

Chapter 3: Management Case

Bradford Clean Air Plan



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Notes

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Section 1: Introduction to the Management Case

Introduction

1. The purpose of the Management Case within this Full Business Case is to set out the arrangements which have been put in place to enable both the successful delivery of the Bradford Clean Air Plan (“CAP”) and the operation of the proposed interventions. It aims to provide assurance to JAQU that the preferred option can both be successfully delivered as proposed and operated in a sustainable manner independent of additional support from central government. In accordance with the five Business Case approach the Management Case considers the following:
 - Governance and Assurance;
 - Programme and Project Delivery arrangements;
 - Resource requirements (including Stakeholder Management) both in delivery and operational phases of the project;
 - A project plan for implementation;
 - Risk management and mitigation;
 - Monitoring and evaluation arrangements; and
 - Arrangements for managing communications throughout the next stages of the project and into the initial stages of the operational phase.

2. In order to deliver the preferred scheme the Bradford Council is making significant use of our existing in-house skills and experience, as well as seeking external specialist support from appointed partners to support the transport, air quality and economic modelling associated with the development of the full business case.

3. As proposed CAP comprises a range of measures to address the NO₂ levels within the district, principally centred around a Charging Clean Air Zone (“CCAZ”). The Council recognises that it is essential that the views of people living, working and commuting in and around the district, including businesses and other key stakeholders, are sought as part of both the development of interventions within the programme and in its operational phase. Meaningful consultation engagement with a wide range of stakeholders will help to build awareness and visibility of the proposed plan and its impact and will support on-going detailed design of the associated policies and measures. The proposed approach for engaging with stakeholders throughout this period is contained within [Appendix 3](#) (Stakeholder Management & Engagement Plan).

City of Bradford Metropolitan District Council

4. The City of Bradford Metropolitan District Council has an excellent record of successfully delivering major programmes and operational improvements, both in its own right and also on behalf of the West Yorkshire Combined Authority. An example of recent procurements based on a range of categories is included in the following tables. To

reflect the types of procurements proposed under the Bradford Clean Air Plan proposals these have been categorised as either:

- Infrastructure delivery;
- Vehicle upgrade partnership; or
- Policy development.

Table 1: Examples of Recent Procurements

Item	Description
Project Name	Bus Retrofit Projects (CBTF) 2014
Project Value	£400,000
Category	Vehicle Upgrade Partnership
Description of Goods / Services Procured	Retrofitting of 24 Euro IV buses to Euro VI standard within the Bradford district with the Council working with two bus operators (First and TransDev) to identify appropriate buses for retrofit. The project included PEMS testing showing 90% reductions in NOX following retrofit.
Project Name	Ultra Low Emission Taxi Project
Project Value	£1,000,000
Category	Infrastructure Delivery
Description of Goods / Services Procured	Installation of 20 rapid charge points with public and taxi parking bays working with Engie as part of the WYCA ULEV Taxi Project.
Project Name	West Yorkshire Low Emission Strategy
Project Value	£150,000
Category	Policy Development
Description of Goods / Services Procured	Bradford led on this project. Development of a Leeds City Region emission reduction strategy providing planning, procurement and bus standard policies for use by all partner Councils, West Yorkshire Combined Authority (WYCA) and Public Health England.
Project Name	Hard Ings Road, Keighley
Project Value	£10,300,000

Item	Description
Category	Infrastructure Delivery
Description of Goods / Services Procured	<p>The A650 is a key route between Bradford and Keighley, as well as linking Skipton to the Pendle area of Lancashire. The route is predominantly a dual carriageway, except for a short section, known as Hard Ings Road. Consequently, this part of the route is a pinch point for traffic. The resultant congestion impacts upon drivers using the A650. The improvement works for Hard Ings Road will reduce congestion and improve road safety for pedestrians and cyclists.</p> <p>The scheme for the Hard Ings Road is being implemented by the City of Bradford Metropolitan District Council (CBMDC). The scheme has received investment through the West Yorkshire Plus Transport Fund as part of the Leeds City Region Enterprise Partnership (LEP) Growth Deal - a £1 billion package of government investment to accelerate growth and create jobs across Leeds City Region.</p>

In addition to the above procurement examples the Council has independently progressed the £6m Advanced Fuel Centre project which was originally within the scope of the CAP at Outline Business Case stage.

Section 2: Management of the Project

Introduction

5. Appropriate project governance arrangements have been established and operating successfully throughout the development of both the Strategic Outline Case (“SOC”), the Outline Business Case and Full Business Case. Following approval of the FBC, it is planned to transition these arrangements into the delivery phase configuration. The change in arrangements will reflect the planned movement of the CAP function to the Department of Place (from Health & Well Being). Whilst this transition will lead to a change in the SRO for the implementation and delivery phase of the CAP programme many of the core staff will remain with the project throughout. This section of the Management Case therefore describes two management arrangements –
- through to obtaining the Full Business Case approval; and
 - through implementation and into CAP operation.

Arrangements to Full Business Case Approval

6. The management arrangements through to the approval of the Full Business Case submission will continue to reflect those which operated previously at Outline Business Case stage. The Council’s dedicated CAP Programme Board will continue to hold regular monthly meetings to maintain a strategic oversight of the programme. Individual project teams continue to hold regular team meetings and working groups as required which have recently been virtual in nature (due to Covid19 social distancing arrangements) the outcomes of which are reported to the Programme Board and as appropriate the Council’s Chief Executive Management Team (CMT) and political leadership.
7. Regular dialogue continues between JAQU’s account manager and the relevant members of the project team to monitor progress and share updates. This dialogue occurs on a weekly basis and will continue to give government and the project team the opportunity to discuss issues and formulate a way forward to ensure the continuous and timely progress of the project. The Council will continue to submit the relevant documents as per the grant condition requirements to JAQU throughout the lifetime of the project. This governance hierarchy is illustrated in Figure 1.

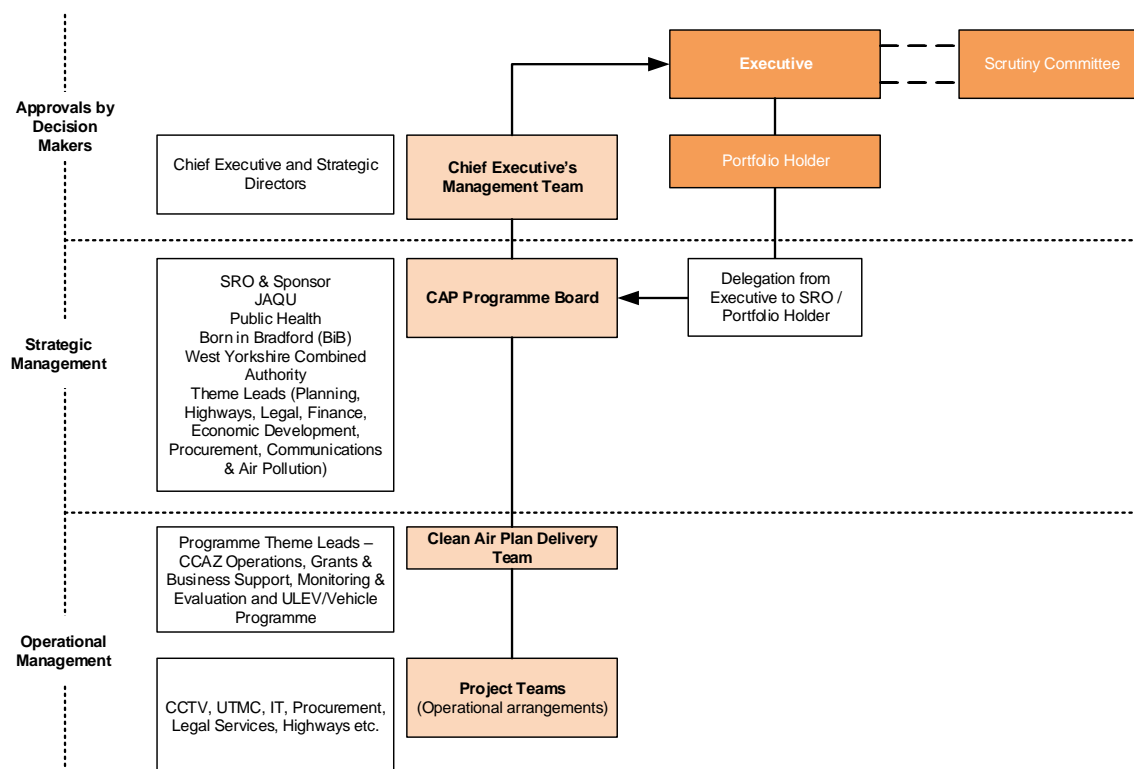


Figure 1: CAP Programme Governance Hierarchy (FBC)

