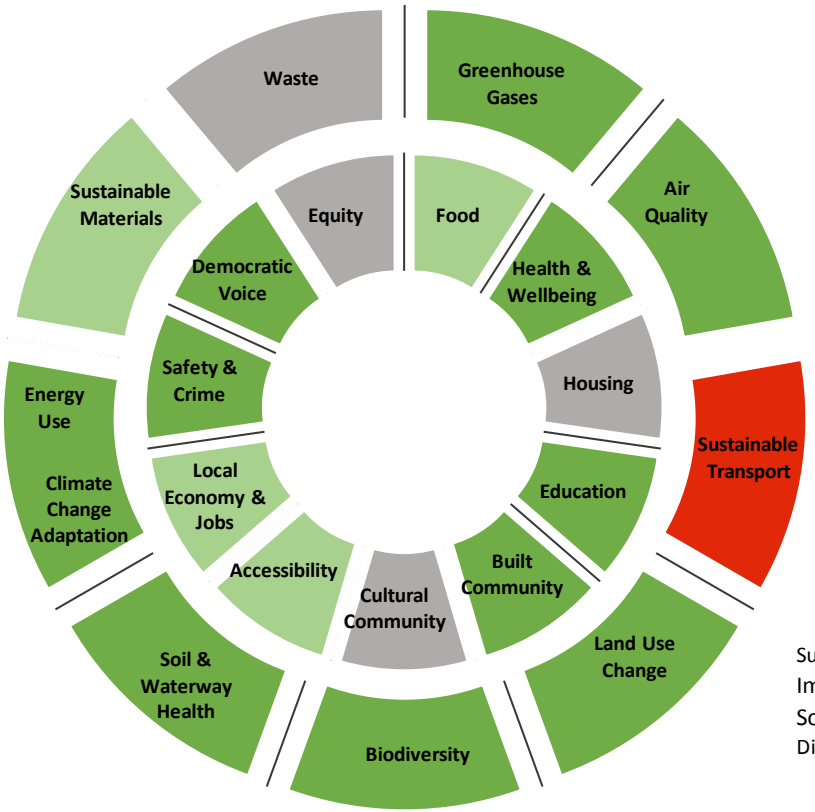
# Approval of Memorandum of Understanding - Co-operation on Biodiversity Net Gain through the Gloucestershire Nature and Climate Fund




**Key**

| | |
|---|---|
| | Significant and/or long-term positive impact identified. No changes needed. |
| | Slight or short-term positive impact identified. No changes needed but could be reviewed to improve. |
| | Not applicable or no cause for concern. |
| | Slight or short-term negative impact identified. Review to identify possible improvements. |
| | Significant and/or long-term negative impact identified. Consider impact mitigation before proceeding. |

Sustainable Transport:
Improved green infrastructure likely to act as an attractor to visitors.
Some likely to travel via non-sustainable transport modes.
Difficult to mitigate in the short term, but eliminated longer term via EV shift.

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