Appendix 1 for Delegated Authority and Individual Cabinet Member Decision (South)

Waste vehicle replacement report

October 2023

Purpose of this report

1. The purpose of this report is to outline:
    - To support the Delegated Authority (DA) and Individual Cabinet Member Decision (ICMD) reports on the purchase of waste vehicles.
    - the need for new waste collection vehicles to work on the waste service to enable the service to continue from summer 2024.
    - the reasons why the councils need to purchase vehicles.
    - the recommended number and type of vehicles that should be procured.
    - The procurement process.
    - The funding available.

2. To provide the Deputy Chief Executive - Place and Head of Finance, in consultation with the Leader, and the relevant cabinet members, with sufficient information to approve the procurement of the most appropriate vehicles which represent best value to the councils, recognising the council's corporate objectives.

Summary of the recommendations

3. For South Oxfordshire District Council (SODC) to directly purchase nine new waste vehicles, consisting of six refuse collection vehicles (RCVs), two narrow access RCVs and a food waste collection vehicle by entering into a framework drawdown contract. That the purchases of these nine vehicles will be funded by both councils (split of costs based on the number of households in each district) and to propose that South enter into the framework drawdown contract to formalise the purchase of the vehicles.

4. These vehicles will be leased by SODC to Biffa for them to use solely on the contract, for the contract extension period up until the end of June 2026.

5. That further member decisions of both councils will be sought for future additional vehicle purchases and funding arrangements as the condition of the fleet is reviewed.

Background

6. The majority of household waste is collected using vehicles (also known as Refuse Collection Vehicles, or RCVs) and there are 59 RCVs vehicles and an additional 37 non-RCV vehicles undertaking street cleansing and other waste

collection work. The majority of these vehicles were bought by Biffa at the start of the second seven-year term of the contract, which began in June 2017, and remain currently owned by Biffa. More detail on the history of waste collection, and vehicles, is available in the confidential reports to respective Cabinets on 09 and 10 March 2023.

7. The report of March 2023 agreed the following -
   - To authorise the procurement of replacement waste vehicles, constituting up to ten of the waste collection vehicle fleet, and
   - To delegate authority to the Deputy Chief Executive - Place and Head of Finance, in consultation with the Leader, and the relevant cabinet members to procure the most appropriate vehicles which represent best value to the councils, recognising the council's corporate objectives.

8. Biffa has indicated that they would not purchase any new vehicles, or permanently replace any existing vehicles were they to become non-viable to operate, during the extension period of the contract (June 2024-June 2026). Instead, the councils will become responsible for procurement and ownership of the fleet of vehicles and lease them to Biffa for use. Until June 2024 the responsibility for continuation of service will remain with Biffa, but after that point the responsibility for the provision of the working fleet will transfer to the councils.

9. To secure funds for a replacement programme, provision was placed in the capital programme of both councils as follows –

	2023/24 £000	2024/25 £000	2025/26 £000	2026/27 £000	Total £000
South	950	1,750	1,500	1,500	**5,700**
Vale	950	1,750	1,500	1,500	**5,700**

Within SODC this funding has been placed within the provisional budget, and requires further approval, through an ICMD, to enable spend to be made.

Assessment of the existing fleet

10. With most waste vehicles being six years old, or older, at the start of 2023, they were considered to be approaching the end of their expected operational life by the summer of 2024.

11. Between February and April 2023, the company Refuse Vehicle Solutions Limited (RVSL) were employed by the council to assess the condition and value of the waste fleet. The purpose of these condition surveys was to enable the council to make an informed judgement on the following:
   - The likely cost if the councils wished to purchase the entire fleet at the end of the current contract period.
   - The overall condition of the fleet

- To identify those vehicles that need immediate replacement once the extension period began.

12. A summary of the condition and value of the fleet is attached as Appendix 1 of this report.

13. There are detailed condition surveys for each vehicle, with pictures and each vehicle ranked between one and five for the likelihood it would suffer severe mechanical problems going forward. It was this, in conjunction with talks with Biffa on key operational needs that led to the final list of vehicles being put forward as the highest priority for replacement. The current vehicles for replacement are considered to be as follows:

