

Zero Emission Bus Regional Areas (ZEBRA) 2 Application Form

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Section 1

Applicant Information

This section is not scored.

Bidding Authority: Hampshire County Council

Bid Manager

Name and position of the official with overall responsibility for delivering the proposed bid.

First Name: Andrew

Last Name: Wilson

Position: Public Transport Manager

Contact telephone number: [REDACTED]

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Postal address: Passenger Transport, Hampshire 2050, Hampshire County Council, The Castle, Winchester, SO23 8UL.

Website address for publishing application:

<https://www.hants.gov.uk/transport/strategies/fundingbids>

Section 2

Applicant Information

LTA's will need to meet a number of key requirements to be able to receive funding. This section is not scored.

The Department reserves the right to reject any application which does not meet all these key requirements.

Please select Yes or No.

2.1 Can you confirm you have an Enhanced Partnership in place or are following the statutory process to decide whether to implement a franchising scheme?

Yes

2.2 Can you confirm that all vehicles will meet the enhanced accessibility standards set out in the scheme guidance?

Yes

Please name the annex(es) which provide quotes from zero emission bus manufacturer(s).

Annex A

2.3 Can you confirm that you have letters of support from the bus operator(s) as per the below?

Yes

2.4 Please name the annex(es) which provide letters of support from the bus operator(s).

Annex B

2.5 Can you confirm that all ZEB Funding monies administered will take account of subsidy control obligations, this applies to any onward award of ZEBRA monies to third party organisations. Can you confirm that you have received legal advice?

Yes

Please name the annex containing legal advice that has been obtained.

Annex C

2.6 in the case of proposals seeking funding for their battery electric proposals, can you confirm the proposal achieves a minimum low value for money using the Department's updated Greener Bus Tool?

Yes

2.7 In the case of proposal for hydrogen fuel cell buses should provide evidence of costs of hydrogen fuel. In line with other funding for hydrogen transport, proposals for hydrogen fuel cell buses will need to demonstrate that by March 2025 the buses will use hydrogen sourced with either Renewable Transport Fuels Obligation (RTFO) support or hydrogen that meets the UK's draft Low Carbon Hydrogen Standard (LCHS). Please name the annex containing a provisional offtake contract, budget estimate, letter or email from a hydrogen fuel supplier.

N/A

Section 3

Rural Eligibility

3.1 If you are seeking to apply for the funding that has been initially earmarked for ZEBs in rural areas you will need to demonstrate how you meet the rural definition of ZEBRA 2. Introduce ZEBs in a rural area explain in no more than 300 words how the area meets the definition of rural area set out in the guidance. LTAs not seeking to apply for this funding to not need to complete this section. This section is not scored and will be pass/fail.

N/A - Hampshire do meet rural definition, however guidance states that we are not eligible as we were a ZEBRA 1 recipient LTA.

Section 4

Bid Description

4.1 Please complete the following fields with key information about your bid. This information should match the information that is included in the Greener Bus Tool. We suggest that section 6 is completed at the end of completing your application to ensure numbers reflect the final figures. This section is not scored.

Total grant amount	██████████
Local transport authority funding	██████████
Other public sector funding	N/A
Bus operator funding	██████████
Other private funding	N/A
Vehicle grant amount	██████████
Infrastructure grant amount	██████████
Total number of buses	68
Total capital cost	██████████
Vehicle capital cost	██████████
Infrastructure capital cost	██████████

4.2 In no more than 750 words applicants should provide information on the project area. This should include a list of the bus routes where the ZEBs will operate and set out the location of the bus depot and/or other locations where supporting infrastructure will be located. This section is not scored.

The project area covered by this ZEBRA bid is two distinct Stagecoach local bus operating areas. The first location is the Portsmouth and South East Hampshire area near to the Solent. This covers 3 high frequency interurban bus corridors radiating out from the city of Portsmouth to connect it with the towns of Havant, Waterlooville, Emsworth and Chichester and the Hoverbus service providing multi-modal connections between Portsmouth city centre and Southsea hovercraft terminal. The second operating area is the town of Basingstoke in the north of Hampshire. The 10 bus routes in these two operating areas that would see ZEB deployment are summarised in the sections below:

Portsmouth and South East Hampshire and Chichester operating area

The Portsmouth and South East Hampshire area has a population of nearly 500,000. The island and peninsula geography of the area focusses traffic onto a very limited number of radial routes. The city of Portsmouth is the most densely populated part of the South East outside of London. Currently 41,500 people a day commute into the city from the wider area, using the limited number of radial routes. Within the Portsmouth, since 2009, the number of bus passenger journeys has been relatively unchanged, varying between 10 million and 11.6 million bus passenger journeys per year. Portsmouth residents make 42 bus passenger journeys per head of population. Portsmouth city centre has an Air Quality Management area.

The 4 bus routes where the 42 ZEBs will operate in Portsmouth and SE Hampshire/ W Sussex

- 23 - Leigh Park – Southsea (22 single deckers)
- 39 - Wecock Farm – Havant (8 single deckers)
- 700 - Chichester – Portsmouth (11 double deckers)
- Hoverbus - City centre - Southsea Hoverport (1 single decker)

The local Stagecoach bus fleet is based at a light industrial estate on Walton Road, Farlington, close to the A2030 Eastern Road, just north of the A27 Havant Bypass. The 42 ZEBs for these services will be based at the existing depot site. The depot is fully owned by Stagecoach and the power supply will come from a nearby substation. Stagecoach's Portsmouth (Farlington) depot is located at Walton Road, Farlington, Portsmouth PO6 1TU, and will be the location of where infrastructure will be deployed for charging the vehicles.

Basingstoke operating area

Basingstoke is a large town in North Hampshire with a population of 113,190 that has seen very rapid expansion and growth in recent decades, with further growth planned. Being a 'new town' its' growth has been planned based around high capacity road systems and extensive parking provision, both within the town centre and in business parks and industrial areas. Whilst this has helped to support economic growth in Basingstoke and enabled the town to avoid the severity of many traffic problems experienced by neighbouring towns it has also encouraged car use over other forms of travel as car access is both relatively cheap and convenient. In 2011, 67% of residents use a car for journeys to work (70-75% in outer urban areas) and 5% of residents used the bus for journeys to work. New developments over recent years have been built on the edge of the town and as a result are more challenging to serve by bus. People living in these areas are more likely to continue to rely on car use unless there is significant investment in alternative sustainable transport modes. The majority of local bus services in Basingstoke and the surrounding areas are operated by Stagecoach.

The 6 Bus routes where the 26 ZEBs will operate services within Basingstoke

- 1 - Town Centre - Brighton Hill (4 single deckers)

- 2 - Basingstoke – Baughurst/Tadley (8 single deckers)
- 3 - Town Centre - South Ham (2 single deckers)
- 5 - Town Centre - West Popley (2 single deckers)
- 6 - Winklebury - East Popley (6 single deckers)
- 8 – Town Centre – Hatch Warren & Beggarwood (4 single deckers)

The Stagecoach bus depot for Basingstoke is located in Rankine Road in a light industrial estate to the north-east of the town centre. The depot is fully owned by Stagecoach and the power supply will come from a nearby substation.

Stagecoach's depot in Basingstoke is located at Rankine Rd, Basingstoke RG24 8PR, and this is where the location of where infrastructure will be deployed for charging the vehicles.

Section 5

Assessment Criterion 1 – Strategic Case

5.1 Applicants should set out in no more than 1,000 words how they meet the case for change part of the strategic case as set out in the guidance.

Process followed to arrive at scheme

HCC have followed an evidence and data led approach to arrive at our preferred scheme. HCC's previous involvement in the successful joint Zebra 1 bid with Portsmouth City Council (PCC), although we are an LTA containing Districts that are "Largely Rural" or "Mainly Rural") meant were ineligible to bid for the £25m for rural areas. Discussions with the three large bus operators in Hampshire have helped identify the optimum approach to a Hampshire-led Zebra 2 bid.

Go South Coast operate an extensive bus network branded as Bluestar, covering the Southampton travel to work area, from a large purpose-built bus depot in Southampton which lacks the spare grid capacity needed to accommodate charging of battery electric buses. This operator was therefore not included in the HCC bid.

First Solent have an extensive bus network covering the Portsmouth and South East Hampshire area, operating from two depots at Hilsea and Fareham. Their Fareham depot is the focus of the successful ZEBRA 1 bid with 62 ZEBs due to be delivered by April 2024. First Solent have decided to partner with PCC on a ZEBRA 2 bid covering their bus fleet based at their Hilsea depot.

This meant that the focus for the Hampshire bid was on working with **Stagecoach** - the largest operator in Hampshire with extensive commercial networks of urban and interurban routes covering western, central, east and north Hampshire from five depots (Andover, Winchester, Basingstoke, Aldershot and Farlington). Stagecoach undertook analysis of the opportunities and challenges for rollout of ZEBs at the five depots and considered which bus routes had the strongest commercial case for ZEB investment. Aldershot depot is space constrained and Andover depot has a mix of urban and longer distance rural/ interurban services so were ruled out. Winchester, Basingstoke and Farlington depots showed good potential so quotes for depot infrastructure and power grid connections were sought for all three. Greener Bus Tool outputs for the three depots, generated 'medium VfM' BCRs. However, Winchester has been ruled out on the grounds of weaker deliverability and commercial cases (passenger numbers for Winchester have not seen the kind of growth experienced in the other 2 areas).

