

OPTIONS APPRAISAL			
1. General Information			
Directorate	Economy	Portfolio/Committee	Transport and Environment
Project Title	Clean Air Zone	Project Code	To Be Confirmed

Project Description	<p>1.0 Foreword</p> <p>The purpose of this report is to narrate the options appraisal for the implementation of a Clean Air Zone in Birmingham, this report is supplemented by the Full Business Case (FBC) which is being submitted to Government. Both this Options Appraisal report and the Government FBC are detailed in the Cabinet Report which will be considered at the Cabinet Meeting on the 11th of December 18.</p> <p>2.0 Background</p> <p>Poor air quality is a major cause of health problems in many cities around the world, leading to such things as respiratory diseases, cancers, diabetes and ultimately making a significant contribution towards premature deaths. Generally speaking, poor air quality in urban areas results from local transport sources which pre-date vehicles with 'cleaner' engines in terms of emissions.</p> <p>In 2008 the European Union established their Ambient Air Quality and Clean Air for Europe Directive, setting out air pollution limits which all EU member states must comply with. The UK Government issued the Air Quality Standard Regulation in 2010 which draws down from the EU Directive in order to enforce compliance upon local UK Governments. In 2015 DEFRA updated their air quality plans, identifying the five UK cities which have the most significant air quality problems, Birmingham was one of these cities. The UK Government, through DEFRA instructed the five cities to implement mitigation measures in order to clean up their air quality in the shortest possible time.</p> <p>In response, Birmingham City Council has initiated a programme of work which will implement air quality improvements in and around the City Centre. This programme is known as 'Brum Breathes', the overarching aim is to influence those travelling into, through and around the City Centre to use alternative modes of transport, having a positive impact on the city's air quality; ultimately achieving the vision of reducing traffic and increasing pedestrianised areas.</p> <p>The Brum Breathes programme is divided into five programmes of work which collectively achieve the overall aims and objectives. The five programmes are; Early Measures, Clean Air Zone (CAZ), Air Quality Policy, Environment Developing Infrastructure and Behaviour Change, see Appendix B1 for a diagram of the programme structure. This Options Appraisal is focused on the delivery of the CAZ Programme. A separate Options Appraisal has been submitted to the City Council for the Early Measures Programme and other elements of the Brum Breathes programme will be brought forward for approval in accordance with the Council's governance procedures and Gateway and Related Financial Approval Framework..</p> <p>In March 2017, the City Council submitted a Strategic Outline Case (SOC) to</p>
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Government, providing a high level summary of the CAZ options which could enable Birmingham to meet compliance with the EU Directive. In order to finalise the proposals, the City Council have undertaken extensive transport, air quality, economic and financial modelling of each proposed option (detailed in the Options Appraisal section); an Outline Business Case (OBC) was submitted to Government in July 2018 which detailed this process. In July 2018 the City Council also commenced a 6 weeks public consultation on the proposed measures (consultation approved by Cabinet on June 26th 2018); a record response was received of over 10,000 responses. In September 2018 a Preferred Option Business Case (POBC) was submitted to Government (approved by Cabinet on September 10th 2018) which detailed the preferred option but also highlighted some elements of scope which required finalisation. The next step is to submit the FBC to Government which will set out the final scheme proposals, Implementation Fund request and Clean Air Fund (CAF) request (see below).

The funding available from Government for the delivery of the CAZ and associated measures is divided into two funding streams; (1) Implementation Fund and (2) Clean Air Fund (CAF). (1) is for the delivery of the physical infrastructure such as signs, cameras, etc. (2) is for the delivery of the measures which are proposed to mitigate the impact of the CAZ on specific affected socio-economic groups (see Section 9.0). The funding being requested is outlined below. More detail can be found in the Budget Information section.

Funding stream	Value £m
Implementation Fund	£17.845
Clean Air Fund	£50.861
Total	£68.706

3.0 Clean Air Zone Programme description

Overview

During the Feasibility phase of this project, extensive air quality and traffic modelling has been undertaken to help predict the impact of the introduction of a CAZ. The modelling has prompted the decision to implement a “CAZ D” bounded by the middle ring road (A4540). This will require all commercial and private vehicles which are non-compliant by euro emission standard (Euro 4 Petrol, Euro 6 Diesel), other than two wheeled vehicles, to pay a daily charge to enter the zone. The CAZ will be enforced by Automatic Number Plate Recognition (ANPR) cameras which will be situated around the boundary on the majority of the in-roads to the city centre, a number of additional camera sites are being proposed within the zone which will be at strategic locations (key junctions/roundabouts).

The modelling also shows that the introduction of the CAZ D alone will not be sufficient to achieve compliance, as such a set of additional measures have been developed which will enable the city to achieve compliance in the shortest possible time. The additional measures which will be implemented are:

- Additional on-street parking controls which will remove all City Council controlled free parking within the CAZ, converting the spaces to ones where a charge will apply;

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| | <ul style="list-style-type: none">• Closing the junctions between Lister Street and Great Lister Street and Dartmouth Middleway to all traffic apart from buses, i.e. making the road a through route;• Banning northbound traffic on Suffolk Street Queensway that exits onto Paradise Circus to then access Sandpits Parade and banning southbound traffic from Paradise Circus entering the A38, i.e. making the road a through route. |
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The main CAZ delivery will be broken down into the following high level deliverables/schemes:

CAZ Signing Strategy

The CAZ Signing Strategy will implement a new signing network which will notify drivers on the approach to the City Centre that a Clean Air Zone is in operation, providing information of the charges which are being enforced. 'Countdown' signs will be installed along all approaches to the Middle Ring Road (A4540), providing drivers with an advance warning which is aligned to the decreasing distance. I.e. signs could be placed at the 2 and 1 mile markers. As stated above, the new signing network will also include signs which inform drivers of how to check their vehicles compliance, the charges which must be paid for non-compliant vehicles and fines which will be enforced for those who fail to pay the charges. The implementation of this project will also involve the installation of any new infrastructure which is required and the provision of any required ground works.

ANPR Cameras

A network of Automatic Number Plate Recognition (ANPR) cameras will be installed around the boundary of the CAZ, covering all major and minor approach roads into the CAZ. The ANPR cameras around the boundary will provide the tool for enforcement of the CAZ, capturing an image of every car which enters the CAZ. The camera will integrate with a software package which is designed to perform a check of each number plate against a list of locally exempt vehicles (key workers, residents, etc.). Supplementary ANPR cameras will be installed around an outer boundary; approx. 1 mile out from the CAZ at strategic locations however, these cameras will be used for data collection rather than enforcement.

