Appendix 2

Longlist to Shortlist

To assess the effectiveness of the preferred option a board range of options were initially generated to ensure that all reasonable and realistic alternatives were included. It was important to consider a wide range of measures that could potentially be effective in reducing the specific sources of local points of exceedance. The tables below and the basic methodology is based on a framework provided in the DEFRA guidance document. Versions of this table have been provided to DEFRA as the project has been developed. The development began in early 2017 and has been revised to meet periodic submission dates and meeting schedules with DEFRA. This is still a developing document.

An initial desk top exercise was carried out to determine the longlist of scope options. Consideration was given to a range of options including road closure and removal of receptors at the point(s) of exceedance. The tables shows the process of consideration, rejection and how some options were passed for further consideration. The document reflects the information that was available at the time of each stage of the assessment.

The longlist needs to include a 'do nothing' (baseline) option which will help to show why taking action is necessary, and a 'benchmark option' which is the benchmark charging clean air zone, which became option 3 in the consultation.

Table 1 - Comparison of scope options against critical success factors

The long list was taken forward and assessed against the primary critical success factor through a high level assessment of the estimated date of compliance. The scope options (the overarching aspects of the local plan) are assessed against the primary critical success factor of compliance within the shortest possible time period.

Scope options	Do nothing (baseline)	Within the inner ring road targeting all vehicles	Within the inner ring road targeting buses, taxis and HGVs	Within the outer ring road targeting buses, taxis and HGVs	Within the outer ring road targeting all vehicles (benchmark)	City centre targeting buses, taxis, HGVs and LGVs	City wide targeting all vehicles	City wide targeting specific users residents, commuters, business fleet, public transport, cycling & walking	Focused around specific exceedance area targeting all vehicles
Estimated date when compliance is reached **Shortest possible time**	2024 Fail	2024 Fail (if implemented in isolation, but could be part of a package)	2024 Fail	2024 Fail	2020 Pass	2024 Pass	2020 Pass	2020 Pass	2020 Pass
Decision	**Taken forward** – this option would not deliver compliance in the shortest possible time. However it will be taken forward to the next stage to act as a baseline for the other options.	**Taken forward** - to consider within a package. Based on the apportionment data it addresses all fleets, including those where there is a high repeat frequency of trip per vehicle near or close to the exceedance site. It is also addresses vehicle fleets that currently have low levels of compliance with Clean Air Zone (CAZ) emissions standards, where they need to be part	**Reject** – Based on the apportionment data it addresses fleets where there is a high repeat frequency of trip per vehicle near or close to the exceedance site. It is also vehicle fleets that currently have low levels of compliance with CAZ emissions standards, where they need to be part of the solution i.e. public transport and delivery of goods and services. However based on the	**Reject** – based on the source apportionment data so far it addresses fleets where there is a high repeat frequency of trip per vehicle. It also targets vehicle fleets that currently have low levels of compliance with CAZ emissions standards. However, based on the ENEVAL outputs this does not remove the predicted exceedance.	**Taken forward** – based on the source apportionment data so far it addresses fleets where there is a high repeat frequency of trip per vehicle. It is also covers vehicle fleets that currently have low levels of compliance with CAZ emissions standards. However there are risks to achievability and a need to consider any exemptions/ sunset period requirements if taken	**Reject** – based on the source apportionment data so far it addresses fleets where there is a high repeat frequency of trip per vehicle near or close to the exceedance sites. In addition to addressing other vehicle fleets that impact on the exceedance site. It is also vehicle fleets that currently have low levels of compliance with CAZ emissions standards, where they need to be	**Taken forward** - as a non-charging option for consideration as part of a package of measures – Based on the source apportionment data so far it addresses fleets where there is a high repeat frequency of trip per vehicle. It is also covers vehicle fleets that currently have low levels of compliance with CAZ emissions standards. Issues affecting deliverability	**Taken forward** - for consideration as part of a package of measures– based on the apportionment data so far it addresses fleets where there is a high repeat frequency of trip per vehicle. It is also vehicle fleets that currently have low levels of compliance with CAZ emissions standards. In addition to addressing other	**Taken forward** –to influence traffic flows to a level where exceedance can be resolved.

		of the solution i.e. public transport and delivery of goods and services. However based on the ENEVAL outputs it does not remove the predicted exceedance if considered in isolation. It will be considered in combination with other measures that could form part of a successful package.	ENEVAL outputs it does not remove the predicted exceedance.		forward as a charging option. A non-charging variant over this area may not achieve compliance. Based on the ENEVAL work it represents the most appropriate option to take forward as a benchmark chargeable CAZ.	part of the solution i.e. public transport and delivery of goods and services. However based on the ENEVAL outputs it does not remove the predicted exceedances.	and achievability making it less feasible to be able to achieve implementation to meet the requirement of compliance in the shortest possible time and impacts on other authorities risking deliverability	vehicle fleets that impact on the roads with predicted exceedances It has the potential to contribute to achieving compliance in the shortest possible time and maintaining compliance in the longer term.	

