1.1 What is the proposal?

**Background**
Bristol City Council is wholly committed to enabling clean air in the city and to achieving this as quickly as possible, whilst making sure that we put in place measures that will mitigate the impact on people with protected characteristics (and/or from low income households).

Due to the scale of the issue in urban areas nationally, Her Majesty’s Government in 2017 formally directed 24 local authorities (including Bristol City Council) to submit plans for how they will achieve compliance to the legal NO2 limits and how they would implement these plans by the end of March 2021.

Local authorities are therefore required to model various options for achieving clean air and to take forward the option that delivers compliance against the NO2 legal limits within the shortest possible time, reduces exposure the quickest and ensures that compliance is not just possible but likely.

There have been a number of key changes to the project since the document was last circulated. From 1st July 2019 Bristol City Council carried out a six-week public consultation on two options for achieving NO2 compliance: option 1: a Medium CAZ C charging scheme with additional non-charging measures and mitigations; option 2, a Small Area Diesel Car Ban with mitigations.

Following consultation and further technical analysis on both options, officers recommended that we progress with a ‘Hybrid’ option, which merged options 1 and 2 described above. This was the option that achieved compliance in line with our legal obligations.

Since the Council submitted the OBC in November 2019, further modelling and evaluation work has continued as part of refinement work and there have been regular discussions between Bristol City Council and JAQU. The main discussions being;

1. Technical questions relating to the Diesel Ban, in particular the area of the ban and assumptions around behaviour change;
2. Additional technical work that has been carried out that now shows a compliance date for the Hybrid scheme of 2023;
3. Matters relating to the ability to deliver Diesel Ban as Government had not provided the appropriate powers to Bristol City Council to implement a ban by passing the necessary secondary legislation and;
4. The Joint Air Quality Unit (JAQU) requiring further modelling work to ensure that other viable options are being considered by the Council, should they be required. This includes modelling a medium CAZ C with a small CAZ D. Further analysis and sensitivity testing has been continuing on
this option to ensure that the option that is put forward in the Full Business Case fully complies with the Government Direction of achieving compliance with the legal NO2 limits in the shortest possible time.

The further modelling work has enabled good progress to be made on refining the data and has enabled us to move forward positively. The most important aspect to note is that as a result of this additional refinement work, the compliance year has moved from 2025 to 2023. This will bring improved health to Bristol in a much shorter timescale than originally expected.

On the 13th March 2020 a formal Direction was received from the Rt. Hon Rebecca Pow who wrote to Mayor Rees stating the following:

To ensure delivery of NO2 compliance in the shortest possible time, I attach to this letter a Ministerial Direction requiring Bristol City Council to:
• Implement a charging Clean Air Zone Class C with additional measures as soon as possible and at least in time to bring forward compliance to 2023. I expect this to begin to be in place by 1 April 2020 at the latest; and
• Submit to JAQU a Full Business Case by 18 September 2020 at the latest.

‘In the event that your preferred option of a medium CAZ C with additional measures, which could be either a diesel ban or small area CAZ D, is either not deliverable or is shown through further modelling to not deliver compliance in the shortest possible time, I expect you to pursue an alternative option for compliance, including a medium size class D CAZ.’

Covid-19 impact
It is important to note that having received the Government Direction and letter from the Rt. Hon Rebecca Pow MP on the 13th March 2020, the situation regarding COVID-19 escalated and further Government advice was subsequently provided.

In continuing discussions with JAQU throughout this period, Bristol City Council continued to assess the situation and monitor the impacts of COVID-19. During this time JAQU issued a statement from the Joint Heads of Department stating that no Clean Air Zones will be implemented before January 2021 in recognition of the challenges and unknown entities that the situation presented.

Despite the challenges that lockdown (which commenced on the 23 March 2020) presented, council officers made significant progress in continuing with the additional required modelling and technical assessments as set out in the letter from Minister Pow on the 13th March 2020. These were all submitted in line with the requirements placed upon us.

Following the submission of the required information and subsequent discussions with JAQU officers, the Council was issued with a new Direction on 20 August 2020 which requires the Council to:

Implement the local plan for nitrogen dioxide (NO2) compliance, specifying a Medium Charging Clean Air Zone Class C with small Charging Clean Air Zone Class D and additional measures, subject to provision of further evidence to be submitted

4.—(1) The authority must take steps to implement the local plan for NO2 compliance for the areas for which it is responsible.
(2) The authority must ensure that the local plan for NO2 compliance is implemented so that—
(a) compliance with the legal limit value for nitrogen dioxide is achieved in the shortest possible time, and by 2023 at the latest;
(b) exposure to levels above the legal limit for nitrogen dioxide are reduced as quickly as possible.