VO13 URK
Dennis 26T RCV.
This is an end-of-life vehicle. Heavy use for 10 years. This will be 11 years at June 2024.
Concerns around reliability, particularly the engine / gearbox / lifters.
This vehicle will be expensive in parts & labour to maintain in future.
VU64 AXO
Dennis 26T RCV
This will be an end-of-life vehicle at contract end. Heavy use for 9 years. 10 years from June 2024.
Concerns around reliability, engine / gearbox / lifters.
This vehicle will be expensive in parts & labour to maintain in future.
VN14 WMJ
Mercedes 26T RCV
This will be an end-of-life vehicle at contract end. Heavy use for 9 years. 10 years from June 2024.
Concerns around reliability, engine / gearbox / lifters.
This vehicle will be expensive in parts & labour to maintain in future.
GL15 YWY
Dennis 26T RCV
This will be an end-of-life vehicle at contract end.
Used on the garden waste service -heavy bins creating additional wear.
Will require replacement of lifters.
Concerns around reliability, engine / gearbox / lifters.
This vehicle will be expensive in parts & labour to maintain in future.
GL15 YWV
Dennis 26T RCV
This will be an end-of-life vehicle at contract end.
Used on the garden waste service -heavy bins creating additional wear.
Will require replacement of lifters.
Concerns around reliability, engine / gearbox / lifters.
This vehicle will be expensive in parts & labour to maintain in future.
GL15 YWW
Dennis 26T RCV
This will be an end-of-life vehicle at contract end.
Used on the garden waste service -heavy bins creating additional wear.

Will require replacement of lifters
Concerns around reliability, engine / gearbox / lifters
This vehicle will be expensive in parts & labour to maintain in future.

FN17BMZ

DAF 10T RCV.
This was a vehicle sourced from another contract.
Intended as a spare for our narrow vehicle service. However, there are general reliability issues.

LS66GHN

Iveco 15T RCV
Reliability niggles at present. Expect this to develop further beyond 2024.
This vehicle will be expensive in parts & labour to maintain in future.

LL14 VUU

This will be an end-of-life vehicle at contract end.
Isuzu 7.5T Food Vehicle
Used as spare, however reliability concerns with engine & lifters -will require replacement lifts, possibly engine.

Specification of new vehicles

14. The type of vehicle design has been determined through negotiation with Biffa as they are best placed to provide thorough understanding of the operational needs of the vehicles to ensure whatever replacements are purchased would be fit for purpose.

15. The vehicle types, route detail and specifications are attached as Appendices 2-4. It is important to note here that the vehicle specification fits the current waste service configuration, in regard to bin types, round arrangements, depot etc. Were this operational specification to change, mechanical adaptions of the vehicles may be required. This would be the case for all of the vehicle fleet.

16. In addition to the operational specification, there were several other factors that have been taken into account in reaching the final recommendation for the new vehicles. These considerations were:
    - Timescale for delivery,
    - Ability to store vehicles and fuel at a depot,
    - Type of fuel to be operated.

Timescale for delivery

17. The new vehicles ideally need to be delivered in time for the start of the extension period. It was one of the points discussed during negotiations with Biffa and failure to deliver essential **replacement vehicles by June 2024** is flagged as a risk in the Commercial Protocol within the revised contract for the extension period.

18. With a lead-in time is up to 10 months (for the electric food waste vehicle this lead-in time is unknown) there is now some urgency on getting an order placed, before the end of September 2023.

Ability to store vehicles and fuel at the depot

19. The depot for the waste collection service will remain at the current Culham site until at least October 2025. However, for the vehicles purchased to be delivered in June 2024 to be operable, they need to be able to be stored, maintained and fuelled from the current depot.

Type of fuel to be operated

20. The ambitions of both councils are to move as quickly as possible towards de-carbonisation of waste services. To do so would require all new vehicles to be operated on a different fuel source than liquid diesel, and at this point the only commercially available option, with a reliable fuel source, is electric.

21. In terms of the other options, biofuel and hydrogen, these were covered in the March 2023 report. In summary, the councils' climate team were not convinced of the environmental credentials of biofuel, recommending that an attempt at a 'transition' fuel (i.e. the use of biofuel to replace mineral diesel) would likely be misplaced. This is because how it is sourced and transported often causes significant environmental damage in its own right.

22. It is possible, with minor adjustments, for Biffa to operate mineral diesel vehicles on biofuel, and therefore if the council's approach to the use of biofuels were to change, a change in how the waste fleet is fuelled in the short term could be easily accommodated, albeit at an increase in the cost of fuel per litre. Moving to biofuel would significantly reduce the carbon footprint of the fleet.

23. For hydrogen powered vehicles, there simply are not sufficient numbers commercially available, nor storage facilities for hydrogen at the existing depot. This may change in forthcoming months and years, but prioritisation is given to the council continuing to meet its statutory obligations in collecting waste and recycling from June 2024.

24. Officers considered the possibility of operating the new vehicles on electricity as the fuel source, and found that there were two main challenges with doing so.

