



Birmingham City Council

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Our Ref: SM.hn.June1517.Gove

The Rt. Hon. Michael Gove MP
Secretary of State for Environment,
Department for Environment, Food and Rural Affairs
Nobel House
17 Smith Square
London
SW1P 3JR

15 June 2017

Dear Mr Gove

The City Council welcomes the opportunity to respond to the consultation on the draft of the updated UK Air Quality Plan for tackling nitrogen dioxide. I have enclosed our responses to the specific consultations. Action to tackle air quality will contribute towards achieving positive outcomes for the Council's key priorities around Children, Housing, Jobs & Skills and Health – in Birmingham alone analysis suggests that air pollution is responsible for around 900 premature deaths every year and affects the health of our most vulnerable people resulting in reduced life outcomes for people of all ages.

Air pollution has a cradle to grave impact and action to improve air quality will contribute to improving the life journey of many of our children and citizens. The city's priorities require action on three key drivers of change; connectivity, inclusivity and sustainability and our emerging air quality programme will be shaped to ensure that a Clean Air Zone and any additional measures deliver the desired levels of benefit.

The Council acknowledges that the requirement to publish this draft plan during the General Election period and the problems this creates. However, the Council is very disappointed with the draft Plan which is weaker than the previous version published in 2015. In its current form it will fail to tackle the major health issue of air quality and also represents a missed opportunity for the UK to show that it is a world leader in tackling air pollution and developing innovative technologies and completely fails to align the air quality agenda with the Government's own Industrial Strategy.

Continued

The huge potential public health gains must be the route to inspiring action from all sectors and all individuals rather than simply compliance with targets and legislation. Progress can only be achieved in the shortest possible time if the Government is prepared to take the appropriate leadership, employs the powers at its disposal to take the essential national actions, such as a diesel scrappage and Vehicle Excise Duty changes and makes the appropriate levels of funding available to local authorities in a way which provides confidence to develop and implement the innovative local strategies the Government is outlining in the draft Plan.

The Government's decision to identify charging Clean Air Zones as a 'last resort' when the Government's own evidence suggests that they are the most effective large-scale intervention is a cause for concern. This approach creates a significant risk for local authorities to waste limited and valuable resources which would be better spent on developing the most appropriate solutions to achieve compliance in the shortest possible time. The plan provides no evidence on the efficacy of non-charging Clean Air Zones and questions how the Government could promote this as a preferred course of action. The UK needs a new Clean Air Act to ensure and preserve our rights in law to breathe clean air.

I hope that our comments and feedback are useful and that the Government take on board the advice from authorities such as Birmingham who have now been working with Defra and DfT for the last 18 months to develop proposals for a Clean Air Zone. Ahead of the outputs from the Feasibility Studies we know that addressing air quality will need bold, resolute and collaborative action nationally and locally. A plan which does not set out the appropriate strategy and commitment will not deliver what we need it to and it will further delay progress on action on this major health issue whilst wasting more and more scarce resource. A poor plan is already likely to result in yet further legal action.

Birmingham is committed to addressing the air quality issue as we know what the benefits for our children, citizens and businesses will be if we get this right – better opportunities and life outcomes and the development of a sustainable inclusive economy where we can take advantage of the economic opportunities that innovation around this agenda will create.

We want to work in partnership with the Government but to do so the plan must be clear and fair about what is required and by whom. We look forward to seeing the final version of the plan in July and hope that the Government responds to our concerns.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Stella Manzie', written in a cursive style.

Stella Manzie
Interim Chief Executive

Draft UK Air Quality Plan for tackling nitrogen dioxide - Birmingham City Council Response

Question 1

How satisfied are you that the proposed measures set out in this consultation will address the problem of nitrogen dioxide as quickly as possible?

- 1.1. The Council believes that the draft 2017 air quality plan is inadequate and does not contain the right mix of measures at the local or national level, provide sufficient detail or the level of commitment required to achieve air quality in the shortest possible time. In short the plan simply fails to reflect the evidence provided in the accompanying technical appendix and does not commit to practical measures to tackle illegal levels of NO₂.
- 1.2 The plan also does not reflect the wider measures which will be required regionally and any potential impacts of displacement or how this is to be mitigated or avoided.