Charging Infrastructure

A charging infrastructure is required to operate the enforcement of the CAZ. The infrastructure being proposed will operate via an integrated enforcement system, a number of data bases and a hardware platform used for data processing and storage. Appendix B1 provides an illustration of the charging infrastructure system being proposed; as shown, some elements of the system are delivered and managed by Government and some by the City Council. The function of the charging infrastructure is to undertake validation of the data from the ANPR cameras to ensure that those required to make payment have done so and those who fail to pay as required are pursued accordingly.

Mitigation Measures & Exemptions

The Integrated Impact Assessment (IIA detailed in Section 8 below) provides an assessment of the impacts to various socio-economic groups if a CAZ D plus additional measures is implemented. The findings of the IIA were substantiated by the results from the public consultation undertaken through

July and August 2018. In order to mitigate the impacts to the most negatively affected groups, a package of mitigation measures and exemptions have been developed, see Appendix B3 of the Public Cabinet Report which accompanies this report for further details. The delivery of the mitigation measures will be funded by the CAF, funds will be requested via the submission of the FBC to Government. The cost of the exemptions being proposed will effectively be met through a reduction in CAZ income over the respective duration which has been included within the financial modelling. The costs associated with the implementation of the exemptions (for example staff, back office set up and processing), will form part of the funding request from the Implementation Fund; again requested via the FBC submission.

4.0 Consultation

The City Council held a 6 week public consultation from the 4th of July to the 17th of August 2018, the proposals consulted on were for a CAZ D plus Additional Measures (see Section 4.0). The consultation received in excess of 10,000 responses which have been summarised in a report which was submitted to cabinet on the 10th September 2018.

5.0 Procurement

See Appendix B2 Procurement Strategy

6.0 Benefits

By implementing the CAZ Programme in line with this proposal, the City Council will be able to realise a number of benefits which are in keeping with the key ambitions of the City Council. The primary benefits which will be delivered by this programme are:

- Improved air quality in Birmingham;
- Achieving compliance with the EU Directive;
- Improved health and well-being of residents;
- Improved public transport;
- Improved efficiency of the road network;
- Increased data collection;
- Reduced congestion on the road.

For further details of the benefits listed above please refer to the “*Project Benefits*” section of this report.

7.0 Risks

A risk management process is in place whereby risks and corresponding mitigation actions are identified and assigned an owner to action appropriately. A record of this risk management is kept in the form of a risk register, the top five risks in terms of priority along with the unmitigated risk scores are listed below. Please see Appendix B4 for the full Risk Register.

Ref.	Risk	Likelihood	Impact
R004	Compliance may not be achieved by 2020	4	4
R006	Funding approval will be delayed	4	4
R010	Legal challenge from the public	3	3
R034	HS2 construction will impact on CAZ	3	4

R040	Government charging infrastructure will be delayed	4	4
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8.0 Impacts

The CAZ Programme is likely to have an impact on a variety of aspects including the health and well-being and financial capacity of those working, living and visiting the city. The scheme(s) will have an impact upon air quality, congestion and ease of travel within the city and also the capacity of the city's roads which will see an increased volume of traffic; mainly the Middle Ring Road (A4540). As such, an Integrated Impact Assessment (IIA) has been undertaken during feasibility phase which consists of an Equality Impact Assessment (EIA) and a Health Impact Assessment (HIA). As described below:

- Equality Impact Assessment: the purpose of this piece of work is to assess the impacts to the various impacted socio economic groups. The assessment shows that the largest impact will be to lower income families and those with disabilities. This work was further substantiated by the responses from the public consultation undertaken through July and August 2018. As part of the CAZ Programme a number of mitigation measures are being developed which will aim to reduce the impact to the people who fall into these groups, (see Appendix B3 of the Public Cabinet Report which accompanies this report for further details).
- Health Impact Assessment: the purpose of this piece of work assesses the implications of introducing the various schemes on the health and well-being of those people who live, work and visit the city. Highlighting the particular impacts on identified vulnerable groups such as, children and disabled people. The output of this assessment showed that the overall health impact would be positive, with areas of high income deprivation benefitting most. This is partly due to the improvement in vehicle emissions and the indirect benefits of the modal shift towards active travel.

In addition to the IIA, Traffic Modelling and Air Quality Modelling has been undertaken during the feasibility phase of the CAZ Programme which models the impacts of the various schemes being implemented under the Early Measures and CAZ Programmes. The introduction of the Network Signing Strategy and VMS project, which will re-direct traffic approaching the city around the A4540 has been included in both the traffic and air quality models. The model output shows that the overall impact to the A4540 and immediate surrounding areas is positive, with the A4540 shown to have the capacity to deal with the anticipated increased volume in traffic. In addition to this, the air quality around the A4540 is shown to improve with the introduction of these schemes due to the streamlining of traffic and reduced congestion.

9.0 Delivery

The City Councils, Infrastructure Projects Delivery Team are responsible for the delivery of the CAZ Programme. Delivery support and programme management has been procured from consultancy Turner & Townsend for the