- The SRO of the CAP up to the approval of this Full Business Case will remain the incumbent Strategic Director of Health and Wellbeing. However, due to the retirement of this Strategic Director at the end of September 2020 the newly appointed Strategic Director of Health and Wellbeing will temporarily become the SRO for the CAP programme until its Implementation phase commences at which point a new permanent SRO will be appointed for the purpose of overseeing the Implementation and Operational Phases of the CAP plan and through to the Decommissioning phase.

Arrangements during CAP Implementation, Operation & Decommissioning Phases

- As the CAP portfolio transitions into its delivery and implementation phase the SRO will become the Assistant Director of Planning, Transportation & Highways whose portfolio of organisational responsibility contains the major services necessary for the successful delivery and implementation of the CAP proposals. The Council's Chief Executive Management Team (CMT) will continue to be updated on a regular basis by the SRO and members of the Project Board on implementation of the plan deliverables as well as the delivery monitoring of the expected air quality benefits.
- As part of the Outline Business Case design for the CAP operational arrangements job profiles have been prepared for the management layers of this organisation and have

been taken through the Council’s internal grading process. Recruitment to the permanent appointments to the lead management positions are currently being progressed by the Council and it is expected that these new managers will be in post before the end of 2020. Upon appointment to these positions the Clean Plan Delivery Team will comprise the CCAZ Operations Manager, Grants & Business Support Manager and Monitoring & Evaluation Programme Manager. The appointment of the Ultra-Low Emission Vehicle Programme Manager is expected to follow in late 2021/early 2022. These revised arrangements are illustrated in Figure 2.

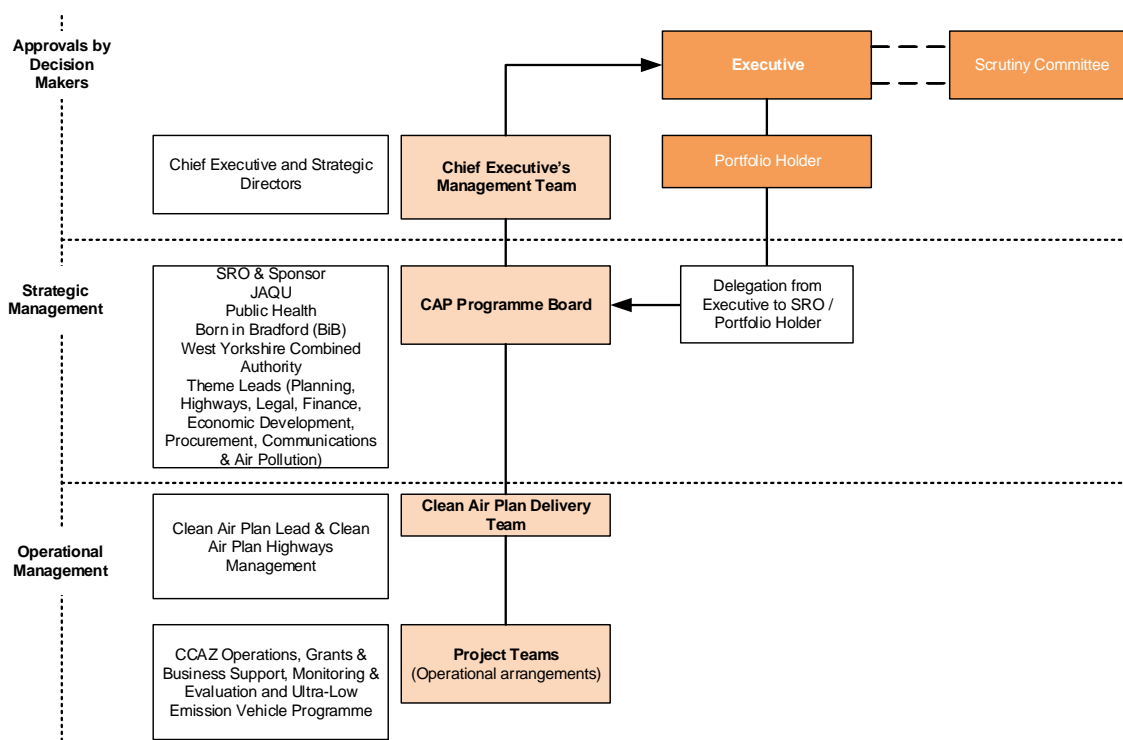


Figure 2: CAP Programme Governance Hierarchy (Implementation)

Reporting Arrangements During Implementation Phase

- To monitor overall progress, programme reports shall be issued monthly to the CAP Programme Board which will update on delivery against agreed schedules, budget, risks, issues, dependencies and opportunities. Deviations from agreed programme or project tolerances (quality, cost or time) and any suggested changes in scope will be subject to the Council’s Change Control process.

Highlight Reports

- To ensure consistent reporting of progress of work streams and projects within the CAP reports to the Air Quality Programme Board will be made using the standard Highlight Report template on a monthly basis. These reports will detail the projects / work streams 7-Keys Summary, programme milestone assessment, current key issues and risks together with a Project Manager’s summary. Any appropriate recommendations to the Air

Quality Programme Board to address issues will be included in the Highlight Report together with any Lessons Learnt.

13. Highlight Reports will be considered on a by exception basis (i.e. those reports showing a 7 key assessment of Green will not be debated at the Programme Board) to ensure that effective and efficient use of Board resources is maintained throughout the delivery phase to FBC and on into implementation.
14. When each project or work stream is complete and End of Project Report will be prepared that will contain a summary of key issues, experiences, lessons learnt from implementing the project / work stream. This will be shared appropriately with stakeholders as well as through the Corporate PMO. By adopting this approach the Council can ensure that relevant learning is shared across the widest range of functions to improve future project management.
15. Regular updates on project progress, financial monitoring and forecasting will also be provided to JAQU (as required) in accordance with the grant conditions.

Overview of the 7 Keys Assessment Methodology

16. To monitor progress on all corporate projects Bradford Council adopts a reporting mechanism, termed '7 keys'. This mechanism assesses project performance against seven key metrics (Stakeholders are committed, Business benefits are being realised, Work and Schedule are predictable, Scope is realistic and managed, Team is high performing, Risks are being mitigated and Partnership Benefits are being realised) and rates these as either Red, Amber or Green.
17. Specifically, the metrics look at the following:
 - **Stakeholders are committed** – stakeholder management plan is fully implemented and maintained. The right Sponsor is appropriately engaged and funded. Project governance is in place and meetings are being held, decisions and actions are being taken in a timely manner and are effective. All appropriate stakeholders are effectively engaged.
 - **Business Benefits are being realised** – The business case is clearly and convincingly articulated. The solution will appropriately support the desired outcome and costs. The quality of work products is appropriate and benefits tracking is on-going and meaningful.
 - **Work and Schedule are predictable** – The project plan is accepted and maintained with interim and final milestones and delivery acceptable criteria and roles accepted. The approach to delivery is appropriate, adequate, followed, resources have been scheduled. There is confidence in progress reporting accuracy and estimates to complete.