Duty to submit additional documentation

5.—(1) The authority must submit to the Secretary of State further options appraisal (including transport and air quality modelling) by 4 December 2020 at the latest, in order to provide assurance that the local plan for NO2 compliance will deliver compliance in the shortest possible time and by 2023 at the latest.

(2) The revised air quality modelling provided under paragraph (1) must demonstrate the green recovery measures and the applicable class of charging Clean Air Zone, in the medium and small zone, appropriate behavioural assumptions, and what (if any) additional measures, or adjustments to the local plan for NO2 compliance would need to be implemented by the authority to deliver compliance in the shortest possible time.

Duty to prepare and submit a full business cases

6.—(1) The authority must as part of its feasibility study continue with the work necessary to prepare a full business case for the area for which it is responsible.
(2) The full business case must be submitted to the Secretary of State as soon as possible and by 26 February 2021 at the latest.

Submission of the full business case to the Secretary of State

8. When submitting its full business case, the authority must provide the Secretary of State with the following information—
(a) the date on which it is proposed that the scheme identified in the full business case will start to be implemented, which must be by 29 October 2021 at the latest;

There is a requirement to have undergone the necessary procurement activities, to have installed infrastructure and be ready to go live with the CAZ from this date. In order to achieve this, the FBC must be submitted well in advance to allow for the continued dialogue with JAQU to take place, agreeing the way forward at every gateway review. The Direction is as a direct result of intense engagement with JAQU which is continuing in order to satisfy both parties that the Bristol Clean Air Zone is the right strategic fit for Bristol that will meet the legal requirements.

Post COVID-19 emerging situation

The Outline Business Case (OBC) that was submitted to JAQU in November 2019 included a set of proposals that offered the most appropriate measures for Bristol at that time and that were aligned with the Mayor’s strategic vision for the future development and direction of the city. However, the situation changed dramatically, without warning, due to the global pandemic caused by COVID-19.

The council has reviewed the impact of the pandemic and the inevitable change to the project baseline that this presents, the baseline which included previously modelled results and data analysis having been set in 2018 has now dramatically changed. The methodologies, modelling and assumptions that have been used up until the outbreak of COVID-19 are now outdated and do not take into account the effects of COVID-19 on our city. As such, consideration was given to how we move forward in a way that delivers clean air and improved health benefits to Bristol, recognising the unprecedented times we are in while also seeking to protect and enhance our economy.
In July 2020 the Government announced funding of £2bn to create ‘a new era’ for cycling and walking. It has been a long-held ambition for Bristol to create more liveable neighbourhoods that are free from traffic congestion and pollution, giving more space to residents and businesses and improving walking and cycling journeys. This ambition has become more important than ever in the context of Covid-19.

Officers have been in continual dialogue with JAQU to consider the most suitable manner in which Bristol can respond to the pandemic and take into account the new environment. Our bold plans to reallocate through traffic away from the city centre in response to Covid-19 is testament to the level of ambition we hold in transforming how people get around the city. In a short space of time and with the help of enabling legislation from Government, we have made some radical changes to some of the most polluting areas in Bristol. We closed Baldwin Street to help insulate and promote local bus services and ensure that residents are encouraged to adopt public transport and active modes of travel. Other measures include the closure of Bristol Bridge to through traffic other than buses, motorbikes, taxis and cyclists, new segregated cycle routes on Park Row, Upper Maudlin St and Lewin’s Mead. Access to the central hospital and Bristol University has also been improved with new segregated cycle routes and our plans for the autumn and winter will expand the area of focus to our local neighbourhoods, improving liability and air quality in several neighbourhoods while protecting local businesses.

The new proposals seek to build on these measures and develop further schemes to ensure we are successful in improving air quality on our most polluted corridors, making schemes permanent or extended as required.

The fact that we now need to take account of the radical changes that have occurred as a result of the pandemic inevitably means that the baseline data has changed as a result of changed working patterns, altered and travel behaviours; these changes must now be factored into the evidence base for future decision making. In order to do this, we agreed a new three-staged modelling approach with JAQU to update the baseline and provide the most current evidence to make decisions.

