



## **Bath Clean Air Plan**

Bath and North East Somerset Council

### **Consultation Response Report**

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DRAFT



## Bath Clean Air Plan

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## Acronyms and Abbreviations

B&NES	Bath and North East Somerset Council
CAP	Clean Air Plan
CAZ	Clean Air Zone
DEFRA	Department of Food and Rural Affairs
DfT	Department for Transport
FBC	Full Business Case
HGV	Heavy Goods Vehicle
JAQU	Joint Air Quality Unit
LGV	Light Goods Vehicle
NO <sub>2</sub>	Nitrogen Dioxide
OBC	Outline Business Case
PRMS	Public Realm and Movement Strategy
RPZ	Residents Parking Zones
UK	United Kingdom

## 1. Introduction

Poor air quality is the largest known environmental risk to public health in the UK<sup>1</sup>. Investing in cleaner air and doing more to tackle air pollution are priorities for the EU and UK governments, as well as for Bath and North East Somerset Council (B&NES). B&NES has monitored and endeavoured to address air quality in Bath, and wider B&NES, since 2002. Despite this, Bath has ongoing exceedances of the legal limits for Nitrogen Dioxide (NO<sub>2</sub>) and these are predicted to continue until 2025 without intervention.

In 2017 the government published a UK Air Quality Plan for Nitrogen Dioxide<sup>2</sup> setting out how compliance with the EU Limit Value for annual mean NO<sub>2</sub> will be reached across the UK in the shortest possible time. Due to forecast air quality exceedances, B&NES, along with 27 other Local Authorities, was directed by Minister Therese Coffey (Defra) and Minister Jesse Norman (DfT) in 2017 to produce a Clean Air Plan (CAP). The Plan must set out how B&NES will achieve sufficient air quality improvements in the shortest possible time. In line with Government guidance B&NES is considering implementation of a Clean Air Zone (CAZ), including both charging and non-charging measures, in order to achieve sufficient improvement in air quality and public health.

Jacobs has been commissioned by B&NES to produce an Outline Business Case (OBC) for the delivery of the CAP; a package of measures which will bring about compliance with the Limit Value for annual mean NO<sub>2</sub> in the shortest time possible in Bath. The OBC assesses the shortlist of options set out in the Strategic Outline Case<sup>3</sup>, and proposes a preferred option including details of delivery. The OBC forms a bid to central government for funding to implement the CAP.

### 1.1 Context

Between 16<sup>th</sup> October and 26<sup>th</sup> November 2018 Bath and North East Somerset Council (B&NES) consulted on a proposal to implement a Class D charging Clean Air Zone (CAZ) as a means to urgently reduce harmful levels of Nitrogen Dioxide (NO<sub>2</sub>) across the city, as outlined in an Outline Business Case (OBC).

This consultation was undertaken in the context of a complex project within which there are a number of key constraints. These govern the actions of the Council and therefore what is negotiable and its ability to act on feedback. These include the following:

- B&NES is mandated by central Government to take action on air quality and to bring concentrations of NO<sub>2</sub> to below 40 µg/m<sup>3</sup> as an annual mean, in the shortest possible time,
- and by 2021 at the latest. The Council is committed to taking proactive action to improve air quality.
- The Council may face potential fines or legal action if they do not put into place a package of measures to address air quality within this time frame.
- Technical work undertaken prior to the start of the consultation process showed that a charging CAZ is the only mechanism capable of reducing emissions to appropriate levels. Based on the evidence available at the time of the consultation, a Class D CAZ was identified as the option most likely to achieve compliance in the required timeframe.

<sup>1</sup> Public Health England (2014) Estimating local mortality burdens associated with particular air pollution.

<https://www.gov.uk/government/publications/estimating-local-mortality-burdens-associated-with-particulate-air-pollution>

<sup>2</sup> <https://www.gov.uk/government/publications/air-quality-plan-for-nitrogen-dioxide-no2-in-uk-2017>

<sup>3</sup> Bath and North East Somerset Council Clean Air Plan: Strategic Outline Case, March 2018

([http://www.bathnes.gov.uk/sites/default/files/siteimages/Environment/Pollution/strategic\\_outline\\_case\\_bath\\_28.03.2018\\_with\\_annexes.pdf](http://www.bathnes.gov.uk/sites/default/files/siteimages/Environment/Pollution/strategic_outline_case_bath_28.03.2018_with_annexes.pdf))

- A CAZ would need to be implemented in line with the principles set out in the Government's 'Clean Air Zone Framework'. This document, published in 2017, explains the approach that Local Authorities should take when introducing a zone.
- Funding for a CAZ is dependent upon the Government's Joint Air Quality Unit (JAQU) approving a Full Business Case (FBC). There are also strict rules on how the available funding can be spent.
- The final decision on the type of charging zone and the detail of this will be made by elected Cabinet Members.

In this context the aim of the consultation process was to provide an opportunity for discussion between the Council and any persons concerned about the Class D CAZ proposal or its impacts. It also provided a forum for the sharing of information and ideas on how issues could potentially be resolved. Given that the Council is mandated to take action, the main focus of the consultation was seeking comments relating to how the Class D CAZ and the proposed package of supporting measures published for consultation could be refined to:

- Improve their effectiveness in tackling air quality issues.
- Help to mitigate any potential impacts on either specific groups or locations.
- Better support the community and road users to adapt and adjust.

## 1.2 Overview of consultation feedback

The feedback from the formal consultation is reported in the document OBC 25a - Report on Formal Consultation and should be read alongside this report. Feedback was varied and detailed. However, overall respondents showed an **understanding of the need to address air quality in Bath**. A wide range of comments were submitted by individuals, groups and businesses on many aspects of the proposed Class D CAZ. In particular comments focused on the proposed boundary, who and what vehicles should be charged, potential economic impacts and the support that would be needed to drive behaviour change. Whilst some respondents did not support a charging zone many focused their feedback on identifying ways in which the proposed Class D CAZ proposal could be evolved to maximise its impact and reduce any unintended consequences. The main themes from the feedback are summarised as follows:

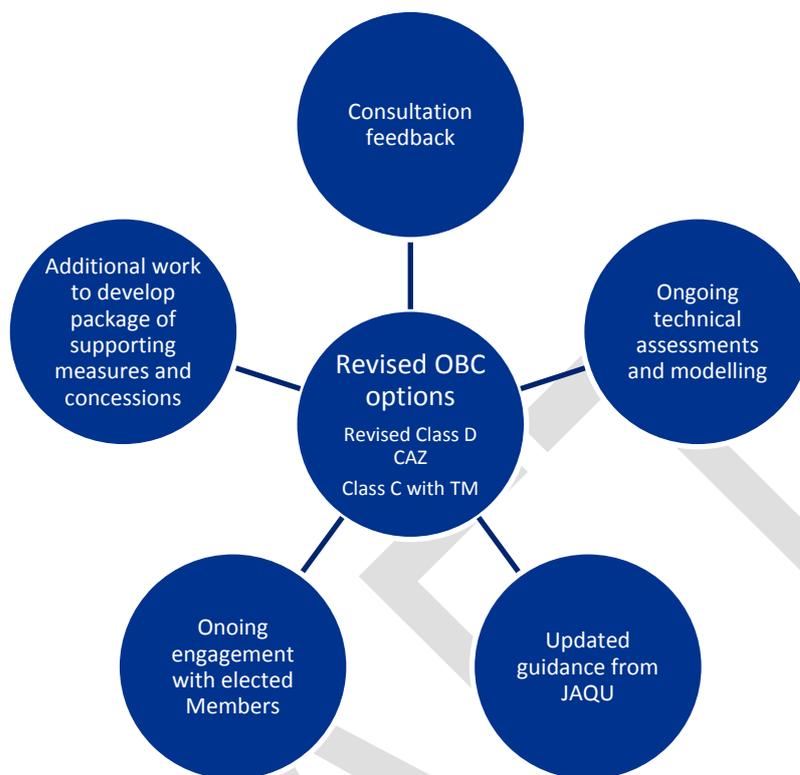
- There were a number of **suggestions for further consideration of alternatives to the proposed Scheme**, these included: a Class C CAZ, congestion charge, construction of a link road/bypass and various other non-charging measures.
- Opinions on the **proposed Class D CAZ boundary** were mixed. Some respondents wanted the zone to be smaller whilst others thought the zone should be larger. Requests ranged from a smaller zone using the river as a boundary, to exclusion of through routes, specific streets and residential areas. Others felt the zone should be extended further to cover additional residential areas and, in some areas, there were particularly strong views on extending the boundary to include additional parts of the city centre.
- **Individuals, including residents and commuters wanted to see more support** to help them comply with a Class D CAZ. Many suggestions were made including adjusting the operating hours, providing discounts or adjusting the charging structures through concessions and exemptions, and altering the minimum emission standards.
- **Businesses also highlighted a need for more support**. This was particularly important for smaller businesses including sole traders and independent retailers, many of whom were concerned about the economic impacts to their business operations as a result of a Class D CAZ. These concerns were extended to their customers, suppliers and employees.

- Many respondents were concerned about the **timescales** of implementation for the proposed Class D CAZ. Both individuals and businesses felt that a longer time was needed to minimise the economic impacts associated with changing vehicles and behaviour.
- Overall there was a call for **public transport improvements to support behaviour change**, ranging from reduced fares, extended bus services and operating hours and improved park and ride facilities across B&NES.
- There were concerns about the **displacement impacts of a CAZ**. These included concerns that traffic, congestion and rat running would increase in areas adjacent to the proposed zone boundary and that parking in residential areas would be used by those looking to avoid driving into the proposed zone. Additionally, there were concerns that non-compliant vehicles would re-route and that this would worsen air quality and increase traffic and congestion in areas outside of the zone, both in neighbouring areas and in towns/locations further afield, including Wiltshire.

### 1.3 Evolution of the proposals, post consultation

Since the close of the consultation period key areas of work have been ongoing, as follows and as shown in Figure 1.1:

- Building on the initial work undertaken prior to the consultation, additional technical work has been undertaken to further consider the options to achieve air quality compliance. This has comprised further traffic and air quality modelling and a review of the baseline modelling. This work has been informative and has identified additional options with the potential to meet the air quality targets. This process is documented in OBC 08 – Options Assessment Report.
- Additional consideration of the potential impacts of a charging CAZ and the measures which could be taken forward to help support this scheme, in particular the best ways of providing support for residents and businesses to move towards lower emissions vehicles.
- Additional work to consider, in the context of the evolving technical work, the comments and suggestions put forward through the consultation itself.
- In parallel, there has been ongoing engagement with elected Cabinet Members.



**Figure 1.1 – Factors contributing to evolution of proposals**

Findings from these areas of work have informed a revised Outline Business Case (OBC). The revised OBC identifies two **potential options** for reducing concentrations of NO<sub>2</sub> to below 40 µg/m<sup>3</sup> as an annual mean in the shortest possible time and by 2021 at the latest. These are:

- **A revised Class D CAZ.** The revised Class D proposal responds, as far as possible within the technical constraints of the scheme, to the consultation feedback. In particular it includes changes to the proposed CAZ boundary, a revised and reprioritised package of supporting measures and concessions and an enhanced scheme for providing financial support to assist residents and businesses to move towards compliant vehicles.
- **A Class C CAZ** supported by traffic management measures and signal timing changes. This scheme has been identified as a possible option based on revised traffic and air quality modelling. It offers the opportunity to address some of the key areas of feedback raised in the consultation.

These options are explained fully in document OBC 08 – Options Assessment Report.

## 1.4 Purpose of this report

This report explains how the revised OBC and the options set out above have been considered in the context of the consultation feedback. Specifically, it:

- Summarises and refers to additional technical work which has been undertaken in direct response to key areas of consultation feedback. Given the volume of consultation feedback and the wide variety of comments received, it is not possible to consider or respond to every comment or request. This report therefore sets out how the broad themes raised in the consultation feedback have been considered.
- Explains the changes that have been made to the proposed Class D CAZ scheme in response to the consultation feedback; and

- Explains, in cases where it has not been possible to adjust the Class D CAZ scheme in line with consultation feedback, why this is not possible.
- Comments on the implications of the feedback received in the context of a Class C CAZ with traffic management option.

The information in this report is intended to provide evidence that can be considered by Officers and elected Cabinet Members to help support their discussions on how to best take forward a Scheme to address air quality in Bath and achieve compliance with the Government Directive.

This report does not replicate detail included elsewhere within the suite of OBC documents. The documents identified in Table 1.1 should therefore be read alongside this report.

