

## **Bristol Waste Company**

### **Business Case**

## **Clean Air Zone (CAZ) Fleet Replacement**

**January 2021**

**Version 2**



**Vehicle shown is for indicative purposes only**

## Contents

1. Executive Summary	3
2. Business Case details	4
3. Strategic Case	4
4. Procurement Timelines	8
5. Risks and mitigation	8
6. Commercial Case	9
7. Financial Case	9
8. Programme	11
9. Conclusion	11

## Document Control

DOCUMENT CONTROL	
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<b>Bristol CAZ Fleet Business Case</b>	

## 1. Executive Summary

This business case is in addition to the October 2018 business case which was to renew all our collections fleet over a period of 6-12 months at an estimated cost of £12m. We have now completed the first programme of fleet replacement during which negotiation on pricing and configuration saved BWC in excess of £1M. These savings were subsequently able to be used to enhance safety features of the new fleet and purchase the 2 x bulk fuel tanks that have enabled BWC to move onto lower emission GTL fuel. The initial business case mentioned further fleet renewals, which this business case now addresses. We are now approaching the final programme of vehicle replacements, ensuring that the remainder of the BWC fleet are fully compliant with the pending CAZ being introduced to Bristol in 2021.

We are seeking approval for BCC to loan funds to BWC to enable the purchase now of these remaining vehicles which will have a working life span of 7 - 9 years. Funding via a loan to the value of £1.7M from BCC provides Bristol Waste Company with the most flexible method of financing, it also generates an income to BCC.

With robust maintenance and in-service repairs BWC will extend the usefulness of these new vehicles adding long term value to our business. Although BWC have looked extensively at electrification, we believe that these vehicles types will not be financially viable until the next replacement programme in 7 – 9 years' time.

This business case covers the remainder of the BWC fleet that requires replacing to ensure compliance with the CAZ being introduced in 2021. This will replace a number of different types of service vehicles that are utilised on all BWC services supporting frontline collection services.

BWC have historically where feasible opted for electric vehicles, to date replacing nearly 20 diesel supervisor vans and 6 light commercial vehicles with electric vehicles.

BWC request that this business case is given full consideration which will allow changes to our existing fleet to commence as soon as the 1st quarter of 2021.

### **Background to Bristol Waste Company:**

Bristol Waste Company (BWC) carry out local recycling, waste collection and street cleansing. We are committed to working in partnership with the people and enterprises of Bristol, to help all communities recycle more and throw away less. Additionally, we run both of the city's household waste recycling centres (HWRCs, one of which also now include a re-use shop), a winter maintenance service and a commercial waste service, offering local businesses tailored, cost effective recycling and waste solutions.

We employ over 600 local people who make 17 million scheduled collections every year, operate 230 vehicles, collect 140,000 tonnes of waste (Inc. confidential waste) and recycling per annum – of which 53,000 tonnes is sent for composting or recycling in the Bristol Region. We clean 800 miles of streets and footpaths and deal with 180,000 ad hoc job requests and service requests annually. We support student accommodation in Bristol City with recycling initiatives, events and behavioural change.

Our health and safety compliancy benchmarks are 40% lower (i.e. better) than the national average. We invest in creating and delivering sustainable waste management solutions that are in-line with legislation and the principles of the waste hierarchy.

## 2. Business Case details

<b>Project Name</b>	<b>Bristol CAZ Fleet Business Case</b>
<b>Project Sponsor</b>	Bristol Waste Company
<b>Project Manager</b>	Tony Lawless
<b>Service description</b>	Replace CAZ non-compliant vehicles to support BWC waste services contract
<b>Partner organisation(s)</b>	Bristol City Council
<b>Project Reference</b>	CAZ Fleet

## 3. Strategic Case

Having renewed the majority of the BWC fleet through the £12m loan secured with BCC, BWC originally intended to run the remainder of the fleet for another 18 – 24 months to maximise the asset life and financial benefits associated. Individual vehicles would have been replaced on a case by case basis should they become uneconomical to repair to ensure service continuity.

However, the pending introduction of the Bristol CAZ has now brought forward the need for BWC to replace these vehicles before June 2021 to ensure compliance with the new regulations and avoid potential daily charges for entering the zone.

BWC investigated the option of continuing to run the existing vehicles after the implementation of the CAZ, however this does not put the company in particularly good light by failing to ‘do the right thing’ as we strive to do all we can to improve the city that we operate in.

The cost incurred in continuing to run these vehicles inside the CAZ would also be significant. Assuming that 50% of the vehicles entered the zone each day (Albert Road is inside the CAZ), this would equate to 11 vehicles and at the estimated £100 charge per day, would see an annual cost of £286,000 with zero benefit to BWC or BCC and far outweigh depreciation costs on a new fleet which is £239,000 per annum.