Clean Air Zones

- 1.3 There is concern around the lack of information and clarity in the draft plan as to the detail of what local authorities will (or won't) be required to consider and be mandated to implement. Birmingham believes that it will still be required to implement a Clean Air Zone (CAZ); however, the plan is not explicit that this is the case.
- 1.4 The City Council accepts that there is a need to consider a range of options to demonstrate the most appropriate approach to addressing air quality in the shortest possible time and to demonstrate value for money. However, if the Government's own modelling suggests that compliance in Birmingham is unlikely without the introduction of a Class D CAZ then the final version of the plan should be clear and state this. Birmingham will need to consider implementation of this class of charging CAZ as one option within the development of proposals for achieving local compliance.
- 1.5 The Council believes that there needs to be openness on what measures are likely to be required. This will provide a better level of certainty to those who will be affected and will allow local authorities and stakeholders to start have conversations about the likely impact of a CAZ and help them to begin to plan to respond accordingly. The evidence from the CAZ feasibility study and business case will set out the most appropriate measures and the class of CAZ which will be required to address air quality problems as quickly as possible. The Government, will then require the Council to implement the identified measures.
- 1.6 The analysis in the Technical Report states that 'from the options considered, establishing CAZ (CAZ) is the most effective way to bring the UK into compliance with NO₂ concentration levels in the shortest possible time'. However, in its draft plan the Government also indicates that local authorities should consider alternative and innovative proposals for non-charging CAZ before considering a charging CAZ. Whilst the Technical Report demonstrates that that CAZ are the most effective policy

tool for the desired outcome of improving air quality, this is ultimately not clearly reflected in the draft plan. Additionally no assessment of the impact of introducing a non-charging CAZ is provided.

- 1.7 The lack of analysis available around the potential impact of non-charging CAZ is a concern given that the draft plan sets out that these are to be preferred. The final version of the plan should provide evidence of the Government's analysis and supporting guidance of what measures are most likely to achieve compliance in the absence of a charging CAZ.
- 1.8 As neither the UK government's draft 2017 AQP, the technical report or the final CAZ framework document which has also been published, identify any measures which will meet legal limits as quickly or quicker than the introduction of a charging CAZ, or provide any evidence of the impacts of non-charging CAZ, it seems likely that seeking to identify equally effective alternative measures will be a waste of valuable time and resources for Local Authorities. Furthermore, no methodology has been set out in the AQP, nor with any working groups with JAQU on how this could be robustly and consistently assessed by local authorities.

Additional National Actions

- 1.9 Since the initial discussions with Government in 2015, the Council has always been quite clear that there are a number of additional national actions required if Birmingham and other areas of the UK are to achieve compliance as quickly as possible. There is emerging recognition of this in the plan but the Council believes that it doesn't go far enough or provide the right level of commitment with regard to these additional national actions. Again the plan fails to use the evidence in the accompanying Technical Report.

Scrappage

- 1.10 In its response to the consultation on the draft Clean Air Zone Framework, the City Council called for greater action to reduce the use of diesel vehicles and suggested that these should be tackled through mechanisms such as changes to Vehicle Excise Duty and fuel tax changes as well as considering diesel scrappage schemes or further enhanced incentives to invest in ultra-low emission vehicles or the appropriate retro-fitting technologies.
- 1.11 The impacts of a scrappage scheme are explored in the Technical Report, but the draft Air Quality Plan is completely silent on this measure. The City Council believes that an effectively targeted scrappage scheme for those likely to be most adversely affected by the CAZ would offer value for money and should be considered. Our views as to how to target any funding are provided in response to question 3.
- 1.12 The draft 2017 AQP also fails to address national policies that are identified as contributing to the problem. In particular, despite identifying the role of the vehicle tax regime in worsening air quality by encouraging the increase of diesel vehicles, no measure has been proposed and the matter has been left to the Treasury to explore at a later date.

Retrofitting

- 1.13 Retrofitting will be a key response in order for fleet operators to ensure that their vehicles achieve compliance ahead of 2020 – this takes account of the potentially

prohibitive costs of upgrading to completely new vehicles and the uncertainties around the ability of the market to supply the number of new vehicles in such a short space of time. The cost of replacement with new Euro VI buses for vehicles operating in Birmingham city centre (approximately 60% of the fleet) has been estimated to be in the region of £177 million.

- 1.14 Discussions through the West Midlands Bus Alliance on how the bus fleet could be improved to Euro VI by 2020 have resulted in estimates that an additional 1100 retrofits would be required. The estimated cost of this would be around £22m for National Express West Midlands operated vehicles alone.
- 1.15 There is less information around the freight and logistics fleet in Birmingham city centre but data from recent Automatic Number Plate Recognition surveys suggests that the proportion of CAZ compliant diesel LGV and HGV vehicles currently entering the city centre is around 3% and 14% respectively.
- 1.16 The lack of a certified framework to test, validate and certify retrofitted vehicles is creating uncertainty for operators who are nervous to commit resources to a particular technology and this needs to be finalised and in place as a matter of urgency. There also remains uncertainty around the ability of retrofit technology supply chains to deliver the required number of retrofits within the identified timescales.