A methodology has been adopted that carries out modelling and sensitivity testing (reports that test the modelling results against different scenarios) as well as capturing real time information from existing air quality monitoring units and the automatic number plate recognition (ANPR) data. As an essential element of the proposals, additional new air quality monitoring units will be installed to capture as much accurate and real time data as possible.

This new methodology is largely due to an emerging change in air quality readings. During the periods of lockdown and post lockdown, air quality and traffic levels were continuously monitored at our five continuous sites and 100 diffusion tubes sites. While the improvement in air quality during this time was a welcome effect of the lockdown, in order to define an area as being compliant (within the legal limits set), the air quality is measured using an annual measurement: annual mean. Therefore, it is not possible to officially state that Bristol had become air quality compliant at that time.

There is evidence that air quality improved during the first lockdown as movement around the city reduced and travel behaviour changed. The Council’s preferred approach is to build on these behaviour changes and to encourage citizens and businesses to sustain the recent, less polluting travel behaviour that had been seen during the pandemic, without needing to implement a charging CAZ. The Council has supported this with improvements to roads around the city that make it easier to walk, cycle or use public transport. On September 1st 2020, the Mayor issued a call to action.
during a Council Cabinet Meeting, stressing that in order for there to be a reasonable chance of avoiding a charging zone, people would need to modify their travel behaviour. He said:

*We need to use this opportunity for people to transition onto public transport. We can have conversations with our bus providers to facilitate that and make sure people can do it in a safe way. But, that transition also helps us build the longer-term case for the mass transit system that we’re also bringing through. This really is a call to action. This is not something that the council can deliver alone; this is about us as a city collectively engaging in behaviour change in the way we move around. If we collectively engage in that behaviour change, we can get ourselves to compliance in the shortest possible time in a way that does not further compound the economic woes faced by households and businesses in Bristol.*

Whilst we cannot say from the data being gathered that traffic levels and associated pollution levels will definitely return to pre COVID levels, we also don’t have sufficient evidence to say otherwise. This data has now been submitted and will be reviewed by the science team at JAQU as part of a full technical review of all the data submitted. JAQU will subsequently conclude what measures Bristol are required to implement.

A further 6-week consultation took place from October 8th 2020. This was extended due to the impact of Covid-19 to the 13th December 2020. There were 2 options consulted on: a dual zone consisting of a Medium CAZ C (charging all commercial non-compliant vehicles) with a small CAZ D (charging all non-compliant vehicles including private cars) and a standalone option of a small CAZ D. This data alongside a revised Distributional Equalities Impact Assessment will all be used to prepare this EqIA.

**Step 2: What information do we have?**

<table>
<thead>
<tr>
<th>2.1 What data or evidence is there which tells us who is, or could be affected?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broadly, there are three types of impact that could arise depending on the decision taken in relation to the FBC:</td>
</tr>
<tr>
<td>1. Impact on public health from reducing air pollution</td>
</tr>
<tr>
<td>2. Impact on individuals through charging; impact on businesses through enforcement of the CAZ if a CAZ is implemented</td>
</tr>
<tr>
<td>3. Impact of additional measures aimed at improving and encouraging sustainable transport options for the residents and visitors to Bristol.</td>
</tr>
</tbody>
</table>

**Impact of Reducing Air Pollution**

We manage air pollution levels in order to protect public health. Reducing air pollution leads to a reduction in both morbidity and mortality. The most recent analysis commissioned by Bristol City Council – based on evidence from the Committee on the Medical Effects of Air Pollutants (COMEAP) – calculated that around 300 deaths each year in the City of Bristol can be attributed to exposure to both nitrogen dioxide and fine particulate matter.

Significant parts of the city are affected by air pollution in excess of the UK and EU standards for nitrogen dioxide – this is called the Air Quality Management Area (AQMA). This covers the city centre, central residential areas and main roads. Approximately 100,000 people live in the city centre and many more study, work and travel through this area.
Air pollution affects the whole of the city and health impacts from poor air quality will be experienced outside the AQMA.

The figure below shows the fraction of deaths (%) attributable to nitrogen dioxide in Bristol wards in 2013.