Charging infrastructure at the current depot

25. There is not currently the infrastructure at the Culham depot to charge nine waste vehicles on a daily basis, nor at suitable locations for waste vehicles on round routes. To purchase vehicles that cannot be sufficiently powered would likely result in the additional cost of hiring in vehicles to cover round shortfalls.

26. The trial of the use of an electric waste trucks in 2022 and 2023 required a cable being run from a welding station in the workshop. This was not sustainable from a health and safety perspective. A site has since been identified for a more permanent solution, but with vehicles requiring overnight charging, this would only be to support one vehicle. The current site is limited on the space needed to add in new charging infrastructure.

27. There are also challenges in terms of the overall power demands available, with additional charging likely needing a new electric sub-station. This would take time to apply for and to be built, as well as be expensive. For a depot site that will be vacated within the next two years it seems hard to justify and there is no assurance that the site owner, who is redeveloping the area, would agree to this within the lease terms.

28. The new depot specifications includes full cabling for an electrified fleet. It will be at this point (2025/26) when the infrastructure challenges around vehicle charging will become less problematic.

Ability to meet the operational need

29. Unlike the city-based local authorities that are known to operate with an electrified fleet, South and Vale has a large and rural geography. Even restricting an electrified vehicle to a round close to the current depot would require the vehicle to ‘drop-off’ its load further away and to occasionally swap with other vehicles to provide flexibility of service.

30. Whilst range on a single charge is constantly being extended as the technology for electric trucks improves, the core refuse and recycling rounds cannot currently operate with the electric vehicles identified through the procurement framework. This is not the case for the lightest vehicle proposed for replacement, the ten tonne food waste vehicle. The trial indicated that an electric vehicle operating on this round could meet the distance needs.

31. It could also be that the Ford Connect vehicles used by the supervisors to oversee the crews can be electrically powered. Biffa have agreed to look into this during the extension period and make a proposal to the councils. However it should be noted that these vehicles are not in most need of replacement, and to replace them ahead of the need to do so would incur cost, and additional carbon embedded in the manufacture of vehicles.

32. It is for the reasons stated that officers recommend that of the nine vehicles to be replaced, the food waste round vehicle is an electric vehicle, and all other vehicles are purchased to run on diesel. This will be assumed to be mineral diesel unless the approach of the council were to change, and enable the fleet to operate on biofuels.

Financial and procurement method to obtain vehicles

33. Finance Officers undertook a cost analysis based on the various options available to ensure best value. This is attached as Appendix 5. It showed the

relative values of either buying new, hiring/leasing vehicles, or buying second hand vehicles. This showed a clear financial advantage from buying new compared to the other options. The option to refurbish existing vehicles was currently rejected due to time and insight gaps, but will be considered for the next tranche of purchases 2024/25. This will be subject to additional formal member approval being sought.

34. The purchase price for new vehicles was then obtained by Procurement Officers using an existing vehicle procurement framework that the councils are party to. It is worth noting that there are a limited number of waste collection vehicle suppliers, as it is a specialist area. The Link framework was also chosen because their commission amount was a fixed fee and not a percentage on the total vehicle cost which sometimes would add up to 2 per cent on to the costs. The Link Framework is £50 per vehicle.

35. From this procurement framework the manufacturer Dennis Eagle was considered the company that could best meet the specification laid out for the vehicles which, between the fleet audit and provider insights, were considered the most essential for replacement. The two narrow-access vehicles and six RCVs are industry-standard specifications. By industry-standard, this means that vehicles need to be configured in a standardised way to be interchangeable with hire vehicles and compatible with the same wheeled bin designs used nationally. The electric food waste truck also uses much industry-standard equipment, but as it will be using an EV powertrain, the full quoted specification for that is attached as Appendix 6.

Summary of recommended vehicles to be procured

36. These were favourably priced alongside market research undertaken in 2022, with officers visiting the national trade show for the waste industry at the NEC in Birmingham.

37. Operating costs for the non-electric vehicles will remain as described in the allowed costs for the waste vehicles within the commercial protocol (Schedule 12) of the revised contract extension. Newer vehicles may have a positive impact on emissions, though this is likely to be minimal.

38. The proposed electric-powered food waste collection vehicle comes with a five-year battery guarantee and three-year warranty for major mechanical failure. It has a compaction system that means it needs to visit the Anaerobic Digester for load drop-off less frequently. It also has bin-lift mechanisms that reduce operative time and effort for loading. Both of these are advantages. It secures zero carbon impact for GHG Scope One emissions. They have completed testing, and use known Dennis Eagle configurations, but the details are not known at this time. It therefore needs to be noted here that the electric food waste truck does not have a track record evidencing long term reliability. With early adoption comes risk. As the vehicle operates over time, flaws not yet identified may occur, and if outside of the warranty period, the councils will have to absorb these costs.