**Table 1.1 – Documents to be read alongside this report**

Document	Key content in the context of this report
OBC 25a – Report on Formal Consultation	This summarises the feedback submitted in the formal six-week consultation period.
OBC 04 – Technical Note on the CAZ Boundary	This explains the rationale for the proposed CAZ boundary. It is assumed that the CAZ boundary would be the same for a Class C as for a Class D.
OBC 05 - Proposed System Design Features and Payment Exemptions	This explains the proposed exemptions and concessions across both Class D and Class C options.
OBC 08 – Options Assessment Report	This document explains the process of optioneering that has been undertaken. It explains how the Class D option was initially identified. It also sets out the additional work undertaken post consultation to identify a Class C with traffic management measures and signal timing changes option. It also describes the supporting measures that will be delivered (subject to funding) alongside the CAZ.
OBC 11 – AQ3 Air Quality Modelling Report	This contains details of the options tested to identify the CAZ charge. It also compares Class C and D scenarios.
OBC 26 – Evaluation, Monitoring and Benefits Realisation Plan	This sets out the monitoring that has been specified in response to consultation feedback.

## 1.5 Structure of this report

This report follows the structure of the consultation questionnaires. Following this introduction:

- Chapter 2 discusses the feasibility of the suggested **supporting measures or scheme alternatives**;
- Chapter 3 discusses additional work undertaken to consider comments on the proposed **CAZ boundary**;
- Chapter 4 sets out the issues related to the various suggestions received relating to the **CAZ charges**;
- Chapter 5 considers **concessions, exemptions** and vulnerable groups;
- Chapter 6 considers **wider issues**, related to the perceived consequences of a Class D CAZ; and
- Chapter 7 clarifies the next steps.

## 2. Alternatives to a Class D CAZ

### Action taken in response to consultation feedback

Work undertaken in response to the consultation feedback and following additional traffic and air quality modelling has identified that a Class C CAZ supported by traffic management and traffic signal timing changes has the potential to deliver the required air quality improvements, in addition to the original Class D proposal. This option is presented in the revised OBC alongside an updated Class C CAZ option.

### 2.1 Overview of feedback and response

The consultation asked for suggestions for alternative options that could be considered instead of a Class D CAZ. For full details of the feedback provided see Chapter 13 of OBC 25a – Report on Formal Consultation. A wide range of suggestions were put forward. These included:

- Alternative types/classes of CAZ, in particular a Class C CAZ;
- Congestion charge;
- Infrastructure improvements, for example delivery of the A36-A46 link and/or east of Bath Park and Ride; and
- Significant improvements to public transport or traffic management (i.e. a focus on non-charging measures).

### 2.2 Context for consideration

In examining possible alternative ways in which the air quality issues in Bath could be addressed it is important to consider the extent to which they would:

- Contribute directly to making an air quality improvement.
- Be deliverable and enable compliance with air quality standards by 2021.

Many of the ideas identified in the consultation responses as potential alternatives have been considered in previous phases of the project, are outside of the scope of this work, are not deliverable within the timescales set out in the Government Directive or are issues that are otherwise being considered by the Council under its regular work on transport and planning. This section clarifies the Council's position on these issues, within the context of this project.

Consideration of the consultation feedback related to alternatives has therefore focussed on further assessment of a Class C option, as the alternative proposal with most potential to deliver the required air quality improvements.

### 2.3 Consideration of a Class C CAZ

The consultation feedback included a range of responses that encouraged the Council to consider the feasibility of a Class C CAZ in more detail. In particular respondents recognised that the information published in support of the consultation on a Class D CAZ demonstrated a small margin of difference between the overall air quality impacts of a Class C and a Class D scheme. On this basis respondents felt that a Class C should be further considered as a means of achieving a similar air quality outcome, with a perceived lesser overall impact.

Other respondents referred to a Class C CAZ as an alternative option indirectly through other feedback, for example by suggesting that longer concession periods should be given to cars, that

charges should focus on heavy vehicles or by expressing concern about the affordability impacts of charging cars.

### **2.3.1 Revised modelling on a Class C CAZ**

In parallel to the consultation, further work was undertaken to review the traffic and air quality modelling. In particular the models were reviewed to reflect new guidance from JAQU. This:

- Identified that, within the baseline modelling, only one exceedance is now predicted in 2021 with a Class C CAZ (as opposed to two indicated by previous modelling);
- Indicated that this one remaining exceedance in 2021 would be at Gay Street and that this could potentially be addressed by traffic management measures and traffic signal timing changes at Queens Square.

This change in the modelling results implied that a Class C CAZ could, with appropriate supporting measures, potentially be capable of delivering the required air quality improvements. This result, coupled with the strong feedback from the consultation which emphasised the importance of reviewing a Class C CAZ as a potential option, meant that further work was undertaken to assess a Class C scheme in more detail.

### **2.3.2 Identification of traffic management measures to support a Class C CAZ**

In light of the updated modelling information, further work was undertaken to review previously considered traffic management measures for Queens Square. Various schemes looking at changes to the layout and traffic operation of Queens Square had been developed previously as part of the 'Public Realm and Movement Strategy' (PRMS). Review of these options identified that the Option 3b scheme emerging from this PRMS work had potential, with some modification, to manage traffic on Gay Street in a way that would be compatible with a Class C CAZ. This option was therefore taken forward for testing in association with a Class C CAZ.

The detail of this traffic management scheme is discussed further in document OBC 08 – Options Assessment Report.

### **2.3.3 Assessment of a Class C option, with traffic management and signal timing changes**

The Options Assessment Report (OBC 08) sets out the full details of the work undertaken to examine the feasibility of a Class C CAZ with additional traffic management measures and traffic signal timing changes to address outstanding emission exceedance 'hot-spots' in the City Centre. This work suggests that the introduction of a traffic management scheme at Queens Square, in addition to a Class C CAZ, could be sufficient to bring air quality within legal limits. This is because the scheme would make Queens Square less attractive as a route for through traffic and would help to control the amount of traffic entering this area. It would cause some traffic to re-route away from Gay Street and Queens Square and encourage, for some journeys, a switch to alternative, more compliant modes.

**On this basis, a Class C CAZ with traffic management option is identified within the OBC for consideration alongside a Class D option.** However, this approach does have a range of complex pros and cons, as set out in OBC 08 – Options Assessment Report. In particular it is important to note that this option would lead to an increase in traffic on other roads, particularly to the north of Queens Square.

Whilst the formal consultation focused on a Class D option it is possible to interpret the feedback received in the context of a potential Class C option, in order to understand likely reaction. A Class C CAZ option directly addresses the requests received to consider other options and would also address the concerns raised in the consultation feedback in relation to:

- The affordability impact of a Class D CAZ on residents, workers and low-income groups.

- The potential difficulty for non-compliant car drivers under a Class D CAZ to undertake regular essential journeys, for example to the supermarket or hospital.
- The wider knock-on effects of a Class D CAZ because under a Class C CAZ, cars would have no reason to re-route through adjacent areas. However, it is acknowledged that there may remain concerns about larger vehicles rat running.
- The wider impact of a Class D CAZ on footfall, and hence knock on effect for businesses.

However, it is important to note some of the consultation feedback suggested that the proposed Class D CAZ was not going far enough. There were calls for a bolder proposal, for higher charges, a larger zone or for vehicles to be completely banned from the city centre. Other respondents noted that they happy to see non-compliant cars included within the proposals. These respondents may not support a Class C CAZ.

## 2.4 Consideration of other options

Following the consultation, additional optioneering work also considered the pros and cons of other alternative options. This included, for example, work to assess whether the traffic management scheme identified to support the Class C CAZ could be combined with a Class D option. The findings of this work are reported in OBC 08 - The Options Assessment Report.

## 2.5 Consideration of other feedback

As noted above, many of the other suggestions put forward as potential alternatives to a charging CAZ are not appropriate to take forward for further consideration. Table 2.1 provides details.

**Table 2.1 – Consideration of other suggestions for alternative approaches**

Alternative scheme suggested	Response/issues to consider
Congestion charge	<p>A congestion charge does not differentiate between pollution levels of different vehicles. This is necessary to improve air quality.</p> <p>The Council proposed to implement a CAZ rather than a congestion charge in line with the Government's CAZ Framework and because a CAZ is aimed at changing the fleet compositions in order to have a targeted impact on air pollution. In conjunction with other CAZs nationally, it should prompt a transition to less polluting vehicles. It will not prevent non-compliant HGVs and other vehicles from driving through the centre of Bath.</p> <p>The CAZ will form part of Bath's wider strategy for transport. Additional measures to specifically target congestion will be taken forward by the Council as part of their wider transport strategy for Bath.</p>
Infrastructure measures	<p>Other infrastructure-based alternative solutions identified in the consultation responses, such as delivery of a link road or east of Bath Park and Ride are outside the scope of the Clean Air Fund and could not be funded by this project. They are also not deliverable by 2021 as stipulated by the Government Direction. However, these strategic schemes remain important ambitions for the Council. For clarity, the Council's position on these schemes is set out below.</p> <p><i>East of Bath link</i></p> <p>Dorset, Wiltshire, and Bath and North East Somerset Councils are working together to study the current transport connections between the M4 and the south coast and their impact on our economy. Evidence has been gathered to support a call for action to improve north-south transport connections in the south west, which could help grow the economy, support local</p>

	<p>businesses and improve people's quality of life. The Council have funded the development and promotion of a prospectus, an economic study and a report into how the case for improved north south connectivity aligns with the UK Industrial Strategy. This will form part of a compelling case to encourage the Secretary of State for Transport to mandate Highways England to carry out a Strategic Study, for eventual inclusion of the East of Bath link in the second Road Investment Strategy beyond 2020.</p> <p><i>East of Bath Park and Ride</i></p> <p>Future plans will include a Park &amp; Ride package comprising of expansion of three existing sites at Odd Down, Lansdown and Newbridge and to explore the options for and support delivery of a new Park and Ride site to the east of Bath to address future demand for travel and to facilitate further mode shift from cars for travel into the city.</p>
<p>Non-charging measures</p>	<p>Many of the suggestions for alternative ways to tackle air quality submitted during the consultation were based on non-charging mechanisms. In particular these focused on delivering a step change in public transport and Park and Ride provision, with a focus on free or reduced-price travel. A range of other suggestions relating to traffic management, walking, cycling and the school run were also put forward.</p> <p>The extent to which of non-charging measures could deliver the required air quality improvements was considered at an earlier stage of the project. This work concluded that non-charging measures alone would not be sufficient and that a charging CAZ was the only option with sufficient scope to deliver the air quality improvements needed by 2021. For further information refer to OBC 08 - The Options Assessment Report.</p>

### 3. Proposed Class D CAZ boundary

#### Action taken in response to consultation feedback

In response to the consultation feedback, and taking account of the results of further assessment, the following adjustments have been made to the proposed boundary of the Class D CAZ option:

- The zone boundary has been amended to include the Pulteney Estate area.
- The zone boundary has been amended to exclude Cranhill Road and Rivers Road.
- Potential further amendments to the zone remain under technical review. These include potential extensions of the zone covering additional areas of the A367 Wells Road and Bathwick. These do not form part of the core scheme presented in the revised OBC at this stage.

#### 3.1 Overview of feedback

Comments relating to the proposed Class D CAZ boundary were extremely varied. Whilst there was some feedback around very different ways of defining a boundary and some comments from people who did not want to see a charging zone defined at all, the majority of feedback focused on identifying potential amendments to the published boundary for a Class D CAZ. In summary these comments reflected:

- Opinions that the zone should be smaller. The majority of respondents who expressed this view did so because of a desire to allow through trips to route around Bath (particularly noting that Bath does not offer a ring road or suitable alternative routes) and to ensure that every day essential journeys would not be impacted by a potential charge.
- Views that the zone should be larger. Some respondents called for a larger zone because they felt tackling current air quality issues in their area required bolder action or wished to see the perceived positive impacts of a CAZ extend across a wider area. However, the majority of requests for a larger zone were made in response to concerns about the potential knock on effects of the CAZ, for example to discourage rat running or parking in areas adjacent to the zone.
- Views that the zone should be designed in a way to enable specific journeys, in particular journeys across the city, to the motorway and to key facilities, such as the hospital.
- Requests for minor adjustments to the boundaries, in particular to mitigate the impact of the zone on residents and to enable them to travel out of the city without clipping the edge of the zone.

This section considers these comments and explores the extent to which the requests made by respondents are technically feasible. It should be noted that this section deals specifically with the consideration of feedback on the boundary of the Class D CAZ (as that was the focus of the consultation exercise). However, at the end of this section the implications of the feedback and related technical assessment are discussed in the context of the Class C CAZ option.

