



Department
for Transport

Zero Emission Bus Regional Areas (ZEBRA) 2 Application Form

Applications to the Fund will be assessed against the criteria set out here and in the guidance document.

**Proposals must be received no later than
4pm on 15 December 2023.**

You will receive confirmation that we have received your proposal within 5 working days.

An electronic copy only of the bid including any supporting material should be submitted to BUSES@dft.gov.uk

Enquiries about the Fund may be directed to BUSES@dft.gov.uk
Please include “ZEBRA 2” in the subject line for the email.

**You must
also complete
and return a
Greener Bus Tool
(separate document)**

Section 1

Applicant information

This section is not scored.

Bidding authority

Portsmouth City Council

Bid Manager

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

First name

REDACTED

Last name

REDACTED

Position

Transport Development Manager

Contact telephone number

REDACTED

Email address

REDACTED

Postal address

Civic Offices

Guildhall Square

Portsmouth

Hampshire

Postcode

PO1 2AL

Website address for published application

[Home - Portsmouth City Council](#)

Section 2 – Key requirements

LTAs 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 No

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

Yes No

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

Annexes 1 and 2: Vehicle supply quotations

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

- LTAs must provide letters of support from the bus operator(s) who will be operating the zero emission buses, with signatures from the national CEO and local area MD, committing to investing in the buses and operating them in the area for a minimum of 5 years. The national CEO or equivalent should be empowered to commit the bus operator to operating the buses and providing any required funding for the proposed scheme. LTAs do not need to provide letters of support for all operators in the area, only the operators who will be operating the zero emission buses.
- If LTAs intend to award a contract to operate the bus service where the zero emission buses will be used, they must provide evidence that bus operators will submit bids to operate the bus service. This should take the form of letters from bus operators expressing their interest in seeking to bid to operate the bus service.

Yes No

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

Annex 3: Letter of support signed by First Bus MD and First South MD.

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 No

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

Annex 4: Legal advice on subsidy control issues

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?

If this has not been met the Department reserves the right to not assess the rest of the application.

Yes No

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).

Yes No

Please name the annex containing a provisional offtake contract, budget estimate, letter or email from a hydrogen fuel supplier.

N/A

Section 5 – 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.

LTA's not seeking to apply for this funding do not need to complete this section.

This section is not scored and will be pass/fail.

Portsmouth City Council is an urban local transport authority.

Section 6 – 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	£3,567,904
Local transport authority funding	£0
Other public sector funding	£0
Bus operator funding	REDACTED
Other private funding	£0
Vehicle grant amount	REDACTED
Infrastructure grant amount	REDACTED
Total number of buses	40
Total capital cost	REDACTED
Vehicle capital cost	REDACTED
Infrastructure capital cost	REDACTED

- 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 following bus routes will be electrified:

- Route 2 Portsmouth Hard Interchange - Paulsgrove
- Star 7 Portsmouth City Centre - Wecock Farm
- Star 8 Portsmouth Hard Interchange - Clanfield

These routes are some of the most well-used locally, carrying 3.7m passengers annually, and will bring benefits to the Portsmouth Clean Air Zone, to all five of Portsmouth's AQMAs and to the most deprived areas of the city, Buckland, Fratton and Paulsgrove as measured by the Index of Multiple Deprivation (IMD). The bus routes chosen, as well as serving areas with high levels of deprivation are also areas that for decades have suffered from high levels of inequality, pollution, congestion, poor air quality and disparities in health outcomes. Electrification will be transformational in terms of health and economic benefits. The Star 7 and 8 use the A3 Bus Priority Corridor established in 2008, the one corridor where bus journey times into Portsmouth are better than 20 years ago. Wecock Farm in Waterlooville, Hampshire, the terminus of the 7, is also a deprived area where much of

Section 7 –

the housing is owned by Portsmouth City Council and so has strong links to the city for work and family ties. Much of the 7 and 8 are in Hampshire which has provided a letter of support.