- **Scope is realistic and managed** – A scope management plan is implemented. Organisational systems, geographic boundaries are appropriately defined. Scope exclusions and assumptions are clear. Proposed / agreed changes to terms are appropriate reflected in costs, schedules and responsibilities.
 - **Team is high performing** – Breadth, depth and calibre of team are appropriate for all phases. Morale, motivation, energy and collaboration across teams is high. Environment and facilities support productive and effective teamwork. Roles and responsibilities are clear.
 - **Risks are being mitigated** – Risk management plan is fully implemented and supported. Risks are proactively sought in meetings and discussions are dutifully identified, documented and assigned for follow up. Risk tracking and reporting are timely. Mitigations are effective.
 - **Partnership benefits are being realised** – The project partnership relationships are established and progressing well. The project will enable skills transfer and will help team members' careers.
18. Where any of the above 7-Keys are rated as Amber / Red by the Project Manager / Work Stream Lead descriptions of the issues must be recorded in the monthly Highlight Report to the Air Quality Programme Board together with proposed mitigations for decision.

Section 3: Clean Air Plan Programme Structure

19. The measures required to deliver compliance will be delivered in accordance with the project programme for the implementation phases. This programme has been developed to enable project and work packages to be delivered at the earliest possible opportunity, delivering the associated health and environmental benefits as soon as possible, in line with the legal requirement of achieving compliance with EU limit levels in the shortest possible time.
20. This approach is essential in enabling the proposed Clean Air Zone to be launched in early 2022. Core assumptions in our modelling projections relating to when compliance will be achieved, such as the level of compliance of bus, coach, lorry, van and taxi fleets and the scale of electric vehicle (EV) uptake are predicated based on the timescales within the programme approach and would need to be revised if this cannot be achieved. The programme approach is therefore fundamental to delivering compliance in the shortest possible time.
21. The programme provides a structured framework through which complexities, risk and interdependencies can be managed effectively and conflicting priorities resolved wherever these may arise. This approach will also allow a more efficient use of resources and allow sufficient flexibility to respond to any internal or external changes. The programme will be assessed to ensure that it remains linked to objectives as part of the monthly Programme Board process.
22. The measures within the CAP Programme have been grouped into projects and work packages to facilitate further development and delivery. These have been categorised in line with the definitions set out in the Government's Project Delivery Functional Standards (August 2018)¹ which are as follows:
 - A **Portfolio** comprises part or all of an organisation's investment required to achieve its objectives. For the purposes of the CAP the whole Bradford Clean Air Plan is classed as the portfolio;
 - A **Programme** is a temporary, flexible organisation created to co-ordinate, direct and oversee the implementation of a set of projects and other works components to deliver outcomes and benefits related to a set of strategic objectives. The programmes related to the CAP are broken down by technical discipline and can be considered broadly to be civil engineering interventions, grant defrayment/support delivery, CAZ Implementation, Monitoring & Evaluation and ZEV/ULEV Clean Economy support;
 - A **Project** is a temporary management arrangement undertaken in stages, created for the purpose of delivering one or more business products or outcomes. The current

¹ [Project Delivery Standard Link](#) (August 2018)

projects within the BCAP programme include examples such as CAZ camera and communication network deployment, Park & Ride development & delivery, development of grant defrayment process, communications and community engagement and Business and community support.

- Other work might include –
 - Support services (referred to in this Programme as work packages, see below); and
 - On-going improvement initiatives not run as projects, but using a defined approach.
- A **Work Package** is a set of information relevant to the creation of one or more deliverable outputs. It comprises a description of the outputs required, work plan and details of any constraints to the delivery of the Work Package.

23. The relationship of each of the above elements within the CAP programme is illustrated in

24. Figure 3.

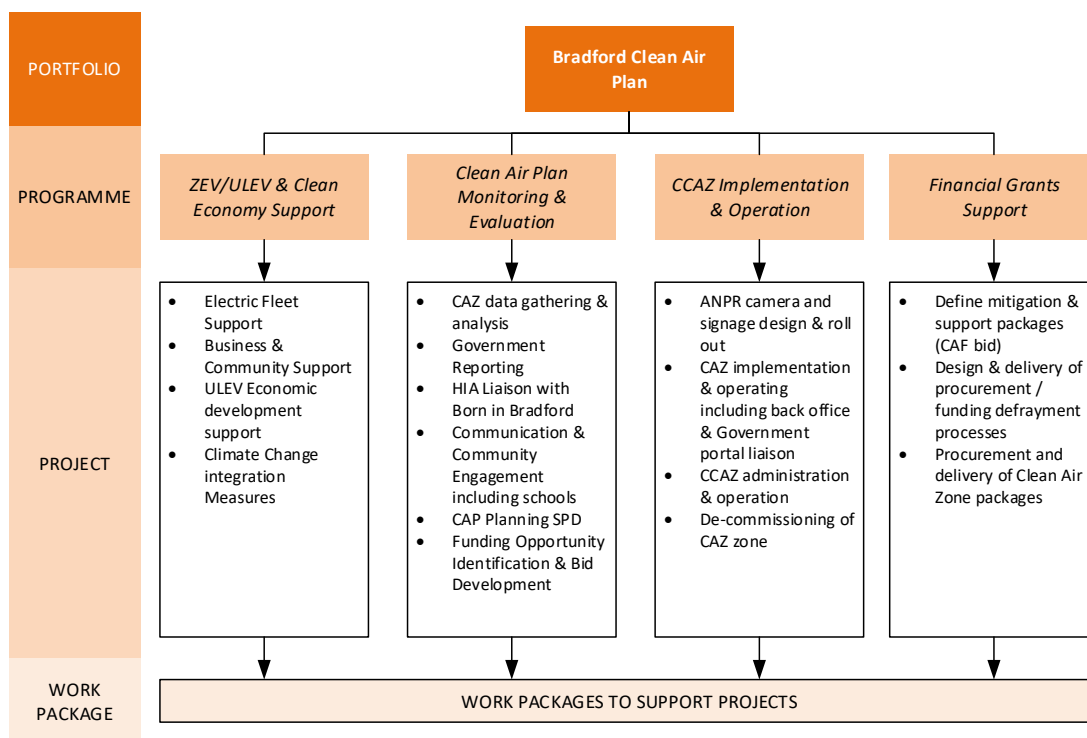


Figure 3: Overview of the Proposed Programme Structure

25. As proposed in the Outline Business Case the Council continue delivery of the CAP Programme through approval of the Full Business Case, the implementation and

operational phases of the plans deliverables until compliance is delivered and demonstrably maintained. It is proposed that the Programme will be closed out following demonstration of sustained compliance via a decommissioning phase.

26. Each individual project or work package requiring Implementation Funding has been developed in accordance with its own timescales enabling this FBC to be developed and subsequently funding allocated by JAQU and released.
27. The Vehicle Emission Improvement schemes will be delivered as the following projects:
 - Clean Bus / Coach;
 - Clean Lorry;
 - Clean Van and Minibus; and
 - Clean Taxi.

Programme and Project Methodology

28. Bradford Council has a robust established governance structure for the delivery of Programmes and Projects, which provides flexible and appropriate levels of governance and management oversight throughout each phase of the Programme and Project life-cycle.
29. In accordance with Bradford's approach appropriate Stage Plans will be developed for the Implementation phase following approval of the FBC for each individual project and updated as appropriate throughout the duration of the Programme. These Stage Plans will contain pertinent information on:
 - A description of the plan, its outputs and deliverables;
 - Plan pre-requisites (where appropriate);
 - External dependencies;
 - Lessons to be incorporated from previous projects of a similar nature;
 - Monitoring & Control arrangements;
 - Budget information;
 - Tolerances for budget and programme control;
 - Specific product descriptions; and
 - Schedule / programme for completion of the stage plan.