	<p>feasibility and initial delivery phases. Additional support can be obtained through the City Councils procurement frameworks as/if required throughout the programme life-cycle.</p> <p>An initial delivery schedule has been developed for the CAZ Programme which is being managed by the delivery team. The schedule has been built based on a high level set of activities for each project and will be refined as the delivery develops and more accurate information becomes available from the supply chain. See Appendix B3 CAZ Programme – Delivery Schedule for further details. Note: The development of the schedule is an iterative process and timescales will change as programme progresses, however the deadline for implementation of January 1st 2020 will not change.</p> <p>The setup of a dedicated CAZ team is being proposed who will be responsible for the delivery, administration and continued management of the mitigation measures and exemptions. The specific resource requirements are still to be confirmed and will be detailed for approval in a subsequent business case.</p> <p>The City Council will also mobilise for ongoing operations in line with its responsibilities, illustrated in Appendix B1, including validation and enforcement processing and communications.</p> <p>10.0 Funding</p> <p>Central Government to date have provided revenue grant funding for the feasibility phase of the project totalling £2.084m. £1.071m, of this funding has been received by the City Council and a further £1.013m will be received in the near future. All of this funding has either been incurred or is committed.</p> <p>The submission of the Government FBC, including the financial implications, is the mechanism by which the City Council will apply for the required funds to implement the CAZ D plus Additional Measures and the package of Mitigation Measures being proposed; drawing down from the two separate funding streams, the Implementation Fund and the Clean Air Fund (CAF) as required. The funding is being requested under a Section 31 grant.</p> <p>The financial implications provided in the report to Cabinet on September 10th 2018 were an estimate, accurate at the time of writing. Since then further detailed financial modelling has been undertaken to determine the financial implications included within the FBC, based on a set of informed assumptions. The modelling was undertaken by specialist technical consultants, in conjunction with officers from the City Council, and as a part of the work undertaken the modelling has been subject to their internal quality assurance and testing processes to ensure robustness. In addition an independent review of the draft FBC financial case including the financial model has been undertaken as part of JAQU's role in supporting development of the FBC. The City Council has taken account of matters arising during the course of the review process in finalising the FBC and financial model in producing this report. JAQU will carry out a further review of the updated costs and profile referred to under 'CAZ Implementation' below following completion of the procurement process.</p> <p>Section 5 Budget Information provides high level summaries of the revised financial implications and the narrative below supplements these summaries. Please note that full details have been excluded due to the potential for prejudicing upcoming procurement activities and are instead shown within the Private report.</p>
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	<p><u>CAZ Implementation</u></p> <p>The CAZ Implementation costs shown in Table 1.0 indicate the current estimated cost and profile of the main CAZ programme of works. The costs of implementation will in the main be capital in nature however there may also be an element of revenue expenditure. The final estimated cost and profile including the capital and revenue combination will be firmed up following completion of the procurement activities, anticipated to be by January/February 2019. The costs will be funded via the Implementation Fund grant provided by Government, with the final combination of capital and revenue resources being in line with the final estimated cost and profile defined within the final funding request.</p> <p>A quantitative risk assessment has been undertaken for the risks identified in Appendix B4 in order to establish the current required contingency allocation. In some areas of risk a quantitative assessment could not be carried out and therefore an Optimism Bias (OB) has been included to account for the uncertainty. The level of OB has been refined since the Preferred Option Business Case (POBC) submission (10th September 2018). Whilst at 15% the OB is higher than the Green Book guidance recommends for FBC stage, the level of OB has been deemed appropriate as procurement activities are ongoing. The level of OB will be reduced when the final funding request is made in January/February 2019.</p> <p>Further details for each separate CAZ programme implementation work stream will be provided in subsequent FBC reports in line with the City Council's Gateway and Related Financial Approval Framework.</p> <p><u>Interim Implementation Development Funding</u></p> <p>Government have indicated that the timescales for review and approval of the GFBC (Appendix A) and the associated funding request will be a minimum of 8 weeks from receipt. If the Council were to wait for such approvals before progressing with development, the programme will be subject to delay, impacting on overall delivery and achievement of compliance. Recommendation 2.10 of this report seeks approval for the release of development funding from the existing Transportation & Highways Capital Budget until the receipt of Government grant funding, currently anticipated to be March 2019, at which point the resources will be repaid.</p> <p>This expenditure will in the main be to develop the CAZ proposals in order to provide a more robust cost estimate as required by Government. These development costs are a pre-requisite for the final submitted programme costs and as such they will be included within the final costings.</p> <p>The estimated funding and associated work streams are detailed below:</p>
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Work Stream	December 2018	January 2019	February 2019	March 2019	Total
	£m	£m	£m	£m	£m
Main CAZ (Civils)	0.030	0.060	0.060	0.060	0.210
Back Office Charging system	0.000	0.020	0.020	0.020	0.060
Network Changes	0.020	0.020	0.020	0.020	0.080
Parking Restrictions	0.010	0.040	0.020	0.020	0.090
Totals	0.060	0.140	0.120	0.120	0.440

CAZ Mitigation Measures

Appendix B3 details the proposed package of mitigation measures. Table 1.0 below indicates the current estimated cost and profile of providing these measures which it is anticipated will be both capital and revenue in nature. The costs will be funded via the CAF grant provided by Government and as such the volume of mitigation measures available will be capped at the amount of funding provided. Feedback from Government on the Council CAF application will determine the need for a review into the prioritisation of these measures.

Residents Parking Scheme measures will be introduced as and when required. As such the funding for this scheme will be held in a Council ring fenced reserve until required. In the event that the funding required exceeds the amount received, it is proposed that the shortfall will be funded from the net CAZ operating income, which is in line with regulation, (please see Operating Income and Expenditure Section below).

Further details for each separate CAZ Mitigation work stream will be provided in subsequent FBC reports as required in line with the City Council's Gateway and Related Financial Approval Framework.

CAZ Operating Income and Expenditure

CAZ Income and Expenditure - The Clean Air Zone will be introduced under Part 3 of the Transport Act 2000. CAZ revenue income will be generated through a combination of CAZ Charges raised and Penalty Charge Notices issued and, in line with requirements of the Act, will first be used to cover "the expenses incurred for and in connection with the scheme which are so attributable". The City Council expenses have been identified as the costs of maintaining and operating the assets installed under the CAZ project and ongoing operations and processing costs in line with its responsibilities (illustrated in Appendix B1), summarised below:

- Assets include signs, ANPR cameras, air quality monitoring equipment and assets installed as part of the Early Measures element of the project are also eligible expenses, (details of the Early Measures project can be found in the Joint Cabinet Member/Chief Officer report "Joint Air Quality Unit Early Measures Fund for Local NO2 Compliance – Application for and acceptance of funding" 19