Ultra-Low Emission Vehicles

- 1.17 Measures to encourage a transition to Ultra Low Emission Vehicle fleets are welcome. Funding to support infrastructure and vehicle purchasing incentive schemes/scrappage should be targeted to those areas where fleet change is most critical to support achieving compliance and should avoid the need for further competitive funding exercises which are resource intensive and create uncertainty around developing clear and robust strategies for addressing air quality in the shortest possible time.
- 1.18 The plan is silent with regard to the challenges for the UK's national power networks of the growing demand for electric vehicles and how these are to be addressed in parallel. This is particularly relevant for businesses to operate potentially larger scale electric fleets, but where the local grid capacity would be prohibitive.

Raising Awareness

- 1.19 The draft plan completely underplays the value of Raising Awareness as part of action to tackle air quality. In contrast the technical report references the Sustainable Travel Town Projects and subsequent Local Sustainable Transport Fund initiatives and the positive outcomes they had in terms of reduced car use and related air quality improvements.
- 1.20 The impact of measures to address the impacts of air pollution through the promotion of sustainable forms of travel should receive greater attention in the plan. For example, it should sign post the recently published 'Air Quality - A Briefing for Directors of Public Health' document and include case studies around action being taken in the UK by cities to raise awareness of the impacts of air quality and action

that individuals and organisations can take through events such as the National Clean Air Day Campaign. Consideration to how this can be included in schools curriculums in key areas should be provided.

- 1.21 The plan also references the recently published Cycling & Walking Investment Strategy. The City Council requests that Government provides further funding to support the uptake of walking and cycling in cities with the most severe air quality issues. This should not simply focus on infrastructure but also funding for support programmes to work with businesses and communities.

National Taxi Licencing Conditions

- 1.22 The Council believes that the Government also needs to put in place national conditions for Hackney Carriages and Private Hire Vehicles. Birmingham's efforts to improve taxi standards are undermined current arrangements which allow a patchwork of licencing conditions across the country and allow taxis registered elsewhere, often with much lower conditions, to operate in other local authority areas.

Managing transport demand, changing behaviour and raising awareness.

- 1.23 Birmingham acknowledges that the challenge to address air quality will require different solutions depending on varying local circumstances. There is a strong focus in the national plan on measures that accelerating the transition to cleaner vehicles. We agree that investing in cleaner technology and taking steps to accelerate take-up is important.
- 1.24 The air quality challenge for Birmingham is linked to limited road capacity and high levels of transport demand. The plan therefore needs to also have a greater recognition of the importance that demand management and creating transport behaviour change has in addressing the air quality challenge.
- 1.25 The Government's analysis for the 2015 AQP identified that Birmingham would need to introduce a class C CAZ with a number of additional measures (including signing and rerouting changes, switching to different forms of transport (e.g. use of Park and Ride), road improvements, and infrastructure for alternative fuels (e.g. support for use of compressed natural gas (CNG)). The information in the draft 2017 AQP suggests that there is likely to be a requirement for further additional in support of the CAZ in Birmingham to achieve compliance in the shortest possible time.
- 1.26 In congested urban centres the following will be essential for improving air quality:
- Encouraging citizens to use public transport and/or active travel where possible (especially in peak periods of travel).
 - Improving public transport service and increasing public transport capacity.
 - Improving infrastructure and conditions for active travel.
 - Encouraging travel/transport in the off-peak where possible (especially freight deliveries).
 - Supporting freight consolidation where appropriate to reduce freight traffic in congested centres and working with freight operators to minimise failed deliveries

- 1.27 As part of the Feasibility Study the Council is undertaking analysis to demonstrate which interventions are likely to close the emissions compliance gap between the target of annual mean concentration levels of $40\mu\text{g}/\text{m}^3$ for NO_2 and the existing levels of exceedance identified as well as wider impacts on air pollution. The key objectives which the measures will need to be able to demonstrate alignment with are:
- Local growth and ambition
 - Accelerating transition to a low emission economy
 - Immediate action to improve air quality and health
 - Deliverability (Commercial, Financial, Management)
 - Equality and Acceptability