39. For the expected electric-powered food waste vehicle, a charging point cost of approximately £6,000 is anticipated.

40. The prices supplied for the proposed vehicles were as follows -

- Six 26 tonne diesel waste collection vehicles at £190,655 per vehicle.
- Two diesel narrow-access 18 tonne vehicles at £179,960 per vehicle.
- One electric food waste vehicle at £306,000.

41. Total vehicle costs £1,809,850. This is within the combined capital budget of £1,900,000, although does not take account of any price movements which may occur between the writing of this report and orders being placed, nor for any other associated costs. Officers believe that the budget will be sufficient to cover all the costs.

Recommendations

42. For the council to directly purchase nine new waste vehicles, consisting of:

- Six refuse collection vehicles (RCVs),
- Two narrow access RCVs and
- One electrically powered food waste collection vehicle.

Subject to Vale paying a share of the cost of the vehicles based on the number of households in each of the districts.

43. For vehicles to be purchased through the existing procurement framework at a cost of approximately £1.810 million.

44. For this purchase to be undertaken using the earmarked capital within the capital budget of each council.

45. These vehicles, to be owned by the council and they will be leased to Biffa for them to use solely on the contract, for the contract extension period up until the end of June 2026.

46. For a decision to be made in the future on the policy regarding the use of biofuels for the reminder of the fleet.

Appendix 1

Summary of entire waste and street scene service fleet

Vehicle Registration	Vehicle Type	Age	Mileage	Condition	Cost of works in 12 Months	Cost of works in 24 Months	Current Value	Value by June 2024
GN67OTA	RCV	6 years	136001	good	£2,375.00	£4,750.00	£25,000.00	£15,000.00
GN67OTB	RCV	6 years	132873	good	£700.00	£1,400.00	£25,000.00	£15,000.00
GN67OTC	RCV	6 years	137318	good	£2,900.00	£5,800.00	£25,000.00	£15,000.00
GN67OTD	RCV	6 years	142267	good	£3,000.00	£6,000.00	£25,000.00	£15,000.00
GN67OTE	RCV	6 years	154335	good	£1,550.00	£3,100.00	£25,000.00	£15,000.00
GN67OTF	RCV	6 years	139598	poor	£5,000.00	£10,000.00	£25,000.00	£15,000.00
GN67OTG	RCV	6 years	135974	good	£2,700.00	£5,400.00	£25,000.00	£15,000.00
GN67OTH	RCV	6 years	181151	good	£1,150.00	£2,300.00	£25,000.00	£15,000.00
GN67OTK	RCV	6 years	133993	good	£2,150.00	£4,300.00	£25,000.00	£15,000.00
GN67OTL	RCV	6 years	151432	good	£2,950.00	£5,900.00	£25,000.00	£15,000.00
GN67OTM	RCV	6 years						
GN67OTP	RCV	6 years	145420	good	£2,550.00	£5,100.00	£25,000.00	£15,000.00
GN67OTR	RCV	6 years	135991	good	£1,900.00	£3,800.00	£25,000.00	£15,000.00
GN67OTS	RCV	6 years	153293	good	£1,250.00	£2,500.00	£25,000.00	£15,000.00
Gn67abk	RCV	6 years	99760	good	£2,400.00	£4,800.00	£25,000.00	£15,000.00
gn67abf	RCV	6 years	124409	good	£1,700.00	£3,400.00	£25,000.00	£15,000.00
FJ67ZGN	RCV	6 years	185897	poor	£4,700.00	£9,400.00	£25,000.00	£15,000.00
FJ67ZGO	RCV	6 years	183019	poor	£3,800.00	£7,600.00	£25,000.00	£15,000.00
FJ67ZGA	PBUV	6 years	152984	good	£1,000.00	£2,000.00	£10,000.00	£5,000.00
FJ67ZGC	PBUV	6 years	153790	poor	£5,200.00	£10,400.00	£10,000.00	£5,000.00
FJ67ZGB	PBUV	6 years	166183	poor	£4,000.00	£8,000.00	£10,000.00	£5,000.00
FJ67ZGD	PBUV	6 years	115598	good	£1,050.00	£2,100.00	£10,000.00	£5,000.00
FJ67ZGE	PBUV	6 years	98904	good	£2,800.00	£5,600.00	£10,000.00	£5,000.00
FJ67ZGF	PBUV	6 years	156858	good	£2,750.00	£5,500.00	£10,000.00	£5,000.00
FJ67ZGG	PBUV	6 years	92257	good	£1,000.00	£2,000.00	£10,000.00	£5,000.00
FJ67ZGH	PBUV	6 years	79130	good	£2,800.00	£5,600.00	£10,000.00	£5,000.00
FJ67ZGK	PBUV	6 years	146438	poor	£4,000.00	£8,000.00	£10,000.00	£5,000.00
FJ67ZGL	PBUV	6 years	161336	poor	£6,000.00	£12,000.00	£10,000.00	£5,000.00
FJ67ZGM	PBUV	6 years	140545	good	£1,950.00	£3,900.00	£10,000.00	£5,000.00
GK67CTZ	Box	6 years	158252	good	£200.00	£400.00	£10,000.00	£5,000.00