Impacts of Charging Zones if implemented

London has introduced an Ultra-Low Emissions Zone (ULEZ) which charges most vehicle types including cars, taxis, buses, motorcycles and vans. This has been in place since April 2019 and covers the same area that London’s pre-existing congestion charging zone covered. However, as it has only been in place for a short time, we cannot reliably assess its full impact.

Aside from London’s ULEZ, no other UK city has introduced a clean air zone with charges at the time of writing. Therefore, we do not have direct experience of the impact. However, it is reasonable to assume that people from equality groups and/or from low income groups that are required to pay a charge may be negatively affected, and this may have a detrimental impact on life chances and health. This is further explored in section three of this report.

In 2016, a government assessment of the impact of Clean Air Zones was undertaken in five of the cities that were directed to implement CAZs, the findings of which can be read here:

https://consult.defra.gov.uk/airquality/implementation-of-
Quality of Life Survey

In relation to the proportion of people who say air pollution prevents them leaving their house when they want to, the council’s Quality of Life Survey 2019 / 20 shows there are clear differences between both equality groups and where people live. However, people’s perception of air quality in their neighbourhood is unlikely to be closely related to NO2 air quality measurements as it will likely be governed by a range of factors including proximity to busy roads, frequency of neighbourhood bonfires and solid fuel burning and proximity to industrial processes.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>% for whom air pollution prevents them from leaving their home when they want to</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Equalities Group</strong></td>
<td><strong>Percentage</strong></td>
</tr>
<tr>
<td>16 to 24 years</td>
<td>8.1%</td>
</tr>
<tr>
<td>50 years and older</td>
<td>4.0%</td>
</tr>
<tr>
<td>65 years and older</td>
<td>4.4%</td>
</tr>
<tr>
<td>Female</td>
<td>5.2%</td>
</tr>
<tr>
<td>Male</td>
<td>6.2%</td>
</tr>
<tr>
<td>Black Asian and minority ethnicity</td>
<td>5.3%</td>
</tr>
<tr>
<td>White minority ethnicity</td>
<td>7.9%</td>
</tr>
<tr>
<td>Single Parent</td>
<td>4.7%</td>
</tr>
<tr>
<td>Carer</td>
<td>7.2%</td>
</tr>
<tr>
<td>Disabled</td>
<td>9.9%</td>
</tr>
<tr>
<td>Lesbian Gay or Bisexual)</td>
<td>8.2%</td>
</tr>
<tr>
<td>No religion or faith</td>
<td>4.9%</td>
</tr>
<tr>
<td>Religion or faith</td>
<td>5.1%</td>
</tr>
<tr>
<td>Deprivation (People living in 10% most deprived areas)</td>
<td>6.8%</td>
</tr>
<tr>
<td>Bristol Average</td>
<td>5.8% (increase from 4.6% in 2018-19)</td>
</tr>
</tbody>
</table>

*Source: Quality of Life in Bristol survey 2019-20*

<table>
<thead>
<tr>
<th>Indicator</th>
<th>% for whom air pollution prevents them from leaving their home when they want to</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ward Name</strong></td>
<td><strong>Percentage</strong></td>
</tr>
<tr>
<td>Ashley</td>
<td>8.3%</td>
</tr>
<tr>
<td>Avonmouth &amp; Lawrence Weston</td>
<td>3.4%</td>
</tr>
<tr>
<td>Bedminster</td>
<td>4.2%</td>
</tr>
<tr>
<td>Bishopston &amp; Ashley Down</td>
<td>12.9%</td>
</tr>
<tr>
<td>Bishopsworth</td>
<td>4.8%</td>
</tr>
<tr>
<td>Brislington East</td>
<td>2.0%</td>
</tr>
<tr>
<td>Brislington West</td>
<td>3.7%</td>
</tr>
<tr>
<td>Central</td>
<td>7.4%</td>
</tr>
<tr>
<td>Clifton</td>
<td>5.1%</td>
</tr>
<tr>
<td>Clifton Down</td>
<td>2.9%</td>
</tr>
<tr>
<td>Cotham</td>
<td>2.2%</td>
</tr>
<tr>
<td>Easton</td>
<td>7.3%</td>
</tr>
</tbody>
</table>
Eastville 5.4%
Filwood 6.2%
Frome Vale 7.1%
Hartcliffe & Worthywood 5.6%
Henbury & Brentry 4.6%
Hengrove & Whitchurch Park 2.1%
Hillfields 2.0%
Horfield 7.6%
Hotwells & Harbourside 8.8%
Knowle 5.4%
Lawrence Hill 13.2%
Lockleaze 9.7%
Redland 6.1%
Southmead 4.5%
Southville 5.8%
St George Central 7.3%
St George Troopers Hill 0.45%
St George West 6.75%
Stockwood 3.6%
Stoke Bishop 3.6%
Westbury-on-Trym & Henleaze 6.4%
Windmill Hill 4.4%