Stagecoach operates services 23, 39 and 700 in the Portsmouth and SE Hampshire area, and all of these routes have seen significant year on year passenger growth and rapid recovery from the pandemic, with commercial patronage now exceeding the pre-pandemic base by [REDACTED]. Other routes in the area such as the 37 from

Havant to Petersfield and tendered services in Portsmouth do not have as strong a commercial case for new vehicle investment, so have been excluded.

The Basingstoke urban network has also seen strong incremental passenger growth, building from a 2019 investment in a new fleet of Euro VI single decker buses. In April 2023, service frequencies were enhanced to levels approaching pre-pandemic frequency, with all-new investment in early mornings, evenings, and weekend services to reflect latest travel patterns. Service 2 from Baughurst, Tadley and North Hants Hospital north of Basingstoke is a high-profile inter-urban service with double-digit year on year growth and baseline commercial patronage ■■■ better than pre-pandemic. Services 1, 3, 5, 6 and 8 provide higher frequency links to and from the town centre. A few other Stagecoach town services running at frequencies have not been selected for investment at this stage.

Therefore, a bid that covers four services in the Portsmouth & SE Hants area (23, 39, 700 and Hoverbus) and the 6 routes in Basingstoke (the 1,2,3,5,6 & 8) all high frequency services with growing demand have been chosen as the preferred option for the HCC ZEBRA 2 bid. The average bus km operated on these 10 bus routes make them ideally suited to battery electric operation.

Rationale for Battery Electric, battery sizes and plug-in at depot charging

Stagecoach have experience of EV via plug in charge and pantograph (343 vehicles), Compressed Natural Gas, (40) Hybrid (376) and Hydrogen (25) across their UK fleets. Stagecoach's future short- to medium-term fuel strategy will focus on battery electric (plug in overnight charging). Based on the last five years' experience operating this vehicle type, Stagecoach is confident in the durability of battery electric technology and the improvement seen to date in battery chemistry and offers the best total cost of ownership package.

Stagecoach assessed power capacity at all depots which has informed the decision-making on which sites to proceed with in ZEBRA 2 bids and is part of a UK-wide investment strategy.

In a commercial bus market recovering from the Covid pandemic, zero emission vehicles don't yet make commercial sense to invest in without some DfT funding support. Data suggests hydrogen vehicles are currently well in excess of becoming cost neutral, with TCO modelling indicating a 32% premium over conventional diesel. Coupled with the current lack of hydrogen fuel production in the UK, this makes the technology impossible to justify as it does not currently stack up – it requires three times the level of electricity to produce the equivalent kwh for EV. Hydrogen fuel cost has also risen 800% in last 12 months (spot price from £6pkg to £51pkg). On this basis, Stagecoach is committing to battery electric for future new vehicle investment within the UK.

Alignment with wider plans to improve bus services

This project is a strong strategic fit with the National Bus Strategy (NBS) and ZEBRA core objectives. It aligns strongly with Transport for the South East (TfSE) aspirations to improve local bus services as set out in their [sub-regional Transport Strategy](#) and

[Bus and Mass Transit Thematic Plan](#). It also aligns with the strategic plans of HCC (and PCC) to achieve net zero by 2050 as well as their economic and social plans for improving access to jobs, education, and services. It aligns with (HCC)'s [Local Transport Plan 4](#) and PCC's [Local Transport Plan 4](#) which seek to increase public transport use through investment in infrastructure and vehicles.

The project is fully aligned with the priorities set out within HCC's [BSIP and EP Plan](#) and the Portsmouth [BSIP](#). Both BSIPs have ambitions to deliver faster, high quality bus services, which attract new users, improve operational efficiency support wider decarbonisation and accessibility objectives.

The 42 new ZEBs proposed through this project for Portsmouth & SE Hampshire are a good fit with the [South-East Hampshire Rapid Transit \(SEHRT\)](#) - being developed and delivered by a partnership of HCC, PCC and the bus operators. SEHRT will provide a bus based rapid transit system connecting main towns with Portsmouth through fast, frequent, reliable high quality bus services, to grow passenger numbers building on the 3.4km '[Eclipse](#)' [Bus Rapid Transit](#) (BRT) busway that opened in 2012 which delivered an economic return on investment at up to £6.94 for each £1 spent. SEHRT is progressing through a share of £57m of Transforming Cities Fund (TCF) investment and Portsmouth BSIP capital investment, which is delivering [new bus priority measures](#) on these corridors.

Basingstoke has strong potential for further growth as the population will increase by ~21,000 people (18%) over the next 25 years and one in five households in Basingstoke do not have access to a car. The 26 ZEBs for the town align with the [Basingstoke Transport Strategy](#), (adopted in 2019) that seeks a step change in the quality of buses.

5.2 Applicants should set out in no more than 500 words how the proposal meets the community benefit with regard to employment and training criteria set out in the guidance.

This project supports several other interventions by HCC, that seek to address significant economic challenges in the two areas covered by the ZEBRA2 bid (SE Hampshire and Basingstoke). There are a number of deprived wards in the Leigh Park (Havant) and Paulsgrove areas and in some parts of Basingstoke, based on IMD data.

The investment in 68 new ZEBs will support the growth and levelling up of the economy by improving the quality and perception of public transport services within the two areas, providing greater accessibility to healthcare, jobs, education and training opportunities, especially amongst the 20-25% of households living in the Portsmouth & SE Hants and Basingstoke areas without access to a car.

Stagecoach have plans for its local depots to become "centres of excellence" for training technicians in maintaining electric buses. This builds upon the company's longstanding, industry-leading apprenticeship and 'trade-up' engineering programme, taking candidates from within and outside the business through long-

term training to develop essential skills. All engineering apprentices are now trained to qualify as Mech/Elec Engineers, reflecting the importance of incoming EV vehicles as well as the significant electrical systems in place on older hybrid and diesel vehicles.

Through the delivery of this bid, enabled by the ZEBRA funding, Stagecoach has confirmed the introduction of battery electric vehicles will result in the upskilling and retraining of 52 maintenance staff plus all 350 drivers operating the vehicles at the two depots. The influx of new vehicles will also directly benefit the company's local apprenticeship scheme, which in 2023 saw nine new candidates join the business.

With EV schemes rolled-out in recent years, Stagecoach has built up a team of dedicated supply partners focussed on the longer-term strategic goals for wider community benefit in line with its sustainability strategy. Working with construction teams to provide safe access and charging point partners to provide metered charge, it is pushing forward with plans to provide community charging to other bus and coach operators, HGV operators, van and fleet operators and the general public. Experience has shown an opportunity for the company to optimise depot site layouts to also allow this access, assisting others on a decarbonisation journey without the need to install duplicated infrastructure.

The Stagecoach ancillary fleets have been moving to EV as vehicles reach renewal, with engineering vans and company cars arriving as plug-in electrics, charged through non-commercial facilities at all depot sites and main work locations. The enhanced skillset and improved working environment of the electric bus (particularly the lower noise and vibration levels) will aid the recruitment and retention of bus drivers in a highly competitive labour market, thus creating a more attractive working environment.

The Scheme in this context can help to improve connectivity and access to employment opportunities in the Portsmouth & SE Hants and Basingstoke areas; with improved access to health and social care, employment and general opportunity, and with coherent marketing will become a flagship scheme for getting people back on bus and away from recognised pollutants such as the car.

5.3 Applicants should set out in no more than 500 words how the proposal meets the community benefit with regard to the supply chain criteria set out in the guidance.

HCC have a strong track record in delivering innovative and transformational schemes both individually and collaboratively, as a direct consequence of the partnership ethos between operators and Local Transport Authorities that predates the Hampshire EP by over a decade. This partnership, extending to many stakeholders is a "mature" partnership. Zero emission buses are the next logical step, with all sides committed to climate change and air quality objectives.

There are a large number of delivery partners working together across this scheme, with 3 local transport authorities involved, private providers and local stakeholders, all

underpinned by a robust project management structure to ensure an efficient and collaborative delivery of this scheme. Lessons learned will be documented and shared amongst each partner to ensure improved collaboration in the future to support partnership working as set out in the National Bus Strategy.

Stagecoach also has extensive experience deploying battery electric vehicles into service at scale and at pace around in the UK. A pioneering fleet on nine vehicles was launched in the local region at Guildford depot in 2019, with subsequent large-scale fleet investments in Aberdeen (35), Cambridge (32), Dunfermline, London (112), Inverness (25), Perth (20) and Manchester (32). 332 EVs are currently in operation across its UK fleet. It has placed orders for 292 zero emission buses, including 170 for Stockport in Greater Manchester that are due to be delivered in the next 6 months. The centralised support functions who work collaboratively with local and regional business management teams can collate and share best practice and learning from each undertaking to enhance the next project. It is this increasing knowledge base twinned with the buying power of an organisation who are committed to convert the entire operational fleet to Zero Emissions in the next 15 years that have enabled constructive and open relationships to be formed with major suppliers. The project team from a delivery, property and engineering perspective are continuing to develop individuals and the wider business capabilities.