Programme and Project Roles

30. A core Programme team has already been established by Bradford Council as part of the previous work of developing both the SOBC and OBC. It is currently anticipated that this team will be supplemented with further roles for the development and delivery of the projects and work packages described in this document.
31. The core project team comprises the following roles as illustrated in Figure 4:

- **Senior Responsible Owner (and member of CMT)** – Bev Maybury is the SRO for the Bradford Clean Air Plan, who will be replaced on an interim basis by Ian McBeath following her retirement at the end of September. The SRO is accountable for ensuring that the CAP Programme delivers this FBC demonstrating that compliance can be achieved within an agreed timeframe and cost parameters. Upon progression through to the Implementation phases of the project the SRO role will be allocated on a permanent basis to Julian Jackson who will be responsible for ensuring that all implementation plans are completed in the shortest possible time. Julian will then have overall responsibility for the achievement of the benefits of the CAP programme through its operational phase.
- **Programme Sponsor(s)** – Sponsors for the CAP include Richard Gelder, Julian Jackson, Sarah Muckle and Duncan Farr or Ian Westlake (procurement). Sponsors are responsible for mobilising and resourcing individual delivery teams involved in the delivery of the benefits proposed to be realised from this investment. They will provide the overall direction and leadership for the Programme as part of the Programme Board as well as resolving major issues or escalating them to the SRO as appropriate.
- **Portfolio Lead** – A key role on the Programme Board will be performed by Andrew Whittles as Programme Lead who will be responsible for leading the Programme and Project Management teams. Andrew will be responsible for identifying, managing and gaining agreement to Programme scope, objective and constraints; completing the Programme documentation which sets out the overall programme scope and expected outcomes, and identifies the key benefits and how these will be measured and the managing process against the Programme Plan, in terms of quality, schedule and budget. The Portfolio Lead will support the individual members of the team in the delivery of their Projects and responsibilities and ensure that the team works together to enable delivery of the Programme objectives. The Portfolio Lead will manage the interfaces between projects and work packages within the programme as well as being responsible for the management of work streams across the Programme as well as the overall contract management of any services provided across the Programme and will manage senior stakeholders at a programme level.

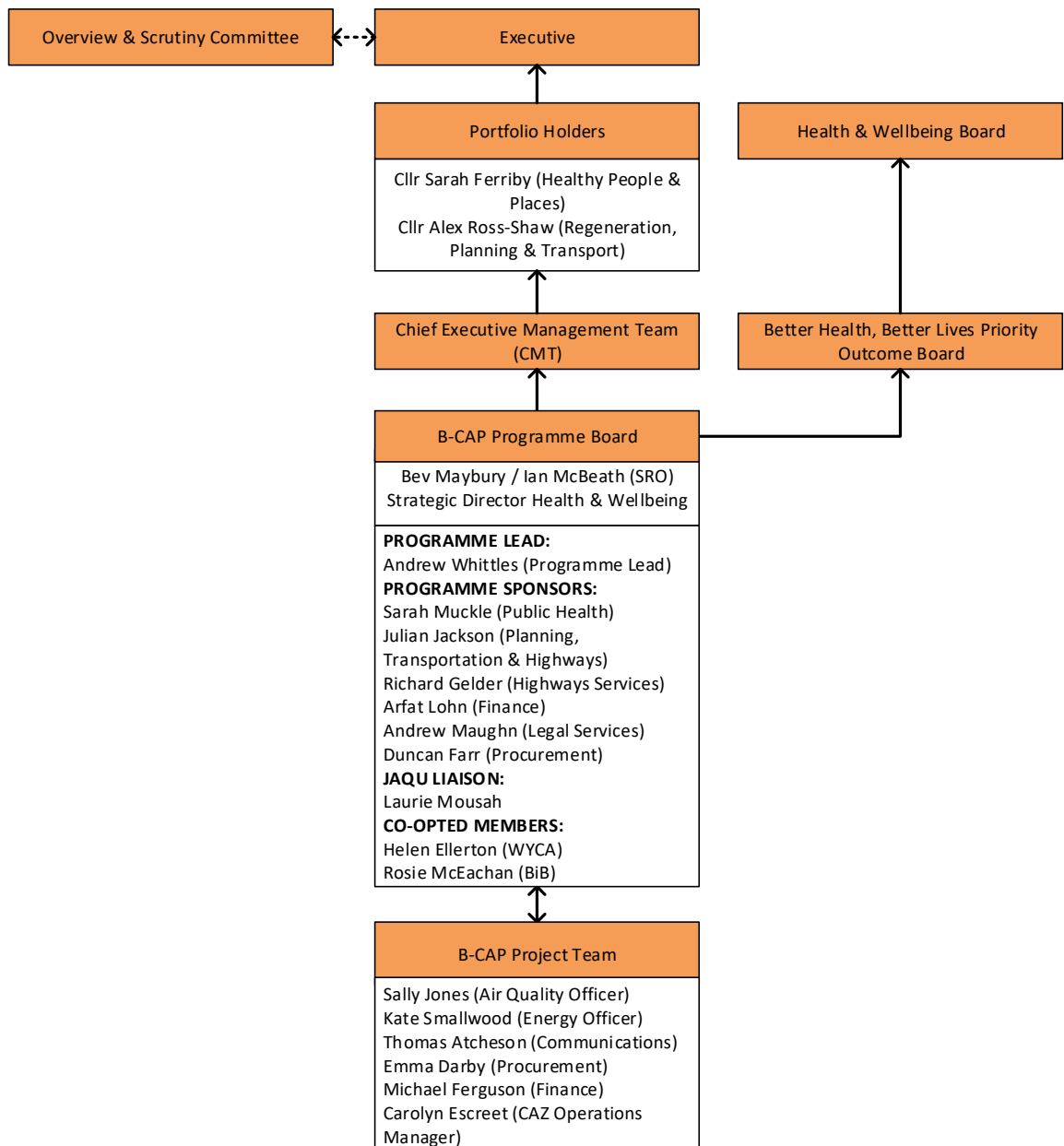


Figure 4: Structure Organogram

- **CAP Project Team** – The roles within the Project team including the following key roles and individuals:
 - **Project Manager(s)** – Individual Project Managers will be appointed for specific projects under the CAP as part of the Council’s inception processes. Project Managers will be responsible for identifying project scope, objectives and constraints (working with technical specialists), and planning their specific project. Key Project Managers within the team include Sally Jones and Kate Smallwood. These key staff will be responsible for managing any external advisors and suppliers to ensure that the projects are being delivered to the required quality, time and budget. They will supply regular progress reports on funding and finance (in conjunction with finance representative), issues for

escalation and general progress on each of the projects. They will be responsible for managing and engaging in communications and liaison between all stakeholders and ensuring that any issues that arise are dealt with in a timely manner and do not adversely impact on the project and programme deliverables; and for actively managing the project risk and issues registers.

- **Risk Manager** – Ben McCormac will be responsible for developing the appropriate processes and tools to support risk and issue management. The Risk Manager will lead risk review sessions and update programme and project risk registers ensuring a robust and consistent approach to risk management is maintained across the Programme.
 - **Project and Configuration Librarian** – The Council's Corporate PMO will allocate a dedicated Project and Configuration Librarian resource who will be responsible for ensuring all information is managed effectively and providing document control support across the programme and projects.
 - **Commercial / Cost Engineer** – A commercial cost engineer will be appointed through the Council's Highways Strategic Delivery Partner (Costain) who will be responsible for providing commercial support across the programme and projects.
 - **Work Package Leads** – Individual work package leads will be appointed for specific work packages under the CAP as part of the Council's inception procedures. Work Package leads will be responsible for managing their work packages and activities to ensure delivery in line with Programme objectives, budget and timescales. Responsible for organisation workload and resources within their area of responsibility and reporting to the Programme Management team and Programme board.
 - **Quality Assurance** – Independent Quality Assurance leads will be appointed from a range of disciplines both internal and external to the Council as part of the Council's inception procedures. Quality Assurance leads will be responsible for confirming that the products from the various work streams or projects meet the output specification, are delivered to budget and programme and are in all respects fit for purpose. Individual Quality Assurance leads will be identified in the appropriate Stage Plan.
32. It is proposed that Project Managers will be allocated to each project as appropriate from either within the appropriate Council service or via the corporate Project Management Office (PMO).