#### 3.2 Context for consideration

The CAZ boundary published as part of the consultation exercise was defined based on the following rationale:

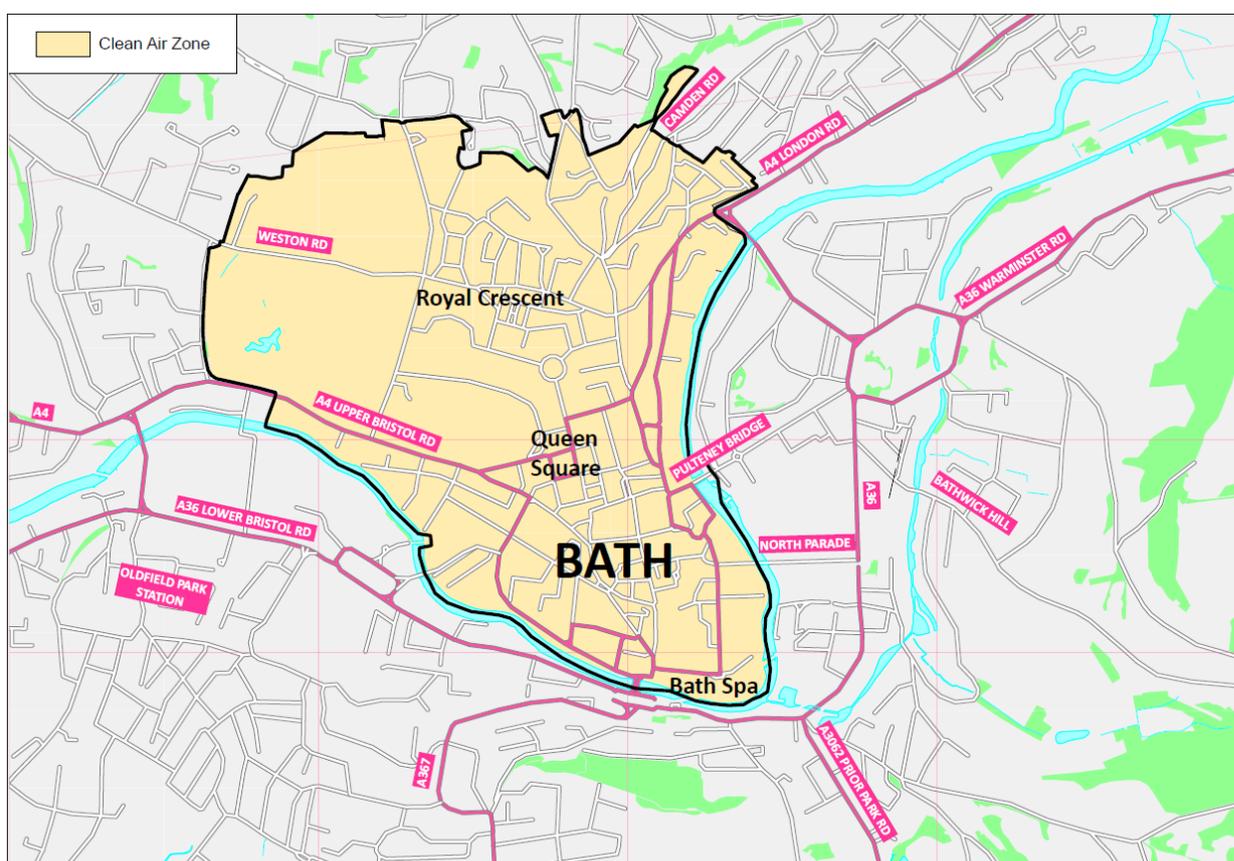
- The zone should be as small as possible to enable compliance with air quality targets and avoid impacting more people and local businesses than is necessary.
- The boundary needs to be defined in a way that, as far as possible, avoids the potential impacts of rat running, allows safe opportunities for vehicles to turn around before they enter the CAZ, and minimises the impact of street clutter in the form of signage and cameras.

The suggested boundary alterations have been considered in line with these principles, and assessment has focused on whether the suggestions are technically feasible. Document OBC-04 explains the rationale for the boundary and how this has evolved through various stages of the project.

### 3.3 Assessment of a smaller zone

A variety of requests were made via the consultation process to consider a smaller zone. These comments are set out in detail in Chapter 7 of OBC 25a – Report on Formal Consultation.

A common suggestion was that the A36 and A4 should be excluded from the zone as these are through routes used by traffic moving through and around Bath. In response to this feedback, additional traffic and air quality modelling work was undertaken to examine the extent to which compliance with the required air quality targets could be delivered with a smaller zone as shown in Figure 3.1. This removed all sections of the A36 and the A4 London Road/Cleveland Place junction from the zone.



**Figure 3.1 Reduced Clean Air Zone (CAZ) extent considered (removing the A36 and the A4/Cleveland Place junction)**

Detailed reporting of this work can be found in Appendix A. In summary, this highlighted that this smaller zone would result in five exceedances of air quality and therefore not be sufficient to deliver the required reductions in emissions. Specifically, these were identified at:

- A4 London Road, east end in Lambridge;
- A4 London Road, east of Cleveland Place;
- A367 Wells Road, near Oldfield Road;

- A36 Lower Bristol Road, between Pines Way and Windsor Bridge Road; and
- A4 Upper Bristol Road, between Windsor Bridge Road and Newbridge Hill.

The maximum concentration was 47 µg/m<sup>3</sup>.

A further 'sensitivity' test was also undertaken with just the removal of the A4 London Road/Cleveland Place. The results with this test still showed a maximum concentration is 40.8 µg/m<sup>3</sup>, with three PCM-equivalent receptors in exceedance. This scenario is thus still non-compliant, albeit the difference with the Class D CAZ as proposed via the consultation is marginal.

On the basis of this work a smaller zone was ruled out and has not been considered further.

### 3.4 Consideration of minor boundary adjustments

The consultation feedback also included requests for specific smaller areas to be excluded from the CAZ. These comments are set out in detail in Chapter 7 of OBC 25a – Report on Formal Consultation. These typically related to areas on the edge of the proposed boundary, or where respondents had identified that minor amendment could mean that their street may not be unnecessarily disadvantaged by the CAZ. In most cases the implication was that respondents were asking for the boundary to be drawn closer to the main routes, and not to include the side roads. In some cases, there were parallel requests from others who would prefer to see the boundary enlarged in the same area.

These comments have been examined and **Table 3.1** provides commentary on the extent to which each may be practical or feasible. Consideration has made in terms of:

- The original rationale for the proposed boundary;
- The extent to which they may open-up potential rat runs;
- How practical they might be in terms of camera placement; and
- Whether they may lead to wider issues or have other knock on impacts.

This work has identified some instances where a request made through the consultation process could be accepted without affecting air quality compliance or opening-up new potential avoidance routes. The two amendments carried forward into a revised boundary are the exclusion of Cranhill Road and an amendment at Rivers Road. However, many of the suggested amendments have potential disadvantages or issues.

**Table 3.1 – Consideration of requests for minor boundary amendments (exclusions)**

Streets suggested for exclusion from the zone via minor amendment to proposed Class D zone boundary	Notes on feasibility/issues to consider
Pulteney Gardens, Pulteney Grove, Pulteney Avenue, Lime Grove, Lime Grove Gardens	<p>These roads were included in the boundary that went out for consultation due to a late boundary amendment to move the cordon point on the A36 back from Widcombe to a point just south of Bathwick Roundabout. This was to make signing easier and to provide safer, more suitable 'escape' routes to allow re-routing choice 'at the cordon' position. In particular:</p> <ul style="list-style-type: none"> <li>• The entrance to the CAZ is now clearly signed at Bathwick Hill Roundabout; this will allow all vehicles, particularly HGVs, to use</li> </ul>

Streets suggested for exclusion from the zone via minor amendment to proposed Class D zone boundary	Notes on feasibility/issues to consider
	<p>Bathwick Hill or the A36 North (via a 'U' turn or using Vane Street) to exit the roundabout and avoid entering the zone;</p> <ul style="list-style-type: none"> <li>The proposed signage before the canal will also make it clear to non-compliant LGVs and cars that crossing the canal bridge will result in entry into the CAZ. Vehicles are able to re-route at this point using either Horseshoe Walk or Abbey View; and</li> <li>As proposed at consultation stage the boundary avoids issues with non-compliant vehicles routing past Widcombe Primary School to turn, or 'entrapment' issues with HGVs forced to enter if reaching Widcombe.</li> </ul> <p>Excluding these roads would require new cordon points at the Lime Grove, Pulteney Gardens and Pulteney Avenue minor road junctions with the A36, as opposed to a single cordon point on Pulteney Gardens to the east at the canal bridge. Options for turning in these roads, which have significant on-street parking, are limited without reversing back. The proposed boundary location offers better facility for this for non-compliant vehicles.</p> <p><b>An amendment here is not proposed for this reason.</b></p>
Widcombe Hill / Prior Park Road Junction /Claverton Street (including Widcombe Baptist Church)	<p>The Widcombe Hill and Prior Park Road routes to/from the A36 need to be cordon controlled at some point. This is currently south of the White Hart junction. North of the White Hart junction the cordon control points (still two) would have to be on Widcombe Parade (exit only) and St Matthews Place. The only advantages of this would be that access to the Baptist Church car park could be achieved without entering the CAZ, whilst the double mini-roundabout at the White Hart junction would facilitate 'turn around' for non-compliant cars and LGVs. A potential disadvantage of this change would be retaining movement between Widcombe Hill and Prior Park Road at the zone edge, which together with The Tynning and Rosemount Lane/Forefield Rise could open up a 'rat-run' avoidance route between Horseshoe Walk and Greenway Lane.</p> <p><b>An amendment here is not proposed for this reason.</b></p>
Wells Road	<p>The zone as proposed in the scheme published for consultation extended along the Wells Road (A367) to the junction with Oldfield Road (B3111) but did not include the junction. This was proposed by the residents of Upper Oldfield Park to avoid rat-running on what is a minor road, and one which serves as a main point of access to Hayesfield School.</p> <p>If the boundary was moved further north (to exclude more of Wells Road), then Upper Oldfield Park would be likely to become a rat run.</p> <p><b>An exclusion is not proposed here for this reason. Note that other respondents called for more of Wells Road to be included in the zone and for the B3111 itself to also be included (see Table 3.2).</b></p>
Pines Way gyratory to facilitate access to	<p>Removing Pines Way gyratory and moving cordon points to Midland Bridge Road and the A36 Lower Bristol Road to the east of the gyratory would by</p>

Streets suggested for exclusion from the zone via minor amendment to proposed Class D zone boundary	Notes on feasibility/issues to consider
Sainsburys/Green Park	<p>default remove the A36/Brougham Hayes junction from the CAZ. This would open up a potential avoidance route via the B3111 (Refer also to item below).</p> <p><b>An amendment here is not proposed for this reason.</b></p>
Junction of the B3111 Brougham Hayes with the A36 Lower Bristol Road (or other means of allowing a left turn onto the A36 without entering the zone)	<p>The inclusion of the A36/Brougham Hayes junction is primarily focussed on preventing the undesirable re-routing of non-compliant vehicle trips around the edge of the zone in both directions via the B3111 (so Brougham Hayes, Lower Oldfield Road, Junction Road and Oldfield Road) which might otherwise result in worse air quality in this area and/or undesirable congestion issues.</p> <p><b>An amendment here is not proposed for this reason.</b></p>
Roads to the south of the A36 including Westmoreland Street	<p>The proposed zone includes the area up to the railway bridge on Westmoreland Road, with the cordon point just north of the junction with Westmoreland Station Road/Lower Oldfield Park/Thornbank Place. This area is included as the junction is a clearer and more obvious turn-around point before entering the CAZ. HGVs would also have the opportunity to turn around here using the entrance area to Westmoreland Station where the carriageway area is quite wide. The inclusion also optimises the scheme for practicality reasons, removing the need for two cordon points to/from the A36 Lower Bristol Road at Westmoreland Road and Cheltenham Street.</p> <p><b>An amendment here is not proposed for this reason.</b></p>
Victoria Park (general area, including Weston Road, Julian Road, Marlborough Lane and Cavendish Road)	<p>This was originally included because of concerns about excess use of the Park for parking by non-compliant vehicles, given that the adjacent Charlotte Street car park would be inside the CAZ.</p> <p>Removing it from the zone is unlikely to have a big impact in achieving compliance. However, the Weston Road cordon point would have to be relocated to a point closer to the Cavendish Road junction (ideally just east of RVP access) and Marlborough Lane to the south of the Royal Avenue junction removed. Removal of Cavendish Road, and so too the Weston Road/Cavendish Road junction, would open-up a significant opportunity for avoidance routing between Weston Road and Lansdown Road via Cavendish Road, Winifreds Lane (NB only) and Sion Road.</p> <p><b>An amendment here is not proposed for this reason.</b></p>
Cranhill Road	<p>Cranhill Road could be omitted from the CAZ without issue. There would be an increase in ducting/cabbling costs although not significant. Its inclusion in the published consultation scheme boundary simply enabled the Weston Road cordon point to be defined just east of the Weston Road/Park Lane mini-roundabout. If removed, Cranhill Road may become more prone to vehicles turning around within it or dropping off passengers outside the CAZ, but this risk is considered low.</p>