5.4 Applicants should set out in no more than 500 words how the proposal meets the wider decarbonisation benefits criteria set out in the guidance.

The project has also been designed to specifically deliver on the core objectives of ZEBRA:

- To support the Government's commitment to decarbonisation and to reduce the transport sector's contribution to carbon dioxide (CO₂) emissions.

This project is a major contributor and enabler to HCC's and PCC's BSIPs and will also help support the West Sussex BSIP priorities (around 45% of the mileage operated by the 42 buses based at Farlington depot will be within the Portsmouth CC LTA area, 45% in Hampshire and 10% in West Sussex) and will help to support each LTA's decarbonisation programs and importantly their levelling up/growth and diversity and inclusion objectives.

The project will see 34 double-head chargers installed, which exactly matches the required number for the 68 battery electric buses. There will be no additional provision to allow further battery electric buses to be accommodated in the future. Poor air quality is the largest environmental risk to public health in the UK. Air pollution from vehicles affects all of the local authority areas. There are currently five Air Quality Management Areas (AQMAs) in the Portsmouth & SE Hampshire area that the 42 buses based in Farlington would serve, all of which are within the Portsmouth LTA area. There are 1 AQMAs in Chichester city centre. Measures to reduce pollution, particularly Nitrous Oxides (NO_x), to within National Air Quality Objectives levels are focussed in the AQMAs.

Portsmouth City Council has been served with Ministerial Directions, requiring the council to achieve compliance with legal limits for NO₂ in the shortest possible time in areas of exceedances. As a result, they have introduced a Class B Clean Air Zone (CAZ) in 2021, covering the most polluted parts of the city. In short, the most polluting vehicles, other than private cars or vans, which produce emissions that are not Euro 6 compliant are charged to drive in the CAZ. Forecasting work indicates that this will cause reductions in nitrous oxide emissions where they are greatest and expected to exceed legal limits in future. The investment in the 42 new Farlington based ZEBs will help complement the CAZ and support faster reductions in pollutants.

In line with the Government's strategic priority to reduce environmental impacts and the ZEBRA objectives around decarbonisation and to reduce the transport sectors contribution to CO₂, both HCC as the LTA leading this bid (and PCC as a supporting LTA that will experience a reduction in NO₂ and particulate emissions from diesel buses within their city centre AQMA) are aiming for continuous improvement of air quality, beyond the government limits for NO₂ levels. Emission reductions will bring health benefits to residents who live along the 10 bus routes through reduced exposure to pollutants.

5.5 LTAs must comply with the public sector equality duty (PSED – Section 149 Equality Act 2010). PSED consideration helps to ensure that people who share characteristics defined as “protected” by the Act will benefit from the scheme. The PSED also requires authorities to identify any likely negative impacts and to actively seek to remove or reduce these as far as possible. We expect LTAs to consult with relevant stakeholders who represent people from the protected characteristic groups. Guidance on the PSED is available from the Local Government Association. LTAs should set out in no more than 1,000 words how their proposal will meet the expectations of the Equality Act.

HCC has paid due regard to the Public Sector Equality Duty (as defined by s149 Public Sector Equality Duty – Equality Act 2010) in analysing how people from the protected characteristics will benefit from the Zero Emission Bus (ZEB) scheme and how any possible negative impacts will be mitigated.

Sources of evidence, research and data used to understand the impact:

During development of the HCC BSIP, several stakeholder meetings were held. Passenger Transport Forums took place aimed at representatives from groups and organisations with an interest in passenger transport, including those who represented residents with protected characteristics were held in October 2021. Those invited to attend included the following from groups representing those with protected characteristics: Public Transport User Groups; Residents' associations; Disability Groups; Older people's forums; Community Groups; Citizens Advice; Climate Change / Environmental groups; Clinical Commissioning Groups (CCG); carer groups.

During development of the Enhanced Partnership, further stakeholder engagement was conducted through two Passenger Transport Forums in January 2022.

Stakeholders and Forum members were given the opportunity to comment on the various BSIP proposals via an online survey. The results helped support development of the EP Plan and Scheme. Engagement with HCC's Adult Services department took place to improve understanding of the needs of adults with learning or physical disabilities, which made provision for those residents who had special needs. Hampshire held two focus groups in December 2021, one for bus users and one for non-bus users to discuss barriers to bus use and potential improvements, including ZEBs. Since 2022, two EP Forums a year take place, attended by bus users.

Potential Positive Equality Impacts

It is recognised that the provision of ZEBs for Portsmouth & SE Hampshire and Basingstoke needs to consider likely impacts on all protected characteristics groups over the short and long-term. HCC and Stagecoach intend that the investment in ZEBs is inclusive, promotes accessibility, reduces discrimination, and that the positive impacts along the bus routes served will be promoted.

Those within protected characteristics are more likely to suffer more than the average population through poor air quality due to poverty or age (poor diet, underlying health issues), disability (breathing difficulties and complicated medical issues), being vulnerable because they are pregnant or with young children. Impacts of the ZEBs on each group are summarised below:

Ethnicity and Race - there are some negative perceptions of safety of public transport more generally for some of the most vulnerable groups in society, including people of different religions and/or ethnicities and races. Black, Asian, and minority ethnic (BAME) households also consistently have the highest rates of poverty. They will benefit from reduced levels of air and noise pollution. Electric buses will have CCTV and next stop screens and announcements. This group will be positively impacted by introduction of ZEBs.

Gender Reassignment - there may be some negative perceptions of general safety of public transport for certain groups in society, including people of different gender identities and trans people. HCC and Stagecoach will promote these routes as safe and accessible. There will be an improved onboard experience and reduced levels of air and noise pollution. The ZEBs will have a positive or neutral impact on this group.

Age - a high proportion of bus users are older females and therefore they will benefit from the improved onboard journey experience and reduced levels of air and noise pollution. Features of the bus including 'next stop displays' inside the vehicle and the flat floor throughout will benefit this demographic. For younger people, a positive impact is expected from the improved environmental sustainability of operating 68 new electric buses. The ZEBs are expected to have a positive impact on all age groups.

Disability - all current and prospective bus users will benefit from the improved onboard journey experience and reduced levels of air and noise pollution. Features of the ZEBs have been designed with disabled users in mind – e.g. space for wheelchair users and marked priority seats for people with mobility impairments. The ZEBs will be accessible and adhere to equalities legislation including the Public Service

Vehicle Accessible Regulation 2000, through measures such as tactile and highly visible poles and grab rails, lines of sight for boarding and alighting, large and clear destination signage inside and out. The ZEBs will have a positive impact on this group.

Religion or Belief, Sexual Orientation and Marriage or Civil Partnerships -

Stagecoach will promote the personal safety benefits of ZEBs (improved clearer lines of sight for boarding and alighting and the reassurance of CCTV). There will be an improved on-board experience and reduced levels of air and noise pollution. The ZEBs will have a positive impact on all three groups.

Sex - a high proportion of bus users are female and therefore they will be positively impacted by the improved on-board journey experience and reduced levels of air and noise pollution. Features of the new buses will improve safety or perception of safety (e.g. on board CCTV and technology that monitors seats available on the bus). The personal safety benefits of the ZEBs will be promoted (clearer lines of sight for boarding and alighting and the reassurance of on-bus CCTV). There will be an improved on-board experience and reduced levels of air and noise pollution. The ZEBs will have a positive impact on this group.

Pregnancy and Maternity - a high proportion of bus users are female and therefore they will be positively impacted by the improved on-board journey experience with level boarding and areas for pushchairs and reduced levels of air and noise pollution. In addition, certain features of the bus will improve safety or perception of safety, for example on board CCTV and technology that monitors seats available on the bus. No air pollution from ZEBs will support public health of this group who are considered more vulnerable to pollution. The ZEBs will have a positive impact on this group.

Poverty - people on lower incomes are far less likely to own a car than those on higher incomes, and therefore they are more dependent on public transport for their travel needs. ZEBs will serve a number of more economically deprived areas, including Leigh Park and in parts of Basingstoke, subsequently this group will be positively impacted by the improved on-board journey experience and reduced levels of air and noise pollution. The bus routes chosen for ZEBs will provide the 20-25% of households without a car greater and more affordable access to healthcare, jobs and education. Introducing ZEBs will improve perceptions of bus travel in the corridors served by the new electric fleet. Several of the bus routes run through highly populated but low-income areas. Bus users and residents will see the new buses as an investment in them and their communities. The ZEBs will have a positive benefit to those living in poverty.

The impact analysis undertaken suggests that there are no potential negative equality impacts arising from the introduction of 68 ZEBs, therefore no mitigations are required.