This proposal will electrify 40 buses (26 standard and 14 long range) at the First Bus Hilsea depot, which is to transfer to a brand-new electric-ready depot and regional headquarters being built on the News Centre, Portsmouth PO2 9RB. The proposal will electrify both urban and inter urban routes. 40 Zero Emission Buses (ZEBs) will directly save 51,258, 495 kg carbon and 21,830 kg NOx and 546 kg PM 2.5, directly supporting the Portsmouth City Clean Air Zone and five Air Quality Management Areas. The new ZEBs will also reduce noise at the depot, on local roads and in key noise-sensitive destinations.

The proposal offers a BCR **REDACTED**

In addition, it will spread the wider benefits of decarbonisation to the local community through First Bus's plans to offer business to business (B2B) vehicle charging at the depot, building on its established relationship with logistics partner DPD and a fledging relationship with BT Openreach. Following successful deployment of B2B charging at the depot, First Bus will explore the potential to open up fast charger facilities to the general public.

The proposal will also bring employment and training opportunities – upskilling the existing engineering team (**REDACTED**) with high voltage training (transferable skills) and providing apprenticeship opportunities for local people both in engineering and driving, as well as creating opportunities for local businesses in construction delivery and ongoing equipment and ZEB maintenance.

The depot is owned by First Bus. No additional sites are included in this project for auxiliary activities, for example opportunity charging.

A total of 40 ZEBs will operate, all single decks, 26 standard, 14 with long range batteries reflected in an **additional multi-operator application form**). Each of the manufacturer technical specifications fully align with all DfT/ZEBRA2 requirements.

Charging infrastructure will be contained within the existing depot site, with a gantry model proposed (overhead chargers vs ground-mounted) to optimise cable management and reduce space take at ground level. The site already has sufficient power supply as First Bus invested previously to secure available power from the electricity grid. Consequently, the site already has a high voltage ring main unit that supplies one transformer to reduce the incoming supply from high to low voltage. **REDACTED**

The proposed routes are:

- Route 8 (14 buses);
- Route 7 (12 buses); and
- Route 2 (14 buses).

REDACTED

We do not anticipate any increase in frequency at the current time. New ZEBs will replace modern Euro 6 diesel buses.

Section 8 –

A large empty rectangular box, likely intended for a signature or stamp.

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.

ZEB technology has been chosen as it will build on the 62 ZEBs being introduced through ZEBRA 1 and will move Portsmouth closer to being an electric city.

Portsmouth City Council declared a Climate Emergency in 2019 and aims to be a Greener City by 2040.

As the UK's most densely populated city outside London, with a class B Clean Air Zone implemented in November 2021 and five AQMAs, making a move from private car to clean public transport essential to improve economic opportunity and health outcomes. This was reflected in the BSIP award which this proposal complements.

Our partner, First Bus is building a new electric-ready depot at Hilsea within the city which will reduce the need for buses to travel in from outside the city to start work.

First Bus considered for electrification all commercial routes within range based on an assumption of **REDACTED**, with the package set out in section 4.2 selected on the basis of its policy alignment as this bid supports the Portsmouth Transport Strategy 2021-2038 as set out in our adopted fourth Local Transport Plan (LTP4) and its vision that: "By 2038 Portsmouth will have a people-centred, connected, travel network that prioritises walking, cycling and public transport to help deliver a safer, healthier and more prosperous city." Four strategic objectives within the Portsmouth Transport Strategy will deliver this vision, including to 'Transform Public Transport' and 'Deliver Cleaner Air'.

Why ZEB?

11% of the First Bus fleet is now (November 2023) ZEB, and by March 2024, ~15% of the fleet will be ZEB. First Bus has experience of running both hydrogen (H₂) and electric vehicle (EV) fleets. However, EV presents a stronger case for continued investment because it presents a substantively better total cost of operations (TCO) than H₂ over the assessment period. In addition, the Hilsea depot does not have sufficient space for H₂ infrastructure.

The vehicle specification meets all accessibility requirements as per DfT/customer needs. The allocation of buses to routes is based on current passenger volumes with 10% allowance for growth.

Battery sizes have been modelled using OptiBusEV software (co-developed with FirstBus) and allows for 20% battery charge at the end of the day (as per warranty/other needs).

The buses proposed for the 2 have medium capacity batteries (26 standard vehicles) and those for the Star 7 and 8 have higher capacity batteries (14 long range vehicles) to cope with the hilly topography of these routes. Electric buses are much more suitable for hilly terrain in which diesel buses use more fuel and produce higher tailpipe emissions.