*Source: Quality of Life in Bristol survey 2019-20*

### 2.2 Who is missing? Are there any gaps in the data?

A second consultation ran from the 8th Oct 2020 to 13th December 2020. This exercise presented two options to the public, both designed to achieve compliance with legal NO2 limits in the shortest possible time. The options were:
- Option 1: Small area CAZ D
- Option 2: Clean Air Zone C (private cars not charged) with a smaller inner zone of a CAZ D (private cars charged)

The consultation also asked respondents how concerned they are about the health impacts of poor air quality in Bristol and it sought feedback from citizens, businesses and other stakeholders on the two options. Due to the limitations caused by Covid-19, drop-in sessions and face to face activities were hugely reduced. To boost response rates and to target low-responding parts of Bristol, 20,000 paper surveys were delivered direct to addresses in areas which have historically low response rates to consultations and high levels of deprivation and monitored the response rate during the engagement. We then hand delivered a further 2000 in areas where the response rate was low in these deprived wards e.g. Lawrence Hill and Lockleaze. We also offered phone appointments, virtual chats, postal address and an email address to everyone (not just businesses) to ensure that there were high- and low-tech ways of contacting the council so reducing barriers for those who don’t have online access. The team also contacted all the equality and faith groups by email, asking them to reach out to communities and help their community get involved and CDT were also asked to support the consultation.

The second consultation received responses from a wide range of groups and residents. Overall, the survey received 4,225 responses, of which 3,760 (89%) were self-completed online and 465 (11%) were self-completed using paper surveys.
3,431 responses (81%) were received from postcodes within the Bristol City Council area, 214 (5%) responses were from South Gloucestershire, 105 (2%) were from North Somerset, and 37 (1%) were from Bath & North East Somerset (B&NES). 49 (1%) responses were from further afield, 23 (less than 1%) respondents provided unidentifiable postcodes, and 366 (9%) did not provide a postcode.

Deprivation - The home location of respondents in Bristol was compared with nationally published information on levels of deprivation across the city to review if the responses received include a cross-section of people living in more deprived and less deprived areas. The comparison looked at levels of deprivation in 10 bands (known as ‘deciles’) from decile 1 (most deprived) to decile 10 (least deprived). The response rate from the most deprived parts of Bristol (deciles 1, 2, 3 and 4) is less than the proportion of citizens living in those areas. The proportion of respondents in deprivation decile 5 closely matches the proportion of Bristol citizens living in deprivation decile 5. Response rates from the least deprived parts of the city (deciles 7 to 10) are higher than the proportion of Bristol citizens living in those areas.

Although, the more deprived areas are under-represented as a proportion of the population, the large number of responses in all deciles enables meaningful comparison of the views of people living in the most deprived and least deprived areas.

Age - The most common age of respondents was 35-44 years (23%), followed by 25-34 (20%) and 45-54 (19%). The proportion of responses in the age categories 35-44, 45-54, 55-64 and 65-74 were higher than these age groups’ proportion of the population in Bristol. Survey responses from children (under 18), young people aged 18-24 and people aged 85 and older were underrepresented. In each age category, the proportions of all respondents and Bristol respondents were very similar.

Sex - 41% of all responses were from women and 58% were from men. 0.4% was from people who identified as ‘other’ (0.6% for Bristol respondents).

Disability - The proportion of disabled respondents (8%) matched the proportion of disabled people living in Bristol. The proportion of disabled respondents living in Bristol was slightly lower (7%).

The proportions of White British respondents (85%) and White British respondents from Bristol (84%) are higher than the proportion of White Bristol people in the Bristol population. The response rates from White Irish (2%) and Other White respondents (8%) were also higher than the proportion of these groups living in Bristol.

The responses rate from Gypsy / Roma / Traveller people (0.1%) closely matches proportion of these citizens in the Bristol population.