Having a mixture of specialist and non-specialist vehicles to replace will enable BWC to utilise vehicle auction sites to secure as many non-specialist vehicles as possible. Whilst these vehicles are used, any vehicle considered will be less than 3 years old and have a Euro 6 engine. They will offer lower prices when compared with new, reducing capital outlay and ongoing monthly depreciation. A strict purchasing criterion has been drawn up that each vehicle must meet and this criteria formulates our maximum bid, so as to ensure best value is achieved. In addition, other purchasing strategies will be employed including dealer special offers and used vehicle acquisitions.

To help BWC further maximise the benefit of new vehicles, in house servicing and maintenance allied to a higher standard of materials used in construction of new vehicle bodies will increase operational life span to eight years as standard and enable BWC to benefit once the vehicles are fully depreciated at the end of year 7. (Hiab the exception, only expected to last 7 years)

The new fleet will also result in a significant reduction in the number of breakdowns that BWC currently experience on a regular basis. Service delivery would improve through ensuring collection rounds are not delayed or incomplete leading to reduced resident complaints and improved service satisfaction. Older vehicles create the need for additional resource for unplanned maintenance, therefore updating the fleet will improve our planned maintenance scheduling.

The tangible improvements a new fleet will bring to the business will include all programmed collection rounds being completed each day within standard operational working hours. The new fleet will incorporate modern test points which allows faults to be traced in a shorter time. Add the warranty and reliability of a higher standard modern vehicle and we expect to be able to reduce the number of repairs sent out to external providers to almost zero.

BWC will also be able to support the Innovation and sustainability team with bespoke vehicles designed for additional material separation and capture in the increasing sector of multiple occupancy residences. This will increase recycle totals by reducing waste to landfill which will lead to a rise in recycled material percentages and income.

The improved fleet image with continuity of branding by replacing older vehicles supports the BWC message and projects an image of a professional waste business. This maintains a modern, fit for purpose fleet for residents and future commercial customers within the city.

### **3.1 The proposal**

The remainder of the BWC fleet yet to be replaced will not comply with new CAZ regulations being implemented in Bristol in 2021. This policy has therefore brought forwards the need to replace each of these vehicles before October 2021. This Business Case sets out which vehicles we are looking to replace, and the costs associated with this.

### **3.2 The case for change**

In addition to the CAZ policy, the vehicles we are looking to replace are almost all currently fully depreciated. Bringing forwards the final programme of vehicle acquisitions will support additional control on the BWC balance sheet forecasting as opposed to the variable costs attributed to operating older vehicles.

An additional benefit to consider is fewer breakdowns causing a reduction of overtime, due to a higher rate of rounds being completed during normal hours. Every additional hour to complete rounds on overtime costs on average £55 / hr based on current crew rates. With better service outcomes to our customers there will be a reduced impact on our complaints team.

### **3.3 Fit with national policy regarding sustainability**

The UK has historically breached the EU limits on NO<sub>x</sub>, therefore the introduction of Clean Air Zones within cities has been identified as a solution to this in larger cities, Bristol has been recognised as one

of these cities that is required to lower its NO<sub>x</sub> levels. Air pollution can cause both short- and long-term health effects on people. The UK Government has set legal standards for a range of air pollutants, Bristol is in breach of these standards for NO<sub>2</sub> and the UK has been sued because of failures to meet the European Limit Values for NO<sub>2</sub>.

In July 2017, Government formally directed Bristol City Council to:

- By 31 March 2018 undertake a feasibility study and identify options which will deliver compliance with legal limits for nitrogen dioxide in the shortest possible time; and
- By 31 December 2018 to identify a preferred option, including value for money considerations and implementation arrangements.

It is noted that Cabinet has not yet made a decision about whether a CAZ will be in place or what sort of CAZ it would be. This paper assumes some form of CAZ will be adopted.”

The Council’s own reports have calculated that deaths of around 300 Bristol residents could be attributed to air pollution each year<sup>1</sup>The most concerning pollutants within Bristol are nitrogen dioxide (NO<sub>2</sub>) and particulate matter. Particulate matter is defined by the size of the microscopic particles, as this affects the impact it has on health. NO<sub>x</sub> is mainly emitted from road traffic, particularly diesel engines. When this is released into the air, it turns into NO<sub>2</sub> through reactions with other pollutants and sunlight. NO<sub>2</sub> is a poisonous gas and UK and EU standards exist to control concentrations. These limits are currently breached in Bristol<sup>2</sup>.

Although different types of vehicles contribute to pollution in different ways, diesel vehicles contribute 96% of NO<sub>x</sub>.

Given these constraints within the city it is imperative that any business that wishes to be active within the city considers their impacts on the air quality of the city. As a result of this, Bristol Waste in line with their duty to collect both recycling and residual waste from all householders within the city have the means to undertake this and not to have a detrimental impact on the air quality of the city.