Table 2 - Comparison of service solution options against secondary critical success factors (CSF)

This table considers the individual measures (the service solutions) against the secondary critical success factors. No option is rejected at this stage, although less favourable options are acknowledged.

Service solution	CAZ charging zone class A (buses, coaches, taxis & PHVs)	CAZ charging zone class B (buses, coaches, taxis, PHVs &HGVs)	CAZ charging zone class C (buses, coaches, taxis, PHVs, HGVs & LGVs)	CAZ charging zone class D (buses, coaches, taxis, PHVs, HGVs, LGVs & cars)	DCC fleet, staff vehicles and other transport procurement	Clean Air Incentive Scheme - local targeted scrappage scheme / mobility credits	Environmental Corridors & City Centre restrictions	Low Emission Taxi Programme	Low Emission Bus Strategy & programme of supporting measures	Electric Vehicle Strategy & programme including preferential parking	Freight Strategy & programme	Cycle facilities	Smarter Choices Promotion & Marketing	Traffic Management / Network Management Measures
Distributional impacts	✓✓	✓✓	✓	✓	✓✓	✓✓	✓	✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓
Strategic fit and business needs	✓	✓	✓	✓	✓✓	✓✓	✓	✓✓	✓✓	✓✓	✓✓	✓	✓	✓✓
Potential Value for money	✓	✓	✓	✓	✓✓	✓✓	✓	✓	✓✓	✓✓	✓✓	✓	✓	✓✓
Potential achievability	✓✓	✓	✓	x	✓✓	✓✓	✓	✓✓	✓✓	✓✓	✓	✓	✓	✓✓
Supply-side capacity and capability	✓	✓	✓	✓	✓	✓✓	✓✓	✓	✓	✓✓	✓	✓	✓✓	✓✓
Potential affordability	✓✓	✓✓	✓✓	✓✓	✓✓	✓	✓✓	✓✓	✓✓	✓✓	✓	✓	✓	✓✓
Decision	**Less feasible** – given the level of exceedance it may not be sufficient to address exceedance issues on its own, it may need additional supporting measures to meet compliance	**Less feasible** – given the level of exceedance it may not be sufficient to address exceedance issues on its own, it may need additional supporting measures to meet compliance	**Less feasible** – given the level of exceedance it may not be sufficient to address exceedance issues on its own, offering a lower value for money, not the best strategic fit,	**Feasible** – given the level of exceedance it may be sufficient to address exceedance issues on its own, scores negatively on achievability, given the level of exceedance it may need additional supporting measures to meet compliance	**Feasible** – given the level of exceedance it is unlikely to be sufficient to address exceedance issues on its own but offers good value for money as a contributor. There are issues associated with specialist vehicles and the need to continue to provide a service	**Feasible** – given the level of exceedance it may not be sufficient to address exceedance issues on its own but could be part of a package of measures, scores well on the majority on the CSFs and provides the need for targeted action on the most polluting vehicles whilst being able to address socio-	**Feasible** – given the level of exceedance this may not be sufficient to address exceedance issues on its own and some elements may not be deliverable in the shortest possible time. Scores well on all the CSFs, would lead to effective air quality improvements especially combined with other measure combined with other measures.	**Feasible** – given the level of exceedance it may not be sufficient to address exceedance issues on its own, existing work being undertaken through air quality grants and early measures funding that can be built on and combined with other measures	**Feasible** – given the level of exceedance it may not be sufficient to address exceedance issues on its own, existing work being taken forward with operators for the Clean Bus Technology Fund, scorers well on CSFs	**Feasible** – given the level of exceedance it may not be sufficient to address exceedance issues on its own, good strategic fit & other supporting projects that can be easily increased in scale and combined with other measures.	**Feasible** – given the level of exceedance it may not be sufficient to address exceedance issues on its own, although potential value for money scores low due to requirements for third party involvement, effective combined with other measures	**Less feasible** – given the level of exceedance it may not be sufficient to address exceedance issues on its own, although desirable scores low on potential value for money, although existing planned improvements will support the air quality improvement agenda and moderate additional	**Less feasible** – given the level of exceedance it may not be sufficient to address exceedance issues on its own, although desirable as a supporting measure, scores low on potential value for money	**Feasible** – given that there is a single exceedance location. Network management measures will facilitate the ability to influence the highway network by greater control and co-ordination to specifically address the air quality exceedance issue. The impact of the

						economic impacts	Impacts would have to be carefully considered in the city centre					investment could be a useful supporting measure.		redistribution of traffic needs to be considered. Could be part of package of measures to help influence air quality improvements, such as early take up of low emission vehicles.