Charging technology: **REDACTED**

- 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.

The new electric-ready depot and regional headquarters being built by First Bus within the city at Hilsea will provide local employment and career opportunities for Portsmouth residents. The opportunity for local apprenticeships in an upcoming technology area will support training opportunities for the local community.

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New entrants: First Bus invests every year in apprenticeships and runs a successful bespoke programme of engineering apprenticeships with their partner provider Reaseheath College in Cheshire, where apprentices are taught to work on ZEBs. This is a national programme with 70-80 apprentices being trained every year. Three of the engineering team at Hilsea will do a full ZEB apprenticeship.

First Bus has also recently launched its pilot driver apprenticeship in Norfolk and Yorkshire, with specialist training provider and accreditor Realise. Following successful roll out of the pilot programme, the driver apprenticeship programme will roll out across the UK from 2024. The apprenticeship will be the training pathway for all incoming new talent who have not yet secured a full PCV (passenger carrying vehicle) licence. **REDACTED**

The investment in bespoke apprenticeships is helping to attract new talent and enable continued local upskilling of existing workforces, in particular the engineering community and driver teams. A green digitally enabled transport sector also aligns more closely with the career aspirations of younger people, therefore the combination of investment in new technology together with investment in new apprenticeships position the bus sector as a more attractive proposition to future diverse workforces.

- 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.

Our operator partner First Bus has an established network of zero emission bus (ZEB) vehicle and infrastructure partners and suppliers, that has been developed following comprehensive procurement processes, which include a broad range of value for money considerations including a preference from First Bus to invest locally and in small and medium enterprises (SMEs) where practicable. Examples of local/community job creation that this proposal will generate are described below.

REDACTED

- 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 percentage of mortality attributable to particulate air pollution in Portsmouth was 5.9% in 2019 which is above both the regional and national averages. Portsmouth has five Air Quality Management Areas and is subject to four separate Ministerial Directions to bring air quality within legal limits in the shortest possible time. Portsmouth implemented a Class B Clean Air Zone in 2019.

Residents of some of the most deprived areas of the city do not have access to their own vehicle but are disproportionately affected by pollution from vehicle exhausts. This proposal will build on the 62 electric buses due to enter service from March 2025 and support Portsmouth's 2022 Climate Change Strategy which has seen around 100 electric vehicle charging points introduced across the city. The proposal to provide charging facilities to other users and businesses is particularly exciting.

Asset sharing of EV charger infrastructure

Our operator First Bus already has a successful B2B (business to business) third party charging model, for example with DPD in its Caledonia depot in Glasgow and in Leicester. Similarly, Police Scotland use First Bus chargers at both Aberdeen and Scotstoun (Glasgow). First Bus is expanding its B2B customer network, in response to an increasing demand for fleet charging facilities. In addition to providing commercially appealing tariffs, First Bus charging facilities are substantively more secure than public charging hubs, which is a key interest of commercial partners.

The First Bus asset sharing model spreads the benefits of decarbonisation by enabling third party companies and public service providers to accelerate their own decarbonisation commitments with confidence. For example, the First Bus charger bays are big enough to accommodate commercial vehicles, therefore ensuring that van drivers are not compromised by using domestic vehicle sized public charger bays and no longer have to park across two car-sized charger spaces. Chargers are made available to third parties during the day, while buses are in service, therefore not compromising overnight charger availability for the zero emission bus (ZEB) fleet.

First Bus will roll out this model in Hilsea and make facilities available to local firms.

REDACTED

REDACTED**Reduced local logistics and vehicle movements**

ZEBs require less maintenance and less spare parts. First Bus therefore anticipates reduced congestion around the immediate depot area with the introduction of ZEBs, as third party (diesel) deliveries will be reduced. New ZEBs also require less on road maintenance than diesel vehicles, therefore the First Bus maintenance vans will be less evident on local roads.

continued overleaf

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.