Streets suggested for exclusion from the zone via minor amendment to proposed Class D zone boundary	Notes on feasibility/issues to consider
	<p><b>This amendment is included in the revised Class D CAZ boundary.</b></p>
<p>Lansdown Road/Richmond Road Junction</p>	<p>Following an initial assessment and ongoing discussion with key stakeholders within the Council, a northwards extension of the boundary to St. Stephen's Church (Lansdown Road/Richmond Road junction) was incorporated into the CAZ at a previous stage in the project. It was considered that its inclusion was necessary to prevent travel routing around the zone boundary to avoid the charge, so increasing non-residential traffic whilst reducing air quality on local streets.</p> <p>However, moving the cordon to the south of this junction could be considered, with revised ANPR camera locations on Lansdown Road immediately south of the Richmond Road junction and on St Stephen's Road at its junction with Richmond Road. This would achieve the same objective and additionally allow the Lansdown Road/Richmond Road junction to be used for 'turn-back' manoeuvres.</p> <p><b>On balance, considering other feedback, an amendment here is not proposed at this time. This amendment could potentially be considered in the future.</b></p>
<p>St Stephen's Road, Rivers Road, Bella Vista Road, Mount Road, Lansdown Grove</p>	<p>The necessity for including this set of residential roads was the desired inclusion of the Lansdown Road/Richmond Road junction (see above). Most of this area could be excluded by moving the cordon here southwards and establishing revised cordon points as follows:</p> <ul style="list-style-type: none"> <li>• Lansdown Road: just south of the junction with Lansdown Grove; and</li> <li>• St Stephen's Road: just south of the junction with Mount Road.</li> </ul> <p>This change would remove the need for the cordon sites at the Lansdown Road/Richmond Road junction, or the alternative suggested earlier. It would also remove the need for bespoke cordon points at the Lansdown Crescent and Upper Lansdown Mews junctions with Lansdown Road. Making this change would not open-up any new opportunity for zone avoidance 'rat-running'. It would also reduce the need for ANPR camera coverage and have no impact in achieving compliance.</p> <p><b>At this stage, given the desire previously expressed for the Lansdown Road/Richmond Road junction to remain in the zone, an amendment here is not proposed.</b></p> <p>However, a minor amendment to the proposed boundary is carried forward to remove Rivers Road. This amendment is made following feedback from residents.</p>
<p>Camden Crescent, Camden Road and Belgrave Crescent</p>	<p>Camden Road/Camden Crescent already acts as a parallel 'rat-run' route to London Road so, with London Road cut by the zone it is essential that this route is also covered by the CAZ to deter increased rat-running. It is considered the cordon location chosen on Camden Road must allow some</p>

Streets suggested for exclusion from the zone via minor amendment to proposed Class D zone boundary	Notes on feasibility/issues to consider
	<p>opportunity for a non-compliant vehicle to ‘turn-back’ should earlier warning signing be missed. This is not achievable with setting the cordon point at the Camden Crescent junction with Lansdown Road. Whilst Belgrave Crescent is accepted as ‘not ideal’ for ‘turn-back’ it does at least provide an opportunity where these are few. However, as this route is used primarily by ‘local’ traffic familiar with the road network, it is considered that the number of drivers ‘caught out’ and using Belgrave Crescent for this purpose will fall off sharply in the first few days of CAZ operation.</p> <p>Resetting the cordon point on this route just west of the junction with St Stephen’s Road could be considered. However, this road is equally non-ideal for accepting turn-back ‘avoidance’ traffic. It would also require a re-establishment of the boundary to the south to link with that around the A4 London Road/Cleveland Place junction.</p> <p><b>An amendment here is not proposed for this reason. It is proposed that this situation should be monitored, and reassessed if necessary.</b></p>
Charlotte Street car park	<p>Removing this key car park from the CAZ would not align with the overall ambition to improve air quality and encourage behaviour change. It may also result in adverse impacts due to increased popularity of this car park in comparison to others within the zone.</p> <p><b>An amendment here is not proposed for this reason.</b></p>
An area to enable drop offs for the bus or rail station	<p>Drop-off/pick-up close to the bus and railway station is not precluded for compliant vehicles. Creating a specific area for non-compliant vehicles within an easy walk distance of Bath Spa railway station and the main bus station will encourage its use for general drop-off/pick-up for shopping/leisure trips to the City Centre as well. This would not be in keeping with the objective of encouraging behavioural change.</p> <p><b>An amendment here is not proposed for this reason.</b></p>

### 3.5 Consideration of a larger zone

Within the consultation feedback there were various requests for the Class D zone to be made larger to include a wider area. These comments are set out in detail in Chapter 7 of OBC 25a – Report on Formal Consultation. Some of these requests were reflected in detailed responses from resident’s associations who expressed strong views about the need for their area to be included in the zone. In response to this feedback additional work was undertaken to consider the issues arising from potential inclusion of additional areas within the Class D zone in terms of:

- Whether extending the area is likely to further encourage behaviour change or deliver enhanced air quality benefits;
- The potential impact on alternative routing and potential further traffic displacement;
- Whether there may be other strategies for addressing the issues in the area; and

- The practical, economic and financial impacts of a bigger zone, including the costs of implementing and maintaining additional infrastructure.

The findings of this work are shown in Table 3.2 and supported by further detail presented in Appendix B. This work was undertaken in the context that the Class D CAZ boundary presented as the basis for the consultation was technically assessed and found to achieve compliance with air quality targets. On this basis, any further expansion of the zone is not required for air quality purposes. However, it is recognised that many respondents had concerns that the proposed boundary would result in adverse impacts, for example rat-running, turning back and increased demand for parking, that require consideration.

On the basis of the technical assessment set out in Table 3.2, and considering the nature of the consultation feedback provided, an amendment to the Class D CAZ boundary is identified to extend the zone to include the Pulteney Estate area. This extension is taken forward to the Class D CAZ option outlined in the revised OBC. This work has also identified possible additions to the zone at Bathwick and the A367. These are recommended for further consideration but do not form part of the core scheme presented in the revised OBC.

It is recommended that in other areas where there have been requests for the zone to be made larger, a programme of monitoring should be set out. It will be important to define how potential knock on effects can be monitored and reviewed and how this can be captured through any monitoring and evaluation plan that will need to be provided to support the FBC.

It is important to note that any amendments to the zone ultimately taken forward need to recognise that the zone may then affect residents who may not have commented through the formal consultation process, either because they were not aware that they would be affected or were happy with the boundary as proposed. That is, adding new areas into the zone will inevitably mean that more people will be affected. Some may not support inclusion, and would not have commented to this effect if they were not aware that their location would be impacted and changed in this way;

**Table 3.2 – Consideration of requests for potential zone extensions within a Class D CAZ**

Locations requested for inclusion in an expanded Class D CAZ	Notes on feasibility/issues to consider
More of London Road	<p>Most of the traffic passing along London Road continues through or comes from the Cleveland Place junction which is within the CAZ boundary. As such, the effect of improved vehicle compliance on air quality will be felt indirectly along the remainder of the London Road anyway. Including more of London Road would entail a need to include residential streets adjacent to it, particularly those with sole access to the A4, or create a need for multiple cordon points on streets adjoining London Road to the north for example Snow Hill and St Saviours Road. Turn-back opportunities from what in some cases are roads with a steep gradient would be difficult.</p> <p><b>An amendment here is not proposed for this reason.</b></p>

Locations requested for inclusion in an expanded Class D CAZ	Notes on feasibility/issues to consider
Pulteney Estate	<p>In the consultation feedback there were many requests to include a much larger area on the eastern boundary of the Class D CAZ within the zone (to include Great Pulteney Street, Sydney Place and Sydney Gardens) and various residents' associations supported this view. There were specific concerns that the CAZ could exacerbate existing issues with tourist and rugby coaches idling in the area by being attractive to non-compliant coaches seeking to avoid the charge while still getting close to the central area and the Recreation Ground. There are also concerns about general rat running and increased pressure for drop-off and parking of non-compliant vehicles.</p> <p>The issues around inclusion of this area are covered in a separate Technical Note, included in Appendix B. In summary, the additional work undertaken to consider these issues concludes that an extension of the CAZ zone is not needed to achieve compliance. The Technical Note discusses specific issues relating to coaches, parking and drop offs and concludes that these issues are unlikely to be significantly exacerbated by the CAZ, but it does recognise that these are existing issues of concern to many residents.</p> <p>For these reasons a zone extension to the extent advocated by the resident's associations is not recommended. However, in response to consultation feedback, <b>a smaller extension of the zone to include the Pulteney Estate (that is to include Bathwick Street, Great Pulteney Street and roads to the west) is included in the revised Class D CAZ boundary shown on Figure 3.2.</b> This is taken forward on the basis that it does not interfere with the turning opportunity via Sydney Gardens.</p>
Bathwick	<p>Similarly, many requests were received during the consultation period to extend the zone to include the wider Bathwick area.</p> <p>The difficulties of delivering a wider extension, including the Sydney Place gyratory and the wider Bathwick area is noted in Appendix B. A key constraint is that a larger zone here would have implications in providing suitable opportunity for 'turn-back' or re-routing of non-compliant vehicles, particularly HGVs entering the city on the A36(T)</p> <p>Further extension to cover a wider area of Bathwick might be considered at some point in the future if CAZ implementation is shown to introduce undesirable parking or rat-running effects which are not addressable with normal parking or traffic management controls. On this basis, <b>inclusion of the wider area in the zone remains under technical review but does not form part of the core scheme presented in the revised OBC.</b> <b>Proposals for monitoring in this area are set out in document OBC-26 'Evaluation, Monitoring and Benefits Realisation Plan'. Section 3.7 provides further details.</b></p>

Locations requested for inclusion in an expanded Class D CAZ	Notes on feasibility/issues to consider
Bathampton	<p>To the east there are also concerns from residents in Bathampton about increased traffic on Bathampton Lane/Mill Lane due to its use as a potential avoidance route by non-compliant light vehicle traffic. This includes concern about increased delay on both approaches to the toll bridge and the risk of increased northbound queuing extending beyond the railway bridge into the northern part of Bathampton. On this basis there were requests for this area to be included potentially with the Class D CAZ.</p> <p>The issues around inclusion of this area are also covered in the same Technical Note contained within Appendix B. In summary, the additional work undertaken to consider the issues in Bathampton concludes that inclusion of this area is not required to deliver air quality compliance by 2021. Re-assessment of the traffic modelling results shows that the diversionary impacts expected are not high or severe, albeit there is a slight increase in expected usage. It is noted also that the ability for extra traffic to be accommodated on the toll bridge is heavily constrained by the capacity of the bridge itself. Extending the CAZ boundary out to Bathampton would not be practical via a continuous extension of the zone, as this would necessitate the inclusion of additional residential and business areas (meaning additional residents and businesses would be impacted). There are also issues with providing an adequate turn back opportunity. Therefore, if included, Bathampton would need to form a separate 'outlier' zone. This would likely set a precedent for the inclusion of other sub-zones.</p> <p><b>An amendment here is not proposed for this reason. However, it is recommended that this area be closely monitored and reviewed. This should include further data collection prior to CAZ implementation, in order to accurately assess current conditions. Proposals for monitoring in this area are set out in document OBC-26 'Evaluation, Monitoring and Benefits Realisation Plan'. Section 3.7 provides further details.</b></p>
Horseshoe Walk	<p>There is a small risk of some additional traffic using Sydney Buildings, Horseshoe Walk and The Tynning as a route between Bathwick Hill and Widcombe Hill. However, these two routes converge and meet to the east at Combe Down. As such, any additional usage would be limited to a few drivers trying to route north-south around this edge of the zone. Church Street, which would form the logical extension of this rat-run to Prior Park Road, is narrow, so would act as a significant deterrent.</p> <p><b>An amendment here is not proposed for this reason. However, it is recommended that this area be closely monitored and reviewed. Proposals for monitoring in this area are set out in document OBC-26 'Evaluation, Monitoring and Benefits Realisation Plan'. Section 3.7 provides further details.</b></p>