Table 3 - Bringing together scope and service solutions into a package and compare against critical success factors

The feasible scope options and the service solution options are combined and the packages assessed that already meet the pass / fail criteria of achieving compliance in the shortest possible time period. These combined packages are also reassessed against the secondary critical success factors.

Scoping / service solution package options	Within the Outer Ring Road Chargeable CAZ Class D (buses, coaches, taxis, PHVs, HGVs & cars)	Within the Inner Ring Road Chargeable CAZ Class D (buses, coaches, taxis, PHVs, HGVs & cars) plus traffic management measures at exceedance site plus Electric Vehicle investment and Clean Air Incentive Scheme	Environmental corridors including Stafford Street traffic management Low emission taxi programme Low emission bus programme	Environmental corridors including Stafford Street traffic management low emission taxi programme low emission bus programme, EV strategy, fleet strategy, DCC fleet / transport	Clean Air Incentive Scheme (for residents & SMEs) plus Stafford Street traffic management	Clean Air Incentive Scheme (for residents & SMEs) Environmental corridors (including Stafford Street traffic management), low emission taxi programme, low emission bus programme, EV strategy, fleet strategy, DCC fleet / transport	Within the Outer Ring Road Chargeable CAZ Class D (buses, coaches, taxis, PHVs, HGVs & cars)	Traffic & network management to address the site of exceedance and mitigate the wider implications of the strategy
Estimated date when compliance is reached	2020	Beyond 2020	2020	2020	2020	2020	2020	2020
Shortest possible time	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Distributional impacts	✓	✓	✓✓	✓✓	✓✓	✓✓	✓	✓✓
Strategic fit and business needs	✓	✓	✓	✓	✓✓	✓✓	✓	✓✓
Potential Value for money	✓	✓	✓✓	✓✓	✓✓	✓✓	✓	✓✓
Potential achievability	x	✓	✓	✓	✓✓	✓	x	✓✓
Supply-side capacity and capability	✓	✓✓	✓✓	✓	✓✓	✓✓	✓	✓✓
Potential affordability	✓✓	✓✓	✓✓	✓✓	✓	✓	✓✓	✓✓
Decision	**Rejected but taken forward** – this option could achieve compliance in the shortest possible time however it would have significant socio-economic impacts and circumstances in the city make it a poor strategic fit. It will be taken forward as the benchmark chargeable CAZ	**Less Feasible** – might not result in compliance in the shortest possible time. There are re-routing dis-benefits and socioeconomic impacts. These will need resolving through exemptions and sunset periods and other mitigation measures to address any unintended consequences and to enable appropriate lead in times for vehicle owners to renew their	**Reject** – scores low on strategic fit & initial indications show that the combination would be insufficient for this option to achieve compliance in the shortest possible time and achieve good value for money.	**Less feasible** – this option might not achieve compliance in the shortest possible time but could achieve good value for money. As there is no charging scheme it would minimise negative socioeconomic impacts. Consideration of alternative routes would need careful consideration on the traffic management proposals for	**Feasible** – this option could achieve compliance in the shortest possible time and address the socioeconomic impacts. Greatest benefits could be achieved in the initial stages of scheme hence significant impacts could be achieved for addressing exceedances and it is able to target support where most appropriate. Ability to widen the scheme to other fleets i.e.	**Feasible -** This option would be more likely to achieve compliance in the shortest possible time by combining measures. As there is no charging scheme it would minimise negative socioeconomic impacts. Greatest benefits could be achieved in the initial stages of scheme hence significant impacts could be achieved for	**Less Feasible** – this option could achieve compliance in the shortest possible time however it would have significant socio-economic impacts and re-routing dis-benefits. These will need resolving through exemptions and sunset periods and other mitigation measures to try address any unintended consequences and to enable appropriate	**Feasible –**including relevant junction modification, changes to signals timings and prioritisation and investment in UTMC systems to enable dynamic management of the wider network to accommodate the redistributed traffic flows. To improve air quality, this option will be accompanied by mitigation measures that will

		fleets.		the city centre to minimise negative impacts.	taxis.	exceedance site and it is able to target support where most appropriate. Ability to widen the scheme to other fleets i.e. taxis. Consideration of alternative routes would need careful consideration on the traffic management proposals for the city centre to minimise negative impacts	lead in times for vehicle owners to renew their fleets. It will be taken forward as the benchmark chargeable CAZ.	accelerate fleet renewal and help to maintain compliance into future years.

Table 4 - Comparison of service delivery options against critical success factors

This table suggests how a preferred option will be delivered. It does not at this stage relate to any particular option. It is just part of a high level assessment for government to demonstrate the early expectations of delivery.