A comprehensive Equality Impact Assessment was carried out and submitted as part of the ZEBRA 1 bid for ZEBs entering service by March 2024. As part of our Bus Service Improvement Plan, the Council is undertaking regular engagement with residents and bus users including participating in the National Highways and Transport survey, commissioning a door to door Travel Survey in 2023 through a special edition of the PCC residents' magazine

which produced 700 responses and ongoing passenger and on street survey through national organization Transport Focus which so far this year has had 580 responses.

As part of the update to the Portsmouth Enhanced Partnership, an Integrated Impact Assessment was completed in November 2023.

Stakeholders Consulted

- PCC Councillors
- Public Transport User Groups
- Local Bus Operators – FirstGroup, Stagecoach, Go-South Coast, Xela Bus alongside smaller more regionalised operators
- Parish, Town and District Councils – officers and councillors
- Residents' associations
- Schools and Educational establishments
- Community Rail Partnerships
- Rail operators
- National Park Authorities
- Community Transport Operators
- Internal LTA departments for example Children's Services, Adults Services
- Disability Groups
- Older people's forums & care groups
- Local Enterprise Partnerships
- Major local employers
- Rail operators
- Taxi operators
- Ferry operators
- NeighbourCare Groups
- Community Groups
- Citizens Advice
- Hampshire Chamber of Commerce
- Developers / Housing Associations
- Community Volunteer Centres
- Solent Transport
- Rail User Groups
- Youth groups
- Climate Change / Environmental groups
- Clinical Commissioning Groups (CCG)
- Neighbouring Local Transport Authorities

In addition, 41 local businesses took part in the consultation

Relevant research/data

- a) Existing information and data relating to the Population of Portsmouth
- b) 2011 Census Data to understand specific information on public health, deprivation, and economic growth statistics
- c) Transport specific trends to help identify the specific challenges and opportunities faced by the city region
- d) Wider demographic data which directly related to those members of the population with protected characteristics as defined by the Equality Act 2010
- e) Age UK, the future of Transport in and Ageing Society, 2015
- f) Department for Transport, young people's travel – what's changed and why? 2018
- g) Public Health England, Local Health Profile (Portsmouth) 2019
- h) NHS Portsmouth, Equality and Health Inequalities Pack, 2018
- i) Transport Focus research and report data (from 2016 to 2023) was utilised to understand wider public perceptions of zero carbon buses, as well as the value of access to employment, public services or the ability of transport to strengthen communities
- j) Existing data sources such as that provided by the English Indices of Deprivation, Ministry of Housing, Communities and Local Government, 2019.
- k) Population data, sourced from annual mid-year population estimates
- l) Car ownership data sourced from Nomis official labour market statistics, based on 2011 census data.
- m) Noise pollution data sourced from Government Environmental Data/DEFRA
- n) Mental Health Action Group, Mental Health and Public Transport, September 2011
- o) Department of Transport, Action to Promote Equality, September 2012
- p) Department of Transport, FS13 Future of Transport - Equalities and access to opportunity produced by Mott McDonald, September 2020
- q) Local Air Quality Management Areas (AQMAs) data (7 areas in total) & CAZ area data is developed from Portsmouth Authority files and data records.
- r) Older age group data was developed from TfL Transport Studies, Understanding the Needs of London's Diverse Communities, older people, April 2012
- s) Data sources available internally to the Authorities which directly impact protected characteristic groups included:
 - Climate Change Strategy and Action Plan, Hampshire County Council
 - Council Projects Targeting Climate Change, Portsmouth City Council
 - Local Adult Social Care data
 - Benefit Payments Data
 - SEN Support Data
 - School Census data

Current bus users on the routes covered by this proposal are disproportionately likely to be from protected groups, with a greater proportion than the total population of the city region being:

- Elderly;
- Having various disabilities, including those associated with breathing difficulties;
- Identify as Female;
- Identify as LGBT;
- From lower-income households;
- From households without access to a car; and
- From single-parent families.

Positive impacts were identified for all characteristics with recognition that many of these groups had lower than average access to a car so would gain improved independence through improved public transport.

Negative impacts it is recognised within the proposal that there may be the potential for some negative perceptions of safety of public transport more generally for some of the most vulnerable groups in society, including those with protected characteristics. We will look to engage with affected groups and individuals where relevant and respond to these views. We will also continue to promote ZEBs as safe and accessible with onboard CCTV and enhanced in journey information for reassurance. This together with the improved on-board experience and reduced levels of air and noise pollution allows us to conclude the new buses have a positive impact for these groups and the community as a whole.