All other Black, Asian and Minority Ethnic respondents were under-represented in the response rates compared to the proportion of BAME citizens living in Bristol. However, we were unable to carry out many of the engagement methods we have used in previous consultations due to COVID-19 restrictions.

Religion/faith - People with no religion (67% of respondents and 70% of Bristol respondents) responded in higher proportions that people of no religion in Bristol’s population. Christians (27%), Muslims (0.8%), Hindus (0.4%) and Sikhs (0.2%) were under-represented compared to the
proportions of these faiths living in Bristol. The proportion of Jewish respondents (0.4%) was higher than the Bristol population, as were Buddhists (1%) and people of other faith (2%).

Briefings were held with several groups including Business West (with 55 businesses joining), University Hospital Bristol NHS Trust, Southmead Hospital, University of Bristol, University of West of England, Bristol Workplace Travel Network, waste contractors, and neighbouring councils. We also contacted 1,385 businesses about the consultation.

Other activities include an online campaign, radio adverts and live reads (Ujima and BCFM), adverts in hyperlocal publications and newsletters, toolkit including suggested social posts, press release and newsletter content to key stakeholders including councillors.

### 2.3 How have we involved, or will we involve, communities and groups that could be affected?

As before, a full consultation programme was designed and planned to ensure that people in the West of England region understood the issues surrounding air quality as well as the potential solutions.

Under normal circumstances the engagement process would have been managed in a different way. It would normally entail face to face meetings and door knocking shifts where the team would visit on each business, speak to the relevant person, give them physical copies of the information and guide them through the consultation on an iPad; as with the first consultation. Due to Covid-19 and the restrictions at the time, all the engagement work was carried out remotely via email, telephone and video conferencing.

The Transport Engagement and Active Travel team led on the business engagement element of the Clear Air Zone (CAZ) second consultation, due to the expertise within the team. The Business Engagement Officers work with businesses to encourage investment in sustainable travel modes both for their fleets and for their employees by providing expert advice, free support and signposting them to the key offers. The advice and support range from match funded grants, electric bike loans, and workplace travel audits, to staff engagement events, personalised travel planning and bike maintenance sessions.

The Travel Advisors within the team led on the phone calls and emails as instructed by the Business Engagement Officers. The team sent initial emails explaining the CAZ consultation and detailing the current sustainable travel support. Officers sent 1,005 businesses one or more emails with information about the Traffic Clean Air Zone, a call to action to complete the consultation and information about the Access West support. The Travel Advisors then telephoned all business where a response had not been obtained. This enabled officers to reach more businesses as the initial data gathering exercise often returned general email addresses. By telephoning the team could often get to speak to the correct person or obtain an email address for them.

As part of this work the Business Engagement Officers also held a range of virtual meetings with the larger employers in the city to delve a little deeper into the details of CAZ and what that will mean for their organisations. The officers answered questions, talked through any concerns and have agreed to continue these meetings to provide ongoing support whilst the details of the CAZ are developed.
Overall, the team put in over 650 hours of officer time supporting businesses during the consultation. The officers have since supported on the paper copy data input and the coding of the free text analysis which contributed to another 100 hours of officer time.

Briefings were held with several groups including Business West (with 55 businesses joining), University Hospital Bristol NHS Trust, Southmead Hospital, University of Bristol, University of West of England, Bristol Workplace Travel Network, waste contractors, and neighbouring councils. We also contacted 1,385 businesses.

**Step 3: Who might the proposal impact?**

### 3.1 Do the proposed options have any potentially adverse impacts on people with protected characteristics?

The full modelling of the impact of a small CAZ D was carried out as part of the wider modelling work and analysis that took place as a result of the new Direction received on 20 June 2020 and was reported to JAQU as requested.

Air quality improves for most residents across all the options assessed. Distributional impacts of air quality changes are also broadly even, though exceptions again exist, with impacts for some combinations of options and demographic groups not being evenly distributed.

Accessibility impacts are likely to be mixed. Trip-making propensity impacts are evenly distributed in comparison with population distributions but are most heavily on the middle and lower quintiles of income deprived areas, areas with the most children and those that have the lowest proportions of females. Impacts are disproportionately felt by the higher quintiles of the concentration of ethnic minorities, middle quintiles for disabled residents and more evenly for older people. TUBA time benefits are also used as a proxy for accessibility, these are largely beneficial and the distributional impact broadly even.

