Cheltenham Borough Council
Cabinet – 21st January 2020
Revision to Cheltenham Air Quality Management Area

Accountable member	**Cllr Andrew McKinlay, Cabinet member development and safety**
Accountable officer	**Mike Redman, Director of Environment**
Ward(s) affected	All
Key/Significant Decision	**Yes**
Executive summary	The Council (CBC) declared a whole borough Air Quality Management Area (AQMA) in November 2011. This was followed by an Action Plan, which set out those actions considered necessary to improve air quality across the town. Since this date, there has been a slow but steady improvement in air quality and we can show that most of Cheltenham meets the relevant legal standard, with a generally positive trajectory in relation to oxides of nitrogen (NOx), which is the main pollutant of concern. This means that the whole borough AQMA should now be revoked, an action supported by the Department for Environment, Food and Rural Affairs (DEFRA). The remaining area that breaches the legal limit for NO_2 should be declared a new, smaller and more focused AQMA.
Recommendations	**Cabinet is recommended to:** **1. revoke the existing borough-wide AQMA;** **2. declare a new AQMA in the area identified as having the worst air pollution levels;** **3. approve the redeployment of existing equipment to monitor those sites which are closest to exceeding the legal limit.**

Financial implications	There are no financial implications as a direct result of this report. ***Contact officer: Jon.Whitlock@publicagroup.uk, 01242 26 4354***
Legal implications	The legal implications are adequately addressed within this report **Contact officer: Iona Moseley iona.moseley@tewkesbury.gov.uk, 01242 272067**

HR implications (including learning and organisational development)	No direct HR implications arising from this report. **Contact officer: Julie.McCarthy@publicagroup.uk**
Key risks	**See Appendix 1**
Corporate and community plan Implications	As set out in Section 4.
Environmental and climate change implications	Failing to effectively tackle and improve air quality poses risks for the health of the Cheltenham population and the authority could be subject to intervention by DEFRA if it fails to secure compliance with legal requirements. Emissions from vehicular traffic are a major contributor to current NOx levels and particulates, as well as involving the burning of fossil fuels, which are contributing to global heating and the associated climate crisis which threatens global biodiversity and human populations. The Council needs to work to address local pollution issues in partnership with others, to meet its stated objectives in relation to the climate emergency, including carbon neutrality by 2030.
Property/Asset Implications	*None.* **Contact officer: Dominic.Stead@cheltenham.gov.uk**

1. Background

1.1 The effects of air pollution have been widely reported and range from exacerbating respiratory issues, including COPD and asthma, to contributing to an increased risk of heart disease and some cancers. Since the Environment Act 1995, the council has had a duty to regularly review air quality, in order to assess compliance with limits for specified pollutants. This was most recently reported in the Annual Status Report 2019, submitted in July, available here: https://www.cheltenham.gov.uk/downloads/download/693/air_quality_reports

1.2 In Cheltenham, previous investigation of a range of pollutants, has shown that the pollutant of concern is nitrous oxide, NO_2. The CBC website has published results since 2008 and an archive, held by the Environmental Protection team, holds results since 1993. The council currently monitors levels of NO_2 at 27 sites across the town using "NOx tubes", which are a relatively inexpensive method of measuring NO_2. It also operates a single continuous monitoring site using a highly accurate chemiluminescence analyser. Data from this equipment is used to validate the accuracy of the NOx tubes, using an annual bias adjustment figure. In recent years, the council has also deployed a network of "low cost" analysers, known as mesh pods, primarily for assessing any impacts arising from the Cheltenham Transport Plan (CTP).

1.3 Under the 1995 Act, the council is required to declare an AQMA in areas where modelling, or the monitoring of pollution levels, shows that limits are likely to be, or are being breached. This led to CBC declaring a small area at the junction of Bath Road and High Street as an AQMA in 2007. This was replaced by a borough-wide AQMA in 2011.