Work Streams Delivery Arrangements

33. To continue development of the Full Business Case, eight work streams were set up, which have supported and serviced the Programme to date. Through the development of the FBC the current work streams will be modified and supplemented to reflect the requirements of managing the programme through the to its implementation stages. Work

stream leads are accountable for ensuring that their work stream provides effective support to the Programme and Projects. The scope of each work stream is summarised in the table below:

Table 2: CAP Work Streams

Work Stream Title	Description of Work Stream Activity
Policy & project design	Manage the policy design requirements to support the design and appraisal activities for the programme, projects and work streams. Develop grant defrayment policy processes and procedures to facilitate efficient distribution of clean tax, van and HGV grants prior to the CCAZ operational phase.
Data, Evidence and Modelling	Commissioning and collection of additional data and further development of underpinning information for modelling the CAP. Building on data and assumptions from the OBC stage to produce a refined and defensible traffic, air quality and economic model for the future case (using Target Determination data) and reflecting Covid19 implications on traffic volumes and associated air quality improvements. Updating and re-running of models to help optimise and determine the final scope of the projects and work packages.
Project and Work Package development	Development and detailed assessment of the CAP against the Critical Success Factors (CSFs). Co-ordination of development across various work streams to optimise and determine the final score and required outputs of the projects and work packages in order to achieve compliance. Development of arrangements to ensure effective implementation of the CAP deliverables and establish internal operational arrangements for the programme as it moves from development into implementation and operational phases.
Monitoring and evaluation	Development of the Monitoring and Evaluation requirements during the FBC stage, to align with JAQU requirements. Work with external health care professionals (Born in Bradford (BiB)) to ensure that the CAP deliverables match their study requirements. Establishment of baseline data and on-going monitoring and evaluation through to the operational and decommissioning stages.
Marketing, communications, stakeholder engagement and consultation.	Immediate and on-going communications and engagement with internal and external stakeholders to ensure consistent, timely and efficient delivery of information. Facilitation of views and input from stakeholders where required. Marketing, communications and events to promote the benefits of clean air, the impact of travel and vehicle choices on air quality, the nature of the preferred option and what people need to do to prepare themselves and how to make choices that clean up Bradford's air.

Work Stream Title	Description of Work Stream Activity
Governance and oversight	Manage the governance and oversight through the internal and external approval process for the Programme, projects and work streams.
Legal	Manage the legal requirement for the Programme, projects and work packages. Development and statutory consultation on the Charging Scheme Order for the CCAZ. Work across the programme to ensure legal compliance.
Procurement	Manage the procurement requirements for the programme, projects and work packages.
Finance	Manage the financial requirements for the programme, projects and work packages. Provide assurance to the Council's Financial Case assessment of the CAP programme and establish appropriate internal accounting arrangements.
Human resources	Manage the recruitment requirements for the programme, projects and work packages.
Audit and assurance	Risk Assessments and audits across the programme, projects and work packages.

34. Each of the above work streams will be reviewed by the Programme and Project Managers at key stages to ensure that appropriate support is provided to the Programme throughout the development phase of the FBC together with the subsequent implementation, operation, decommissioning and close-out phases. For example, input into the first four work streams in the table above would be expected to reduce following FBC development and approval stage, whilst others such as the finance work stream remain relevant throughout the whole Programme lifecycle.

Use of Specialist Advisors & Third-Party Suppliers

35. Following approval of the Outline Business Case the use of specialist advisors and third-party suppliers was reduced to reflect the reduced requirement for this type of technical support. To develop this Final Business Case the Council has appointed a limited cohort of suppliers to assist which include:
- Lead Air Quality Advisor.
 - Transport, air and economic modelling specialists.
 - Marketing, communications and stakeholder engagement.
 - Legal Support and Counsel.
36. As originally envisaged in the Outline Business Case the use of specialist legal support for the development of the Charging Scheme Order (CSO) and to advise on potential

legal risks arising from the statutory consultation process is now not anticipated to be as significant as originally identified. The main reason for this is down to a suitably experienced legal services officer being identified and assigned to the project. Where a circumstance arises where specialist Counsel opinion may be sought for independent advice to the Council this will be procured using the Council's existing legal panel framework rather than via a specific procurement exercise. This has the advantage of reducing lead in times for receipt of independent advice significantly.

37. Through the Implementation and Operation phases of the CAP programme it is planned to engage the following specialist advisors:

- ANPR solution architects;
- Data system integration and IT Solution Architects;
- Highways Strategic Delivery partner resources; and
- Marketing, communications and stakeholder engagement.

The detail of the scope and the proposed procurement approach for each of these advisor roles is set out in the Commercial Case.

38. Additionally, it is expected that support will need to be provided by specific teams within the Council (for development of the design, gaining powers and consents, drafting and promotion of Traffic Regulation Orders, consultations etc.). These requirements will be further defined once the individual projects are initiated following approval of the OBC. This approach will benefit from utilising inherent knowledge of the Council's processes, technological expertise and understanding of the council's existing assets. This approach will potentially expedite the delivery of the Programme.

Section 4: Project Controls

Commercial Controls

39. Maintaining commercial cost control for the delivery of all elements of the CAP will be an essential part of achieving successful delivery of the critical success factors of the plan. Appropriate commercial controls will therefore need to be embedding in all procurements which are undertaken as part of the various elements of the plan. The Council's internal procurement team have a strong track record of ensuring that appropriate commercial controls are included in all procurement contracts, and where the value of these contracts exceeds £2m further commercial rigour is applied to each procurement via the Council's Central Finance and Legal Services teams. All contracts over £2m must also be reported to the Council's Regeneration & Environment Overview & Scrutiny committee who have responsibility for challenging the need and scope of each procurement proposed. Appropriate allowances have been made in the CAP programme to ensure where procurements need Overview & Scrutiny oversight the reports setting out the detail of the procurement arrangement can be prepared well in advance of the committee meeting in order to facilitate the Council's internal approval processes.
40. During delivery of CCAZ camera infrastructure the Council will use the services of the Highways Strategic Delivery Partner to provide the Commercial Cost control engineer. In addition to providing additional challenge to the financial aspects of physical infrastructure this approach further strengthens the Council's position of engaging a private sector partner as part of the core project team. Together with the Council's own internal resources this approach is seen as providing the greatest degree of commercial control on the elements of the CAP proposals possible.

Contract Management

41. Essential to the successful running of the contract are high-quality project management skills, complemented by specialist cost control expertise and sufficient support resources. These are required from the outset of tender development and evaluation, through project development and up to post-completion. These resources will be provided from a range of sources including the Council's own in-house teams supplemented through the Highways Strategic Delivery Partner framework. This framework provides the Council with 'call off' support from a range of specialist services including NEC3 Project Managers, Project and Programme Managers, Quantity Surveyors, Contract Managers, Contract Specification drafting specialists, risk management specialists as well as contractor resources capable of providing Early Contractor Involvement (ECI) support to the Council.
42. It is proposed that the responsibility for managing the infrastructure related contracts for the CAP in Bradford would fall within the Council's Planning, Transportation & Highways Service. The Highways Services Manager (working with the Air Quality Portfolio Lead) would take overall management responsibility for the delivery of infrastructure based

Measures and establish appropriate contract management arrangements within the Council. The Council's Procurement Team will provide support to ensure the procurement processes are appropriate (i.e. provide value for money and are legally compliant).

43. Since the Outline Business Case the level of capital projects to be delivered through the CAP programme has reduced significantly and now comprises only the deployment of the ANPR camera network and associated communication infrastructure. Delivery of these elements of the CAP plan will be undertaken using in-house resources and therefore will be monitored in line with the arrangements of the Highways Service. This project will be incorporated as part of the Capital Works Programme Board governance process which is responsible for programme governance, oversight and delivery. The Council's proposed Air Quality Programme Board will still retain oversight of the portfolio delivery as a whole but will rely on information provided from the Capital Works Programme Board.
44. The Council's Highways Services Manager Chairs the Capital Works Programme Board and is part of the Air Quality Programme Board. As part of his responsibilities he is facilitating early contractor involvement for elements of the CAP delivery involving a specialist nature (e.g. ANPR camera procurement, installation and servicing).