GK67CUA	Box	6 years	82820	good	£100.00	£200.00	£10,000.00	£5,000.00
GK67CVV	Cage	6 years	168548	poor	£3,000.00	£6,000.00	£10,000.00	£5,000.00
GK67CVX	Cage Tail lift	6 years	182107	poor	£2,000.00	£4,000.00	£3,600.00	£1,700.00
GK67CVW	Cage Tail lift	6 years	206735	poor	£2,000.00	£4,000.00	£3,600.00	£1,700.00
GK67CWC	Sweeper	6 years	52643	good	£2,000.00	£4,000.00	£10,000.00	£5,000.00
GK67CWE	Sweeper	6 years	86949	poor	£5,500.00	£9,000.00	£10,000.00	£5,000.00
GK67CWF	Sweeper	6 years	84861	good	£1,800.00	£3,600.00	£10,000.00	£5,000.00
MF67ULJ	Cage Tipper	6 years	142971	poor	£2,500.00	£5,000.00	£5,000.00	£2,500.00
MF67ULK	Cage Tipper	6 years	130184	good	£500.00	£1,000.00	£5,000.00	£2,500.00
MF67ULL	Cage Tipper	6 years	119099	good	£500.00	£1,000.00	£5,000.00	£2,500.00
MF67ULM	Cage Tipper	6 years	119038	good	£600.00	£1,200.00	£5,000.00	£2,500.00
MF67ULN	Cage Tipper	6 years	113405	good	£650.00	£1,300.00	£5,000.00	£2,500.00
MF67ULO	Cage Tipper	6 years	127308	poor	£1,000.00	£2,000.00	£5,000.00	£2,500.00
MF67ULS	Cage tipper tail lift	6 years	154454	poor	£600.00	£1,200.00	£3,600.00	£1,700.00
MF67ULT	Cage tipper tail lift	6 years	112644	good	£400.00	£800.00	£3,600.00	£1,700.00
MF67ULU	Cage tipper tail lift	6 years	99598	good	£450.00	£900.00	£3,600.00	£1,700.00
MF67ULV	Cage tipper tail lift	6 years	127453	good	£250.00	£500.00	£3,600.00	£1,700.00
MF67ULW	Cage tipper tail lift	6 years	141372	poor	£3,450.00	£6,900.00	£3,600.00	£1,700.00
GN17 VUA	RCV	6 years	146699	poor	£7,550.00	£15,100.00	£25,000.00	£15,000.00
GN17 VUC	RCV	6 years	162076	good	£3,200.00	£6,400.00	£25,000.00	£15,000.00
GN17 VUE	RCV	6 years	133957	poor	£6,500.00	£13,000.00	£25,000.00	£15,000.00
GN17 VUG	RCV	6 years	139573	good	£1,500.00	£3,000.00	£25,000.00	£15,000.00
GN17 VUH	RCV	6 years	131894	good	£750.00	£1,500.00	£25,000.00	£15,000.00
GN17 VUJ	RCV	6 years	149875	good	£3,300.00	£6,600.00	£25,000.00	£15,000.00
GN17 VUK	RCV	6 years	159548	good	£4,300.00	£8,600.00	£25,000.00	£15,000.00
GN17 VUL	RCV	6 years	142296	good	£3,700.00	£7,400.00	£25,000.00	£15,000.00
FJ67 ZGP	PBUV	6 years	159838	poor	£4,700.00	£9,400.00	£10,000.00	£5,000.00
FJ67 ZGR	PBUV	6 years	158774	good	£1,500.00	£3,000.00	£10,000.00	£5,000.00
LL14 VUU	Sweeper	9 years	177386	poor	£4,500.00	£9,000.00	£5,000.00	£2,500.00
GL15 YWV	RCV	8 years	199673	good	£2,000.00	£4,000.00	£25,000.00	£15,000.00
GL15 YWW	RCV	8 years	196627	good	£3,000.00	£6,000.00	£25,000.00	£15,000.00
GL15 YWY	RCV	8 years	192917	good	£3,000.00	£6,000.00	£25,000.00	£15,000.00