1.4 The decision to declare the whole-borough an AQMA was intended to improve air quality across the entire borough, rather than to potentially divert traffic around 5 distinct "hot spots". The statutory framework for dealing with a declared AQMA requires the preparation of an Air Quality Action Plan (AQAP). The current Cheltenham AQAP was published in April 2014 and will be replaced by a new plan if the AQMA is revised. The council is also required to submit an Annual Status Report to DEFRA for approval. The 2018 report indicated an intention to revise the AQMA after carrying out a Detailed Assessment of modelled pollution levels. This received approval from DEFRA. The 2019 ASR was published during the period when the Detailed Assessment was being produced.

1.5 It is useful to consider the levels of pollution in the context of the national situation; the legal limit for NO_2 levels set by the law is 40 $\mu g/m^3$, measured as an annual average. The highest levels of NO_2 measured in Cheltenham in 2018 were 45.2$\mu g/m^3$. The highest figure reported nationally is in Central London, where an annual figure of 129$\mu g/m^3$ was reported to DEFRA. In Cheltenham, there have been no breaches of the short-term 1 hour limit of 200 $\mu g/m^3$; this can be breached up to 18 times a year, without exceeding the statutory limit. As a comparison, Brixton Road in London exceeded the 18 breaches in a little over one month in 2018.

1.6 The key findings of the Detailed Assessment, discussed in full below include:

- Finding 1 – A small, discrete area that breaches annual limit levels.
- Finding 2 – A narrow corridor of breach area, close to main roads.
- Finding 3 – Other small areas of concern (within 10% of breach).

2. Reasons for recommendations

2.1 The Detailed Modelling Study (DMS) has been carried out by the consultant 'Bureau Veritas' on behalf of CBC. The DMS focuses on emissions from road traffic, as any contribution to the levels of NO_2 from other sources is minimal. The DMS models levels of NO_2 at 245 discrete locator receptors, distributed across the borough, close to the road network. The levels are calculated

using an advanced atmospheric dispersion model and inputs from the latest Emissions Factor toolkit, produced by DEFRA. The modelling has produced values of the annual mean levels of NO_2. Annual levels are almost always the level quoted in this type of modelling, due to the large variations in short term levels, which can be caused by both seasonal variation and short-term weather events. Short-term 1 hour limits, set at 200µg/m^3 are also included in statutory requirements, but are never exceeded in the Cheltenham area.

2.2 The modelled annual mean levels at 245 discrete receptors show that 9 sites (3.7%) breach the legal limit, and 15 further locations (6.1%) fall within 10% of the limit. The highest modelled level of 52.6µg/m^3 is within a level of 60µg/m^3, indicating that any breaches of the 1 hour limit are unlikely. The 9 discrete receptors that are predicted to breach are all in close proximity, on a stretch of High Street / Poole Way / Swindon Road between Swindon Street and St. George's Street (see map on pg. 24 of DMS). Note that the modelling produces a "gap" in breaching sites along Poole Way, due to the absence of residential property.

2.3 The model has produced results which indicate that levels of pollution drop away quickly as receptors move away from the kerbside. This has resulted in a recommendation that the revised AQMA boundary extends as far as the whole of a building where the façade falls in an area above the 40µg/m^3 limit. This is believed to affect the following approximate numbers of properties:

- 26 Commercial
- 79 Residential
- 1 "Sensitive" (Retired Persons' Flats)

These properties are home to a total of around 120 people.

2.4 Discrete receptors where predicted levels within 10% of the 40µg/m^3 limit were predicted can be grouped in the following areas:

- A40 Gloucester Road / A4013 Princess Elizabeth Way roundabout.
- A46 London Road / Berkeley Street / Hewlett Road junction.
- Isolated points on arterial roads connecting to the town centre (Prestbury Road around Portland Square and Oakland Avenue, London Road at the Beaufort Arms and Shurdington Road at Upper Norwood Street). These locations are illustrated at Page 22 of DMS.

2.5 In these areas, levels are likely to continue their slow decline, as can be seen in results of monitoring over the last 10-15 years. However, these levels may also be affected by future development, which may be relatively distant.