Financial Reporting

45. Financial reporting is critical to ensuring that the SRO, Programme Board and Project Teams are able to track progress. The individual Project Managers will be responsible for undertaking regular financial reporting to inform the Programme Manager of progress via monthly highlight reports. Each Project Manager will provide details of expenditure to date, comparison of expenditure to budget and adjusted forecast of expenditure profiles to the end of the project.
46. Oversight of the financial management of the CAP programme will be provided by the Council's Section 151 Officer.

Project Assurance

47. The project assurance role is being delivered through an independent review of the project by Local Partnerships who are providing expert support to ensure effective monitoring of the project's performance and products independent of the Project Manager, SRO and JAQU. Local Partnerships continues to provide a flexible approach to support and critical appraisal of aspects of the business case can project plan, as well as helping to ensure that the preferred scheme compliance with the requirements of the Ministerial direction and secures best value, maximising the likelihood of successful delivery.
48. Following approval of the OBC the assurance process shall be followed for the Programme and each project and work package and repeated subsequently at key stages during the development of the projects to ensure the most appropriate assurance and reporting strategy is applied. Additionally, up to and including FBC stage, the quality

assurance process will be supported by both bespoke technical reviews and by JAQU review panels; the Technical Independent Review Panel (T-IRP) and Delivery Independent Review Panel (D-IRP).

Change Control Approach

49. Where a deviation from project delivery expectations has been identified the respective Project Manager will be required to prepare an appropriate Change Request setting out the reasons behind the need for the change. The Change Request is the primary project management tool used for requesting changes to a specific project or deliverable. Each completed Change Request will be considered by the CAP Programme Board and, if approved, will permit the modification of all associated project documentation to reflect the scope of the change requested. Any approved changes will be communicated with appropriate stakeholders (who are not part of the CAP Programme Board).

Section 5: Programme Plan

Introduction

50. This Management Case focuses on ensuring the right governance, resources and plans are in place to implement the new arrangements in line with the programme plan. The critical path for the current programme has also been developed and will continue to be monitored to assess programme progress and predominantly relates to procurement activities associated with the delivery of the CAP Measures.
51. It is recognised that the required timescale for the delivery of the FBC and the CAP are challenging, and therefore the programme plan that has been developed demands a substantial amount of parallel working to expedite activities. It should be noted that there are risks associated with this method of working, for example, as design work is scheduled to be undertaken in parallel with public consultation activities there is a risk that re-work will be required dependent upon the outcome of the consultation processes, which may put the delivery of the plan in jeopardy.
52. The Programme Plan is attached at [Appendix 13](#) which covers the CAP Programme, the project which is on the critical path for delivery of the Programme (the Clean Air Zone project) and the other Measures. Key milestones which need to be achieved to ensure the introduction of Bradford's Clean Air Zone are set out in the table below:

Table 3: Critical Programme Milestones for CAZ Delivery

WBS Reference	Description	Critical Date
1.4	Submission of final revised Full Business Case documents to JAQU.	11 December 2020
1.7	Confirmation of final CAF Bid funding level by JAQU.	4 January 2021
1.8	Confirmation of final IF allocation by JAQU	4 January 2021
1.12	Ministerial Decision / Sign off of Bradford's Clean Air Plan.	27 January 2021
2.3.9	Executive Meeting	2 February 2021
2.8	Charging Scheme Order Ready for Sealing	21 April 2021

53. The supporting work packages (where funding is not being requested from JAQU) will be progressed within their respective timescales and will be considered through the Council's normal appropriate governance procedures. Such interdependencies include the

Council's potential City Centre Sustainable Travel Package currently being promoted through the Transforming Cities Fund.

Project Interdependencies

54. The proposed projects and work packages have a number of internal, intra- and external dependencies across the CAP programme. The detail of these dependencies relating to each project and work package will be described in the respective Stage Plans for each element which are to be developed as part of the Council's inception processes. Following approval of the FBC, these initial high level interdependencies will be evaluated in detail and documented (e.g. type, source, specification and timeline) for the respective work stream. The scope and timescale of each interdependency will be aligned and agreed to ensure clarity and complementary specifications and timings with the source of the interdependency.
55. The interdependency will be monitored and controlled throughout the Programme lifecycle through regular updates of the programme and project plan which will be managed by the Portfolio Lead and respective Project Managers.

Powers and Consents

56. Under Section 165 of the Transport Act 2000, a Charging Scheme Order (CSO) is required to allow the development and operation of the proposed CAZ project. The timescale for the development of this order has been factored into the schedule to allow sufficient time for the Council to approve the draft scheme order and consultation materials ahead of the planned statutory consultation period.

Section 6: Risk Management

57. Bradford Council's approach to the management of risk is set out in [Appendix 24](#) which sets out the approach to development of risk registers for the programme and its associated individual projects. Where the overall Risk Management Strategy requires refinement for a specific project then personalisation of this approach is envisaged to be produced following the initiation of these projects.
58. The current programme risk register is provided in [Appendix 24.1](#). This programme and project level risk register has been developed following a series of facilitated risk workshops with the Council's Highways Strategic Delivery Partner with respective Programme theme leads. The highest rated programme risks are set out in the table below:

Table 4: Top Identified (High Risk) Programme Risks

Risk ID	Risk Description	Risk Cause	Risk Consequence
1	Loss of confidence in national CAZ programme	CAZ programmes in other cities are not introduced	Public and politicians believe national CAZ framework is not equitable, consistent or necessary
2	Lack of support for CAZ due to economic impact of the Covid pandemic	Local economic downturn due to Covid pandemic exacerbates the financial impacts of the CAZ for key stakeholders	Local economy, affected by the Covid pandemic is further weakened Stakeholders may choose not to visit or do business in Bradford
4	The delivery of the Clean Air Plan is not sufficiently funded and further funding opportunities for Bradford as a CAZ authority do not materialise.	Government funding is not in line with distributional analysis, particularly supporting plus measures needed for compliance	Resistance to CAZ from stakeholders Resistance from taxi trade Loss of support from local and national politicians Compounded economic impact on taxi trade due to Covid pandemic

Risk ID	Risk Description	Risk Cause	Risk Consequence
12	Development of local white list.	The scope of the local white list is being developed by the Council based on consultation feedback and modelling data. Availability of appropriate staff resource may adversely impact the development of this list in time for the 'go live' of Bradford's CAZ.	Delay to the implementation of the CAZ to avoid negative public reaction or use of wide-ranging exemptions during initial stages of operation which could lead to negative public / media coverage of the scheme.

59. Currently, the programme and project risks have been assessed qualitatively but will be assessed quantitatively once the implementation of the individual projects have been formally initiated. The risks will be modelled utilising Monte Carlo Simulation² to provide a Quantified Risk Assessment (QRA) of risk exposure on the programme and projects, and a measure of the capital risk allowance.
60. In the interim for preparation of this Final Business Case, appropriate contingency and allowances for optimism bias have been made within the Financial Case based on the Council's experience of delivering similar schemes and the stage of development of the various projects and work packages at as the date of submission of this document.

² Monte Carol Method: https://en.wikipedia.org/wiki/Monte_Carlo_method

Section 7: Stakeholder Management

Approach and Objectives

61. The primary intervention of the CAP is implementation of a Category “C” charging clean air zone which will have a major impact on non-compliant vehicles entering Bradford were mitigation measures in the form of financial grant incentives will be essential to securing stakeholder support for the proposals. As such, the supporting communications, engagement and consultation activities will operate at different levels of complexity and interaction both the programme and project level.
62. As a public health issue, around a “Breathe better Bradford” theme, it is important that the public communications about air pollution carry out the following:
- Explain what air pollution is;
 - Help people understand how they can protect themselves;
 - Explain the health impacts;
 - Make it local;
 - Explain how individuals can make a difference; and
 - Demonstrate leadership and empower communities.