Focus and Value for Money

- 1.28 National action to improve air quality has become so focussed on being able to demonstrate that the UK achieves compliance with legislation, that the ultimate purpose of legislation (to protect the health of citizens) has somewhat been lost and is not apparent in the plan. The emphasis is on achieving compliance as soon as possible, however, the plan is also quite clear that value for money is a priority. However, this also needs to be tackled in a more holistic manner, recognising that attainment of the Air Quality Objectives does not remove the health burden from air pollution.
- 1.29 A small number of Birmingham's local population live in areas that are at or exceed the compliance threshold ($40\mu\text{g}/\text{m}^3$), yet over half live in areas just $10\mu\text{g}/\text{m}^3$ below this. When assessed by deprivation decline, estimates suggest 75% of the population in the most deprived areas are exposed to levels of air pollution just below the threshold, while people in the least deprived are exposed to significantly lower levels.
- 1.30 The World Health Organisation and Public Health England analysis indicates each $10\mu\text{g}/\text{m}^3$ reduction has a major impact on the number of attributable deaths. The Prime Minister has indicated that action to address air quality could reduce deaths attributable to air pollution by 2030 if the national targets are met. However, simply meeting the compliance threshold would still leave Birmingham far off air pollution levels that can achieve this reduction.
- 1.31 In developing a wider programme to address air quality the Council is of the view that achieving compliance is not the only aim and that a wider, longer term ambition to tackle air quality is required.
- 1.32 The Committee on the Medical Effects of Air Pollutants ('COMEAP') has declared there are no safe limits for $\text{PM}_{2.5}$, whilst health impacts occur below the AQOs for NO_2 , and research suggests that:
- Every $10\mu\text{g}/\text{m}^3$ increase in $\text{PM}_{2.5}$ is associated with a 6% increase in all-cause mortality
 - Every $10\mu\text{g}/\text{m}^3$ increase in NO_x is associated with a 2.5% increase in all-cause mortality

It has been estimated that in Birmingham this equates to:

- PM2.5: 520 deaths in 2010 (PHE)
- 6.4% deaths attributable to this form of anthropogenic air pollution

- NO2: 371 deaths in 2011 (Ricardo – AEA)
- Range of 2.9% to 8.7% deaths attributable to NO2 alone (independent of effect with PM2.5)

- 1.33 In terms of local impact this gives a combined effect of in the region of some 900 deaths per year, over half that due to tobacco based on existing analysis.
- 1.34 Whilst Nitrogen oxides, principally NO2 form the basis of action proposed in the draft plan, Particles, including PM2.5 are linked to mortality in the Public Health Outcomes Framework.
- 1.35 In fact it is understood that the health impacts of particulate matter are greater than nitrogen dioxide
- 1.36 Despite this, the draft plan only considers the value of health improvements due to a reduction of NO2 expected from measures and makes no attempt to quantify benefits from reductions of PM10/PM2.5. Not only does this undervalue the potential overall benefit that the actions will have for health, it also shows that Government are at risk of failing to develop a robust coherent and holistic approach to improving air quality that addresses wider responsibilities to improve other pollutants.
- 1.37 This is concerning as it is apparent that there is a strategic opportunity to ensure we deal with multiple problems as required by the Local Air Quality Management (LAQM) process.
- 1.38 Currently valuing air quality impacts using the HM Treasury Green Book approach or the DfT's WebTAG, the impacts of NOx and NO2 are very poorly costed and it is considered these could require more additional location specific guidance. Indeed the TAG process which focusses on concentrations at distance bands is highly likely to disagree and underestimate the impacts of a scheme or locations of exceedance as reported by the PCM.
- 1.39 In addition PM2.5 isn't separately included at all in the process which given the wider health benefits associated with addressing a wider range of pollutants creates further questions around how to appropriately create a strong business case and evidence value for money on the interventions which will be required.
- 1.40 The Council asks Government to review Green Book and WebTAG guidance to include a more robust approach to evaluating NO2, but to also include assessment for PM2.5 in addition to PM10 and include these into TAG unit A3 in due course. The sources of funding which are being cited and the conflicts with continuing to ensure economic growth do not sit well with the current assessment frameworks.

Question 2

What do you consider to be the most appropriate way for local authorities in England to determine the arrangements for a Clean Air Zone, and the measures that should apply within it?