The impact on equality will be monitored throughout the lifetime of the ZEB project through undertaking 1,000 Your Bus Journey surveys with Transport Focus, who will

obtain feedback on perceptions of bus users and record any protected characteristics.

5.6 LTAs seeking funding for a hydrogen fuel cell bus proposal that is poor VfM will need to demonstrate their proposal is innovative to receive funding. LTAs should set out in no more than 1,000 words how their proposals for hydrogen fuel cell buses will provide learning to the Department and wider government that will not be obtained from existing hydrogen fuel cell bus projects. Proposals for hydrogen fuel cell buses that are a minimum of low VfM do not need to complete this section.

N/A

Section 6

Assessment Criterion 2 – Value for Money

Section 6 of the application form and Greener Bus Tool will be used to assess Value for Money. This represents the 'Economic case' of the Five Case Model.

6.1 Please state the proposed VfM category of the proposal e.g 'low' and the central BCR informing this e.g. '1.25'. The proposed value for money category for the investment proposal should reflect the central BCR, non-monetised impacts and risks and uncertainties. If the proposed VfM category has been uplifted from that implied by the central BCR, provide robust justification for this in no more than 150 words. This should be a summary of the information provided in 6.3 and 6.4.

The completed version of the Greener Bus Tool with the central BCR output should be provided alongside the submission along with evidence of key assumptions e.g. annual vehicle distance, estimated risk contingency amount.

"Medium" Value for Money with central BCR of 1.91.

6.2. Please outline in no more than 500 words evidence informing assumptions related to:

- the estimated annual vehicle distance,
- the fuel/electricity consumption scenario chosen,
- annual infrastructure maintenance costs (if an annual maintenance cost is stated in the tool),
- electricity/hydrogen costs if local evidence is used
- battery replacement costs (if the suggested values in the GBT guidance are not used) and
- a quantified risk assessment (if conducted).

If the evidence is not in a suitable format, please summarise it here and signpost where supplementary evidence has been provided i.e. in a spreadsheet or e-mail as an annex. Further detail is available in the GBT guidance on the level of detail required for input assumptions

Annual distance in service for the EV fleet is scheduled at a total 4,992,000 km across the Basingstoke and Portsmouth networks. These are known distances calculated from the existing registered local bus schedule, as currently operated by diesel vehicles. 68 EVs will be procured, of which seven (10.3%) are allocated spare for service resilience and maintenance cover.

Annual scheduled peak vehicle distance will therefore be 94,146km per double decker; 79,654km per single decker; 78,455km per midibus. The average distance per fleet vehicle is 73,394km per annum – taken as total scheduled mileage divided by 68 vehicles in fleet.

DNO costs provided by SSEN and average MW assumed at 0.033mw per vehicle. Fuel and energy consumption figures kept at GBT rates. Routes have been categorised as per published advice as Rural/Outer-Urban/Inner Urban and consumption matched accordingly. The majority of vehicles in the bid will operate on Inner Urban services, with services 2 (8 vehicles) and 700 (11 vehicles) as Outer-Urban.

Annual infrastructure maintenance costs are modelled at [REDACTED] per vehicle, or [REDACTED] per annum total. This information has been attained from [REDACTED] a world renowned and leading consultancy firm who conducted a deep dive into electric vehicle costs of ownership, including the surrounding infrastructure. [REDACTED] performed an analysis for Stagecoach, sampling a plethora of Stagecoach and international data, leveraging on numerous experts in the field. Citing infrastructure maintenance, [REDACTED] quote their sources as “[REDACTED]”.

Electric and non-electric fuel costs, as well as BSOG, have been assumed at GBT parameters. DNO costs have been given by SSEN for each depot site and match the analysis provided direct to Stagecoach by industry specialist [REDACTED]

Battery replacement is assumed at Year 10 at cost £146 per KWH in accordance with the 2036 GBT assumption. Year 10 replacement is as per manufacturer’s current guidance. 25% residual value has been assumed at Year 10, also in line with manufacturer guidance. 25% residual battery life is assumed at the end of Year 17 (full vehicle depreciation) as a prudent assumption. These assumptions are based on evidence from [REDACTED]

Usable battery systems (70% state of health or less) will be utilised into second life Battery Energy Storage Systems BESS, which will be connected to depots to relieve strain on National Grid network. For unusable battery packs due to damage or pack module failure, Stagecoach has agreements in place with bus manufacturers to replace whole units. These packs will be sent to third party specialist such as [REDACTED] to strip down and recover as much material as possible at their processing plants.

A Quantified Risk Assessment has not been completed for this project. A project risk register has been produced and section 8.3.4 of this form sets out the top five risks from this process and how the project team will mitigate against this risk. Therefore, as per the DfT guidance, within the Greener Bus Tool, a 20% Optimism Bias has been applied to the battery electric bus vehicle capital expenditure, the Do Minimum Vehicle replacement figure and the charging infrastructure capital expenditure figures as required by DfT.

6.3 Discussion of any significant impacts of the scheme which have not been estimated by the tool (non-monetised impacts) should be outlined in no more than 500 words. If any significant nonmonetised benefits have been identified,

the scale of the change needed to reach a higher VfM category should be determined, by calculating the required % increase and absolute increase in present value benefits (PVB).

N/A

6.4 Discussion of any significant risks and uncertainties that might influence a scheme's VfM, with appropriate sensitivity tests to show the impact risks/uncertainties would have on the scheme BCR should be outlined in no more than 500 words. Completed GBTs with sensitivity tests should also be provided, with the file name clearly indicating which sensitivity test has been conducted. Refer to the GBT guidance for a suggested list of sensitivities.

Summary of results of Sensitivity tests performed

Nine sensitivity tests (out of the ten potential ones suggested by the ZEBRA 2 guidance) have been carried out and Greener Bus Tool (GBT) spreadsheets have been completed and have been appended to this application:

1. **GBT ST 1** - estimated ZEB vehicle mileage increased 10% (High VfM - BCR: 2.17)
2. **GBT ST 2** - estimated ZEB vehicle mileage reduced 10% (Medium VfM - BCR: 1.55)
3. **GBT ST 3** - battery replacement costs increase 10% (Medium VfM - BCR: 1.89)
4. **GBT ST 4** - battery replacement costs decrease 10% (Medium VfM - BCR: 1.93)
5. **GBT ST 5** - 'low' carbon values (Poor VfM - BCR: 0.57)
6. **GBT ST 6** - 'high' carbon values (High VfM - BCR: 3.26)
7. **GBT ST 7** - 'high' operating costs (High VfM - BCR: 2.46)
8. **GBT ST 8** - 'low' operating costs (Low VfM - BCR: 1.36)
9. **GBT ST 9** - 'medium' fuel/energy consumption costs (Low VfM - BCR: 1.11)

The Core BCR is 1.91 - which is "Medium" VfM.

ST1 & 2 - If the vehicle mileage were increased by 10%, this would have the effect of increasing the BCR to 2.17, which would take the project into the "High" VfM appraisal category. If the vehicle mileage were decreased by 10%, this would reduce the BCR down to 1.55, which would still be within the "Medium" VfM category.

ST 3 & 4 - If the battery replacement costs were to increase by 10%, this would reduce the BCR marginally to 1.89. If the battery replacement costs were to decrease by 10%, this would increase the BCR marginally to 1.93. In both cases, the VfM category would remain unchanged at "Medium" VfM.

ST 5 & 6 - If "low" carbon values are applied in the GBT, this would have the effect of reducing the BCR significantly to 0.57, which is in the "Poor" VfM category. If "high" carbon values are applied in the GBT, this would increase the BCR significantly to 3.26, which is in the "High" VfM category.

ST 7 & 8 – If “high” operating costs are applied in the GBT, this would increase the BCR slightly to 2.46, which is in the “High” VfM category. If “low” operating costs are applied in the GBT, this would reduce the BCR slightly to 1.36, which is in the “Low” VfM category.

ST9 - Having considered the GBT guidance, around half the mileage operated by the ten bus services would be in an “inner urban” operating environment and the remainder in an “outer urban environment”. For one route (the 700), around a quarter of the route could be considered more rural in nature. In the Core BCR scenario, “high” costs have been assumed. Given that the routes are predominantly urban in nature, a “low” costs sensitivity test would not be appropriate for this project. As a test to see what effect using “medium” costs for all vehicle mileage would have on the BCR, a separate GBT sensitivity test was carried out. This results in a BCR of 1.11, which is in the “low” VfM category.

Section 7

Assessment Criterion 3 – Grant funding per bus

The grant funding per bus criterion will form part of the financial case of the Five Case Model. LTAs must complete the grant funding per bus calculator spreadsheet which will be used to calculate a grant funding per bus score.

Section 8

Assessment Criterion 4 – Deliverability

The Deliverability criterion draws together relevant aspects of the Finance, Commercial and Management Cases in the Five Case Model.

8.1 Finance Case

Together with grant funding per bus section 8.1 of deliverability will form the finance case of the Five Case Model.