Communications and Stakeholder Approach

63. To help manage and understand the wide range of interested stakeholders Bradford Council have appointed Systra to help develop a Stakeholder Management and Engagement Plan which is included in [Appendix 3](#). This plan identifies at an appropriate level, key stakeholders who have an interest in the CAP proposals together with a strategy for their engagement and communication requirements through both the statutory consultation stage of the Full Business Case development through to implementation, operation and decommissioning phases.
64. The plan sets out marketing strategies to address communication risks and challenges and identifies the most appropriate resources required to support this work. A programme of engagement activities throughout all remaining phases has been identified and this has been incorporated in the overall programme for the project.

Consultation Approach and Requirements

65. Given the wide ranging nature of Measures proposed in the CAP it is essential that the views of people living, working and commuting in and around Bradford district, including local, regional and national businesses, are sought as part of the assessment to discover the best package of interventions to progress within the CAP.
66. An initial phase of consultation was undertaken in the form of a statistically significant Stated Preference (SP) survey and a wider conversation with stakeholders via the

Council's website which resulted in 1,680 comments from members of the public, 568 taxi returns, 44 businesses, 25 hauliers and 6 van operators all of whom expressed a concern. The outputs from these activities have been used to inform the on-going detailed design of the Measures and build the understanding around impacts of the preferred option from a public and stakeholder perspective.

67. The Council's major consultation on the CAP proposals was undertaken for six weeks for a period between 13 February and 26 March 2020 and was extended for a further two-week period to 8 April 2020. The Covid19 outbreak and 'stay at home' order announced on 23 March together with the cancellation of local elections gave a larger window to complete all consultation activity. A comprehensive summary of the outcomes of the consultation responses is available on the Council's website³ based on the 1,637 individual responses received. The overarching conclusion of this consultation was that there is broad support for the CAP proposals with 67% of respondents supporting the Clean Air Zone proposal.
68. Further phases of activity will be aligned to statutory consultation requirements associated with the Charging Scheme Order together with general messaging regarding the availability of grants and 'go live' date for the Bradford CCAZ.
69. All engagement and consultation activities will be planned to ensure compliance with the key legal principles for consultation as captured in the 'Gunning Principles' which are as follows;
 - Consultation must take place when policies are at a formative stage;
 - Sufficient reason must be provided to allow for intelligent consideration;
 - Adequate time must be allowed for consultees to consider and respond to proposals; and
 - Responses must be conscientiously taken into account.
70. Additionally, the requirements of the Freedom of Information Act 2000; the Environmental Information Regulations 2004; the General Data Protection Regulations; the Data Protection Act 2018 and the public sector equality duty as set out in Section 149 of the Equality Act 2000 will also be taken into account.
71. The Council will also maintain an overview of national developments in respects of air quality communications and legislation to ensure that any engagement is consistent and proportionate with the approach adopted nationally via JAQU.

³ [Link to Bradford Council's Clean Air Zone Consultation webpages](#)

Section 8: Delivery Strategy for Implementation and Operational Phases

72. As described above, a core Programme Team has been established to coordinate Programme development of this Full Business Case building on the work of the Outline Business Case. As the CAP programme transitions from its development and planning phase into implementation and operation the organisation of project resources will similarly transition to reflect the change of scope of the work involved. The implementation of projects within the Programme will be undertaken by one or more delivery bodies as set out in Table 5 below. Delivery Bodies are sub-contractors or other public sector bodies tasked with delivering a Measure in whole or in part.

Table 5: Projects and Lead Bodies

Project Name	Component	Design Phase	Implementation Phase	Operation Phase	Decommissioning Phase
Clean Air Zone	Policy Design	Lead Advisor	N/A	N/A	N/A
	Highway Infrastructure	CBMDC	CBMDC	CBMDC	CBMDC
	Customer	CBMDC	CBMDC	CBMDC	CBMDC
	Technology	CBMDC	CBMDC / Framework Contractor	CBMDC	CBMDC
	Estates	CBMDC	CBMDC	CBMDC	CBMDC
	Charging Scheme Order	CBMDC	CBMDC	CBMDC	CBMDC
	Consultation	CBMDC / Stakeholder Consultant	Stakeholder Consultant	CBMDC	N/A
Clean Taxi, Bus, Van and Minibus Fund	Policy Design	Lead Advisor	CBMDC	N/A	N/A
	Consultation	CBMDC / Stakeholder Consultant	CBMDC / Stakeholder Consultant	CBMDC / Stakeholder Consultancy	N/A
	Customer	CBMDC	CBMDC	CBMDC	CBMDC
	Technology	CBMDC	CBMDC	CBMDC	N/A
Additional Measures	Anti-idling enforcement	CBMDC	CBMDC	CBMDC	N/A
	CBMDC Fleet Upgrade	CBMDC	CBMDC	CBMDC	N/A
	Business Travel Planning Service	CBMDC	CBMDC	CBMDC	N/A

Project Name	Component	Design Phase	Implementation Phase	Operation Phase	Decommissioning Phase
	Taxi Demonstration Project	CBMDC	CBMDC	CBMDC	N/A
Monitoring & Evaluation	Health Impacts Study	Born in Bradford	Born in Bradford	Born in Bradford / CBMDC	N/A
	Benefit Realisation Plan Outcomes	CBMDC / Born in Bradford / JAQU	CBMDC	CBMDC	CBMDC

73. To ensure that the Programme has appropriate resources available to it to ensure successful deliver a combination of the following resources sources will be drawn upon at the appropriate stage of each project or work package:
- Local authority resources;
 - West Yorkshire Combined Authority resources;
 - Born in Bradford and other NHS partners;
 - Regional universities (Leeds & Bradford);
 - Bradford Council’s Highways Services Strategic Delivery Partner; and
 - Supplementary resources from the independent consultant market, where appropriate.
74. To ensure ownership of the implementation and operational phases permanent dedicated staff will be recruited to the CAP programme during September – December 2020 by the Council to replace the project team. These dedicated resources will be charged with taking forward the plans set out in this Full Business Case to realisation and will be the initial stage of recruitment by the Council to wider roles necessary for the operational phases of the project.
75. Improving air quality and reducing emissions harmful to health is a key policy and priority for Bradford Council and the Measures proposed within this FBC will also be complemented by the Council’s existing programme of on-going major investment in its transport infrastructure. Throughout the delivery of the CAP a dedicated work package will ensure that the interfaces with wider programmes, strategies and studies across Bradford are managed to ensure earliest realisation of benefits from these streams where complimentary benefits have been identified.

Key Delivery Challenges

76. There are a number of key challenges in relation to the implementation of the CAP which have currently been identified, including:
- Securing the necessary approvals, powers and consents;
 - Securing the necessary funding at the required time;
 - Stakeholder management and engagement;
 - Interface with Highways England (in relation to linkage to SRN);
 - Balancing local and strategic transport and economic priorities;
 - Linkages with Leeds City Council and their proposals for Air Quality;
 - Ensuring the design of the scheme is at a sufficient level of maturity to facilitate efficient delivery/construction/operation;
 - Development of the IT elements and interfaces with central government systems;
 - Undertaking procurement activities to the required timescales;
 - Realisation of assumptions made (e.g. assumptions relating to growth and wider modelling assumptions);
 - Mitigating the combined impacts of Covid19 and the CAP proposals on Bradford's economy;
 - Minimising disruption to public transport; and
 - Consideration of other initiatives and programmes to ensure alignment (particularly the Council's West Yorkshire+ Transport Fund portfolio and Transforming Cities aspirations).
77. The above challenges will be mitigated through robust risk management processes and a comprehensive stakeholder and communications strategy, as set out in this Management Case.

Section 9: Operating Model

Introduction

78. Previous sections of this Management Case have described the approach for the implementation of the CAP Programme and how it will be governed and delivered through the Implementation Phase. Part of the implementation phase will include establishing an operating model to govern, manage and maintain the outputs of the projects and work packages, until either the EU Limit Value has been met or the funds utilised (incentive funds) have been expended. The establishment of this operating model, and its associated policies and procedures, will be the responsibility of the Clean Air Plan Delivery Team described previously. The members of this team will be accountable to the CAP Programme Board for the on-going delivery of the service(s) as well as the management and governance oversight of the CSF expectations.