2.6 The current approach of CBC was outlined in the 2018 and 2019 ASR and approved by DEFRA. The process of revising the AQMA boundary requires the following steps:

2.7 **Revoke old AQMA** - this can be completed by CBC making an order under Section 83(2)(b) of the Environment Act 1995. It is not subject to any external approval.

2.8 **Declare a new AQMA** - similar to the above, this is made by order under Section 83(1) of the Environment Act 1995. The new order must include a map or description of the area to be included. Given the complex boundary of the proposed new AQMA, it is appropriate to append a list of all included properties to the order to remove any doubt over the included area.

2.9 **Declaring a new AQMA will then require the formulation of a new AQAP** - this is not new or additional work, since the existing AQAP is somewhat out of date and many of the actions have

long since been completed. A new AQAP will be required within 12 months of the new AQMA being declared for approval by DEFRA. The AQAP must include practical measures that will be implemented, alongside the assessed impact they will have in improving air quality.

2.10 Locations of monitoring equipment are listed in Appendix 2. These are based on re-using some existing sites, re-starting some previously discontinued sites, and new locations. New or re-started sites are based on "near miss" areas identified in the Detailed Assessment, and increasing detailed monitoring in and around the new AQMA.

3. Alternative options considered and rejected

3.1 **Do nothing and retain existing AQMA** - the current declared AQMA is not time-limited, so is still valid, however, it is hard to justify given the data produced over the last few years. It could also be argued that pursuing a borough-wide AQMA does not concentrate action and resources on the worst affected areas.

3.2 **Declare multiple AQMAs, to include "near miss" areas** (i.e. where models produce results within 10% of limit) - guidance from DEFRA advises that it is not appropriate to declare AQMA where there is no evidence of an existing, or likely breach of limits.

3.3 **Declare a single revised AQMA, larger than that proposed, to include near miss areas** - such an area would include parts of the town that are well below legal pollution limits, which is not appropriate in the light of current DEFRA guidance. This would also lead to the deployment of limited resources to areas where they are not required, to the detriment of areas where action is considered most necessary.

4. How this initiative contributes to the corporate plan

4.1 The decision recommended is in line with 2 elements of the Key Priority "Continuing the revitalisation and improvement of our vibrant town centre and public spaces", namely: *"We will continue to invest in our high street and public spaces for the benefit of people living, working and visiting Cheltenham"* and *"Work collaboratively to develop and gain approval for a new Cheltenham transport plan, including support for cycling and walking projects that will also improve local air quality and health in the town."*

4.2 Climate Change "Emergency". In the light of the Council's declaration of a Climate Emergency and ongoing work in respect of the ambition of making the town carbon neutral by 2030, it should be noted that the LAQM process is not specifically a "Climate Change" action *per se*, as it is based on controlling the local effects of pollution, rather than the global impact. However, the actions required to improve local air quality will have a positive climate change impact.

5. Consultation and feedback

5.1 As indicated at top of report.

6. Performance management –monitoring and review

6.1 All work related to Local Air Quality Monitoring (LAQM) is reported to DEFRA on an annual basis, with the 2020 ASR to be submitted by 31st July. The new AQAP is to be submitted to DEFRA within 12 months of the formal declaration of a revised AQMA for their approval. The guidance relating to the AQAP also requires it to be reviewed "periodically" – although it does not specify what that interval should be.

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Appendices	1. Risk Assessment 2. Monitoring sites operating in 2020 3. Detailed Modelling Study

Appendix 1

Cabinet Report risk template

The risk				Original risk score (impact x likelihood)			Managing risk				
Risk ref.	Risk description	Risk Owner	Date raised	I	L	Score	Control	Action	Deadline	Responsible officer	Transferred to risk register
1	If efforts to improve local air quality are not implemented, by CBC and key partners, then pollution levels will rise and affect a wider area.	Sarah Clark	Nov 2019	4	5	20	Reduce	Accept report recommendations	January 2020	Gareth Jones	
2	If effective action is not taken to mitigate poor air quality, then this could trigger formal action by DEFRA against the authority	Sarah Clark	Nov 2019	3	4	12	Reduce	Accept report recommendations	January 2020	Gareth Jones	
3	If air quality in the worst affected area is not improved, there will be reputational damage to CBC	Mike Redman	Nov 2019	3	5	15	Reduce	Accept report recommendations	January 2020	Sarah Clark	
4	If LAQM issues are not addressed there will be adverse climate change impacts, running contrary to the council's approved targets for carbon neutrality by 2030	Mike Redman	Nov 2019	4	5	20	Reduce	Accept report recommendations	January 2020	Sarah Clark	
5	If local air quality is not improved in the worst affected area, it will continue to disproportionately affect	Mike Redman	Nov 2019	3	5	15	Reduce	Accept report recommendations	January 2020	Sarah Clark	