8.1.1 LTAs should set out clearly in no more than 1,000 words all the sources of funding for their proposal, which should match the information included in the Greener Bus Tool. For all funding sources, except grant funding from the Government, LTAs should set out a short summary detailing the source of the funding and what approvals (e.g. investment or credit committees) are required to access the funding.

This information is taken from the “Core” Greener Bus Tool spreadsheet. Stagecoach South have made a commitment to provide [REDACTED] of funding towards the new battery electric buses, at depot charging equipment and cabling and grid connection power supply works.

Hampshire County Council have identified a match funding contribution of [REDACTED] which will be used towards the cost of the purchase of new electric buses in Basingstoke. To access this funding, if this ZEBRA 2 bid is successful, a Project Appraisal will be completed, and an Executive Member Decision Day report will be prepared to accompany the Project Appraisal seeking sign off for the spend on this project to be agreed.

A contribution of [REDACTED] is sought from the DfT’s ZEBRA 2 funding towards this project. For the three different bus types to be deployed in this project, this represents between [REDACTED] % of the cost difference between the purchase price of new battery electric buses and their diesel equivalent and the cost of depot infrastructure and grid connection by the DNO.

This bus operator investment from Stagecoach is significantly below the 75% DfT maximum contribution set out in the ZEBRA 2 guidance and represents a significant commitment by Stagecoach to the decarbonisation of their bus fleets in their Basingstoke and Portsmouth and South East Hampshire operating areas. Further to this upfront investment, Stagecoach is committed to covering the annual maintenance costs of the charging units and the 68 vehicles.

The investment by Hampshire County Council towards the new electric buses as part of this project will be bolstered further by local match funding contributions being made in bus priority measures. In Basingstoke, this includes a recent £7.65m HCC investment to improve Brighton Hill Roundabout, which was recently completed and

will help to improve bus journey time reliability on the 1 service, which is proposed for upgrade to electric buses as part of this project. In South East Hampshire, this includes contributions to the Portsmouth Transforming Cities Fund project including a recently completed £2m scheme to help reduce traffic congestion on Park Road South, Havant on the northern approach to the Langstone Roundabout used by the 23 and 700 services, proposed for upgrade to electric buses as part of this project, and bus stop access improvements in Leigh Park on the 23 service, which is proposed for upgrade to electric buses as part of this project.

Also as part of the Portsmouth TCF, Portsmouth City Council is investing local match funding into bus priority measures including two new bus gates in the city centre (one on a new bus only road connecting Unicorn Road and Cascades Approach so buses can avoid congestion on Marketway and a new westbound bus lane between Lake Road roundabout and Cornmill roundabout).

8.1.2 LTAs seeking to use finance other than from a bus operator(s) (e.g. private, UKIB, other) should set out in no more than 1,000 words the finance, what further steps would be needed to secure that finance on confirmation of any grant award from the scheme, and what other alternative sources would it seek to utilise if the external finance was subsequently not available.

N/A

8.1.3 Subsidy Control LTAs should set out in no more than 1,000 words a summary of the legal advice that they have received on how they will comply with subsidy control rules. LTAs must attach the full legal advice as a labelled annex.

HCC are applying for funding from the DfT under round 2 of their Zero Emission Bus Regional Areas (ZEBRA) Fund ("ZEBRA2"). The Hampshire bid will be to cover the cost of introducing 68 zero emission buses to ten high-frequency commercial bus routes (6 in Basingstoke and 4 in the Portsmouth, Havant, Waterlooville and Emsworth area).

In the HCC ZEBRA 2 bid, funding in the sum of [REDACTED] will be sought from DfT from the ZEBRA 2 fund to be provided to the bus operator (Stagecoach) and match funding of [REDACTED] has been agreed to be provided by Stagecoach. If the bid is successful, HCC will be providing [REDACTED] of its own funding as match funding for this bid (towards the cost of electric buses in Basingstoke). All project management and procurement would be undertaken by Stagecoach. Stagecoach have agreed that they will undertake a competitive tender process to source the buses.

Consideration has been given as to whether the provision of this funding is a subsidy and advice sought from our in-house legal services department (Hampshire Legal Services). A copy of the advice note is annexed to this application (Annex C). In summary we consider that the funding can be classed as financial assistance and will be given as a direct transfer of funds. HCC has determined that the granting of this financial assistance to Stagecoach constitutes a subsidy.

HCC has undertaken an assessment of the subsidy against the Subsidy Control Principles and considers that the giving of this subsidy is consistent with those Subsidy Control Principles. Furthermore, an assessment has also been made of the subsidy against the relevant Energy & Environmental principles (Principles A and B) and it is considered that the giving of this subsidy is consistent with both of these principles.

We consider that the giving of this subsidy will meet the definition of a subsidy or scheme of particular interest (SSoPI) due to the cumulation of this sum of [REDACTED] previous funding received on the Zebra 1 Fund and funding which may be received by Stagecoach. We therefore propose that as mandated by the Subsidy Control Act 2022 to make a referral to the Subsidy Advice Unit (SAU) for independent evaluation before the subsidy is given. We will also ensure that the relevant information concerning the subsidy is uploaded to the subsidy database in compliance with the Subsidy Database Regulations.

8.2 Commercial Case

Section 8.2 of the deliverability criterion will form the Commercial Case of the Five Case Model.

8.2.1 LTAs should set out in no more than 1,000 words how they will comply with the requirements on procurement set out in the guidance.

To ensure that there is best value there will be a Local Grant Agreement between HCC and Stagecoach requiring the bus operator to carry out all procurements based on a genuinely fair, open and transparent competition in which all eligible suppliers can participate. This will also act as a mitigation measure to ensure that bus operators are not passing on a subsidy to their chosen bus manufacturers and infrastructure suppliers.

Bus operator Stagecoach will own the Zero Emission battery electric buses and the supporting infrastructure – the charging units at the two depots and will be responsible for the maintenance of these assets.

Stagecoach will undertake a competitive tender process to source the buses and depot charging equipment and associated cabling. The expected lifespan of the at-depot charging units is a minimum of ten years and a service contract will be entered into with the chosen supplier to help ensure that all charging equipment is maintained in full working order. Dual outlet chargers will be specified as this provides a space efficient operation within the two depots and allows two buses to be charged at the same time. Stagecoach have agreed to undertake all risk including cost overruns for the procurement of the vehicles and chargers.

Stagecoach will be responsible for securing and managing the grid connection workstream at Farlington and Basingstoke depots. Stagecoach has partnered with [REDACTED] to conduct site assessments and engage with the DNO (SSE) to identify suitable primary connections and assess existing capacity headroom. The

reviews have considered recent connection enquiry bids for unused capacity and identified alternative sources if required. The Stagecoach delivery team has recent practical experience working with DNOs and managing EV procurement charging installations at electric bus depots in Guildford, Cambridge, Manchester, Perth, Aberdeen, Inverness and Dunfermline.

Rationale for chosen procurement approach:

There will be three separate tender projects for the depot to meet the ZEBRA requirements. These are:

1. Procurement of 68 New Battery Electric Buses (which will be 11 double deck and 57 single deck buses);
2. Procurement of Electrical Charging Equipment – 34 DC smart chargers (120-150kw) to better enable fast electric charge;
3. Procurement of power supplies and associated civils works – through co-development with DNO provider (SSE) to minimise DNO risk.

The objective of the procurement exercise is to find partners to deliver works so as to reduce impact on the operations of the two depots and maximise value for money aligning with the budget / cost plan.

Stagecoach will be the lead on the procurement of the vehicles. Prior to and during the development of this ZEBRA 2 bid they have been carrying out market engagement which is helping to identify a potential pool of contractors in addition to those engaged, that have either undertaken similar works previously for Stagecoach and / or are suitable qualified and available to tender.

Detailed discussions have been carried out with pricing quotes and technical visits carried out with a range of suppliers – including some demonstrators from suppliers, running routes from [REDACTED] operating area depots to understand how they would work in a real-life setting, gauge customer feedback and for local teams to understand potential vehicle options.

Surveys and assessments have been undertaken to ensure the vehicles can complete the working day, that chargers can adequately charge buses overnight through a smart charging mechanism and enabling works can both fit on site and be connected to the electricity network. Modelling and assessments have identified that the 396-472 kWh battery capacity is best suited to the requirements of the Portsmouth & South East Hampshire and Basingstoke operations. The modelling has looked at several of the bus routes proposed for ZEBs in both differing weather conditions and passenger loads. This provides the confidence that the capacity of the vehicles can operate the routes without the requirement for opportunity charging. The procurement of vehicles will begin following the funding announcement in March 2024. The level of development of the project with engagement and vehicle specification agreement carried out by Stagecoach to date means that the project can commence swiftly following award.

8.2.2 Evidence of Costs

LTAs should provide evidence that they, or one of their partners, has engaged with the supply chain to demonstrate reliability of costs. The Department reserves the right to reject any application which has not provided all the required quotes.