Locations requested for inclusion in an expanded Class D CAZ	Notes on feasibility/issues to consider
<p>More of Widcombe Hill, Prior Park Road. and Lyncombe Hill</p>	<p>The present inclusion of the White Hart junction will intercept and control non-compliant vehicle usage on Widcombe Hill and Prior Park Road. The proposed cordon point on Lyncombe Hill is sited at the A36 junction to allow some opportunity for non-compliant vehicles to turn-back using either St Marks Road or Calton Gardens. Whilst it is possible these streets might also be used by non-compliant drivers to drop-off/pick-up, re-siting the cordon point, say, north of Alexandra Road, would create no avoidance 'turning' opportunity for drivers using Lyncombe Hill (unless sited much further south and just north of the Rosemount Lane junction). If the latter was considered, the southern extension of the zone along Lyncombe Hill would encompass a number of other streets, whilst the position of the cordon point in Prior Park Road would have to be re-evaluated (so likely just north of the Lyncombe Vale junction (Rosemount Lane)).</p> <p><b>An amendment here is not proposed for this reason.</b></p>
<p>More of the A36</p>	<p>Proposed advance signing at the A36/Windsor Bridge Road junction will be used to direct non-compliant vehicles away from the section of the A36 Lower Bristol Road between Windsor Bridge Road and Brougham Hayes. Including this section would impact businesses along the north side for no reason, which will get an indirect air quality benefit anyway with the A36/Brougham Hayes junction included within the CAZ. In other words, there is no eastbound 'through' traffic route available other than via the A36/Brougham Hayes junction once drivers exit the Windsor Bridge Road junction. In addition, other consultees were keen to see the A36 excluded from the zone, or as little included as possible.</p> <p><b>An amendment here is not proposed for this reason.</b></p>

Locations requested for inclusion in an expanded Class D CAZ	Notes on feasibility/issues to consider
<p>More of the A367 - A367/B3111 Oldfield Road junction</p>	<p>There were a number of requests to include the junction of the A367 and the B3111 Oldfield Road, or a longer stretch of the A367 Wells Road.</p> <p>A significant extension to the zone in this direction would not be required for compliance and would disadvantage additional residents. Extending the zone boundary, for example to Hatfield Road, would provide no opportunity for inbound A367 non-compliant traffic reaching the dual carriageway section to turn-back.</p> <p>In respect of the junction of the A367 and the B3111 Oldfield Road there is an easy diversion route via Bloomfield Avenue to the south that could be used to route around this junction if it were included in the zone. As such, if there was a desire to include this junction it would therefore be necessary to consider inclusion of the length of the B3111 Oldfield Road to its junction with Junction Road. Turn-back for non-compliant vehicles seeking to avoid the zone on reaching Bear Flat would then be required to use residential roads in 'Poets Corner' on the east side of Wellsway, or Bloomfield Avenue.</p> <p>The inclusion of the B3111 Oldfield Road and its junction with Wells Road will undoubtedly reduce the risk of risk of drivers trying to avoid the CAZ by using this route to enter/leave Oldfield Park. Whilst noting that the A36/B3111 Brougham Hayes junction at the other end of this route is already included, there are other routes across Oldfield Park to the A36 possible via Oldfield Road. However, targeting this length of Oldfield Road could result in use of the other residential roads to the south of the 'Linear Park' to access Oldfield Park.</p> <p><b>Inclusion of this area in the zone is under technical review but does not form part of the core scheme presented in the revised OBC. Proposals for monitoring in this area are set out in document OBC-26 'Evaluation, Monitoring and Benefits Realisation Plan'. Section 3.7 provides further details.</b></p>
<p>Oldfield Park</p>	<p>Oldfield Park was identified by respondents as an area that may be particularly at risk of increased traffic and parking as a result of the CAZ. There were various calls to include this area within the zone. Doing so could however conceivably involve the inclusion of a very large residential area. If the zone boundary was to be aligned with the 'Linear Park' or 'Two Tunnels Greenway' route, it could simply displace non-compliant vehicle routing into the area to the south.</p> <p><b>An amendment to include Oldfield Park is therefore not taken forward for this reason. However, it is recommended that this area be closely monitored and reviewed. Proposals for monitoring in this area are set out in document OBC-26 'Evaluation, Monitoring and Benefits Realisation Plan'. Section 3.7 provides further details.</b></p> <p>A minor extension to the zone to include the B3111 Oldfield Road may help alleviate some of the issues for Oldfield Park. However, as noted above this requires further consideration as it could result in similar re-rerouting via less suitable residential roads to the south.</p>

Locations requested for inclusion in an expanded Class D CAZ	Notes on feasibility/issues to consider
Weston/Lansdown	<p>The inclusion of Cavendish Road within the CAZ will prevent any non-compliant vehicle routing through the Sion Hill area. Lansdown Lane through Weston to the west is too remote from the western edge of the proposed CAZ to be sensibly linked.</p> <p><b>An amendment here is not proposed for this reason.</b></p>
Camden (with particular reference to possible inclusion of Belgrave Crescent)	<p>Respondents requested for Camden Road to be included due to concerns that additional traffic would use this route to avoid the charging zone. There was particular concern that Belgrave Crescent (located adjacent to the proposed boundary off Camden Road) would be inappropriately used by traffic turning to avoid the zone. Including a wider length of Camden Road (say to the Tynning Lane junction) would inevitably require a need to include secondary roads served off of it to keep the number of necessary cordon points required on minor roads to a sensible level.</p> <p>Instead the perceived issue with turning around on Belgrave Crescent could be mitigated by comprehensive and timely advanced signage.</p> <p><b>An amendment here is not proposed for this reason. However, it is recommended that further advanced signage is provided.</b></p>

### 3.6 Revised Class D CAZ proposed boundary

The boundary of the proposed Class D CAZ has been amended as shown in Figure 3.2, based on consideration of the consultation feedback (as detailed above) and technical review. This differs from the consultation version by:

- Including the Pulteney Estate area (Area 1 in Figure 3.2);
- Excluding Rivers Road (Area 3 in Figure 3.2); and
- Excluding Cranhill Road (Area 2 in Figure 3.2).

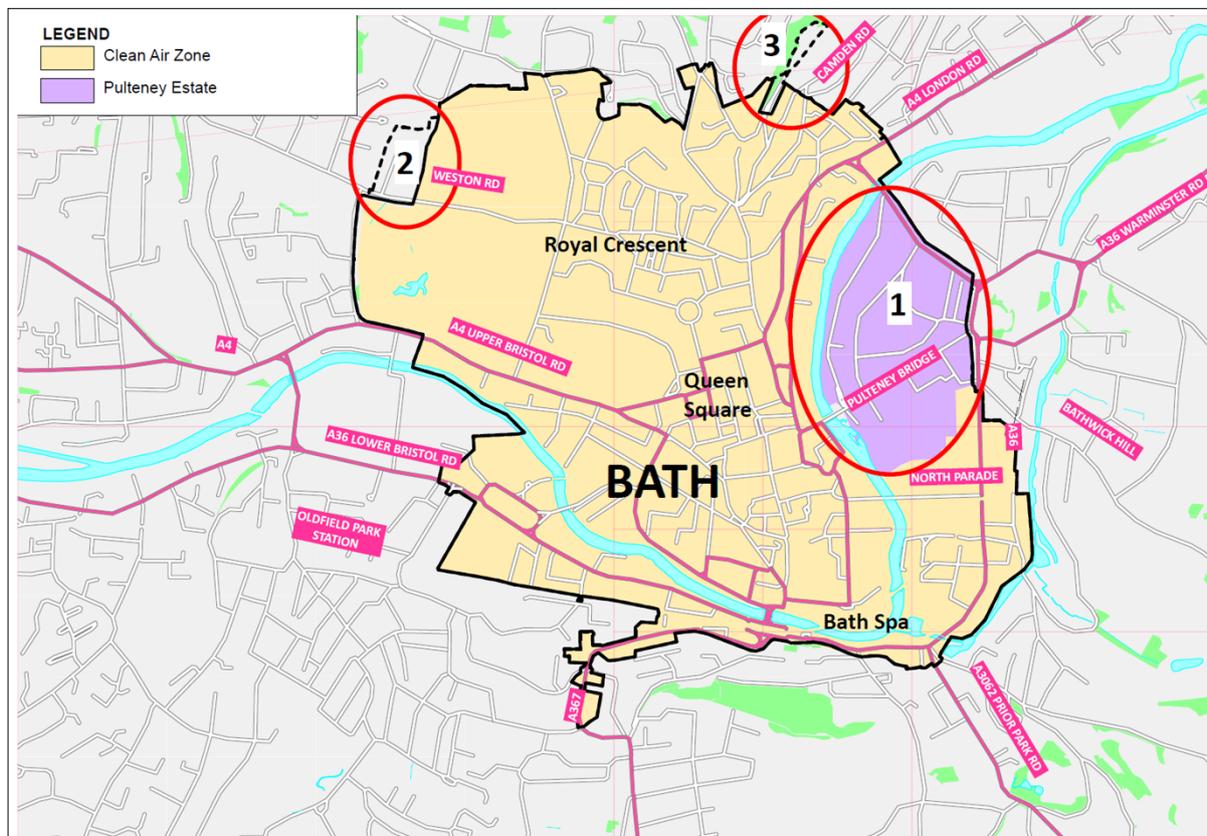


Figure 3.2 – Revised Class D CAZ boundary, following consultation

Additionally, other possible amendments highlighted in Figure 3.3, remain under technical review.

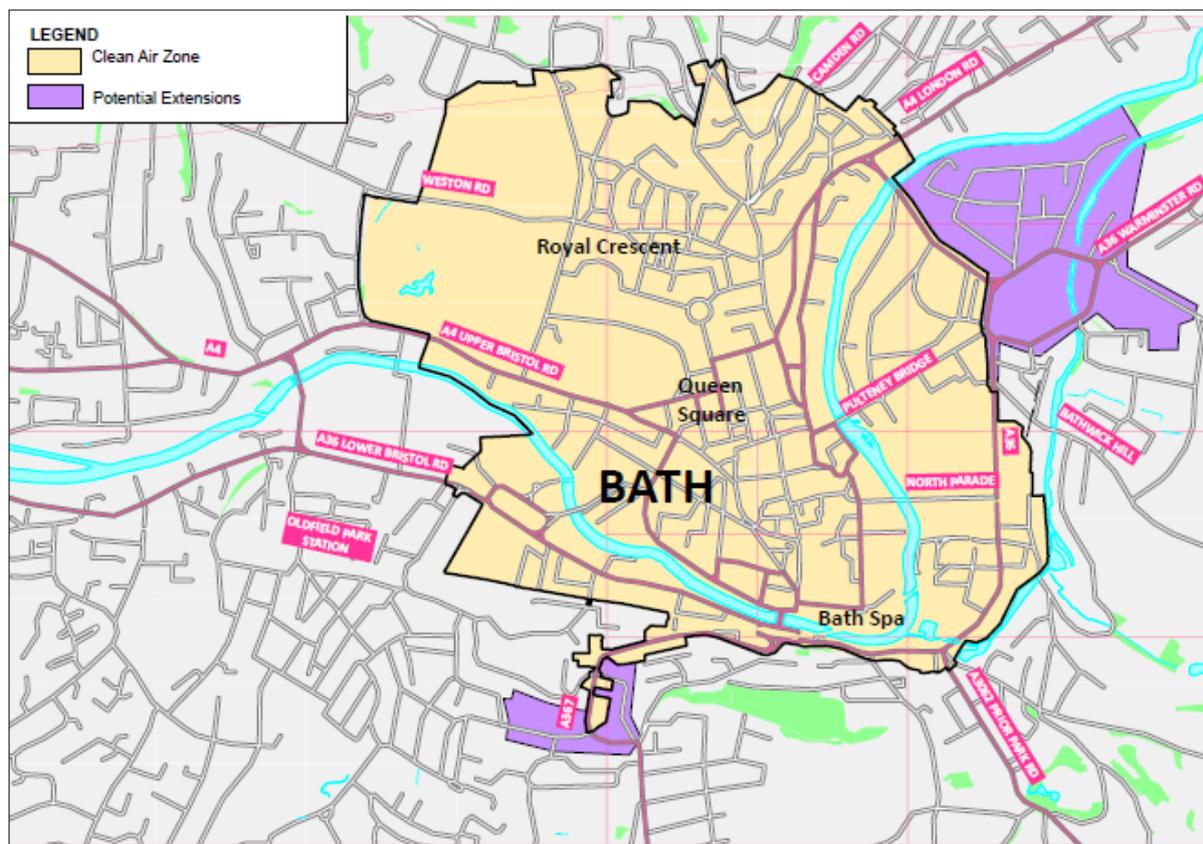


Figure 3.3 – Other possible boundary amendments under technical review

### 3.7 Monitoring and Evaluation Plan

As noted in Table 3.1 it will be important to monitor the impacts of the CAZ in the areas adjacent to the zone, particularly where residents expressed concerns about rerouting and rat-running in their consultation feedback.

An 'Evaluation, Monitoring and Benefits Realisation Plan' (document OBC-26) has been prepared as part of the OBC. This sets out how the impacts of the scheme will be monitored and details the specific measures that will be used to measure air quality, traffic flow and other indicators. The Plan recognises that a wide programme of monitoring will be required to monitor changes in traffic patterns outside the CAZ boundary. It identifies a number of specific locations where monitoring is required. This list of locations will continue to be reviewed and refined as the scheme progresses through the FBC stage.