Clean Air Plan Delivery Team (CAPDT)

79. This Clean Air Plan Delivery team (in the operational phase) will comprise the following theme leads:
- **Clean Air Plan Lead** – Andrew Whittles will have line-management responsibility for the CAPDT and act as the Programme Executive during the operational phase of the plan for the team.
 - **CAZ Operations Manager** – Carolyn Escreet will have day-to-day responsibility for ensuring the operational status of the Clean Air Zone and overseeing the administration of the Customer Contact service and PCN operations. Carolyn will act as the programmes Senior Supplier.
 - **CAZ Monitoring & Evaluations Manager** – Sally Jones will be responsible for the effective implementation and reporting of the M&E Plan. As part of her role Sally will provide liaison with Born in Bradford in relation to their study into the long-term health benefits of the programme as well as directing media engagement for the plan as its Senior User.
 - **Grant & Business Support Team** – Graham Feather will be responsible for the grants and business support functions.
 - **ULEV/EV & Clean Economy Manager** – This role will support the uptake of electric vehicles engaging with businesses and community groups as well as providing wider strategic links with the Council's Climate Change team.
 - **Business Services Manager** – Michael Ferguson, who is the Business Services Manager for Planning, Transportation & Highways will provide financial support to the CAPDT and act as the principal interface between Bradford Council and JAQU in relation to payment of the central service charge.

80. The CAPDT will operate as a dedicated business unit within the Planning, Transportation & Highways Service and will ultimately be accountable to the Assistant Director (Planning, Transportation & Highways) as the SRO for the Clean Air Plan programme.
81. This CPADT will be responsible for:
- Accounting for activities of all the Measures including the allocation of funds on behalf of CBMDC (this role will commence during the implementation phase and continue into operation);
 - Maintaining oversight of the operation of the CCAZ function in terms of physical infrastructure, levels of activity and financial accounting.
 - Reviewing and responding to the outputs from the Monitoring and Evaluation returns, developing mitigation measures (where required) to ensure achievement of the Plan's Critical Success Factors in the shortest possible time.
 - Tracking the performance and progress of the individual elements of the CAP against their anticipated implementation programme.
 - Making recommendations to the CAP Programme Board for the implementation of additional measures funded under the Charging Scheme Order Investment Priorities to ensure that compliance is achieved in the shortest possible time.
 - Developing bid proposals to support further air quality improvements and overseeing their delivery and benefit realisation.
 - Assessing when sustained compliance has been achieved within the CAZ and authorising the commencement of the decommissioning phase.
 - Overseeing the decommissioning activities of the CCAZ and all associated close-out operations.

Section 10: Monitoring & Evaluation

Benefits Realisation

82. The Strategic Outline Business Case highlighted that poor air quality damaged health. The primary benefits of reducing NO₂ and particulate matter (PM) emissions are improvements to the health of residents and those travelling within Bradford and the wider West Yorkshire region due to reduced exposure to harmful concentrations of NO₂ and PM. A further benefit is the reduction in environmental impacts associated with poor air quality. This will, in turn, reduce healthcare spending, increase productivity as illness is reduced, and prevent premature death. Long-term sustainable growth goals are more likely to be achieved with improvements to infrastructure and Measures that encourage less impactful and more efficient modes of transport.
83. Benefits realisation management will ensure that the programme benefits are maximised. The schemes within the CAP programme are large-scale, innovative and present the risk of unintended negative consequences for people's wellbeing. Therefore, the monitoring requirements will be proportional to the scale and type of the scheme to ensure benefits are realised. In order to clearly demonstrate all benefits from the programme and component projects and subsequently ensure that they are all fully realised, a full benefits assessment will be undertaken at FBC to identify all benefits and dis-benefits, allow presentation of these to stakeholders and ensure plans are in place for benefits realisation once the project is transferred to business as usual.
84. Benefits will only be realised once all projects within the Programme enter their operational phases. Benefits are anticipated to continue increasing post implementation as modal shift occurs and modern, less polluting vehicles and technologies become more prevalent.

Monitoring & Evaluation / Benefits Realisation Plan

85. A detailed monitoring and evaluation plan is attached at [Appendix 8](#), this plan proposes a method of measurement to assess the success of the interventions in realising the benefits identified. The monitoring and evaluation plan considers the impacts of the CAP on the environment, society and economy. In addition to the proposed monitoring of NO₂ levels, the monitoring plan also includes monitoring of the outcomes in relation to traffic volumes and traffic composition. It also proposes to capture customer attitudes and behaviours through undertaking surveys and monitoring the responses to initiatives.
86. JAQU have appointed a contractor to develop and deliver a central evaluation programme. The Programme will engage with the contractor to further develop Bradford's monitoring and evaluation plan to reflect the scope and requirements of the central evaluation programme. A detailed evaluation plan will be produced ahead of the FBC.

87. To further complement the Monitoring & Evaluation Plan and to assess the health benefits associated with the CAP measures Born in Bradford have successfully secured £1m of funding to undertake an independent, health based, assessment of the outputs of this programme. This independent assessment is seen as a unique opportunity for JAQU to understand the wider benefits of dealing with air pollution and hopefully will assist in their wider review of similar schemes nationally.
88. The post-programme evaluation will be undertaken to reflect the completed implementation and benefits realisation. This will commence once compliance has been reached. The scope of this evaluation will encompass examination of benefits realisation, actual cost comparison against planned, lessons learnt throughout the programme delivery and any opportunities to increase the benefits through further works.

Decommissioning

89. It is currently proposed that decommissioning of any ANPR charging infrastructure will be funded via an allocation from the charging income source reserved in the initial year of operation of the CCAZ.

Acronyms

ACRONYM	DEFINITION
AFC	Advance Fuel Centre
ANPR	Automatic Number Plate Recognition
BAME	Black and Minority Ethnic
BiB	Born in Bradford
CAF	Clean Air Fund
CAP	Clean Air Plan
CAPDT	Clean Air Plan Delivery Team
CAZ	Clean Air Zone
CBMDC	City of Bradford Metropolitan District Council
CCAZ	Charging Clean Air Zone
CCTV	Closed Circuit Television
CMT	Chief Executive's Management Team
CSF	Critical Success Factor
CSO	Charging Scheme Order
D-IRP	Delivery Independent Review Panel
DfT	Department for Transport
DEFRA	Department of the Environment, Farming and Rural Affairs
EU	European Union
EV	Electric Vehicle
FBC	Full Business Case
GIS	Graphical Information System
HGV	Heavy Goods Vehicle
HIA	Health Impact Area
IF	Implementation Fund
IT	Information Technology
JAQU	Joint Air Quality Unit
LED	Light Emitting Diode
LGV	Light Goods Vehicle
LNER	London North Eastern Railway
LSOA	Lower Super Output Areas
LTS	Local Transmission System
NO ₂ / NOX	Nitrous Oxide
OBC	Outline Business Case

ACRONYM	DEFINITION
OfGem	Office of Gas and Electricity Markets
PCM	Pollution Climate Mapping Model supporting EU Directive 2008/50/EC
PHV	Private Hire Vehicle
PM₁₀ / PM_{2.5}	Particulate Matter
PMO	Project Management Office
PRINCE2	Projects in Controlled Environments
SOC	Strategic Outline Case
SME	Small, Medium Enterprise
SP	Stated Preference Survey
SRO	Senior Responsible Owner
T-IRP	Technical Independent Review Panel
TRO	Traffic Regulation Order
TUPE	Transfer of Undertakings (Protection of Employment) Regulations 1981
ULEV	Ultra-Low Emission Vehicle
UTC	Urban Traffic Control
WAV	Wheelchair Accessible Vehicle
WYCA	West Yorkshire Combined Authority
WYLES	West Yorkshire Low Emission Strategy