8.2.2.1 LTAs must provide quotes from two manufacturers for the cost of zero emission buses. LTA must also provide quotes from the manufacturers for the cost of an equivalent diesel bus. Please attach quotes in the form of a letter or email from suppliers as a separate annex(es). The annex(es) should be clearly labelled. LTAs must input the key information on these vehicles into the below table.

Manufacturers name	[REDACTED]		
Make and Model of bus	[REDACTED]	[REDACTED]	[REDACTED]
Number of buses in bid	11	46	11
Vehicle technology (eg. Battery/ Hydrogen fuel cell)	Battery EV		
Cost per bus (£)	[REDACTED]	[REDACTED]	[REDACTED]
Cost per diesel equivalent (£)	[REDACTED]	[REDACTED]	[REDACTED]
Has evidence for the cost of this bus model been provided alongside the application form?	Yes		
Link to ZEMO ZEB certificate*	Included		
Battery manufacturer	[REDACTED]	[REDACTED]	[REDACTED]
Battery installed capacity (kWh)	396	396	472
Battery effective capacity (kWh)	348 BOL	348 BOL	415 BOL
Maximum zero emission range for type of route	285 miles	285 miles	260 miles
Battery chemistry	Lithium Ferrous Phosphate	Lithium Ferrous Phosphate	Nickel Manganese Cobalt
Plug type	CCS2		
Rated charging power (kW)	Up to 150		
Charger compatibility (eg. AC, DC or both)	DC		
Vehicle length	10.9m	11.7m	11.1m
Passenger capacity (seated)	39	43	73

Number of PSVAR compliant wheelchair spaces	1	1	1
Number of additional flexible spaces	1	1	1
Total passenger capacity	88	89	84

Manufacturers name	[REDACTED]		
Make and Model of bus	[REDACTED]	[REDACTED]	[REDACTED]
Number of buses in bid	11	46	11
Vehicle technology (eg. Battery/ Hydrogen fuel cell)	Battery EV		
Cost per bus (£)	[REDACTED]	[REDACTED]	[REDACTED]
Cost per diesel equivalent (£)	[REDACTED]	[REDACTED]	[REDACTED]
Has evidence for the cost of this bus model been provided alongside the application form?	Yes		
Link to ZEMO ZEB certificate*	Included		
Battery manufacturer	[REDACTED]		
Battery installed capacity (kWh)	470		
Battery effective capacity (kWh)	300 EOL		
Maximum zero emission range for type of route	200 miles	200 miles	200 miles
Battery chemistry	Nickel Cobalt Aluminium		
Plug type	CCS2		
Rated charging power (kW)	Up to 150		
Charger compatibility (eg. AC, DC or both)	DC		
Vehicle length	10.8m	12.1m	10.8m
Passenger capacity (seated)	31	37	65
Number of PSVAR compliant wheelchair spaces	1	1	1
Number of additional flexible spaces	1	1	1
Total passenger capacity	84	79	96

8.2.2.2 For proposals to introduce battery electric buses LTAs must provide quotes from two suppliers of charging infrastructure. Please attach quotes in the form of a letter or email from suppliers as a separate annex(es). The

annex(es) should be clearly labelled. LTAs must input key information on charging infrastructure in the below table.

Electric bus	Quote from Preferred manufacturer	Quote from second manufacturer
Manufacturers name	████████████████████	████████████████████
Make and model name	████████████████████	████████████████████
Number of charging units (charging unit with dual plug counts as one unit)	34	34
Cost per charging unit	████████████████████	████████████████████
Has evidence for the cost of this model been provided alongside the application form?	Yes	Yes
Max Charging rate (kW)	160	180
AC or DC charger	DC	DC
Chargepoint protocol utilised	Yes	Yes

8.2.2.3 For proposals to introduce hydrogen fuel cell buses LTAs must provide quotes from two suppliers of refuelling infrastructure Please attach quotes in the form of a letter or email from suppliers as a separate annex(es). The annex(es) should be clearly labelled. LTAs must input key information on charging infrastructure in the below table.

N/A

8.2.2.4 In no more than 750 words LTAs should explain how the quotes they have obtained for vehicles and infrastructure have been informed by the vehicle and infrastructure specifications they intend to introduce.

Vehicle Quotes

Stagecoach engaged suppliers for formal response to a Vehicle Tender Specification Sheet, including clear minimum expectations for the mechanical platform and operational performance. This is existing best practice for Stagecoach and is designed to ensure equal, compliant responses to one core Zebra specification. For zero-emission electric vehicles in this bid, documentation was requested and provided to support manufacturer claims on battery degradation, range and Kw/h calculations.

Six electric bus suppliers were initially engaged, with two progressing to full application:

LIST REDACTED

The two operators who provided full quotes for electric buses as set out in Annex A, were [REDACTED].

Infrastructure Quotes

Stagecoach manages infrastructure projects in-house as far as reasonably possible, with limited external contracting to ensure compliant practice and standards as well as best value. With experience of multiple previous EV introduction projects, Stagecoach has established a team of multiple supply partners for every project tendered. For the purposes of Zebra 2, the Stagecoach specialist team has estimated costs for site and vehicle requirement based on experience, whilst engaging with EV charger suppliers ([REDACTED]) to supply updated quotes for the DfT business case.

Procurement and Due diligence

All suppliers have been through Stagecoach's rigorous procurement due diligence to ensure compliance with:

- Public Liability Insurance
- Employers Liability Insurance
- Professional Indemnity insurance
- Data security
- Operational Security
- On site compliance: Health and Safety Policies, Risk Assessments and Method Statements (RAMS), Evidence of competencies and licences stipulated in RAMS. COSHH Assessments for hazardous substances for use. Evidence of the certificate of conformity and maintenance for any plant and lifting equipment used in line with the requirements outlined within the LOLER and PUWER regulations.
- Sustainability & Corporate Social Responsibility: Apprenticeships, Environmental Policy, ISO 14001 Accreditation or other recognised Environmental Management System e.g. EMAS. Environmental Improvement Programme, energy and water minimisation processes, ensure that all waste is disposed of in a responsible manner. Environmental schemes to improve conditions in the local community.
- Company structure and operations
- Background checks / due diligence on any other entities, individuals or third parties engaged, or anticipated to engage, to act on Stagecoach behalf.
- Code of Conduct, or policy, including zero tolerance of bribery.
- Company in any way, owned, managed, controlled, or funded by any Government Organisation /Public Official.
- Modern Slavery Act due diligence.

8.2.2.5 Please provide evidence of the cost of the grid connection. This should take the form of a connection offer, budget estimate, letter or email from the Distribution Network Operator or Independent Connection Provider. If a grid connection is not needed, please explain in no more than 750 words why.

Stagecoach have commissioned specialist consultants [REDACTED] to undertake a full review of the wider Stagecoach estate and power requirement for the purposes of informing Zebra2 submissions across various LTAs, including this project. They have engaged with the Distribution Network Operator (DNO) Scottish and Southern Energy Networks (SSEN) to obtain supply quotes and have provided the project team with grid connection status summary information for Basingstoke and Portsmouth depots, which set out the availability of power, recent requests for new grid connections and any likely constraints at site.

Basingstoke depot is fed by the Basingstoke primary circuit, which has 31.6mVA headroom. 8 recent enquiries have been made for 40mVA power in the last 12 months. Required power may be available on the local 11kV network, or otherwise at nearby primary sites just over 1km from depot or over 2 km (Oakridge). SSEN has provided a budget estimate new supply quote of [REDACTED] (dated 26/10/23) for 200m cabling at 1.45mVA load. Within the Greener Bus Tool, the higher figure of [REDACTED] has been used.

Portsmouth depot is fed by the Farlington primary circuit (400m from site) which currently has 15.2mVA of headroom. 1 enquiry has been made in the last 12 months, for 2mVA, meaning supply is unlikely to be a competitive concern. A fully-electrified fleet at Portsmouth may require cabling to reach the next closest primary locations 1.5km from depot (Hilsea). SSEN has provided a budget estimate new supply quote of [REDACTED] (dated 02/11/23) for 125m cabling at 3.8mVA load.

DNO quotes have been provided in Annex E to this submission.

8.2.2.6 Proposals for battery electric buses that are not using the GBT costs for electricity should explain why and provide evidence of the cost of the electricity. Evidence should take the form of a letter or email from suppliers as a separate annex(es). This annex(es) should be clearly labelled.

N/A

8.2.2.7 Proposals for hydrogen fuel cell buses should provide evidence of costs of hydrogen fuel. Proposals for hydrogen fuel cell buses must either be sourced with Renewable Transport Fuels Obligation (RTFO) support or hydrogen that meets the UK's draft low carbon hydrogen standard. Proposals for hydrogen fuel cell buses, must provide evidence of costs of hydrogen fuel. This evidence should take the form of a provisional offtake contract, budget estimate, letter, or email from a hydrogen fuel supplier. Please attach this as a separate annex(es). This annex(es) should be clearly labelled.