- 2.1 The Council supports the emphasis on locally designed action CAZ and any additional measures which are required and Birmingham will continue to work closely with the Joint Air Quality Unit and partners on developing a CAZ.
- 2.2 Whilst Birmingham is reasonably well progressed towards developing proposals for a CAZ, we require greater clarity about what further support may be available to help Birmingham implement the correct measures to achieve compliance in the shortest possible time. Additionally the requirement for additional areas, including within the whole West Midlands Combined Authority area, to implement measures adds a further layer of complexity. There is a need for greater detail around how plans for these areas are to be developed to help us ensure that our Feasibility Studies and emerging proposals can be integrated as appropriate. We will continue to work closely with the West Midlands Combined Authority on addressing air quality.
- 2.3 Therefore the final plan needs to provide much further detail on:
 - What studies and consultation local authorities will be required to carry out to determine proposals to improve air quality
 - How Government will work with local authorities to develop and agree proposals
 - How Government will require/mandate local authorities to implement proposals
 - What additional support will be provided to local authorities to progress studies and implement proposals
 - In particular, what support for measures requiring revenue funding outlined in the CAZ framework will be provided
- 2.4 As previously noted the City Council believes that the final version of the plans should be clear as to what the likely class of CAZ required for Birmingham will be, based on the Government's modelling.
- 2.5 However, in addition to requiring the introduction of a CAZ, the Council believes that the Government should also mandate the introduction of any additional measures which are identified as being necessary to achieve the successful implementation of a CAZ and compliance with air quality limits.
- 2.6 With the likelihood that the UK will now see a wider network of CAZ consideration regarding how to make the different zones consistent, simple and clear to understand for road users will be necessary. There will be many individuals and businesses that will require regular access to multiple charging CAZ in a day and therefore applying as far as possible a consistent approach to exemptions and other operational elements is required. There is also a need to consider the European dimension and how the UK will ensure interoperability and harmonisation with schemes in Europe and ensure that information is available to those travelling to the UK.

- 2.7 The council encourages Government to work with local authorities on how to most effectively approach the procurement of infrastructure and back office systems for the CAZ. As a result of the timescales associated with these measures there is likely to be considerable demand for the services of a limited number of suppliers.
- 2.8 The Government should provide more targeted funding to speed up delivery of supporting local measures. There have been cuts in government funds for Local Transport Plans. Birmingham and the West Midlands have been unsuccessful in securing funds from the Go Ultra Low city scheme to support ULEV infrastructure development and from the Access Fund. Competitive bidding processes create extra resource pressures which can be abortive in the event of an unsuccessful bid.
- 2.9 We also note that potential allocations for the next round of Local Growth Fund are significantly less than GBS LEP had anticipated. The City Council was keen to secure funding to deliver measures to support air quality improvements and the CAZ from this funding. The Defra Air Quality Grant has reduced over time with no government commitment to its continuation in the long-term. The Autumn Statement included a commitment for a further £290m for ultra-low emission vehicles including £150 million for low emission buses and taxis. To put this in to context we estimate that the cost of bringing the West Midlands bus fleets up to CAZ compliant standards to be in the region of £22m for National Express alone - assuming that retrofitting is an option.

What factors should local authorities consider when assessing impacts on businesses?

- 2.10 Through the feasibility study the City Council will seek to understand how any options for a CAZ will benefit or disbenefit residents and businesses. This will look at determining the potential positive and negative impacts e.g. impacts, primarily relating to reducing premature mortality from NOx exposure and changes to exposure to air pollution.
- 2.11 Whilst, the CAZ may result in traffic flow improvements which will create benefits for businesses, work is required to understand the impact of business changing their fleets and the national, regional or local level logistics and operational change to adapt to or avoid the zone. Through the feasibility study we will be engaging with local businesses and national businesses that operate within Birmingham, to understand their challenges and help tailor the solutions. Specific factors include;

Business support_ Business support will be required to help businesses assess fleet compliance. Small businesses will benefit from a focused scrappage scheme, funding for low/zero emission re-fuelling infrastructure. Measures to support the CAZ may also identify that there are a number of logistics and consolidation centre requirements for businesses located and operating within Birmingham City Centre to enable them to successfully adapt to the CAZ. Engagement as part of the CAZ Feasibility Study will help to identify these requirements.

Availability of compliant and ultra-low emission vehicles – The availability of vehicles on the market to purchase, lease or hire; together with the development of robust supply chains to deliver retrofit solutions is a concern. This is further compounded by the continuing lack of a national accreditation scheme for Euro 6/ultra-low emission compliant solutions for retrofits required for buses, taxis, trucks and vans as a priority.