### 3.8 Implications for other CAZ options

If a Class C CAZ is taken forward it is considered appropriate that this should adopt the same boundary as the Class D option. This is because:

- The boundary for a Class D CAZ, as adapted to reflect consultation feedback, is drawn to help avoid undesirable rat running. These issues remain an important consideration under a Class C CAZ in order to prevent LGVs and HGVs taking undesirable routes.

- Similarly, the boundary for the Class D CAZ has been identified in a way that allows opportunity for safe turn back. Again, this remains critically important in a Class C CAZ, particularly to give opportunity for heavy vehicles who do not want to enter the zone to turn safely.

DRAFT

## 4. Charges for a Class D CAZ

### Action taken in response to consultation feedback

Many of the suggestions for alternative Class D CAZ charges or charging mechanisms put forward through the consultation would not be compatible with the objectives of the Clean Air Plan or Government Directive and therefore cannot be progressed. However, the CAZ proposals presented in the revised OBC indirectly address the feedback by including:

- Further details of the financial support schemes designed to assist with the transition to compliant vehicles. This would help support both individuals and commercial operators. Details of this scheme are included within OBC 08 – Options Assessment Report.
- A revised package of concessions and exemptions to support a Class D CAZ. See Chapter 5.
- A Class C CAZ supported by traffic management and signal timing changes as an alternative option which has potential to deliver the required air quality improvements.

### 4.1 Overview of feedback

The consultation sought feedback on the extent to which respondents felt that the proposed Class D CAZ charges would be effective in encouraging behaviour change. Feedback included both:

- Calls for a bolder approach based on higher charges; and
- Suggestions for a more lenient approach focused on charging fewer vehicles or charging lower amounts.

However, the majority of comments were suggestions for ways to lessen the impact of the proposal on individuals, particularly residents on low incomes and those who have no option but to drive in/through the city and businesses, specifically small and sole traders. Many respondents felt that a lower charge would be more appropriate and also called for a longer lead in period to help ease the transition to a compliant vehicle. Chapter 8 of OBC 25a – Report on Formal Consultation sets out the feedback in detail.

The feedback suggested that respondents may not have been aware that, at the time of the consultation, part of the Class D CAZ proposal was to offer financial support to assist both individuals and commercial vehicle users to change to compliant vehicles.

### 4.2 Context for consideration

In considering the range of suggestions put forward for alternative levels and mechanisms of charging it is important to note that:

- The proposed CAZ charges need to follow the principles of the CAZ Framework;
- The charges need to be set at a level sufficient to achieve the behavior change required to meet the requirements of the CAZ. The proposed charges were determined based on evidence that this was the lowest level which would result in the desired behavior change;
- The charging system needs to be simple enough to be clearly communicated and easily understood; and
- The charging system needs to be practically and legally implementable and capable of being processed by the back-office systems that will be used to manage the scheme.

### 4.3 Consideration of alternative options for charging

The main themes and types of suggestions made in respect of the proposed charges for the Class D CAZ are listed in Table 4.1, together with details of how these have been considered.

**Table 4.1 – Consideration of suggestions for alternative approaches to the proposed Class D CAZ charges**

Alternative charge suggested	Notes on feasibility/issues to consider in context of a Class D CAZ
Don't charge cars/implement a Class C CAZ	Further work has been undertaken to further consider a Class C CAZ and a Class D with additional concessions and this is reported in Chapter 3 of this report as well as in OBC 08 – Options Assessment Report.
Higher charge	<p>Some respondents felt that a higher charge would be more effective, or that a higher charge for larger vehicles would be more appropriate given the emissions levels of these vehicles (particularly for HGVs).</p> <p>The proposed £9 charge for cars under the Class D CAZ proposal was established taking account of the results of a Stated Preference Survey which examined how people would respond to various levels of charge. Various charging levels were examined and tested via the traffic and air quality models and £9 was shown to be the lowest charge which would bring air quality to within legal limits by 2021 at the latest. Further details are set out in document OBC 11 – AQ3 Air Quality Modelling Report. Raising the charge above this limit would not be necessary to achieve compliance and would increase the likelihood of adverse impacts in terms of affordability or wider economic impacts.</p> <p>HGVs and coaches are already subject to a significantly higher charge than smaller vehicles (private cars, taxis and LGVs). Raising this further would penalise these vehicles unnecessarily.</p> <p><b>For these reasons, higher charges have not been further considered.</b></p>
Lower charge	<p>A wide range of suggestions were made for lowering the proposed charge for a Class D CAZ. These ranged from suggestions that everyone should pay less, or that there should be a lower charge for vehicles driven by specific groups, for example by residents. There was particular concern that the Class D CAZ charge would disproportionately affect low income groups and businesses.</p> <p>As noted above, £9 was shown to be the lowest charge which would bring air quality to within legal limits, by 2021 at the latest, with a Class D CAZ.</p> <p>Providing discounts or concessions to large numbers of people would affect the ability of a Class D CAZ to achieve compliance in the shortest possible time. For further information refer to OBC-05 'Proposed System Design Features and Payment Exemptions'.</p> <p><b>Instead of applying a lower charge for affected groups:</b></p> <ul style="list-style-type: none"> <li>• <b>Schemes offering financial support to enable some users to change to a compliant vehicle is preferred and is incorporated as part of the revised Class D CAZ proposal. This has the benefit of helping to increase the fleet of compliant vehicles and have a greater impact on emissions.</b> These schemes are described in Chapter 5, see Section 5.2.1 for further details.</li> <li>• <b>Targeted concessions are also proposed. These are also detailed in Chapter 5.</b></li> </ul>

Alternative charge suggested	Notes on feasibility/issues to consider in context of a Class D CAZ
<p>Lower charge initially, increasing over time.</p>	<p>Respondents suggested that consideration should be given to phasing in charges. This was suggested both for cars and other vehicles. It was noted that commercial vehicle operators particularly would appreciate charges being phased in more gradually to allow additional time to upgrade fleets, especially where specialist vehicles require significant investment and where lower emission alternatives are not widely available.</p> <p>Charges for a Class D CAZ were set at the lowest level to bring air quality to within legal limits in the shortest possible time. Reducing charges initially would not generate the desired behaviour changes in the required timescales.</p> <p><b>Instead, the financial support schemes both for individuals and commercial vehicles have been designed to help facilitate switching to compliant vehicles. This provides an alternative way to mitigate the impacts but still enables the air quality improvements needed to achieve compliance.</b></p>
<p>Give free passes to residents or other specific groups</p>	<p>As noted above, providing discounts, concessions or exemptions to large numbers of people would affect the ability of the Class D CAZ to achieve compliance in the shortest possible time and must be carefully considered.</p> <p><b>Instead, as above, a system of financial support is proposed, and this will support residents with pre-Euro 4 cars to change to compliant vehicles. See Section 6.</b></p>
<p>Alternative charging criteria</p>	<p>Respondents suggested a range of alternative criteria for setting the charges, including that higher emission vehicles pay more/higher Euro standards should pay less, that the charges should be based on measured emissions (rather than Euro standard) or mileage travelled. This was suggested for both cars and other vehicles, including HGVs.</p> <p>Defra's CAZ Framework sets out the minimum classes and standards for Clean Air Zones. These are defined by Euro Categories and standards to enable a consistent and clear system for determining whether a vehicle is compliant or not. The proposed Class D CAZ follows this Framework.</p> <p>Charging based on mileage would present practical and enforcement challenges and result in a more complex system that would be difficult to understand and implement. As such this option may not achieve the required behaviour change necessary to achieve compliance in the shortest possible time.</p> <p><b>For these reasons alternative charging criteria have not been considered further.</b></p>

Alternative charge suggested	Notes on feasibility/issues to consider in context of a Class D CAZ
<p>Operate the CAZ during peak hours/daytimes only/ charge on a rolling 24-hr period</p>	<p>A common suggestion in the consultation feedback was that consideration should be given to the CAZ operating in peak hours only. In addition, respondents commented that, if 24 hours, the CAZ should be a rolling 24-hour period or start after midnight. The principle of a peak hour / daytime / rolling CAZ has been previously considered:</p> <ul style="list-style-type: none"> <li>• A peak hour only scheme may not be sufficient to encourage the necessary behaviour change or may lead to unfavourable behaviour change that is not complimentary to the critical success factors of the project. For example, this would be likely to lead to trips being undertaken during unsociable hours. There was particular concern regarding increases in HGVs making deliveries or passing through the zone during the night.</li> <li>• These options would add an enhanced level of complexity to the practical and enforcement aspects of the scheme and make the format of the charging zone more difficult to communicate and understand.</li> </ul> <p><b>For these reasons alternative operating hours have not been considered further.</b></p>

#### 4.4 Implications for other CAZ options

The feedback on the published Class D CAZ charge suggests that if a Class C CAZ with traffic management and traffic signal timing changes were taken forward:

- This would address the various requests made for a lower charge for cars and would negate other requests, for example relating to the need to address impacts on residents.
- It would remain important to offer financial support to businesses, in order to address concerns raised by LGV and HGV operators.
- Not charging cars at all would likely attract criticism from those who felt that the published Class D CAZ proposal was appropriate, or who wanted to see higher penalties for non-compliant vehicles.

## 5. Concessions, exemptions affected groups with a Class D CAZ

### Action taken in response to consultation feedback

In response to the consultation feedback and further technical work, the following adjustments have been made to the package of concessions and exemptions put forward in the revised OBC for a Class D CAZ:

- There be an exemption for all hybrid cars (including taxis).
- The following concessions will now extend until 01/01/2023 as opposed to 2022 – Euro 4 and 5 diesel vehicles used by as accessible taxis (for use by disabled passengers) or used by blue badge holders, registered health and care providers and registered community transport providers.
- It is clarified that a concession for emergency service vehicles is offered until 2025, when it is expected that their vehicles would be compliant. This position is reflected in a draft memorandum of understanding between the Council and the emergency services, see OBC-46.
- Taxis not fitting into the above categories will no longer be given a concession but would be eligible for financial support.
- There will no longer be a concession for educational coach trips – these trips will now be supported through the financial support scheme.
- A proposal for financial support to help everyone move towards a lower emission vehicle has been worked up in detail. This scheme would offer grants to drivers of pre-Euro 4 cars and loans to users of pre-Euro 6 diesel commercial vehicles. This would help to support a wide range of drivers to switch to a compliant vehicle, removing the requirement for various concessions. Euro 4/5 diesel commercial vehicles will be given a concession until 01/01/2023, in cases where a loan application is unsuccessful, see below for further details.

Other exemptions and concessions remain as per the Class D CAZ scheme that was published for consultation.

Note that some concessions remain under consideration, subject to further assessment (rather than fixed elements of the scheme).

### 5.1 Overview of feedback

The consultation feedback highlighted some strong concerns about the impact of the proposed Scheme on certain groups (defined either as groups of the community or drivers of specific vehicle types). Respondents outlined a wide range of suggestions for ways in which these groups could be assisted, including offering additional concessions or exemptions that could apply to vehicle types, user groups or trip purposes. Frequently mentioned suggestions included support for residents, those on lower incomes or with specific issues, private cars (particularly newer diesels), key trips including for business travel, commuting or to the hospital. Additionally, some respondents did not feel that all of the proposed concessions were necessary, or expressed concern that too many concessions would impact the effectiveness of the proposed Class D CAZ. For further details on the feedback received, see Chapters 9 and 12 of OBC 25a -Report on Formal Consultation.

### 5.2 Context for consideration

Concessions and exemptions need to be considered in relation to the following constraints:

- The Government Directive, requires improvements to be delivered by 2021 and The CAZ Framework states that concessions should not slow down achievement of the overall objectives of the zone;
- Providing too many concessions increases administrative burden, implementation costs and the likelihood that loop holes are found, or the system is abused.
- Concessions should be targeted to the groups for whom alternative modes of transport are not possible or where groups are entirely reliant on their vehicle to make journeys, in order to give them more time to change their vehicle.
- Concessions and exemptions need to reflect the extent to which specific vehicles are polluting.

The technical work undertaken shows that within a Class D CAZ the predicted air quality levels would meet the legal limits by 2021 but only by a small margin. Concessions and exemptions would slow down the rate at which air quality improves. Therefore, a Class D CAZ package which includes a wide range of additional concessions or exemptions would be significantly less likely to achieve compliance with the legal limits in the required timeframe.

### **5.2.1 Financial support schemes**

In this context, and in order to respond to the concerns raised in the consultation, it has been necessary to consider other options. In particular, further work has focused on establishing the extent and nature of financial support that can be offered, as an integral part of the Class D CAZ option, to help support drivers change to compliant vehicles.

Financial support was included as part of the package of measures at the consultation stage. However, the consultation feedback has highlighted the critical importance of this measure and, as such, it has been given increased attention in the post consultation phase. Indeed, The Clean Air Fund offers a unique opportunity to support drivers and encourage behaviour change.