N/A

8.2.2.8 LTAs that are proposing to use private finance to support their proposal they will need to provide a letter of support from the private financier. Please attach quotes in the form of a letter or email from suppliers as a separate annex(es). This annex(es) should be clearly labelled. LTAs will also need to set out in no more than 1,000 words what further steps would be needed to secure that finance on confirmation of any grant award scheme, and what other alternative sources would it seek to utilise if the external finance was subsequently not available.

N/A

8.3 Management Case

8.3.1. Governance

In no more than 1,000 words please provide reassurance that they and their partners have the capacity to deliver the project as set out in the guidance.

HCC and Stagecoach have the necessary capacity, experience and skills required to successfully deliver this ZEBRA 2 project on time and to budget. Although the HCC and Stagecoach will individually deliver their respective responsibilities, both will work collaboratively in terms of structure, governance and reporting.

HCC have experience of managing and delivering complex public transport and highway projects. We have delivered the A3 Portsmouth Road bus priority corridor and the Eclipse BRT busway – both multi-million pound capital schemes between Fareham and Gosport, and to construct the South Winchester Park & Ride site. On such projects, we manage contractors to deliver high-quality schemes on time and managing risk effectively through strong contractual mechanisms that have delivered end-to-end journey time savings and high BCRs. Other more recent large complex engineering projects that we have delivered include the Newgate Lane realignment and Stubbington Bypass highway improvement projects. All capital schemes are managed through our Capital Programme, where projects are regularly reviewed and spend tracked against budgets. HCC have a history of strong and effective partnership working with bus operators, going back over 20 years, predating Enhanced Partnerships. This work included establishing a number of Quality Bus Partnerships and delivering extensive bus priority measures on well-used flagship bus corridors with operators including Stagecoach.

The project funds will be held by HCC. Funds will be provided to Stagecoach to pay supplier invoices subject to the satisfactory achievement of project milestones. Stagecoach will procure and own the ZEBs and charging equipment using their extensive experience from other areas of the UK and a core project team as outlined below and will manage the financial risks using their internal governance processes. Stagecoach owns both Farlington and Basingstoke bus depots outright.

Stagecoach Zero Emission experience:

Stagecoach has vast experience of procuring and operating electric buses with 759 currently in service or on order. Recent investment in Ayr, Aberdeen, Cambridge, Inverness, London and Manchester allows us to share knowledge of the differences

in operating in small towns and large cities as well as mitigating the differing needs of specific operational requirements, such as the impacts of heating and cooling on the battery ranges, working with different manufacturers ([REDACTED]) and battery support specialists ([REDACTED]) as well as tailored infrastructure including private wire arrangements ([REDACTED]), renewable on site generation and network load-spreading with battery storage solutions.

In 2019 Stagecoach South was a pilot Stagecoach fleet to receive EV vehicles, with nine buses arriving in Guildford with factory support from BYD and the neighbouring ADL plant in Guildford. Later the same year, Sharston in Manchester was the first large scale commercial EV project outside of London, via a successful ZEBRA 1 bid introducing 32 double deckers on time and under budget.

Stagecoach operational support teams have specialist Optibus schedule tools to maximise fleet efficiency, accounting for battery range and peak vehicle requirements, opportunity charging (where present) and overnight smart chargers. These ensure vehicles are allocated correctly based on their charging cycle.

EV delivery

Stagecoach is well-positioned to roll out depot infrastructure for EV at pace, utilising its in house experienced team, complimented by core key suppliers. The in-house team procures chargers, transformers, RMUs and switch gear in bulk as a kit to ensure maximum cost efficiency and standardisation across all depots. A team of partners works to design HV / LV drawings and depot architecture, alongside the decarbonisation delivery team ensuring civil contractors meet plans and timelines. Dedicated H&S regional experts ensure that all CDM and HSE considerations are met and to a consistent standard.

During 2024 Stagecoach will commence electric operations in Oxford and Perth as well as large-scale electrification of franchised depots in Manchester.

As an early adopter, Stagecoach has been able to build a resilient, efficient and experienced project management process, with teams of experienced staff who can quickly identify the needs for infrastructure at each site and the best vehicle technology to use for each route and application. It has been able to assist and inform industry peers and the wider business and local authority communities in early investigations into their own ability to decarbonise and introduce EV fleet or infrastructure.

Stagecoach will manage delivery using a well-formed governance process it uses for its internal and external facing projects. The project will be led by the local business unit (Stagecoach South) supported by a business change project management resource. The structure will be as follows:

Group EV Lead	Tony Cockroft
Financial Controller	Emma Sidlow
Infrastructure Delivery Lead	Andrew Cowie
Vehicle Delivery Lead	Steve Morris
South Manging Director	Marc Reddy
South Engineering Director	Tony Probert

Steve Morris and Andrew Cowie will be the Delivery Lead Managers who will oversee the full deployment of the battery electric vehicles and charging infrastructure. They will work closely with the local Stagecoach Management team and a project manager will control the infrastructure upgrade. The overall risk for delivery is low, with Stagecoach having extensive previous experience of delivering infrastructure and EV vehicles into its fleet.

To ensure the successful delivery of the project regular reviews and reporting will be in place and controls to manage risks, issues and change management. A monthly report will be prepared which will show progress against a range of metrics. Stagecoach has comprehensive and established financial controls in place. Capital and project spend has set governance, documentation and specific delegated authority which is restricted to directors and senior managers of the business. This is strictly controlled and upheld by the Capital Accountant. Capital accounts are reconciled monthly, spend is tracked against budget/forecast and project, with supporting Management reporting sent to senior business and finance leadership. Monthly reporting is reviewed by the Financial Controller and presented to the delivery board, where actions and mitigations will be taken against any variances. There is separation of duties throughout the finance function from accounts payable, accounts receivable, capital accounting, subsidy accounting, management accounting, and financial accounting.

8.3.2 Allocating grant funding LTAs should set out in no more than 500 words how they will allocate grant funding to their bus operator(s) partners. LTAs can attach draft funding agreements with bus operators as an annex.

The project funds will be held by HCC. Funds will be released to Stagecoach to pay supplier invoices subject to the satisfactory achievement of project milestones and with sufficient demonstration of funding use for the agreed spending. 100% of the ZEBRA 2 funding will be passed to Stagecoach, who have confirmed that they will use their standard and Group backed procurement procedures to competitively source the 68 battery electric buses, depot charging equipment and grid connection through a competitive tendering process. Full details of how HCC will manage the process of providing the funding to Stagecoach is set out in the draft funding agreement which can be found in Annex F.

This draft funding agreement covers a range of aspects including how the ZEBRA funding will be used, payment processes, accounting and record keeping, monitoring and reporting, acknowledgement and publicity, limitation of liability, warranties, insurance, the duration of the agreement, termination and dispute resolution.

8.3.3 Project plan LTAs should provide a project plan. This should be set out in no more than 1,500 words. A project plan in formats like Gantt charts and tables, can also be provided as a separate annex(es). These must be provided in an excel format.

The detailed Project Plan is set out in Annex G. This sets out the key tasks required to be performed to deliver the scheme on time. With Stagecoach responsible for procuring the buses and infrastructure, significant input has been obtained from them in terms of developing this project plan. The project plan therefore covers the tasks required to be completed by Stagecoach. It sets out: timings to reach agreement with third party suppliers for the procurement of the vehicles and infrastructure; how long it will take to deliver vehicles and the charging infrastructure; how long it will take to secure the grid connections and how long it will take to introduce vehicles into service.

The timeframes are based on Stagecoach experience of procurement and delivery of battery electric buses and charging infrastructure from recent projects elsewhere in the UK including London Manchester, Oxford, Perth, Cambridge, Ayr, Aberdeen and Dunfermline – with 343 battery electric buses operating in service by the end of 2023. Estimated vehicle build and delivery dates are supplied from discussions with the likely manufacturer at time of quote.

Key dates set out in the project plan are:

- Bid submission 15/12/23
- Funding award 15/03/24
- Legal & planning March – June 2024
- Vehicle order placed 29/03/24
- Infrastructure & grid order 01/04/24
- Planning permission window 01/04/24 – 13/09/24
- Vehicle manufacturing slot February – November 2025
- Infrastructure & grid build August 2025 – February 2026
- Vehicle delivery 23/01/26 – 26/02/26
- Marketing campaign planning/booking January/February 2026
- Engineering training 30/01/26
- Driver familiarisation 28/02/26
- Go live 01/03/26
- Launch events/media/promo March & April 2026
- Try-the-bus activities April 2026
- Clean Air Day June 2026
- Catch the Bus month September 2026
- Sustainability Day October 2026
- Six-month data capture/statements October 2026

At go-live an extensive programme of PR and launch activity is planned to highlight the spend, local transport commitment and impact on local communities in Basingstoke and Portsmouth. Hampshire CC and Stagecoach will work in partnership to deliver high-profile activities to make prominent the commitment to sustainable transport and partnership working – including media days, ‘try the bus’ taster travel and customer engagement events as part of a rolling programme throughout 2026, capturing local and national sustainability event opportunities as appropriate.

8.3.4 Risk Management LTAs should set out in no more than 1,000 words your top five risks and the actions they will take to mitigate these risks.