Affordability impacts are likely to be negative across the socio-economic and business groups that directly interact with CAZ area, especially where there are charges for non-compliant cars or any restrictions on specific movements. Impacts are disproportionately felt by the second most and least income deprived communities.

Impacts also fall on businesses operating non-compliant LGVs and HGVs who are either based in the CAZ area or based elsewhere but operate within central Bristol and hence also interact with the CAZ area. Using TUBA vehicle operating cost benefits as a proxy for affordability indicates that the impacts are generally positive across the city as a whole, and distributional assessment of this impact is reasonably even, with a slightly greater proportion in middle-income areas than either the most or least deprived areas.

There will be direct impacts on the costs of operation for LGV/HGV reliant businesses, where their operations interact with the CAZ area.

Trips by non-compliant LGV/HGV reliant businesses are reasonably spread around the city.

The extent of impact on non-compliant car owners varies with the extent of users’ trip-making requirements associated with the class ‘D’ charging measures in the CAZ area. Distribution of non-
compliant car ownership is slightly skewed to lower income groups. However, the (in)ability of households to react to restrictions is unevenly felt by lower income groups (for instance, there are fewer multi-car households that could potentially use a compliant vehicle).

* The TUBA software undertakes the economic appraisal of transport schemes in accordance with the Department for Transport’s cost benefit analysis guidance.

3.2 Can these impacts be mitigated or justified? If so, how?

Bristol City Council is committed to delivering an option that complies with the legal tests while at the same time seeking to put in place measures that will mitigate any disproportionate adverse impact for people on the basis of their protected characteristics, and for low income households. To develop Bristol’s proposed option, officers from the Council have been in regular contact with officials from JAQU since 2018, holding weekly catch up calls. Initially the Council developed a shortlist of options in line with JAQU assessment criteria reported to council in March 2018. The subsequent assessment of the options produced 2 ‘preferred options’ at the time based on the year they would be likely to reach compliance.

Initial modelling showed the options having different compliance dates; 2030 for the Medium CAZ D (charging all non-compliant modes) and 2024 for a Small Area Diesel Car Ban. The first option raised concerns about time to compliance and both options raised concerns about the impact on some equalities groups (in particular disabled people) and low income households, so further consideration was given to options that would meet the terms of the directive and legal tests, while at the same time mitigating the impact.

This led to the development of the Hybrid option and more recently this has been revised (20th August 2020) to a Direction that includes a Medium CAZ C and small CAZ D (unless evidence shows that a charging CAZ is no longer required to meet legal compliance). The Hybrid Option with a small diesel ban area is no longer to be pursued. We have been working with JAQU and have developed modelling to show the impact of the Street Space and Fast Track Measures on the CAZ plans. Bristol are currently directed to implement a Medium CAZ C with an inner, Small CAZ D. Evidence was recently provided to JAQU, showing that a Medium CAZ C is no longer needed to reach compliance in the shortest possible time and that, therefore, only a small CAZ D is needed. This evidence is currently being assessed by JAQU. Once assessed, Ministers will take a view on the measures that is most effective, fair, good value and will deliver the required improvements in air quality in the shortest time possible. Although adverse impacts upon protected groups likely remain if a charging CAZ is implemented, these will be mitigated by the following measures:

The key proposed mitigations for the CAZ (charging zone) from an equalities perspective are:

a) A loan and grant scheme, prioritised for lower income households, disabled people, and local businesses to maintain their mobility. This replaces the scrappage scheme that was originally proposed. It was removed following consultation and feedback from Scrutiny and stakeholders. Following a review, it is deemed that the loan and grant scheme provides wider benefits and removes the need to scrap newer vehicles unnecessarily, it also includes the ability to support adaptations to vehicles to make them compliant which the scrappage scheme didn’t provide adequate support for.

b) Traffic signal management in higher polluted corridors

c) Exemptions are still being considered following the consultation; these are likely to include but are not limited to concessions for low income households and those drivers with the registered disabled vehicle class.

d) Mobility credits will be made available along with support for businesses and residents to switch modes from the private car to more sustainable modes such as cycling.
Exemptions are still being worked up in light of the recent changes noted above and will be balanced against the need to achieve legal compliance in the shortest possible time. If too many exemptions are included, this could impact the compliance date. In turn, this would weaken the positive impact of the proposal on groups with protected characteristics.