	<p>September 2018);.</p> <ul style="list-style-type: none">• Costs of ongoing operations include human resources required for validation and enforcement processing, JAQU processing costs, penalty charge processing and postage, office accommodation costs and communications. <p>Table 2.0 below indicates the current estimated operating income and expenditure.</p> <p>CAZ Net Proceeds – Table 2.0 below indicates the current estimated ‘net proceeds’ balance carried forward. Part 3 of the Transport Act 2000, schedule 12 para 8, requires that the ‘net proceeds’ of a charging scheme shall be applied by the authority “for the purpose of directly or indirectly facilitating the achievement of local transport policies of the authority”. The ‘Tackling Air Quality in Birmingham, Cabinet Report, June 26th 2017 also states that net proceeds will be invested in transport infrastructure measures to benefit the public and to improve air quality. In addition to new schemes that are identified that meet these requirements there are a number of schemes within the existing Capital Programme which could potentially be funded, in whole or in part, either through a direct contribution or to fund borrowing costs. The existing programmes identified are shown below:</p> <ul style="list-style-type: none">• The Big City Plan;• Birmingham Development Plan, Growth and Sustainable Transport Area;• Local Cycling Walking Initiative Programme;• Journey Time Improvement;• Rail and Rapid Transit. <p>It should be noted that all programmes, both existing and new, will be selected in order to directly or indirectly facilitate the Council’s transport policies following a prioritisation process and will be subject to approval in line with the City Council’s Gateway and Related Financial Approval Framework.</p> <p>The FBC modelled position indicates that the operation of the CAZ generates significant income in the early years as the city moves from a high level of non-compliance towards compliance. A number of additional test scenarios were modelled in order to provide an insight into the potential impact that a higher than anticipated level of compliance would have on the City Council’s revenue position. Whilst increased compliance would be a positive outcome in delivering the objectives of the CAZ it was important to identify any potential revenue pressure that may result. Table 3.0 below shows the changes in total income and expenditure of 50% greater than anticipated compliance. The values represent the reductions from the FBC modelled position, showing the final reduced ‘Balance Carried Forward’. This shows that even in the event of an unlikely 50% higher level of compliance there remains a sufficient level of income to fund the operating costs and for re-investment in eligible initiatives. It should be noted that this was high level test and not all expenditure categories were subject to reduction. In reality a number of these would also be expected to reduce over time with increased compliance which would further improve the adjusted position. A more detailed analysis is shown in the Private report.</p> <p>Car Parking Income – In addition to the income generated directly from the CAZ Charges and Penalty Charge Notices the City Council is also introducing a range of additional Car Parking measures as a part of the overall implementation of the CAZ, supporting delivery and in furtherance of the City</p>
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Appendix B2, Birmingham Clean Air Zone submission of FBC and request to proceed with implementation, Public Report, 11th December 2018

	<p>Council strategy to dis-incentivise private car use. The associated setting of parking tariffs and charges will generate additional income and section two of Table 2.0 below indicates the current estimated level of income. Any resulting net surplus income remaining after the deduction of operating costs and other eligible expenditure will be used in accordance with the Road Traffic Regulation Act 1984 Section 55 para 4.</p> <p><u>Miscellaneous</u></p> <p>The City Council will be responsible for reporting to JAQU on a monthly basis and JAQU reserve the right to reclaim unspent or misspent funding. The City Council through its management of the project will put in place relevant monitoring processes and controls to ensure that project costs are managed and expenditure is in line with the grant conditions. In the event that the project is delivered within the grant resources allocated, unused grant will be retained within reserves for re-payment in line with the grant conditions.</p> <p>The FBC (Appendix A) contains a financial model for the Implementation Fund and CAF application based on estimated costs and cost profile which have been benchmarked against similar projects. It is however a requirement that the final estimated cost and cost profile is built up from quotes or agreed contracts from the supply chain. As the procurement activities are still underway, the project team have been unable to include actual costs and, as noted under CAZ implementation above, a subsequent report will be submitted to Government clarifying the project costs, cost profile and the associated funding request as soon as all information is available, anticipated to be January/February 2019.</p>												
Links to Corporate and Service Outcomes	<p>As per Section 2.0 a SOC, OBC and POBC have already been submitted to Government for review. These submissions have all been made following approval through the City Council's governance procedures and Gateway and Related Financial Approval Framework. This Options Appraisal (OA) is being submitted to the Cabinet for approval in conjunction with the Government FBC. Following approval of this report and the Government FBC, the City Council will then proceed to develop the individual FBCs required shown in the table below. Each of these FBCs will be submitted for approval through the relevant City Council governance procedures and Gateway and Related Financial Approval Framework, dependent upon their monetary value and in line with the delegations being sought.</p> <table border="1" data-bbox="433 1484 1362 1619"><thead><tr><th>Ref.</th><th>Title / Description</th><th>Planned Submission</th></tr></thead><tbody><tr><td>1.0</td><td>Civils and Cameras Design and Build</td><td>January 2019</td></tr><tr><td>2.0</td><td>Charging Infrastructure (inc. Exemptions)</td><td>February 2019</td></tr><tr><td>3.0</td><td>Mitigation Measures</td><td>February 2019</td></tr></tbody></table> <p>The proposals set out in this report are in line with the City Council's corporate priorities as detailed in the Council Plan 2018-2022, summarised below:</p> <ul style="list-style-type: none">• Birmingham is an entrepreneurial city in which to learn, work and invest in;• Birmingham is an aspirational city to grow up in;• Birmingham is a fulfilling city to age well in;• Birmingham is a great city to live in. <p>Improving air quality as soon as possible, consistent with other statutory responsibilities is a key ambition of the Birmingham Health and Wellbeing Strategy and supports the delivery of policies included in the 'Birmingham</p>	Ref.	Title / Description	Planned Submission	1.0	Civils and Cameras Design and Build	January 2019	2.0	Charging Infrastructure (inc. Exemptions)	February 2019	3.0	Mitigation Measures	February 2019
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Appendix B2, Birmingham Clean Air Zone submission of FBC and request to proceed with implementation, Public Report, 11th December 2018

	<p>'Connected Transport White Paper', which in turn, supports delivery of the adopted Birmingham Development Plan and Movement for Growth</p> <p>The Health and Social Care Act 2012 requires Local Authorities in England to have a Health and Wellbeing Board (HWBB). A key responsibility of the HWBB is to develop a Health and Wellbeing Strategy (HWBS). Improving air quality is a key ambition of the Birmingham Health and Wellbeing Strategy.</p> <p>The proposals given in this report are supportive of the emerging Clean Air Strategy which is due for publication in the winter of 2018/2019.</p>
Project Benefits	<p>The potential benefits of delivering this programme of work successfully include:</p> <ul style="list-style-type: none"> ▪ Achieving compliance with the EU Directive and avoidance of potential sanctions including financial sanctions; ▪ Reduced impacts on human health (mortality impacts, hospital admissions and newly quantified chronic bronchitis impacts); ▪ Reduced impact on ecosystems (new pathway reflected in Defra's updated damage costs); ▪ A positive effect on climate change through reduced CO₂ emissions; ▪ Improved travel journey times or vehicle operating costs arising from the reduction in congestion from within the CAZ (possibly offset by impacts on the same outside of the CAZ). <p>The potential wider benefits that have not or currently cannot be quantified include:</p> <ul style="list-style-type: none"> ▪ Improvements in well-being/quality of life; self-reported life satisfaction; ▪ Wider health outcomes associated with a CAZ – for example, improvements in health due to increased walking/cycling; ▪ General health benefits arising from reduced short-term exposure, for example, exacerbation of existing cases of asthma; ▪ Wider health benefits linked with reductions in NO₂ and other pollutants: <ul style="list-style-type: none"> ▪ Reduction in cognitive decline and dementia, where this is linked to traffic related pollutants; ▪ Improvements in lower lung function in early life associated with exposure to pollutants during pregnancy; ▪ Reduction in risk of developing type-2 diabetes.
Project Deliverables	<p>Successful implementation of this programme of work will produce several deliverables which will collectively achieve the benefits detailed above. The below lists a selection of the key deliverables:</p> <ul style="list-style-type: none"> • A network of signs will be installed around the Clean Air Zone which will provide drivers with warning of the upcoming CAZ and their obligations to pay a daily charge; • ANPR Cameras will be installed on the majority of the in-roads into the CAZ with additional enforcement cameras installed at strategic locations within the CAZ. A supplementary set of cameras will be installed outside of the CAZ which will be for data collection purposes; • IT infrastructure will be installed as required, in order to connect the ANPR Cameras in a network which communicates to a central data centre in the city. The network is anticipated to utilise wireless technology to transmit and receive images to/from each camera. The IT infrastructure will consist of new hardware and software however