Two financial support schemes have been developed and these are discussed in detail in OBC 08 – Options Assessment Report. These offer:

- Financial assistance for individuals in the form of a £2,000 grant to support owners of pre-Euro 4 vehicles to switch to a compliant vehicle. The scheme will prioritise B&NES residents and residents living in neighbouring authorities whose normal place of work is within the CAZ
- Interest free loans to support businesses with pre-Euro 6 diesel commercial vehicles (i.e. bus, coach, HGV, LGV/van, taxi) to change to a new or second hand compliant vehicle. Applicants with a Euro 4 or 5 commercial diesel vehicle who are unsuccessful in their loan application would be granted a concession until 01/01/2023.

This scheme would be supported by the provision of advice (via a personalised service) which would provide motorists with assistance to support a change of behavior. This would include advice on:

- Alternative modes of transport available including incentives to encourage, for example trial bus journeys.
- The most appropriate/well suited vehicle choice, to include options to switch from a Euro 4/5 diesel to a petrol equivalent or to upgrade to a Euro 6.

## **5.3 Reasons for alterations made to Class D package of concessions and exemptions**

As noted above a range of adjustments have been made to the package of concessions and exemptions that would support a Class D CAZ. Table 5.1 provides an overview of the rationale for these changes.

**Table 5.1 – Rationale for changes made to concessions and exemptions supporting a Class D CAZ**

Concession or exemption added or changed	Detail of adjustment made in the context of a Class D CAZ
Hybrid cars	<p>The scheme that was put out to public consultation offered a time limited concession for Euro 5 diesel hybrids only, until 1 Jan 2022. Respondents felt that all hybrid vehicles should be exempt, regardless of their fuel type or year manufacture because these vehicles have the ability to run on a less polluting fuel source.</p> <p>The revised proposal includes an exemption for all hybrid cars, including taxis. This is considered possible because overall this vehicle group makes a minimal contribution to emissions therefore an exemption does not affect the year of compliance.</p>
Blue badge holders, health and care workers, community transport and accessible taxis	<p>The scheme that was put out to public consultation offered a time limited concession to Euro 4 and 5 diesel blue badge holders, health and care workers, community transport and accessible taxis, until 1 Jan 2022. Respondents suggested these concessions should be extended and these were identified as top priorities in the responses to the consultation questionnaire.</p> <p>The revised proposal includes for a concession for Euro 4 and 5 diesel vehicle users until 1 Jan 2023. These groups have limited alternative options therefore an extended concession is considered appropriate.</p> <p>The financial support schemes also offer an opportunity to assist these motorists, whilst continuing to support behaviour change.</p>
Emergency service vehicles	<p>There was concern amongst respondents that non-compliant emergency service vehicles would be charged beyond 2025. Throughout the project the Council has worked closely with representatives from the emergency services to understand the composition of their fleet and their future plans. These discussions suggest that the emergency services themselves typically plan to run compliant vehicles by 2025 so it is not envisaged that a Class D CAZ would affect their operations. Their position is captured in a memorandum of understanding, which can be found in OBC-46.</p>
Commercial Euro 4/5 diesel vehicles with an unsuccessful loan application	<p>There was concern from respondents that commercial vehicle operators invest significant amounts of capital in their vehicle(s). It was considered that for some, especially smaller businesses with limited available capital, switching their vehicles by 2021 would negatively impact their business operations due to financial implications.</p> <p>The revised proposals include a financial support package for pre-Euro 6 diesel commercial vehicle operators to apply for a loan to upgrade to compliant vehicles. It is proposed as part of the revised OBC for a Class D CAZ that those applicants with a Euro 4 or 5 diesel commercial vehicle that are unsuccessful in securing a loan would receive a concession until 1st January 2023.</p>

<p>Taxis (including private hire vehicles) (excluding accessible taxis) - concession removed</p>	<p>Consultation feedback on taxis was mixed. Some respondents considered that non-compliant taxis making multiple movements within the proposed CAZ should not be given a concession because their emissions levels are high. Others expressed concern that unless a concession were offered taxi fares may increase.</p> <p>Within the Class D proposals published for consultation a concession for taxis was proposed. This has been reviewed in light of the consultation feedback and the further developed loan scheme (which would allow taxi operators to apply for a loan to support a change to a compliant vehicle) and this concession has now been removed. Taxis undertaking multiple journeys within the city centre contribute more than other vehicles to emissions and overall there is a need to set a positive precedent. In addition, newly licensed taxis will be required to be compliant under the new taxi licensing policy which was adopted by Cabinet in December 2018.</p>
<p>Vehicles with educational trip permits – concession removed</p>	<p>In liaison with schools and operators, it has been established that the financial support scheme for commercial vehicles better addresses the needs of these vehicles. It is proposed that those applicants with a Euro 4 or 5 diesel educational vehicle that are unsuccessful in securing a loan would receive a concession until 2023.</p>

#### 5.4 Consideration of other suggested concessions

In the consultation feedback there were a wide range of suggestions for vehicle types, journeys and groups that would benefit from additional concessions or exemptions from the Class D CAZ charges. As part of the post consultation assessment these requests have been considered in terms of their feasibility for inclusion with a Class D CAZ. Many are not possible to provide within the constraints of the project.

A summary of these reasons is provided in Table 5.2 below and further details are provided in document OBC 05 – Proposed System Design Features and Payment Exemptions.

**Table 5.1 – Additional concessions and exemptions suggested**

Concession or exemption suggested	Notes on feasibility/issues to consider in the context of a Class D CAZ
Residents living with the CAZ	<p>A frequent request in the consultation feedback was for residents, and in particular those on lower incomes, to be granted a concession.</p> <p>Offering a concession to all residents within the CAZ, under a Class D, would compromise the ability to reduce air quality to within legal limits in the required timescale. This is because the air quality levels predicted for a Class D CAZ leave little scope for additional concessions.</p> <p>As an alternative to concessions for residents, further work has been undertaken to develop the details of how a financial assistance scheme could work. The proposed financial assistance detailed in OBC 08 – Options Assessment would support residents within the CAZ to switch to a compliant vehicle.</p> <p>The majority of residents living within the CAZ have reasonable access to alternative modes and will benefit from the package of supporting measures delivered alongside the CAZ.</p>
Other people who need to travel into Bath, in particular for work	<p>Many respondents to the consultation requested that people living across the area should be granted a concession to allow them to travel to Bath as their local service centre or for work. There was particular concern for lower income groups and key workers.</p> <p>As above, this would imply allowing a large cohort of vehicles to freely access the zone and would significantly affect the rate at which emissions reduce. Again, the financial support schemes offer an opportunity to assist some of these motorists, whilst continuing to support behaviour change. See Section 5.2.1 for further details.</p>
Business with non-compliant commercial vehicles	<p>Non-compliant commercial vehicles contribute the largest proportion of the NO<sub>2</sub> emissions in Bath. As such allowing a concession or exemption for this group would delay the year of compliance and therefore not meet the legal directive. The financial support schemes offer an opportunity to assist businesses, whilst continuing to support behaviour change. Where a business is unsuccessful in securing a loan, a concession until 1<sup>st</sup> January 2023 would be offered to Euro 4/5 diesel commercial vehicles.</p>
Visits to hospitals/for medical appointments	<p>A concession for priority patients to visit hospitals/for medical purposes was requested frequently by respondents. At this stage this is not proposed for practical and enforcement reasons. However, discussions with the hospitals remains ongoing.</p> <p>The financial support schemes offer an opportunity to assist these motorists, whilst continuing to support behaviour change. See Section 5.2.1 for further details.</p>
Others – including	<p>A wide range of other requests were made for various concessions, including for informal carers, older people, charities, churches. For the reasons set out above these are not possible. However, the financial support schemes will assist some motorists within these groups in changing to compliant vehicles. See Section 5.2.1 for further details.</p>

Concession or exemption suggested	Notes on feasibility/issues to consider in the context of a Class D CAZ
Pre Euro-6 diesel cars	<p>Respondents to the consultation expressed concern that their relatively new diesel car would be subject to a charge under a Class D CAZ and requested additional time to adapt.</p> <p>As above, a concession for this group would represent a large proportion of vehicles and compromise the ability to meet the required air quality targets. In addition, a concession for pre-Euro 6 diesels (or subsections of) would not support behaviour change to remove the most polluting vehicles from the roads.</p> <p>The financial support scheme offers an opportunity to assist individuals with any pre-Euro 4 car to apply for a grant to upgrade to a compliant vehicle.</p>
Pre Euro-4 petrol cars	<p>A concession would be against the rationale for introducing a CAZ, and not support behaviour change to remove the most polluting vehicles from the roads.</p> <p>The financial support scheme offers an opportunity to assist these motorists, whilst continuing to support behaviour change. See Section 5.2.1 for further details.</p>
Fewer concessions	<p>Some respondents felt that the package of concessions put forward at consultation stage was too wide. Some felt that some categories of vehicles should not be granted a concession because they pollute in the same way as others and are not necessarily owned by individuals in need of specific support, examples included historic vehicles, blue badge holders (in some cases, albeit there were more calls for extended help for blue badges) and motorcycles. The package retains these various concessions because:</p> <ul style="list-style-type: none"> <li>• The package aligns with the CAZ Framework which for example requires specialist vehicles which cannot be retrofitted to be exempt.</li> <li>• The package is intended to help minimise the social and equality impacts of the proposed CAZ.</li> <li>• Some concessions are required because there are practical limitations to including certain vehicles within the scheme. This is the case with motorbikes, where the cameras will be unable to read rear number plates.</li> </ul>

## 5.5 Implications for other CAZ options

The feedback on the published Class D CAZ Scheme concessions and exemptions suggests that if a Class C CAZ with traffic management and traffic signal timing changes were taken forward there would:

- Overall, be a lesser need for concessions because cars would automatically be exempt. In this respect a Class C would address many of the consultation requests;
- Continue to be concern from those groups who were concerned that concessions would dilute the overall impact of the Scheme.
- Be a need, in any case, to ensure that the financial support scheme remains important to mitigate the impact on businesses.

## 6. Supporting measures to be delivered alongside a Class D CAZ

### Action taken in response to consultation feedback

In response to the consultation feedback and based on further technical work, additional supporting measures have been identified to be delivered alongside the Class D CAZ, subject to funding. In addition, some of the originally proposed measures have been further expanded upon as part of the Class D CAZ package. This includes:

- Further details of the financial support schemes for residents and businesses to help facilitate a change to compliant vehicles.
- Provision of free park and ride journeys for regular commuters not already using the park and ride and low-income households and families with children for one year.
- Provision of travel advisors to support individuals in behaviour change.
- Funding to monitor/address parking issues that may arise as a result of a Class D CAZ.
- Funding to extend the monitoring of traffic and air quality in B&NES pre CAZ implementation to expand baseline data availability.
- Preparation of delivery and servicing plans for businesses.
- Enforcement of weight restrictions on roads neighbouring the proposed CAZ.
- Traffic signal optimisation, in particular to give advantage to buses.
- Other initiatives to encourage travel via sustainable modes.

### 6.1 Overview of feedback

The consultation asked for feedback on the measures that could be implemented alongside a CAZ. Many respondents urged the Council to consider more extensive supporting measures that would focus on offering additional incentives or alternative travel options. These ideas ranged in scale from small measures to large schemes. In particular, there were many comments relating to the importance of developing the CAZ proposals within an overall transport plan for Bath which should look at developing alternative routes, delivering a step change in public transport and improving the Park and Ride. These comments are set out in Chapter 11 of OBC 25a -Report on Formal Consultation.

Many of the ideas identified have been considered in previous phases of the project, are outside of the scope of this work, or are issues that are otherwise being considered by the Council under its regular work on transport and planning. This section therefore clarifies the Council's position on these issues, within the context of this project.

### 6.2 Context for consideration

The Class D CAZ option that formed the basis of the public consultation included a number of measures that could be delivered alongside the CAZ, either funded from Government funds or from revenue generated by the Scheme. These measures were identified based on the fact that they would:

- Contribute directly to making an air quality improvement.
- Be appropriate for funding, either from Government funds available to this project or the revenue generated by the Scheme.
- Mitigate the impacts of the Scheme, particularly for lower income households and businesses.

- Be deliverable within the timescale.
- Not otherwise being considered through other Council initiatives.

Other suggestions put forward through consultation have been considered against the same criteria.

### 6.3 Consideration of suggested supporting measures

The main suggestions for supporting measures to be delivered alongside the published Class D CAZ proposal, and the extent to which these are possible to address are summarised in Table 6.1. Many of the suggestions for supporting measures overlapped with ideas put forward as scheme alternatives. This section should therefore be read alongside Chapter 2 on alternative options.