Due to the legal timeframes set in place for this project, we may not be able to offer as many exemptions and concessions as we would have liked as we are legally directed to ensure compliance in the shortest possible time. We are aware that there may be potential issues for our most vulnerable residents that could arise as a result of the scheme being implemented and will continue to consider all possible impacts. We will work with local residents to best understand their issues. This is caveated with the need to meet legal timescales and make sure we are improving air quality. We may not be able to offer all exemptions, but we will continually review the mitigation measures offered and make sure what we’re offering are the right measures for all affected. This is all going to be reviewed with a final list being included in the full business case in February 2021.

3.3 Does the proposal create any benefits for people with protected characteristics?

Considering air pollution in relation to protected characteristics:
- Race: Black, Asian and minority ethic people make up a larger proportion of the population living in the more polluted areas – the AQMA - than the city as a whole, and therefore it is reasonable to assume that they experience greater exposure to air pollution. Successful interventions to improve air quality should contribute to improving the citywide health of Black, Asian and minority ethnic people.
• Age: some age groups – the very young and older people – are more likely to be vulnerable to the effects of air pollution. As a result, general improvements will benefit these age groups more. Their relative geographical distribution is not strongly aligned to polluted areas or potential charging zones.
• Disability: some disabled people, for example those with breathing difficulties are more vulnerable to air pollution.
• We do not have evidence to indicate that people are differentially exposed or vulnerable to air pollution on the basis of their: marriage / civil partnership; gender reassignment; or religion and belief.

Our conclusion therefore is that improving air quality to meet legal compliance for nitrogen dioxide
is likely to be beneficial to the whole population with more positive impacts on Black, Asian and minority ethnic people, children, older people and people with breathing conditions.

3.4 Can they be maximised? If so, how?
The benefits can be maximised by achieving legal compliance and reducing exposure in the shortest possible time. Consideration should also be given as to whether, in achieving legal compliance in the shortest possible time, wider improvements in air quality can be delivered in areas that are already compliant but still experience health impacts from air pollution.

Step 4: So what?

4.1 How has the equality impact assessment informed or changed the proposal?
- The preferred outcome was to implement a range of other measures meaning that legal compliance would be met without a charging CAZ. As noted above, following the recent submission of further evidence to JAQU, if a scheme is needed the preference would be for a small area CAZ D.
- In identifying potential mitigation targets, it has noted potential exemptions for groups with protected characteristics. For example, the potential exemptions for drivers with a registered disabled vehicle class, and exemptions from both charging zones for community and home-to-school transport vehicles.
- In identifying potential mitigation targets, it has endorsed the inclusion of mitigation measures, such as a loan and grant scheme to enable people with protected characteristics and low-income households with polluting vehicles to enable alternative transport solutions under the scheme.

4.2 What actions have been identified going forward?
The key mitigation measures, exemptions for the proposed options are being developed to ensure the disproportionate impact on low income households and people with protected characteristics is effectively managed. This includes ongoing engagement with communities and key stakeholders across Bristol to raise awareness of the impacts in order to plan around them, draw attention to air quality benefits for the city, and raise awareness of mitigation of adverse impacts by the council.

This future engagement plan is currently being updated following the recent consultation. This will include working with equalities stakeholders to target groups that were underrepresented in previous engagement and consultation.

4.3 How will the impact of your proposal and actions be measured moving forward?
As part of the full business case, an Evaluation & Monitoring Plan will be drawn up. This lays out how the project’s benefits will be monitored through the sensor network in order to show that air pollution levels have reached legal compliance in the directed timeframe. Through the network of sensors, the council will be able to monitor air quality improvements by area, and evaluate the degree to which lower income neighbourhoods, and areas with a higher proportion of residents with protected characteristics, are improving compared to the mean. It is expected that the majority of this work will be carried out by the sustainability team. Given all the recent changes, this is currently being re-drafted and will be submitted as part of the FBC.

The monitoring of the proposal’s financial and accessibility impacts upon groups with protected characteristics are difficult to monitor independently, as the future Quality of Life Survey results
on accessibility and transport will be affected by a range of inter-dependent factors outside the scope of this project. This EqIA will be submitted to Cabinet alongside the Full Business Case, which will both then submitted to JAQU in February 2021.

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