### 3.4 Industry Responses

In a detailed, 143 - page industrial dossier, the government pledged to introduce a new “voluntary, industry-supported commitment” to reduce HGV greenhouse gas emissions by 15% against 2015 levels by 2025.

Freight consolidation is also an option in cities, where suppliers have goods delivered directly to a consolidation centre on the outskirts of a city and combine those goods into a single fuller load for the onward journey to the delivery point. Although this is not wholly practical for waste collections, a more communal non-household collection may be, this would similar to systems operated in European cities – where flats do not necessarily have individual bin stores but street based recycling and collection systems.

Both DAF and MAN vehicle manufacturers can provide vehicles which operate on Bio-fuels. However, DAF will not warranty Bio- Fuel – FAME (Fatty Acid Methyl Esters) if based on 2<sup>nd</sup> hand oils / fats. MAN

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<sup>1</sup> BCC Cabinet report. 05 November 2019. Improving Public health: Bristol Clean Air Plan – Outline Business Case

<sup>2</sup> <https://www.cleanairforbristol.org/what-is-air-pollution/>

will warranty FAME but only as a percentage blend with Diesel. This is due to impurities and waxing when cold. Both DAF and MAN will warranty vehicles using Gas to Liquid (GTL) or Hydrated Vegetable Oils (HVO).

Supply of these fuels is limited to bulk deliveries as these fuels are not readily available at the pump. To be able to order a minimum of 36,000 litres BWC have procured two 60,000L dispensing tanks which are used to fill all diesel vehicles under a managed and controlled system.

### 3.5 Fit with local policy

As well as complimenting and progressing the objectives set out in national policy, the procurement and purchase of this new vehicle fleet helps to achieve some of Bristol City Council's strategic and policy aims and objectives with particular regard to 'healthy, safe and sustainable communities and places' as detailed within the Health and Wellbeing Strategy. Included in the strategy are the low-carbon objectives of the Global City Strategy, the sustainable improvements in the management of wastes set out in the Waste and Resource Management Strategy and the key commitments detailed with the Environmental Policy. The One City Plan also brings together these ambitions and targets in line with the Transport and Environmental strands<sup>3</sup>.

- Continually improving our performance, meeting our compliance obligations, preventing pollution and protecting the environment.
- Managing risks and reducing our direct environmental impacts in energy, travel, waste, water, food, biodiversity and land use.
- Using our resources efficiently and working with our suppliers to reduce the impact of the goods and services we buy.

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<sup>3</sup> <https://www.bristolonecity.com/about-the-one-city-plan/>

## 4. Procurement Timelines

PLEASE SEE  
EXEMPT  
APPENDIX I3  
FOR APPENDIX  
C (PROCUREMENT  
TIMELINE)

Having successfully mobilised the new majority of the new BWC fleet, it is important that we are then in a position to meet the deadline of 1<sup>st</sup> October for the CAZ implementation. In order to facilitate a smooth mobilisation, it is critical that a strict Procurement timeline is adhered to. Please see the attached Appendix C – Procurement Timeline for full details of these spends, by month.

The first vehicles are required to be ordered ASAP with varying lead times across the different vehicle types. This ranges from 8 months for specialist vehicles like the Hiab and RCV's through to 2 months for simple workshop vans that BWC will also look to secure used in order to maximise financial savings.

### 4.1 Safety Benefits

Health & Safety benefits will be significant, such as electronic braking systems, video tracking, turn signalling and driver identification.

#### Improvements in the build and design

- Although we currently operate on Euro 4 and 5 diesel the significant improvements provided by the Euro 6b diesel will ensure we reduce our impact on the environment to reduce harm to our staff and citizens of Bristol.
- Increased use of composite and alloy materials in the build which are lighter and non-corrosive to increase vehicle life.

## 5. Risks and mitigation

The biggest risk to the business is the financial cost of not replacing the remaining vehicles in time for the introduction of the CAZ. From 1<sup>st</sup> October 2021 any vehicles not replaced will begin incurring daily charges for entering the restricted zone.

- BWC will manage a full procurement and mobilisation process to ensure that all vehicles are received and have additional technology and livery fitted prior to October 1<sup>st</sup> 2021.
- Opting to buy used from auction sites or dealer specials where possible will allow BWC to benefit from having nearly new vehicles whilst greatly reducing our exposure to full depreciation costs
- A new fleet will be supported with warranties on both chassis and body. Additionally, the procurement process will ensure that the evaluation considers satisfactory resilience through service back-up and loan vehicles if required.