Table 6.1 – Consideration of suggested supporting measures

Suggested supporting measure	Consideration in the context of a Class D CAZ
Improved park and ride services (including suggestions for free park and ride)	<p>Park and Ride improvements were frequently requested by respondents in the consultation feedback. Requests included longer hours, cheaper or free fares and additional routes.</p> <p>Proposals to extend the hours of operation of the Park and Ride, provide secure overnight parking and deliver smaller Park and Ride sites along existing bus routes are included as high priority measures alongside the Class D scheme.</p> <p>Within the consultation feedback there were many requests for cheaper or free Park and Ride. In response to this an additional supporting measure has been added to the package. This offers free park and ride to regular commuters, low income households and families with children for one year. This could also target LGV users.</p> <p>The Council intends to review the pricing strategy for Park and Ride when contracts are renewed</p>
Improved bus services (including suggestions for free buses)	<p>The consultation feedback indicated that public transport improvements, covering improved vehicles, reduced fares, additional routes and infrastructure, were a top priority for many respondents.</p> <p>The importance of delivering public transport improvements, alongside any CAZ is acknowledged. Traffic signal optimisation to prioritise public transport is a key supporting measure, added to the scheme proposals in response to consultation feedback. Additional improvements to key public transport routes could be funded from the CAZ revenue.</p> <p>The Council’s public transport team continue to work to improve bus services across the city. The Council is working closely with bus operators to help them secure funding from the Government to upgrade their engines. It is anticipated that all buses will be compliant by the time a zone is introduced, and that operators will respond to any increased demand without price rises.</p>

<p>Improved traffic management</p>	<p>Respondents identified that air quality could be additionally improved through measures to keep traffic moving and manage the impact of heavy vehicles in the city centre.</p> <p>Traffic management options have been further considered as part of additional work on a possible Class C option. This work suggests that the introduction of a traffic management scheme at Queens Square, in addition to a Class C CAZ, could be sufficient to bring air quality levels to within legal limits in the required timescales. This approach has a range of complex pros and cons.</p> <p>Within the supporting measures identified for the revised Class D scheme the following have also been included:</p> <ul style="list-style-type: none"> <li>• Optimisation of traffic signals.</li> <li>• Weight restriction enforcement.</li> </ul>
<p>Improved management of HGVs and deliveries</p>	<p>Respondents identified a range of opportunities to better manage deliveries in the city centre. As a separate initiative the Council is currently assessing options for trialling a last mile delivery scheme, which would aim to reduce the number of deliveries made by HGVs in central Bath. As part of the supporting measures identified post consultation, a scheme to provide businesses with advice on delivery and servicing plans is now proposed as part of the Class D CAZ package.</p>
<p>Improved management of parking, including residents parking zones (RPZ)</p>	<p>Across the various feedback on the Class D CAZ, respondents expressed concern that there may be additional pressure for parking in residential areas adjacent to the zone.</p> <p>The need to consider residents parking issues alongside the CAZ has previously been noted. The Council intends to undertake a review of the existing RPZ system and this will consider interaction with the proposed CAZ. This is included as a supporting measure in the revised Class D proposal.</p>
<p>Improvements to rail</p>	<p>Rail improvements cannot be delivered as part of this Scheme but conversations between rail providers and the Council continue.</p>
<p>Better management of coaches</p>	<p>The Council is separately progressing the development of a Coach Strategy. The Council will bid for funding during the implementation stage of this Scheme to enable enforcement of anti-idling and this will help to address some of the concerns associated with coaches in the city centre.</p> <p>Coaches will be able to apply for a loan to either retrofit their existing vehicle fleet or upgrade to complaint vehicles.</p>
<p>Other including, school traffic, walking, cycling, electric vehicles and car sharing</p>	<p>Respondents were keen to see additional measures to address these other modes. The package of supporting measures proposed would help to address some of these concerns through:</p> <ul style="list-style-type: none"> <li>• Walk/Scoot/Cycle to school initiatives.</li> <li>• Electric vehicle charging points.</li> <li>• Improved cycle parking.</li> <li>• Improved walking and cycling routes.</li> <li>• Expansion of car and van clubs.</li> <li>• Reducing the cost of parking permits for ultra-low emission vehicles.</li> </ul>

## 6.4 Implications for other CAZ options

The feedback on the supporting measures to be delivered alongside the published Class D CAZ option highlights the importance of ensuring that alternative modes are available, affordable and desirable. Many of these suggestions would also be relevant alongside a Class C CAZ with traffic management and signal timing changes and should be included, (where funding allows) in order to deliver a package that proactively encourages use of other modes. It should be noted however, that there would be less revenue generated from the Class C option and this would limit the reach of revenue funded supporting measures.

Under a Class C CAZ, it would be important that supporting measures are tailored to better suit those most impacted including drivers and operators of commercial vehicles.

## 7. Other issues raised in feedback on a Class D CAZ

### Action taken in response to consultation feedback

In response to the consultation feedback on the potential wider knock on impacts of a Class D CAZ, and in the context of evolving technical work the following are proposed:

- Ongoing monitoring of traffic and air quality levels, as well as parking demand, in areas immediately adjacent to the proposed CAZ boundary.
- Continued dialogue with adjoining authorities to jointly consider and monitor traffic levels on wider routes, in particular across Wiltshire.

### 7.1 Overview of feedback

A range of other issues were reflected in the consultation feedback, including concerns of local and wider rerouting of traffic and the potential secondary impacts associated with this, including availability of parking, worsening air quality in other areas outside of the CAZ and worse congestion. These comments are set out in Chapter 14 of OBC 25a -Report on Formal Consultation.

### 7.2 Context for consideration

The Class D CAZ proposals that were published for consultation were developed in line with the Government's CAZ Framework guidance, in accordance with JAQU advice and following the process required for the submission of a business case. This included the use of air quality and transport models, making the best use of available data. Comments on issues reported in this Chapter need to be considered in line with this guidance and process, as well as in the context of the stage of this project and the next steps. For example, a key part of the FBC stage will be to develop an evaluation plan which will guide how the impacts of the Scheme are monitored post implementation.

### 7.3 Consideration of local re-routing/displacement and parking issues

Within the consultation feedback respondents expressed concern that the introduction of a Class D CAZ would lead to rat running through areas adjacent to the boundary to avoid charging. A number of residents' associations commented on these concerns and, in some cases, concerns about increased traffic, led to specific requests for these areas to be included within the CAZ. Comments mainly related to concerns about the impact on the Pulteney Estate area, Bathwick, Batheaston and Bathampton, Oldfield Park and various other areas adjacent to the zone.

During the development of the preferred Scheme, consideration was given to rat running issues and the published CAZ D boundary incorporated a number of adjustments (compared to earlier versions) in order to minimise the likelihood of rat running. This stage of work is documented in OBC-04 Technical Note on Boundary Changes. The analysis undertaken based on the published boundary showed that any displacement of traffic would be relatively small. Post consultation this work has been revisited for key areas and similar conclusions are drawn. This work is reported in the Technical Note included as Appendix B. In addition, boundary changes suggested through the consultation have been considered in the context of their implications for re-routeing and this discussion is set out in Chapter 2.

Table 7.1 summarises the main issues in key areas.

Table 7.1 – Consideration of potential local re-routing

Location identified	Consideration
Pulteney Estate area	<p>The Technical Note included as Appendix B considers issues relating to coaches and parking, recognising that residents had concerns about this area being used specifically for drop offs.</p> <p>This area is now proposed for inclusion within an enlarged Class D CAZ, therefore these issues are addressed.</p>
Bathwick	<p>The Technical Note included as Appendix B considers issues relating to parking and suggests that, going forward, an extension to the existing residents parking zone could be considered, if required.</p> <p><b>Proposals for monitoring in this area are set out in document OBC-26 ‘Evaluation, Monitoring and Benefits Realisation Plan’.</b></p>
Batheaston and Bathampton	<p>The Technical Note included as Appendix B considers re-routing issues through Bathampton. This confirms that whilst it is accepted that increased traffic use of Bathampton Lane/Mill Lane will occur with the Type D CAZ as proposed, the expected level of increase is considered modest and within acceptable limits when considering the normal daily variation in traffic. It is suggested that this area is monitored and reviewed going forward.</p> <p>As noted above a programme of regular monitoring will be needed to establish changing traffic flows and potentially journey times on the Bathampton Lane/Mill Lane/Toll Bridge Road route in the pre-CAZ and post-CAZ scenarios. Pre-monitoring will be needed to establish the natural growth trend up to CAZ opening. Comparison of 2014 and 2018 flows has shown no appreciable change in two-way ‘peak’ weekday flows at the Toll Bridge, but a perceivable growth change in the average inter-peak hour flow over the period 2014-2018. Further data collection up to CAZ implementation will enable what appears to be an underlying growth trend to be established. In the post-CAZ scenario, this can then be accounted for in establishing any true ‘extra-over’ effects of the CAZ. If the outcome from future comparison analyses does reveal a net impact of significance, then a decision could be taken then to introduce an ‘outlier’ CAZ if required.</p> <p><b>Proposals for monitoring in this area are set out in document OBC-26 ‘Evaluation, Monitoring and Benefits Realisation Plan’.</b></p>
Oldfield Park	<p>Issues relating to Oldfield Park have been considered in terms of boundary amendments. A minor boundary change at Wells Road requires further consideration in this context.</p> <p>Oldfield Park would need to be monitored going forward, both in terms of traffic and parking.</p> <p><b>Proposals for monitoring in this area are set out in document OBC-26 ‘Evaluation, Monitoring and Benefits Realisation Plan’.</b></p>

## 7.4 Consideration of wider re-routing issues

Within the consultation feedback there was also concern about re-routing across a wider area and in particular through the Wiltshire towns, with a notable number of comments relating to concerns that traffic may increase through Bradford on Avon, and along the A350. In response to this feedback, meetings were held with Wiltshire County Council to discuss these issues and the modelling results were further interrogated.

This work, included as Appendix C, concluded that the forecast impact of the Class D CAZ on roads to the east of Bath is expected to be overall neutral with individual changes in traffic volumes making up at most 1% reductions or increases in daily volume. Importantly however, as part of the Clean Air Plan, B&NES is proposing to expand its network of traffic and air quality monitoring in order to understand the impact of the CAZ. Future work on monitoring could be further extended to include analysis of similar monitoring data collected by Wiltshire Council. Analysis of the data collected in Wiltshire can then be used within the ongoing assessment of the Scheme performance and inform appropriate refinements should they be deemed necessary.

## 7.5 Implications

Overall, consideration of these issues highlights the importance of ensuring that the CAZ is supported by a robust Monitoring and Evaluation Plan. This document, which would be developed during the Full Business Case stage and is required as a pre-requisite of the release of funding, would set out a strategy for monitoring the impact of the changes made and would provide a mechanism for addressing the issues detailed above. It would require robust baseline data to ensure that impacts can be assessed on the basis of a good understanding of the 'pre-scheme' situation. This would be informed by various traffic counts and air quality monitoring data, which is already being collected.

## 7.6 Implications for other CAZ options

The feedback on the potential knock on effects of the published Class D CAZ applies, in part, to the re-routing of cars. Therefore, under a Class C CAZ with traffic management these concerns would be less applicable. However, within the feedback on a Class D there were significant concerns about the re-routing of heavy vehicles and these concerns would remain under other CAZ options.

## 8. Summary and next steps

The consultation feedback on the published Class D CAZ has enabled a broader understanding of the potential impacts and issues, as perceived by individuals, groups and businesses. Analysis of the feedback, and consideration of the key themes, alongside the evolving technical work, has led to a number of amendments being made to the Class D CAZ option. Importantly this work has highlighted that:

- A Class C zone with traffic management and traffic signal timing changes could offer potential to deliver compliance with air quality targets in the required timescales. This information therefore needs to be carefully considered, both on its own merit, and in comparison to the likely benefits of a Class D CAZ, with or without traffic management and wider concessions.
- Amendments to the proposed Class D CAZ boundary are not necessarily required for compliance. However, some amendments, in response to consultation comments are suggested, where technically feasible.
- Financial support schemes offer a mechanism to support vulnerable groups and those that otherwise may call for concessions, but still support behaviour change and are an important part of any CAZ package.
- A broad package of supporting measures is required alongside any CAZ.
- Ongoing monitoring and evaluation of any implemented scheme will be critical.

A decision on the next steps lies with elected Cabinet Members and with the Government (via the Joint Air Quality Unit who will scrutinise all proposals). Consideration of the consultation comments is only one of a wide variety of factors that will influence this decision and will need to be balanced against the findings of technical work, issues relating to funding and deliverability, and overall ability to comply with the legal directive.

**Appendix A. Technical note on a smaller Class D CAZ boundary**

DRAFT

**Appendix B. Technical note on potential extensions to the proposed Class D CAZ boundary**

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## Appendix C. Technical note on wider displacement

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