LS66 GHN	RCV	7 years	142118	good	£4,000.00	£8,000.00	£25,000.00	£15,000.00
HN17 LSZ	RCV	6 years	104635	good	£2,250.00	£4,500.00	£25,000.00	£15,000.00
HK17 KKB	RCV	6 years	81682	poor	£4,800.00	£9,600.00	£25,000.00	£15,000.00
FN17 BMZ	PBUV	6 years	120701	poor	£3,000.00	£6,000.00	£10,000.00	£5,000.00
GK67 VCJ	Sweeper	6 years	10885	good	£1,200.00	£2,400.00	£10,000.00	£5,000.00
2014 (Loading Shovel)	437 HT Taf	9 Years	9524 hrs	poor	£5,000.00	£6,000.00	£34,500.00	£31,000.00
2020 (360 Grab)	JS20MH T4F	4 Years	4071 hrs	good	£4,000.00	£3,000.00	£96,500.00	£89,000.00
CX14 KVU	D max	9 Years	174951	good	£2,000.00	£3,000.00	£8,000.00	£7,000.00
CX14 KVV	D max	9 years						
CX14 KVW	D max	9 years	91850	good	£1,000.00	£2,500.00	£8,000.00	£7,000.00
GK67 CWD	Sweeper	6 years	107485	poor	£6,000.00	£8,000.00	£10,000.00	£5,000.00
GN14 WMJ	Trade	9 years	230052	poor	£5,000.00	£7,500.00	£20,000.00	£14,000.00
GN17 VUB	Trade	6 years	148350	poor	£3,000.00	£6,500.00	£25,000.00	£15,000.00
GN17 VUD	Trade	6 years	138797	poor	£4,500.00	£6,500.00	£25,000.00	£15,000.00
GN67 OTJ	Trade	6 years						
MA67 NSU	Transit connect(twin cab)	6 years	85841	good	£1,250.00	£1,000.00	£8,250.00	£7,500.00
MA67 NSV	Transit connect(twin cab)	6 years	94022	good	£750.00	£1,500.00	£8,250.00	£7,500.00
MF67 ULR	Cage tipper tail lift	6 years						
MJ67 XBK	Transit connect	6 years	71060	good	£1,750.00	£2,000.00	£7,750.00	£6,900.00
MT67AUE	Transit connect	6 years	93908	good	£1,000.00	£1,750.00	£7,750.00	£6,900.00
MT67 AUF	Transit connect	6 years	93772	good	£500.00	£1,000.00	£7,750.00	£6,900.00
MT67 AUJ	Transit connect	6 years	102236	good	£1,750.00	£2,250.00	£7,750.00	£6,900.00
VO13 URK	Trade	10 years	215757	poor	£4,750.00	£8,500.00	£13,000.00	£12,000.00
VU64 AXO	Trade	9 years	188056	poor	£6,000.00	£8,000.00	£14,000.00	£12,000.00

Appendix 2

- Six 26 tonne, Refuse Collection Vehicles
- Two 18 tonne, Narrow access Refuse Collection Vehicles
- One 10 tonne, food waste collection vehicle

Appendix 3

South 8 (RCV)

Monday	
Prop Count	1056
Tonnage	9.6
Distance	92

Tuesday	
Prop Count	1087
Tonnage	10.12
Distance	154

Wednesday	
Prop Count	929
Tonnage	7.08
Distance	101

Thursday	
Prop Count	1106
Tonnage	10.98
Distance	123

Friday	
Prop Count	1226
Tonnage	11.84
Distance	37

SFW3 (Food)

Monday	
Prop Count	2154
Tonnage	3.85
Distance	112

Tuesday	
Prop Count	2214
Tonnage	4.52
Distance	80.5

Wednesday	
Prop Count	1961
Tonnage	2.53
Distance	106

Thursday	
Prop Count	2196
Tonnage	2.7
Distance	115

Friday	
Prop Count	2441
Tonnage	4
Distance	78

South Narrow (18T RCV)

Monday	
Prop Count	310
Tonnage	3.2
Distance	183

Tuesday	
Prop Count	381
Tonnage	3.75
Distance	185

Wednesday	
Prop Count	414
Tonnage	3.56
Distance	230

Thursday	
Prop Count	168
Tonnage	3.18
Distance	109

Friday	
Prop Count	453
Tonnage	3.53
Distance	124

Note. Test rounds were chosen for crew consistency, which was all South on the weeks the vehicles were available. Tests fully assured Biffa that all distance/road size in both districts was achievable.