Appendix B2, Birmingham Clean Air Zone submission of FBC and request to proceed with implementation, Public Report, 11th December 2018

	<p>the extent of the requirements is not yet fully developed;</p> <ul style="list-style-type: none"> • In order to house the IT infrastructure, as outlined above, and the 'back office' staff required to operate the system, there may be a requirement to either re-purpose existing accommodation or construct a new, purpose built, data centre or control room. The extent of this deliverable cannot be fully understood until the IT infrastructure scoping has been developed. • All free car parking within the CAZ boundary will be removed and the spaces made into paying spaces; • Northbound traffic travelling on the Suffolk Street Queensway (A38) and exiting onto Paradise Circus and then onto Sandpits Parade will be banned; • Southbound traffic travelling from Paradise Circus and accessing the A38 will be banned; • The junction between Lister Street and Dartmouth Middleway will be closed for all traffic other than public transport; • The junction between Great Lister Street and Dartmouth Middleway will be closed for all traffic other than public transport; • A suite of proposed mitigation measures will be delivered, as detailed above and in Appendix B3, subject to Cabinet approval and funding being available through the Government CAF and potentially the net CAZ operating surplus.
Procurement Implications	See Appendix B2 Procurement Strategy for details.
Taxation Implications	<p>CAZ Implementation - The implementation of this scheme will require the City Council to place contracts with the supply chain, the City Council will be able to reclaim the VAT on any monies expended to implement the scheme.</p> <p>CAZ Operation - Once operational, this scheme will generate revenue in the form of income from the charges and penalties for entering the CAZ and for using the newly introduced charging car park spaces. This income will not be taxable, i.e. there will be no route for those paying the charges and penalties to reclaim the VAT from HMRC; this is a national policy set by Government.</p>
Accountable Body	There are no formal Accountable Body implications of this programme.
Key Project Milestones	
Government FBC submission	December 2018
Birmingham City Council FBC/s	January/February 2019
Civils Contract Award	January 2019
Marketing and Communication Campaign starts	January 2019
Cameras Procurement – Contract Award	February 2019
CAZ Team Mobilisation	March 2019
Site Work Start	April 2019
Application for Mitigation & Exemptions open	June 2019
User Acceptance Testing Start	September 2019
Implementation Complete – CAZ live	January 2020
Please note that the above timelines are as they currently stand, the delivery schedule is updated periodically as the programme progresses and as such all dates are subject to change pending the next schedule iteration.	
Dependencies on other projects or activities	<p>Government approval of CAZ Implementation FBC and Clean Air Fund FBC and approval to funding bid.</p> <p>Completion of all procurement activities as detailed within Appendix B2</p>

Appendix B2, Birmingham Clean Air Zone submission of FBC and request to proceed with implementation, Public Report, 11th December 2018

	<p>Procurement Strategy.</p> <p>The CAZ Programme is a component part of the Brum Breathes Programme. Whilst each programme under Brum Breathes is being managed independently, there is a certain element of overlap between the Early Measures and CAZ Programmes. The overlapping between projects and programmes doesn't necessarily constitute to dependencies in all cases, however there are considerations to be made where overlaps exist.</p> <ul style="list-style-type: none"> • Additional Measures Network Changes/ Network Signing Strategy: the network signing strategy which is being developed under the Early Measures programme must take into consideration the changes which are being made to the network as Additional Measures. The network signing strategy must reflect the changes in the network in order to ensure that vehicles aren't directed down a route which is prohibited. • Variable Message Signs/CAZ Signing: the VMS and CAZ signing will be installed on the same set of key radial roads, as such the design of each scheme must be done in consideration of each other in order to ensure that sign location clashes and sign clutter is avoided. There is also an opportunity to combine some of the signage, i.e. the VMS could potentially be used to display the message for the CAZ signing, reducing the volume of signs. <p>The overall benefits realisation is entwined between all of the projects under the CAZ and Early Measures programmes. The cumulative impact of the two programmes is the only way in which Birmingham can achieve compliance with the EU Directive for Clean Air, with each scheme providing an essential contribution towards compliance.</p> <p>As the Clean Air Zone will essentially encompass the entire city centre, considerations will also be given to the potential linkages with and impacts of the other schemes which are underway or to commence across the city including HS2 and, Paradise, and also works related to the Council's Highways, Maintenance and Management Private Finance Initiative contract..</p> <p>Government implementation of the charging infrastructure for which they are responsible.</p>
Achievability	<p>The works which are being implemented under this programme aren't necessarily complex in nature and are considered to be 'standard' highway infrastructure improvements.. Delivery will be procured from a mix of existing Frameworks which will ensure the required experience. In addition the City Council's project delivery team has significant experience of delivering similar schemes.</p> <p>However the timescales for delivery are being instructed by Government; both the CAZ and Early Measures Programme must be implemented by the 1st of January 2020 in order to achieve compliance with the EU Directive for Clean Air. The City Council's project delivery team will put in place rigorous programme governance to ensure the programme is delivered to timeline. A high risk delivery schedule has also been developed for the Early Measures Programme in order to achieve the January 2020 deadline.</p>
Project Manager	<p>Nick Richards</p> <p>t: 0121 675 7325, e: nicholas.richards@birmingham.gov.uk</p>
Project Accountant	<p>Andy Price</p> <p>t: 0121 303 7107, e: andy.r.price@birmingham.gov.uk</p>
Project Sponsor	<p>Phil Edwards</p>