## 6. Commercial Case

### 6.1 Procurement strategy

The purchase of the remaining fleet will follow the procedures set out in Bristol Waste Companies Procurement Policy. The purchase will be tendered via the Councils procurement portal and will comply with EU procurement regulations. The procurement strategy identified the need for early marketplace engagement with potential bidders to help understand the marketplace and risks around lead times, build process, etc. The risk around build times and scheduling of builds was identified as a significant risk and extensive communication has been conducted to keep bidders informed of our progress and plans to ensure that any risks are mitigated. The strategy also identified that utilising a direct award process wherever possible was best suited for this procurement to enable shorter lead times in what is a limited marketplace.

### 6.2 Charging mechanism

Funding will be sought from BCC for the purchase, this will be managed by BWC during the contract term.

## 7. Financial Case

The purpose of this section of the document is to detail the financial aspect of the Business Case for the acquisition of approximately 23 vehicles, while ensuring that the funding choice enables Bristol Waste Company to continue to provide value-for-money to shareholders.

**NOTE:** At the initial time of writing, June 20, the details are estimates until final specification and pricing is confirmed, expected as per the procurement timeline mentioned in section 4.

Previous business case included costs on seeking alternative finance, such as 3<sup>rd</sup> party loan and operating lease from suppliers. It is unlikely that alternative finance would be cheaper, also, due to the mix of vehicles required (different suppliers) the extra work in obtaining quotes would be considerable. We have therefore *only* considered a loan from BCC at this stage.

### 7.1 Capital requirements

Vehicle Type	Quantity	Total Value	First Arrival	Last Arrival
Collections	8	£975,450	July 21	August 21
Street Cleansing	11	£529,850	June 21	August 21
Fleet	3	£37,950	July 21	July 21
Processing	1	£125,150	August 21	August 21
	<b>23</b>	<b>£1,668,400</b>		

\*Where used is an option, vehicles may arrive outside of these windows. Total figure rounded to nearest thousand.

### 7.2 Impact on revenue

This acquisition will increase depreciation to the accounts of Bristol Waste Company, however, it is our view that this investment remains critical to the successful operation of Bristol Waste Company within the CAZ, ensuring that as a company we can professionally function and are fit-for-purpose.

PLEASE SEE  
EXEMPT  
APPENDIX I3  
FOR APPENDIX  
A (VEHICLE  
COSTS  
SUMMARY)

These new vehicles would lead to an increased monthly depreciation of £19862 (Please see Appendix A - Vehicle costs summary).

Latest calculations show that a loan of £1.7M from BCC would attract interest over the period (7 years) of £247k resulting in a total cost of £1.947m based on figures from BCC finance department. Annual repayments of this amount would be approximately £23,000 (per month).

### 7.3 Financial benefits table – Applies to all options

Description	Narrative	Benefit Year 1 2021/22	Benefit Year 2 2022/23	Benefit Year 3 2023/24	Benefit Year 4 onwards
Maintenance savings (revenue)	Reduce spend on routine maintenance, new vehicles superior design over existing fleet. Savings reduce over time as vehicles age	£112k	£112k	£112k	£56k

PLEASE SEE \*See Appendix B – R&M Costs  
EXEMPT  
APPENDIX I3  
FOR APPENDIX  
B (R&M COSTS)

## 8. Programme

### INDICATIVE TIMETABLE

Actions		Dates
1.	Replacement vehicle needs identified	01/03/2020
2.	Manufacturer / Leasing quotations received	01/04/2020 to 30/05/2020
3.	BWC Fleet Replacement Proposal Agreed	30/06/2020
4.	BWC Board approval received	01/11/2020
5.	BCC Approval – Loan amount agreed	14/11/2020
6.	BWC Procurement Process' begin	<b>After BCC Approval</b>
7.	Evaluation period / Contract awards	01/01/2021 to 28/02/2021
8.	Vehicle deliveries commence	01/06/2021 to 31/08/2021
9.	Ongoing Telematics and Livery installations plus familiarisation training	01/07/2021 to 21/09/2021
10.	Mobilisation period for new vehicles into front line service	01/08/2021 to 28/09/2021
11.	Decommissioning of existing fleet	TBC once new vehicles mobilised

## 9. Conclusion

The above case lays out the requirement and, at this stage in the interests of informing BCC of the estimated investment required, outlines the funding necessary to purchase the final tranche of new BWC vehicles to meet the CAZ requirements. The vehicles will be equipped with an array of safety features and will conform to the latest energy and CO2 requisites. Alternative fuels will be used as at this stage electric vehicles are not currently at the level needed to fully support the contract. BWC cannot afford to wait until technology has caught up as the CAZ is expected to come into place from 1<sup>st</sup> October 2021. Our ageing fleet is also deteriorating due to age and the BWC service is therefore at increased risk due to the growing number of breakdowns and repairs, which are to be expected.

BWC request that this business case is given full consideration which will allow changes to our existing fleet to commence as soon as Q2 2021 and ensure we are fully prepared for the introduction of the CAZ.