Appendix 4

Chassis	
	Right Hand Drive
	Standard Track
	26000kg GVW
	Euro 6 Diesel
	280-300 hp
	Diff Lock
	Steel Wheels
	Digital Tachograph
	Air conditioning
	Disc Lock Wheel Nuts
	Wheel brace to Suit Wheelnuts
	Reverse Alarm
	Lane Departure Warning
	Advanced Emergency Braking System
	Electronic Stability Programme
	Brake assist Function
	Rear Steer
Cab design	
	Low Entry,
	Walk through floor
	Driver + 3
	Slam door
	Driver sunblind
	Radio (DAB/DAB+/AM/FM, Bluetooth & MP3 Radio)
	Audible Handbrake Warning System
	Single Fire Extinguisher (In Cab)
	Contel Telematics
	Contel 4 way Camera
	Livery
Body	
	Smooth side circa body 21-22m3
	In-Cab Control Panel & CCTV Colour Monitor
	Body and hopper drain hose
	High Front of Body Dam
	Packer Cut-Out Linked to Weigh System
	adjustable packer settings
	Pack on Move
	360 degree visible beacons
	LED work lights
	LED High & Low Level Rear Lights
	Brush & shovel holder
Bin lifts	
	2x low level split lifts
	Drop down rave plate for hand loading with dual function facility

	Auto lift in reverse
	Automatic switchable bin shake facility
	Electric bin counter for domestic and trade bins
	Dust Suppression Curtains

Appendix 5

Year	NEW Cost	Maintenance	Total	HIRE Hire PA	SECOND HAND Cost	Maintenance	Total
	£	£	£	£	£	£	£
0-1	200,000	0	200,000	49,200	135,000	20,000	155,000
1-2		5,000	5,000	49,200		20,000	20,000
2-3		5,000	5,000	49,200		20,000	20,000
3-4	(110,000)	5,000	(105,000)	49,200	(10,000)	20,000	10,000
Total 4 years *	90,000	15,000	105,000	196,800	125,000	80,000	205,000
4-5		20,000	20,000	49,200	135,000	20,000	155,000
5-6		20,000	20,000	49,200		20,000	20,000
6-7		20,000	20,000	49,200		20,000	20,000
7-8	(50,000)	20,000	(30,000)	49,200	(10,000)	20,000	10,000
Total 8 years *	150,000	95,000	245,000	393,600	250,000	160,000	410,000

*4 year total assumes vehicles sold at end of year 4. For 8 year total, Buy New option assumes new vehicle retained for 8 years. Second hand option assumes another 4 year old vehicle needs to be purchased at this time.

Appendix 6

Technical details of vehicles to be purchased.

TERBERG MATEC UK
MANUFACTURER OF ENVIRONMENTAL EQUIPMENT

Product Specification & Costing Sheet

Orus 7 HD

Drawing Number E6-00493

Standard specification:
- Orus 7 HD
- 7m3 nominal volume
- Maximum tipping capacity 5.0t
- Single compartment
- Compacting body with a 3:1 compaction ratio
- Steel construction designed for multiple waste streams
- Body floor constructed in Hardox
- Reinforced body and extra tipping cylinder for increased capacity
- Fully sealed and suitable for food waste
- Body painted in single colour white monotone gloss

Bin Lift:
- Hydraulic bin lift capable of lifting 2 x two wheeled containers simultaneously or 1 x four wheeled container
- Capable of lifting EN compliant containers as follows:
  - EN840.1 - (Two wheeled - 120L, 240L, 340L and 360L)
  - EN840.2 - (Four wheeled flat top - 660L, 1100L and 1280L)
- Single man trade
- LED rear work light illuminating work area

General:
- Fitting to a suitably prepared Electra eCargo 12.5t chassis
- Supply and fit PTO and pump
- External control station incorporating emergency stop functionality mounted to nearside with additional wander lead to offside
- Stop circuit meets EN ISO 13850:2015 & EN ISO 13849-1:2015
- Body mounted single rotating LED beacon
- All statutory lighting
- UNECE 104R high visibility conspicuity tape applied
- Certified operator training and commissioning
- Approval of the vehicle under European Directive 2007/46

Customer specific requirements:
- Rear loading pannier with integrated bin clamp
- LED lighting package:
  - 2 rear-facing amber directional beacons
  - 2 offside-facing rear amber directional beacons
  - 2 nearside-facing rear amber directional beacons
- Upgrade LED lighting package to include:
  - 2 front-facing grill-mounted amber directional beacons
- Additional work light to the rear
- Brush & shovel with mounting brackets
- Underslung cage
  - *Subject to available space*