Timescales are a key consideration with regard to when wide scale retrofit solutions will be available, followed by adequate funding to address city scale retrofit requirements. With around 2,000 buses, as an example of a city fleet, (others include taxis and refuse trucks) that operates daily in Birmingham, only 40% are currently set to be compliant by 2020. Therefore a concentration of support is required for whole fleet compliance (focussing only on those fleet vehicles that meet age criteria are robust and capable of being road worthy for a minimum of at least 5 years).

- 2.12 The level of investment in Birmingham and the West Midlands currently underway has not been seen for several decades. The scale of the delivery across the West Midlands over the next 10 years is significant and will bring its own challenges in order to deliver the economic transformation that this investment will help release.
- 2.13 Measures to support the CAZ will be closely aligned to measures to help meet the challenge of managing network resilience across Birmingham and the West Midlands during the period of construction of HS2, Highways England Investment Programme, Network Rail major investment and WMCA infrastructure investment.

Question 3:

How can Government best target any funding to support local communities to cut air pollution? What options should the Government consider further, and what criteria should it use to assess them?

- 3.1 Government should refrain from using competitive models to fund proposals aimed at tackling air quality as this will introduce an unnecessary element of risk that will jeopardise the ability of the UK and local areas to achieve compliance. Instead Government should work with areas with severe air quality exceedances to develop a package of measures to support local CAZ implementation. The City Council believes that targeted funding support should focus on:

Vehicle retrofits

- 3.2 Where criteria for consideration should include vehicle age limit; vehicle types such as buses, Hackney Carriage Taxis, LGVs, mini buses and refuse trucks.

Targeted national scrappage scheme

- 3.3 With the criteria based on assisting residents and businesses located within Clean Air Zones, and those least able to afford the costs of compliance, is essential.

Air Quality and Health & Well Being 'Behaviour Change' campaigns

- 3.4 With criteria focusing on schools, taxis, residential areas, Health Practitioners and businesses and employees located within the CAZ.

Additional Measures

- 3.5 Measures identified as being required above and beyond the CAZ to achieve compliance in the shortest possible time. This will include further innovation around

traffic management technology building on the Council's pre implementation Capital Funding proposals and National Productivity Investment Fund bid.

Additional funding measures Supporting Innovation around Energy Generation

- 3.6 Support the take up of ultra-low and zero emission vehicles given concerns with regard to local power grid capacity further support for local energy generation strategies that diversifies energy production at a city and local level through waste management and energy production strategies e.g. Biomass, solar, wind, and hydrogen production. This will also open up different markets for ultra-low and zero emission vehicle use and help create new markets and supply chains.
- 3.7 As previously stated competitive bidding processes create extra resource pressures which can be abortive in the event of an unsuccessful bid.

Are there other measures which could be implemented at a local level, represent value for money, and that could have a direct and rapid impact on air quality? Examples could include targeted investment in local infrastructure projects.

- 3.8 The Council considers that a co-ordinated package of traffic management improvements (including signing and rerouting strategies and infrastructure upgrades), parking control measures, targeted improvements to public transport and comprehensive communication and engagement campaigns can provide quick, effective, value for money local improvements on air quality in parallel with action to develop a CAZ.
- 3.9 The feasibility study will consider the most appropriate local additional measures which will contribute to achieving compliance in the shortest possible time. This will take account of not only their air quality impact, but also timing to impact and ultimately deliverability. However, it is considered that for low/zero emission re-fuelling infrastructure consideration needs to be given to develop regional and national re-fuelling infrastructure networks that includes Hydrogen, CNG/LNG, LPG, fast & rapid electric charging from motorway service stations to city level re-fuelling stations/facilities. This will support national and local business logistics, commuting and tourist industry, connecting UK cities to address air quality as a national issue. Additionally, there needs to be a low/zero emission re-fuelling Port strategy to address European freight transit. Funding for this could be identified as part of a review of the HGV Levy.
- 3.10 Birmingham City Council and Transport for West Midlands (TFWM) would like the Government to enact Part 6 of the Traffic Management Act 2004 and allow certain traffic enforcement powers to be transferred from Police control to the control of local authorities. TfWM is undertaking a study to provide evidence of the benefits of the powers for traffic management and air quality. In addition reform to the Traffic Regulation Order process is urgently required to streamline the introduction of measures to manage traffic that would support improvements in air quality.

How can Government best target any funding to mitigate the impact of certain measures to improve air quality, on local businesses, residents and those travelling into towns and cities to work? Examples could include targeted scrappage schemes, for both cars and vans, as well as support for retrofitting initiatives.