Appendix B2, Birmingham Clean Air Zone submission of FBC and request to proceed with implementation, Public Report, 11th December 2018

	t: 0121 303 6467, e: Philip.Edwards@birmingham.gov.uk		
Proposed Project Board Members	Paul Simkins t: 0121 464 6549, e: paul.simkins@birmingham.gov.uk Nick Richards t: 0121 675 7325, e: nicholas.richards@birmingham.gov.uk Kieran Boyle t: 07900 911947 e: Kieran.boyle@birmingham.gov.uk Balgit Kundi t: 07823 534 976 e: Balgit.kundi@birmingham.gov.uk		
Finance Business Partner (FBP)	Simon Ansell	Date of FBP Approval	
<i>Other Mandatory Information</i>			
<ul style="list-style-type: none"> • Has project budget been set up on Voyager? • Issues and Risks updated (<i>Please attach a copy to the PDD and on Voyager</i>) 		Yes	Yes

2. Options Appraisal Records

The following sections are evidence of the different options that have been considered in arriving at the proposed solution. All options should be documented individually.

Option 1	Do Nothing
Information Considered	<p>The information considered in the review of this option was:</p> <ul style="list-style-type: none"> • Air quality data; • Traffic modelling and monitoring data; • The Ambient Air Quality and Cleaner Air for Europe Directive 2008; • The Environment Act 1995; • Air Quality Standard Regulation 2010; • Birmingham Clean Air Zone Outline Business Case; • Birmingham Clean Air Zone Full Business Case (Draft).
Pros and Cons of Option	<p><i>What were the advantages/positive aspects of this option?</i></p> <ul style="list-style-type: none"> • Non-compliant vehicles would not be subject to charging, the objections and there would be no associated dissatisfaction from stakeholders. • Whilst funding for the programme is through Government grants, and rigorous programme management will be implemented, as with all projects there is a residual risk of cost overrun which may fall to the City Council. With this option this risk would be avoided. • City Council Project Delivery staff resources would not be required to manage this project and therefore could be redeployed on other projects. <p><i>What are the disadvantages/negative aspects of this option?</i></p> <ul style="list-style-type: none"> • The benefits would not be realised; air quality would remain to be poor and unacceptable in terms of compliance with the EU Directive. This may result in sanctions including financial sanctions for the City Council which could be significant. • Health benefits would not be realised, the number of premature deaths in the city which occur each year due to poor air quality would not be reduced. • Traffic congestion in the city centre would remain, negatively affecting travel journey times and air quality, making the city centre a less attractive destination for residents, visitors and commuters.

Appendix B2, Birmingham Clean Air Zone submission of FBC and request to proceed with implementation, Public Report, 11th December 2018

	<ul style="list-style-type: none"> The general public would remain potentially unaware of the risks posed by poor air quality and the negative contribution which they may be having towards it; a behavioural shift would not take place.
People Consulted	<p>Several people/teams were consulted in the consideration of this option, below provides a non-comprehensive list:</p> <ul style="list-style-type: none"> City Council Traffic Management Team ; City Council Transport Policy Team; City Council Project Delivery Team; Air Quality and Project Delivery consultants; Turner & Townsend, Jacobs, WSP Global, Steer Group, and others. Joint Air Quality Unit (JAQU); Department for Environment Food & Rural Affairs (DEFRA); Department for Transport (DfT). <p>As detailed earlier in the report, public consultation was undertaken and engaged with all of the key stakeholder groups including but not limited to, the general public, SME's, retail, large businesses, taxi and private hire operators and freight & logistics operators.</p>
Recommendation	Abandon
Principal Reason for Decision	<p>The key reasons for abandoning this option are:</p> <ul style="list-style-type: none"> No positive contribution towards improving air quality would be made; The health risks to those living, working and visiting the City would not be mitigated; No positive contribution towards improving congestion and travel journey times would be made; The City Council would be likely to face sanctions including financial sanctions from the UK Government for non-compliance.

Option 2	Implementation of a CAZ C – The implementation of a Clean Air Zone which includes buses, coaches, HGVs, Large vans, minibuses, small vans/light commercials, taxis and private hire vehicles but <i>does not</i> include cars, motorcycles or mopeds.
Information Considered	<p>The information considered in the review of this option was:</p> <ul style="list-style-type: none"> Air quality data; Traffic modelling and monitoring data; The Ambient Air Quality and Cleaner Air for Europe Directive 2008; The Environment Act 1995; Air Quality Standard Regulation 2010; Birmingham Clean Air Zone Outline Business Case; Birmingham Clean Air Zone Full Business Case (Draft).
Pros and Cons of Option	<p><i>What were the advantages/positive aspects of this option?</i></p> <ul style="list-style-type: none"> Non-compliant private cars, motorcycles and mopeds would not be charged for entering the CAZ, the objections and dissatisfaction from the general public would be likely to be reduced. The amount of data processing capability required to operate the ANPR and charging IT system would be significantly reduced therefore the scope of work would be reduced increasing the achievability of the programme. <p><i>What are the disadvantages/negative aspects of this option?</i></p> <ul style="list-style-type: none"> The full extent of the health benefits would not be realised, having minimal positive impact to air quality and therefore failing to adequately reduce the number of premature deaths. This option has been modelled during the feasibility phase and the results showed that the implementation of a CAZ C would not enable

Appendix B2, Birmingham Clean Air Zone submission of FBC and request to proceed with implementation, Public Report, 11th December 2018

	<p>the city to achieve compliance. This is likely to result in sanctions including financial sanctions for the City Council which could be significant.</p> <ul style="list-style-type: none"> • A reduced contribution towards improving congestion and travel journey times would be made
People Consulted	<p>Several people/teams were consulted in the consideration of this option, below provides a non-comprehensive list:</p> <ul style="list-style-type: none"> • City Council Traffic Management Team; • City Council Transport Policy Team; • City Council Project Delivery Team; • Air Quality and Project Delivery consultants; Turner & Townsend, Jacobs, WSP, SDG, and others; • JAQU; • DEFRA; • DfT. <p>As detailed earlier in the report, public consultation was undertaken and engaged with all of the key stakeholder groups including but not limited to, the general public, SME's, retail, large businesses, taxi and private hire operators and freight & logistics operators.</p>
Recommendation	Abandon
Principal Reason for Decision	<p>The key reasons for abandoning this option are:</p> <ul style="list-style-type: none"> • A reduced contribution towards improving air quality would be made; • The health risks to those living, working and visiting the City would not be fully mitigated; • A reduced contribution towards improving congestion and travel journey times would be made; <p>The City Council would be likely to face sanctions including financial sanctions from the UK Government for non-compliance.</p>