Warranty:
- 1 year OEM parts and labour warranty as detailed in the Terberg warranty policy
- Extended warranty (2nd & 3rd year)

TERBERG MATEC UK
MANUFACTURER OF ENVIRONMENTAL EQUIPMENT

Electra eCargo 12.5t Chassis

Main characteristics:
* Axle configuration: 4x2
* Cab type: MLC day cab
* Drive hand: right hand drive
* Engine power: 250 KWH, 2600NM direct drive permanent magnet motor
* Gross vehicle weight: 12.5t
* Rear axle type: single reduction - solo axle
* Suspension type: rear air suspension
* Brake type: disc brakes front and rear
* Use: standard
* Version: rigid
* Wheelbase: 3330mm
* Colour: 50105 - polar white
* Tyres: 26039 - 20124 - 265/70R 17.5 E1 20124

Cab exterior:
* Fog lights
* Headlamp washer
* Elec mirrors HTD/ADJ
* Mirrors max 202704
* Manual cab tilt

Cab interior:
* Remote central locking
* 24/12V convertor
* Manual air conditioning
* FMS veh connect
* Radio bluetooth dab
* Air/susp driv seat
* Digital tachograph DTCO 4.0 smart
* Cabina MLC-NM LR
* Headrests
* High-line - C04176
* Fabric interior
* Fabric dual bench

Chassis:
* Loads 5100-9500
* Tail lift wiring
* Cab coloured plastics
* Cross axle diff lock
* W/O preparation for tipper
* Anti spray CE 91/226
* EVSC..
* Plastic front bumper
* Front u/run protect
* Jack equipment
* Front man ring hook

Engine/driveline:
* 143 AH battery
* 360CC air compressor
* 90A alternator
* Preperation for PTO connection
* Can open interface

TERBERG MATEC UK
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* Air filt RR cab
* Std temp. climate
* Electric battery cut out switch
* Taratura euro VI-E

Axle ratios:
* 4.10 rear axle ratio

Other:
* PTT 11990 (4600-8500)
* Steering wheel controls
* Prov. rear ECAS cont
* Aluminium air tanks
* Urea tank 30
* Standard cab trim
* Advanced emergency braking system - AEBS
* Air dryer
* Roof in standard color
* Smoking kit
* Standard chassis finish
* Standard chassis
* Rear clothes rail
* COC (WVTA)
* Cruise control
* 120elbadging&plating
* Daytime running lights
* Exhaust brake
* Front parabolic susp no reinf
* Fuel prefilter non heated
* Without eco-roll
* Cambio zf astronic 6as 700 to
* Standard headlamps
* Cluster kmh
* Lane departure warning
* Rear X-member
* Rear air suspension
* Steel wheels
* RHD for LH circulation
* Driver seat belt reminder
* Safety belts
* Twined wheels
* Red ext noise to 92/
* Grey ic444 chassis
* Giri motore 2200 - parametro 2350
* 90km/h speed limiter (55.9mph)
* Standard toolkit
* Generic tow hook
* Solo version - not R
* VIN code check digit
* Electric windows
* LHD window on passenger door

TERBERG MATEC UK
MANUFACTURER OF ENVIRONMENTAL EQUIPMENT

Conversion:
* Electra eCargo 12-250 chassis,140 kWh battery pack and EPTO

Main characteristics:
* Peak power: 265 KW
* Continuous power: 155 KW
* Peak torque: 2760 NM
* Continuous torque: 970 NM

Battery:
* Size: 140 kWh
* Chemistry: lithium iron phosphate
* Cooling / heating: yes - thermally managed
* Certification: IP67, R.100.2
* Life span: 5000 cycles 80% SOH

Charging:
* Standard fitment: 25KWH onboard charger
* AC charge time: 5.75 hours - 10 > 100% (estimate)

Range:
* 140kWh pack - approx. 160 kms *depending on load and topography

Auxiliary ancillaries:
* Electra ePTO - 15KW

Special features:
* 56 MPH top speed
* 25 kw on board charger with vehicle to load output capability - note: capability to charge another vehicle or power auxiliary component from vehicle additional cost
* Lithium Iron Phosphate batteries with heating/cooling BTMS system

Dealer fit options:
* Heavy duty seat covers
* LED R65 cab roof beacon bar
* PDI, valet and plates
* Tachograph calibration

Warranty:
* Chassis comes with a 3 year warranty as standard
* HV battery comes with 5 year or 5000 cycles (whichever comes first)