HCC and Stagecoach have prepared a Project Risk Register, which for each risk sets out the appropriate mitigations and management actions for the successful delivery and operation of the project. The top-5 risks have been identified at the outset and categorised/scored/RAG-rated appropriately to consider impact. Risk response outcomes have been considered and a second scoring applied as a post-response rating. The top five risks and actions that will be taken to mitigate them are summarised below:

1. ZEB manufacturing lead times are longer than assumed or supply chain issues result in delivery delay

Probability Possible (3)
Impact Significant (4)
RAG Medium/Amber (12)
Response Mitigate

How Will Mitigate This Risk: The Project Plan (Annex G) allocates a four-month window to order vehicles and still meet the planned delivery timescales. Vehicles will be ordered as soon as practically possible after award to confirm a build slot following appropriate due diligence and final agreement between Stagecoach and the manufacturer [REDACTED]

timelines have been set based on experience and established contractual arrangements. The Stagecoach project team will be responsible for remaining in close contact with the manufacturer throughout the build programme and for reporting any concerns likely to impact beyond the delivery contingency period.

Target post-Response Plan

Probability Unlikely (3)
Impact Minor (2)
RAG Medium/Amber (12)
Confidence High

2. Cost control – decision delay exceeds secured quotation timeframe for ZEBs and/or infrastructure

Probability Possible (3)
Impact Moderate (3)
RAG Medium/Amber (9)
Response Mitigate

How Will Mitigate this Risk: Delayed award process will trigger a second round of conversations with market suppliers, to be concluded and reflected at earliest opportunity. Stagecoach is working with multiple LTAs on ZEBRA 2 bids covering

other localities and unit cost economies of scale are expected within negotiations. Stagecoach has effective cost control processes in place and contracts will be agreed with suppliers based on agreed prices. Stagecoach is using grid connection consultants to work with distribution network operators (DNO) to find the most beneficial solution to enable time and cost reductions to the depot infrastructure and connection schemes. The consultants are also working with a partner to develop smart charging software to reduce the maximum grid capacity connection requirement to sites to further reduce time and cost reductions. If the ZEBRA 2 grant award is to be delayed beyond March 2024, then Stagecoach will assess with suppliers reprice and replan around any changes. The project team will closely monitor budgets and a project dashboard will anticipate those areas where costs may increase and contingencies in the project budget will help to minimise the impact of any potential cost increases.

Target post-Response Plan

Probability Possible (3)
Impact Moderate (3)
RAG Medium/Amber (9)
Confidence High

3. Lack of capacity to manage deliver the ZEB investment by Stagecoach

Probability Possible (3)
Impact Significant (4)
RAG Medium/Amber (9)
Response Mitigate

How Will Mitigate This Risk: Stagecoach have appointed their own dedicated project manager who will oversee the full deployment of the 68 ZEBs for Basingstoke and Farlington depots. They will work closely with the Stagecoach project manager who will manage the infrastructure upgrades at both depots. At all times a close working relationship and clear reporting will be undertaken with the Operating Company Senior Leadership Team to ensure any operational risks are mitigated and managed. Lessons learned from other battery electric vehicle deployment projects in other Stagecoach Operating Companies will be transferred to and shared with the project team. Throughout this project, project and programme management techniques and best practice will be utilised to ensure that it is delivered effectively and is well managed. To ensure the successful delivery of the project regular reviews and reporting will be in place and controls to manage risks, issues and change management. A monthly report will be prepared which will show progress against a range of metrics.

Target post-Response Plan

Probability Unlikely (2)
Impact Moderate 3)
RAG Low/Green (9)
Confidence High

4. Skillset training and organisational adjustments – Stagecoach teams adapting from diesel to EVs (engineering/operations)

Probability	Possible (3)
Impact	Moderate (3)
RAG	Medium/Amber (9)
Response	Mitigate

How Will Mitigate This Risk: Stagecoach has significant experience of a multitude of fleet vehicle types including EVs and works hard to establish commonality, best practice and reduce fleet mix across depot locations to minimise risks of failure. Stagecoach South was an early adopter of EVs at Guildford depot in 2019, with lessons learned having fed back to influence later roll-out at other locations. Rigorous training and engagement programmes will ensure high standards are applied in the workshop and on the road, with appropriate in-house training committed to each individual before taking charge of any new vehicle. Stagecoach compliance requirements include formal vehicle type-training for all staff (driving and/or maintenance). For the large-scale roll-out of Zebra2, Stagecoach will recruit a team of roaming EV experts from its Group team to be on-site at each location throughout the delivery and launch period. This will sit alongside established manufacturer support and within robust, audited operational business procedures.

Target post-Response Plan

Probability	Unlikely (2)
Impact	Moderate 3)
RAG	Low/Green (9)
Confidence	High

5. Vehicle capability/reliability is below real-world expectation/requirement

Probability	Rare (1)
Impact	Minor (2)
RAG	Low/Green (2)
Response	Accept

How Will Mitigate This Risk: Vehicles are, whilst new and developing models, existing production vehicles with known capabilities. Risk may apply to mid/late-life where there is currently less operational experience. Stagecoach works closely with manufacturers under warranty with aftersales support and in long-term fleet partnership agreements to ensure quality control and, in the unlikely event of unforeseen challenges, apply approved corrective measures to its fleet. Stagecoach Optibus schedule systems ensure vehicle battery range is considered at the outset of a schedule build and timetable plans appropriately reflect capability.

Stagecoach will train up its' depot staff with the skills required to maintain and fault find for the fleet of 68 ZEBs. Data on fleet availability and reliability will be collected and reported monthly to Operating Company managers who will monitor these metrics. This ZEBRA2 project will complement committed investment in bus services

through the Enhanced Partnership plans of HCC and PCC to invest in bus priority and infrastructure to help support passenger growth. Stagecoach will invest in marketing along the 10 corridors to promote the new fleet of ZEBs to potential users.

Target post-Response Plan

Probability Rare (1)
Impact Minor (2)
RAG Low/Green (2)
Confidence High

8.3.5 Programme level Monitoring & Evaluation

LTAs should confirm that they will conduct the following as part of the programme-level M&E:

Participate in programme-level M&E activities as required, for example taking part in interviews or group discussion sessions:	Yes
Share relevant monitoring data in an electronic format (e.g. Microsoft Excel):	Yes
Share relevant monitoring data on a quarterly basis	Yes
Ensure relevant monitoring data is collected automatically via telematics	Yes

8.3.6 Scheme level Monitoring & Evaluation

LTAs should set out in no more than 1,000 words their plans for scheme-level M&E, including a logic map which sets out expected causal links between scheme inputs, outputs, outcomes and impacts:

A resource to co-ordinate Monitoring and Evaluation for the project will be in place throughout the lifespan of the scheme, that will document findings and challenges and relay these back to the project team and Stagecoach and its’ supply chain. Lessons learned in delivery will be captured and can be used to inform future ZEB projects by HCC and Stagecoach. Targets will be monitored using qualitative and quantitative data to evaluate change and attempt to understand the rationale. A logic map that sets out the causal links between the project objectives and the scheme inputs, outputs, outcomes and impacts is provided in Annex D.

To measure the effectiveness of the ZEBRA 2 project, it is important that a range of robust data sources are identified, and plans are in place for reporting on progress towards achieving objectives. The data collected will be used to assess the ongoing success of the ZEBRA project. Collection of data over time will allow for analysis over time and the identification for patterns and trends for monitoring progress. Data on a number of key metrics will be collected such as battery electric bus range on each of the ten services, battery performance, mileage of fault free running operated, expenditure on maintenance, the % of total planned mileage operated, total operator expenditure on vehicle charging and the Causes of unavailability for vehicle and charging equipment (Top 10 by impact).

The data will be collated monthly, quarterly and annually and fed into a strategic level dashboard that will be reported on to the Project Management Board and to DfT as appropriate. The data will be processed using spreadsheet software and then visualised using GIS software where required.

Where possible historic bus passenger data for the period April 2022-March 2025 will be used to form a baseline. A high-level summary of the data collected will be reported to the Project Board as part of the standard reporting procedure. This will enable decision makers to have regular oversight of the effectiveness of the programme providing the opportunity to identify any lack of progress or risks to achieving the objectives at the earliest opportunity.

Stagecoach will own and manage the risks around the procurement, delivery and operation of the battery electric buses. The various project risks have been identified. They are allocated to the party best able to manage the risk, and consideration has been given to how the likelihood of each risk occurring and will be mitigated and the severity of the risk minimised. Given the partners involved, there are no anticipated human resources factors that present any significant risks to the project. Stagecoach will continue to assess the potential human resources issues as the project develops to identify any risks early in the process, and consult a wide range of stakeholders, including staff and Trade Union representatives. The top 5 risks are summarised in section 8.3.4.

This project has a range of drivers for change. As well as the central objectives of decarbonising of public transport and improving air quality, this investment will support the delivery of a range of other outcomes including improving public transport services; greater accessibility; sustainable economic growth and helping to create more attractive inclusive places.