Option 3	Implementation of a CAZ D plus Additional Measures – The implementation of a Clean Air Zone which includes buses, coaches, HGVs, Large vans, minibuses, small vans/light commercials, taxis and private hire vehicles, cars, motorcycles and mopeds. Implementation of Additional Measures which include; finance support for retrofit and upgrade of commercial vehicles, removal of free city centre parking, changes to the road network and improvements to public transport.
Information Considered	<p>The information considered in the review of this option was:</p> <ul style="list-style-type: none"> • Air quality data; • Traffic modelling and monitoring data; • The Ambient Air Quality and Cleaner Air for Europe Directive 2008; • The Environment Act 1995; • Air Quality Standard Regulation 2010; • Birmingham Clean Air Zone Outline Business Case; • Birmingham Clean Air Zone Full Business Case (Draft).
Pros and Cons of Option	<p><i>What were the advantages/positive aspects of this option?</i></p> <ul style="list-style-type: none"> • The city will be able to achieve compliance with the EU Directive for air quality and will therefore avoid the risk of sanctions including financial sanctions for the City Council which could be significant. being penalised with hefty fines. • The health benefits highlighted in this document above will be realised, improving the health of those living, working and visiting the city centre, reducing the likelihood of disease. • The contribution towards improving congestion and travel journey times would be made; • The city centre will become a more attractive place to live, work and visit, boosting growth in Birmingham.

Appendix B2, Birmingham Clean Air Zone submission of FBC and request to proceed with implementation, Public Report, 11th December 2018

	<ul style="list-style-type: none"> The current estimated revenue income generated by the implementation of this option will fully cover the current estimated operating costs. The net revenue proceeds, after deducting operating costs, will also be available for investment to achieve local transport policies of the City Council, in line with regulation, including future upgrades in the city centre to improve air quality. <p><i>What are the disadvantages/negative aspects of this option?</i></p> <ul style="list-style-type: none"> The scope of work is considerable and will require significant effort from City Council resources to deliver; The implications on the general public and local businesses are likely to generate objections and dissatisfaction with the City Council; Proposed exemptions and mitigations detailed above and in Appendix B3, cannot fully mitigate the impact to various socio-economic groups; During construction there will be disruption to the traffic network throughout the city centre which will need to be controlled by the City Council. Whilst funding for the programme is through Government grants, and rigorous programme management will be implemented, as with all projects there is a residual risk of cost overrun which may fall to the City Council.
People Consulted	<p>Several people/teams were consulted in the consideration of this option, below provides a non-comprehensive list:</p> <ul style="list-style-type: none"> City Council Traffic Management Team; City Council Transport Policy Team; City Council Project Delivery Team; Air Quality and Project Delivery consultants; Turner & Townsend, Jacobs, WSP, SDG, and others; JAQU; DEFRA; DfT. <p>As detailed earlier in the report, public consultation was undertaken and engaged with all of the key stakeholder groups including but not limited to, the general public, SME's, retail, large businesses, taxi and private hire operators and freight & logistics operators.</p>
Recommendation	Proceed
Principal Reason for Decision	<p>The key reasons for recommending this option are:</p> <ul style="list-style-type: none"> The city will be able to achieve compliance with the EU Directive for air quality and will therefore avoid the risk of sanctions including financial sanctions for the City Council which could be significant.; The health benefits highlighted in this document above will be realised, improving the health of those living, working and visiting the city centre, reducing the likelihood of disease; The contribution towards improving congestion and travel journey times would be made; The city centre will become a more attractive place to live, work and visit, boosting growth in Birmingham.

Appendix B2, Birmingham Clean Air Zone submission of FBC and request to proceed with implementation, Public Report, 11th December 2018

3. Initial summary of Options Appraisal – Price/Quality Matrix							
Criteria	Options			Weighting	Weighted Score		
	1	2	3		1	2	3
Total Capital Cost	10	5	2	5%	50	25	10
Upfront Revenue Cost	10	10	10	5%	50	50	50
Full Year Revenue Consequences	0	6	10	5%	0	30	50
Quality Evaluation Criteria e.g.s							
1)Meeting User Requirements	0	4	9	20%	0	80	360
2) Meets City Strategic Objectives	0	4	9	25%	0	100	225
3) Provides a sustainable solution	0	8	9	15%	0	120	135
4) Air Quality Improvements	0	6	8	30%	0	180	240
Total	20	43	57	100%	100	585	1070

Note: Full Year Revenue Consequences – for this assessment revenue consequences have been deemed to relate to revenue income benefits for the City Council. It should be noted, however, that this income can only be used in line with the relevant legislation – refer to section 10 above.

4. Option Recommended	<p>It is recommended to proceed with Option 3, implementation of a CAZ D plus Additional Measures, the key reasons for this decision are:</p> <ul style="list-style-type: none"> The city will be able to achieve compliance with the EU Directive for air quality and will therefore avoid the risk of sanctions including financial sanctions for the City Council which could be significant, being penalised with hefty fines. The health benefits highlighted in this document above will be realised, improving the health of those living, working and visiting the city centre, reducing the likelihood of disease. The contribution towards improving congestion and travel journey times would be made; The city centre will become a more attractive place to live, work and visit, boosting growth in Birmingham. The current estimated revenue income generated by the implementation of this option will fully cover the current estimated operating costs. The net revenue proceeds, after deducting operating costs, will also be available for investment to achieve local transport policies of the City Council, in line with regulation, including future upgrades in the city centre to improve air quality.
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5. Budget information

Table 1.0 Implementation Costs and Funding

Budget Information –Implementation Costs and Funding								
	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
	£m	£m	£m	£m	£m	£m	£m	£m
Project Costs:								
CAZ Implementation	4.270	12.915	0.395	0.244	0.020	0.000	0.000	17.845
CAZ Mitigation Measures	3.914	18.255	20.762	4.192	2.070	1.556	0.113	50.861
Total	8.184	31.170	21.157	4.436	2.090	1.556	0.113	68.706
Funded by Government Grants:								
Implementation Fund	4.270	12.915	0.395	0.244	0.020	0.000	0.000	17.845
Clean Air Fund	3.914	18.255	20.762	4.192	2.070	1.556	0.113	50.861
Total	8.184	31.170	21.157	4.436	2.090	1.556	0.113	68.706