3.11 The Council continues to reiterate its call for additional national action to reduce the usage of diesel vehicles and believes that this should be tackled through mechanisms such as changes to Vehicle Excise Duty and fuel tax changes as well as considering diesel scrappage schemes or further enhanced incentives to invest in ultra-low emission vehicles or the appropriate retro-fitting technologies.

How could mitigation schemes be designed in order to maximise value for money, target support where it is most needed, reduce complexity and minimise scope for fraud?

3.12 The Council believes that these schemes could be targeted effectively so as to focus the impact in areas where air quality problems are most severe. Funding could be made available to residents or to businesses or employees with a business address who are able to supply appropriate evidence of their address within the CAZ. The Council would be happy to work with Government on developing proposals for a scheme.

Question 4

How best can governments work with local communities to monitor local interventions and evaluate their impact?

4.1 The Council's CAZ Feasibility Study will provide a baseline assessment and identify the air quality issues which need to be addressed, including an assessment of the impact on:

- The city's economy and businesses
- Health outcomes
- Equality in the city

4.2 The assessments will enable the city council to compare CAZ policy and scheme options and justify its choice of preferred option for delivering the CAZ. Furthermore, it is vital that the city council has a robust understanding of the impacts of air pollution and any potential CAZ on the city when communicating with internal and external stakeholders in order to build the support needed to ensure that the CAZ is implemented in Birmingham. It will also enable post implementation monitoring of the impacts to be undertaken. The Council would welcome the opportunity to work with the Government to develop a robust monitoring approach for the CAZ and supporting measures.

Question 5

Which vehicles should be prioritised for government-funded retrofit schemes?

Buses

- 5.1 As part of a strategy for managing demand and removing unnecessary private car trips off the network it will be essential to have a more efficient and clean public transport network. Enhanced bus services are key to encourage behaviour change and impacts to bus services will not only have detrimental impacts on air quality but could also have negative impacts in terms of economic growth and access to jobs and education.
- 5.2 Ensuring CAZ compliance will be a key challenge for bus operators and retrofitting will be essential in order for fleet operators to ensure that their vehicles achieve compliance ahead of 2020. Upgrading to completely new vehicles would be prohibitively costly and there are uncertainties around the ability of the market to supply the number of new vehicles in such a short space of time.
- 5.3 It is also not desirable that the implementation of any air quality improvement measures would cause displacement of older more polluting buses to other areas of the West Midlands metropolitan area. The updated plan suggests that it is likely that air quality measures across the West Midlands will affect the vast majority of bus routes in the West Midlands.
- 5.4 Also as previously noted bus operators are facing considerable uncertainty and risk as they are unable to start retrofitting their fleet (or investing in new buses) until they have absolute clarification from Government as to what application of bus retrofitting technologies will fall within the national accreditation scheme. The longer there is a delay to the formation of the accreditation scheme the greater the pressure will be on the supply chain to meet the demand from bus operators.
- 5.5 The City Council would like the Government to advance the accreditation scheme immediately or guarantee exemption from CAZ charges if certain applications of technology fall outside of the accreditation scheme when finalised. The bus will be an essential element of the West Midlands response to CAZ and we will need to work with Government and operators to ensure that bus services continue to be enhanced to support further mode shift.

Hackney Carriage Taxis

- 5.6 The financial effects will be felt hardest by hackney carriage drivers. 95% of the vehicles that are currently licensed will meet the CAZ emission standards. (5% have benefited from LPG retrofit solution until the recent Clean Vehicle Technology Fund). London Taxi Company and Metro as Hackney Carriage manufacturers, have developed plug-in electric Hackney carriages. Vehicles are expected to be on the market by the end of 2017, but they will be expensive (the price has yet to be announced but it is estimated at £40-£50k) and because they are new there will not be the option of a second hand market to buy cheaper vehicles, for at least 3-5 years. It is recognised that there is a national grant scheme at £4.5k towards the cost of a new vehicle with an additional proposed £3k as part of the next round OLEV. This will still not address the significant higher cost of the new electric Hackney Carriages.

LGVs

- 5.7 Currently around 3% of the LGVs entering Birmingham city centre would be CAZ compliant and make up 9% of the total fleet in the city centre.

Emergency Services

- 5.8 Ambulances, Fire Appliances and certain police vehicles are specialist/novel/adapted and low emission models are not available on the market.