	some of the most deprived Cheltenham residents										

Guidance
Types of risks could include the following:

- Potential reputation risks from the decision in terms of bad publicity, impact on the community or on partners;
- Financial risks associated with the decision;
- Political risks that the decision might not have cross-party support;
- Environmental risks associated with the decision;
- Potential adverse equality impacts from the decision;
- Capacity risks in terms of the ability of the organisation to ensure the effective delivery of the decision
- Legal risks arising from the decision

Remember to highlight risks which may impact on the strategy and actions which are being followed to deliver the objectives, so that members can identify the need to review objectives, options and decisions on a timely basis should these risks arise.

Risk ref
If the risk is already recorded, note either the corporate risk register or TEN reference

Risk Description
Please use “If xx happens then xx will be the consequence” (cause and effect). For example “If the council’s business continuity planning does not deliver effective responses to the predicted flu pandemic then council services will be significantly impacted.”

Risk owner
Please identify the lead officer who has identified the risk and will be responsible for it.

Risk score
Impact on a scale from 1 to 5 multiplied by likelihood on a scale from 1 to 6. Please see risk scorecard for more information on how to score a risk

Control
Either: Reduce / Accept / Transfer to 3rd party / Close

Action

There are usually things the council can do to reduce either the likelihood or impact of the risk. Controls may already be in place, such as budget monitoring or new controls or actions may also be needed.

Responsible officer
Please identify the lead officer who will be responsible for the action to control the risk.
For further guidance, please refer to the risk management policy

Transferred to risk register
Please ensure that the risk is transferred to a live risk register. This could be a team, divisional or corporate risk register depending on the nature of the risk and what level of objective it is impacting on.

Appendix 2

Monitoring sites operating in 2020

Continuous Monitor

To remain at St George's Street / Swindon Rd junction. Site also includes triplicate NOx tubes for bias adjustment.

"Low Cost" Monitors

Mesh Pods to be located at:

- New co-location study at Gloucester Rd, Benhall (with continuous monitor on loan from Air Monitors)
- *Gloucester Rd / PE Way Roundabout*
- *422 High Street*
- *Gloucester Road School*
- *College Road*
- Southern end of PE Way (Junction of Hubble Rd / Cowper Rd)
- Northern End of PE Way
- Winchcombe Street (Fairview)
- Berkeley Place

Existing sites in italics

All to have co-located NOx tube.

NOx tubes

Locations to continue:

Ladies College
2 Gloucester Road
422 High St*
New Rutland Ct.
Co-location - 1
Co-location - 2
Co-location - 3
2 Swindon Road
Portland Street
Winchcombe/Fairview*
Albion Street (outside no. 54)
2 London Road
YMCA - High St
8a Bath Road
81 London Road
264 Gloucester Road
340 Gloucester Road
Hatherley Lane
St Georges Street
St Pauls Road
St Lukes / College Road*
Princess Elizabeth Way North*
Princess Elizabeth Way South*
Clarence Parade Alternative

New Sites:
Gloucester Rd (Benhall)*
PE Way Roundabout*
Gloucester Road School*
Gloucester Rd / Stoneville St
Boots Corner
48 Swindon Road
Elvis Villa, St Margarets Road
Berkeley Place*
Sandford Park Alehouse
Norwood / Gratton Rd
Wokswagon, London Rd
Prestbury Rd / Portland Square
170 Prestbury Rd
*Co-located with Mesh Pod