Table 2.0 Operating Income and Expenditure

Budget Information – Operating Income and Expenditure														
	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Totals
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
Income														
CAZ	0.000	(11.451)	(43.096)	(32.264)	(23.052)	(18.697)	(14.343)	(10.572)	(8.552)	(6.533)	(4.513)	(2.249)	0.000	(175.322)
CAF Administration Grant	(0.382)	(1.353)	(0.682)	(0.174)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(2.591)
Total Income	(0.382)	(12.804)	(43.778)	(32.439)	(23.052)	(18.697)	(14.343)	(10.572)	(8.552)	(6.533)	(4.513)	(2.249)	0.000	(177.913)
Expenditure														
CAZ	0.000	1.656	6.340	5.197	4.230	3.771	3.292	2.869	2.661	2.441	2.209	2.367	2.542	39.577
CAF Administration	0.382	1.353	0.682	0.174	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.591
Total Expenditure	0.382	3.010	7.021	5.372	4.230	3.771	3.292	2.869	2.661	2.441	2.209	2.367	2.542	42.168
Net (Income)/Expenditure	0.000	(9.795)	(36.756)	(27.067)	(18.822)	(14.926)	(11.050)	(7.703)	(5.891)	(4.091)	(2.304)	0.119	2.542	(135.745)
To/(From) Sinking Fund	0.000	0.373	1.426	1.169	0.952	0.849	0.741	0.493	0.000	0.000	0.000	(1.501)	(4.502)	0.000
Net (Inflow)/Outflow	0.000	(9.422)	(35.330)	(25.898)	(17.870)	(14.077)	(10.310)	(7.210)	(5.891)	(4.091)	(2.304)	(1.382)	(1.960)	(135.745)
Balance Brought Forward	0.000	0.000	(9.422)	(44.752)	(70.649)	(88.519)	(102.596)	(112.906)	(120.116)	(126.007)	(130.099)	(132.403)	(133.785)	
Balance Carried Forward	0.000	(9.422)	(44.752)	(70.649)	(88.519)	(102.596)	(112.906)	(120.116)	(126.007)	(130.099)	(132.403)	(133.785)	(135.745)	

Budget Information – Car parking income												
	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	Totals
	£m											
On-street	(0.481)	(1.924)	(1.924)	(1.924)	(1.924)	(1.924)	(1.924)	(1.924)	(1.924)	(1.924)	(1.443)	(19.247)
Off-street	(0.258)	(1.032)	(1.032)	(1.032)	(1.032)	(1.032)	(1.032)	(1.032)	(1.032)	(1.032)	(0.774)	(10.332)
Total Income	(0.739)	(2.957)	(2.217)	(29.570)								

Table 3.0 Operating Income and Expenditure Sensitivity

Budget Information – Operating Income and Expenditure Sensitivity														
	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Totals
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
Income Reduced from FBC Model														
Total CAZ Income Reduction	0.000	5.726	21.548	16.132	11.526	9.349	7.171	5.286	4.276	3.266	2.256	1.124	0.000	87.661
Expenditure Reduced from FBC Model														
Total Expenditure Movement	0.000	(0.275)	(1.033)	(0.770)	(0.547)	(0.444)	(0.341)	(0.251)	(0.204)	(0.156)	(0.108)	(0.054)	0.000	(4.182)
Net (Income)/Expenditure Movement	0.000	5.451	20.515	15.362	10.979	8.905	6.831	5.035	4.072	3.110	2.148	1.070	0.000	83.478
To/(From) Sinking Fund Movement	0.000	(0.062)	(0.232)	(0.173)	(0.123)	(0.100)	(0.077)	(0.044)	0.000	0.000	(0.114)	(0.025)	0.950	0.000
Net (Inflow)/Outflow Movement	0.000	5.389	20.283	15.189	10.856	8.805	6.754	4.990	4.072	3.110	2.034	1.045	0.950	83.478
Balance Brought Forward Movement	0.000	0.000	5.389	25.672	40.861	51.717	60.522	67.276	72.266	76.338	79.449	81.483	82.528	
Balance Carried Forward Movement	0.000	5.389	25.672	40.861	51.717	60.522	67.276	72.266	76.338	79.449	81.483	82.528	83.478	
FBC Model Balance Carried Forward	0.000	(9.422)	(44.752)	(70.649)	(88.519)	(102.596)	(112.906)	(120.116)	(126.007)	(130.099)	(132.403)	(133.785)	(135.745)	
Reduced Balance Carried Forward	0.000	(4.033)	(19.080)	(29.789)	(36.802)	(42.074)	(45.630)	(47.850)	(49.669)	(50.650)	(50.920)	(51.257)	(52.267)	

Appendix B2, Birmingham Clean Air Zone submission of FBC and request to proceed with implementation, Public Report, 11th December 2018

6. Project Development Requirements/Information	
Products required to produce Full Business Case	The products required to progress the programme of work to the stage where a City Council Full Business Case can be submitted for approval are: <ul style="list-style-type: none"> • Outline design (work ongoing) • Detailed design; • Early Contractor Involvement; • Consultation/Stakeholder analysis (consultation completed, some further consultation to follow); • JAQU Full Business Case (FBC) (work ongoing); • Agreed target cost for the civils work; • Agreed operating model.
Estimated time to complete project development	The Government FBC will be submitted in December 2018 subject to Cabinet approval. This GFBC provides a cost estimate which includes an element of Optimism Bias. The City Council will supply Government with a firmed up cost estimate once Target Costs have been agreed with the contractor(s) in early 2019. Until the firmed up price is provided, Government will not be in a position to agree total project funding.
Estimated cost to complete project development	As per the financial table on page 14 of this report the total cost to complete project development is as follows £2,116,027.50. This cost is not included in the funding request made via Government FBC as it has already been accounted for in the Feasibility Funding.
Funding of development costs	Funding for the development of the GFBC and this Options Appraisal have been provided via the Governments Feasibility Fund. As per above, funding for the design and implementation of the project will be provided upon agreement of finalised costs.

Planned FBC Date	January/February 2019	Planned Date for Technical Completion	1 st January 2020
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Table of Appendixes		
Number	Title	Attached
B1	Charging infrastructure diagram	Yes
B2	Procurement Strategy (Public)	Yes
B3	Delivery Schedule	Yes
B4	Risk Register	Yes