Local Authority Fleets

- 5.9 A fleet of 400 refuse lorries operate in Birmingham (private and public sector), 10% of this fleet is currently CAZ compliant. Euro VI vehicles are available, however, the cost is prohibitive and no financially viable second hand market exists. There are also around 200 tipper trucks and cage trucks none of which are compliance. The Council operates either directly or through contracts around 300 mini buses which are used to undertake social service journeys including home to school transport and vulnerable adults. Whilst the CAZ Framework suggests exemptions for the latter, the Council's view is that action should be targeted to ensure these are compliant as passengers within using vehicles are likely to be exposed to higher levels of emissions.
- 5.10 Government should work with manufacturers and fleet operators to create the supply chains that will be required to support the retrofitting of vehicles and understand how the process can be accelerated.

Question 6

What type of environmental and other information should be made available to help consumers choose which cars to buy?

- 6.1 Further action around vehicle information and labelling is welcome- this is anticipated as being similar to the current white goods energy labelling. The Council considers that in addition to information around the levels of emissions created by each vehicle, the Government should provide detail around whole life costs of traditional fuel vehicle types vs. ultra low emission vehicles. The basic cost of a ULEV is usually higher than that of an equivalent petrol or diesel vehicle, but providing clear and sound information to help prospective purchasers consider their options before making decisions can further help to influence the take up of ULEVs.
- 6.2 There should be stronger links and national messaging regarding national schemes for home charging, the benefits of vehicle to building smart technologies for cheaper energy storage and energy utilisation.

Question 7

How could the Government further support innovative technological solutions and localised measures to improve air quality?

- 7.1 Existing technologies that are scalable are not being invested in as readily available national or city level solutions in terms of vehicle manufacture and re-fuelling infrastructure development. A long tail of local supply chain companies, employment, new skills development through education and training will follow as a result and is

pertinent in relation to our response to Question 5. Currently, Local Growth Funding and other local LEP funding is not geared towards addressing 'in shortest possible time' city level innovative fuel transport solutions such as hydrogen buses.

- 7.3 Whilst there is a focus on opportunities around electric as a renewable power for zero emission transport with the Industrial Strategy, fuel technologies such as hydrogen, compressed natural gas (CNG), liquid petroleum gas (LPG) and liquid air are completely underestimated as a way forward for city level scalable solutions that do not impact on current grid limitations. Therefore, there is a need for stronger tie in with the Government's Industrial Strategy, through targeted funding to engage with business to develop the sector growth in the low carbon and environmental technologies within vehicle retrofit, refuelling infrastructure and the new product and services supply chain organisations that will develop as a result.
- 7.4 As noted previously Birmingham has particular expertise and a strong skills base in relation to manufacturing processes, autonomous vehicles and energy technologies. Together these capabilities offer a significant opportunity to develop innovations and products in the ultra-low emissions and autonomous vehicles sectors.
- 7.5 Therefore the draft 2017 AQP is a missed opportunity to not only protect people's health but also to align with the Government's emerging Industrial Strategy. Taking the appropriate steps to make the UK a world leader in tackling air pollution and developing innovative technologies will mean we can reap the associated economic opportunities.

Question 8

Do you have any other comments on the draft UK Air Quality Plan for tackling nitrogen dioxide?

Uncertainties, Obligations and Differences between the Local and National Models

- 8.1 The technical report that accompanies the draft plan describes the limitations of the Government's PCM. It is clear that the PCM is a coarse model with many sources of uncertainty that contribute to an overall estimated uncertainty of $\pm 30\%$ from model outputs. It is acknowledged that the PCM cannot show the level of detail that local models can due to the scale of the model. Local authorities are only required to consider improving air quality in areas where there are locally modelled exceedances of legal limits and there is relevant exposure (as defined in the LAQM guidance produce by DEFRA).
- 8.2 It is also understood that all modelled NO₂ concentrations from the PCM must be below the legal limits in order to demonstrate compliance with environmental legislation to the EU. However, local authorities are only required to consider improving air quality in areas where there are locally modelled exceedances of legal limits and there is relevant exposure (as defined in the LAQM guidance produce by DEFRA).
- 8.3 The Council is concerned that the approach being proposed will cause resources to be focused in areas of exceedance where there is reduced risk of exposure to the public based on the PCM outputs, whereas other locally identified areas of concern where there is a significant risk of exposure will not receive the same level of resource. More than half of Birmingham's population lives in areas which have NO₂ levels higher than 30 $\mu\text{g}/\text{m}^3$ (annual average mean).

- 8.4 The Council believes that CAZ should be implemented in a way that focuses on achieving the best outcomes for the local population, which matches the original intentions of the directive and regulations.