Service Delivery Options	Local Authority	External Contractors	Combination of both
Distributional impacts	-	-	-
Strategic fit and business needs	-	-	-
Potential Value for money	✓	✓	✓
Potential achievability	✖	-	-
Supply-side capacity and capability	✓	✓	✓
Potential affordability	-	✖	-
Decision	**Discounted** – the local authority does not have the necessary resources to deliver all aspects internally.	**Discounted** – it is likely to be prohibitively expensive to deliver the entire project by an external contractor alone.	**Feasible** – this option delivers the ability to optimism affordability with deliverability.

Table 5 - Comparison of funding options against the critical success factors

This table suggests how a preferred option will be funded. It does not at this stage relate to any particular option. It is just part of a high level assessment for government to demonstrate the early expectation of funding.

Funding Options	Public funding only	Public funding with substantial private funding support	Public funding with private partners sought where possible
Distributional impacts	-	-	-
Strategic fit and business needs	-	-	✓
Potential Value for money	-	✓✓	✓
Potential achievability	✓	✓	✓✓
Supply-side capacity and capability	✓✓	✖	✓
Potential affordability	-	✓✓	✓
Decision	**Discounted -** Government funding would have to be found for all costs therefore less likely to be affordable and therefore lower value for money.	**Discounted -** likely to have higher value for money however it is unlikely that sufficient private investment can be obtained to deliver the entire package of options within the timescale for delivery.	**Feasible** – Balanced approach to value for money and affordability and the supply side capacity for obtaining private funding opportunities. However to achieve the primary success factor substantial government funding will be required.

Table 6 - Shortlist of packages to take forward

The multi criteria analysis detailed in the previous tables have been used to narrow down the longlist of options to the shortlist of packages shown below. These packages are considered to be those most likely to achieve the critical success factors for the project. The shortlist is taken forward through the business case process where they will be assessed in detail using cost-benefit analysis and local air quality modelling.

	Do nothing **(the 2020 baseline test)**	**Benchmark Chargeable Clean Air Zone** **plus sensitivity test**	**Do Minimum**	**Low Emission Vehicle Measures**	**Do something** **Low emission vehicle measures** **plus** **Clean Air Incentive scheme - locally targeted scrappage scheme & mobility credits**	**Chargeable Clean Air Zone** **Specific traffic management measures in the vicinity of the exceedance location** **Supporting measures Clean Air Incentive Scheme & low emission vehicle initiatives**	**Significant traffic management initiatives in vicinity of exceedance location & network management initiatives on wider highway network.** **Supporting mitigation measures Clean Air Incentive Scheme & low emission vehicle initiatives**
Scope	Do nothing	Within the outer ring road chargeable CAZ	Do minimum	City wide targeting various fleets Plus measures specific to DCC	City wide targeting various fleets	Within the inner ring road chargeable Clean Air Zone, traffic management and low emission strategy measures	Exceedance site plus wider measures to address the wider highway network and all vehicles. Incentive scheme to support early take up of low emission vehicles and ensure a sustainable solution for exceedance location
Service Solution		Class D (buses, coaches, taxis, PHVs, HGVs, LGVs & cars)	Existing investment commitments early measures scheme, Clean Bus Technology Fund and air quality grants, plus other commitments i.e. significant cycle infrastructure investment	Environmental corridors (including traffic management) , low emission taxi programme low emission bus programme, EV strategy, fleet strategy, DCC fleet / transport	Clean Air Incentive Scheme / vehicle scrappage & mobility credit option for residents and SMEs	Class D (buses, coaches, taxis, PHVs, HGVs, LGVs & cars), traffic management and low emission vehicle measures	Constraining traffic flows at the exceedance site and redistribution of traffic on wider network to create sustainable solution, with associated highways modifications
Service Delivery		Delivered jointly by the local authority and external contractor	Delivered jointly by the local authority and external contractor	Delivered jointly by the local authority and external contractor	Delivered jointly by the local authority and external contractor	Delivered jointly by the local authority and external contractor	Delivered jointly by the local authority and external contractor for junction improvements
Funding		Public funding with limited private investment sought where possible	Public funding with limited private investment sought where possible	Public funding with limited private investment sought where possible	Public funding with limited private investment sought where possible	Public funding with limited private investment sought where possible	Public funding with limited private investment sought where possible

Note

The document has been used to ensure all realistic alternatives have been adequately considered.

The measures have been considered against the primary and secondary critical success factors as outlined in the business case for this project.

It has been used to inform the decision making process and the development of a short list of options which were then taken forward for the consultation process. As further evidence becomes available, including the feedback from stakeholder engagement and the consultation process, this will inform further refinement of the preferred option and the further development of mitigation measures and supporting projects.