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.

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A completed version of the Greener Bus Tool, showing the central BCR output and the BCR outputs of sensitivity analysis is attached.

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.

The following assumptions are used in the Greener Bus Tool:

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- 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 non-monetised 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).

The following non-monetised benefits should be delivered by the scheme.

Attraction of new talent/young people to the bus industry

There is strong evidence to suggest that young people prefer to work for an environmentally sustainable businesses <https://www.theengineer.co.uk/content/the-student-engineer/good-energy-survey-finds-high-demand-for-jobs-in-green-economy/> and First Bus sees this at first hand in terms of interest in its engineering apprenticeship programme, where students learn to work on zero emission buses (ZEBs), as well as in other new entrants including graduates, all of whom are keen to work on every stage of the process to introduce and operate ZEBs.

In addition, the introduction of ZEBs has proved popular with our drivers, with the driving experience being more comfortable and less noisy. This factor has contributed to improved driver retention in depots across the First Bus estate where ZEBs have been introduced – an important impact given the ongoing driver shortage – and also appeals more broadly as a vocation to a more diverse talent pool.

Reliability

In 2023 First Bus surveyed 13,000 of its passengers and found that reliability is the most important factor when choosing to travel by bus. Whilst ZEBs alone cannot improve congestion (a primary factor in reliability) they are generally more reliable than diesel buses in terms of engineering failure, and require less regular engineering maintenance, so from an operational service delivery perspective, there is less risk to the level of service. We would therefore expect an improvement in reliability once ZEBs are introduced, which in turn may have a positive impact on local modal shift.

Health, safety and environment

By minimising hydrocarbons in the depot, there is less risk of slips, trips and falls. There is also a reduced risk of pollution to drain/waterways from hydrocarbons both within the depot and when ZEBs are out in public service on the local roads.

Fewer vehicle movements (deliveries etc)

We would expect reduced congestion around the immediate depot area with the introduction of ZEBs, as (predominantly diesel) third party deliveries are reduced.

Community health and wellbeing

Air quality: It is now known that poor urban air quality contributes to Alzheimer's, increased antibiotic resistance etc., as well as poor respiratory health in the UK.

The percentage of mortality attributable to particulate air pollution in Portsmouth was 5.9% in 2019 which is above both the regional and national averages.

The ZEB fleet will generate zero NOx and PM2.5 emissions, which will only be beneficial to local communities and pedestrian, cyclist, public transport and motorist road users.

Noise: In addition to supporting the cleaner air ambition, ZEBs generate significantly less noise than their diesel equivalents, therefore helping to improve community quality of life in the local neighbourhoods in which our depot is situated and throughout the routes that the ZEBs will be serving.

Making charging infrastructure available to other road users

First Bus already has a successful business to business charging strategy which will be deployed in Hilsea and charger facilities made available to Portsmouth businesses and public services providers to offer opportunity charging to local ZEB fleets.

6.4 Discussion of any significant risks and uncertainties that might influence a scheme's VfM, with

REDACTED

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.

Please see Annex 14.

[Download Grant Funding Per Bus Calculator Spreadsheet](#)

REDACTED

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.

REDACTED

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. Please see Annex 4.

The Council has received legal advice in relation to application of the subsidy control rules from Bevan Brittan LLP. A summary of this advice is outlined below, and a copy of the full advice note is attached to this application. The advice assumes that the Department for Transport (**DfT**) will not make a subsidy scheme to provide cover for the ZEBRA 2 funding. The compliance steps for both the DfT and the Council would be considerably simpler, compared to the steps outlined below, if a subsidy scheme were to be put in place.

In this summary, **ZEBs** means zero emission buses, **ZEBRA Grant** refers to the potential award of £3,567,904 under the ZEBRA 2 programme, **SCA 2022** means the Subsidy Control Act 2022 and **SCA Guidance** means the *Statutory Guidance for the United Kingdom Subsidy Control Regime (Subsidy Control Act 2022) (June 2023)*.

- 1 Since the ZEBRA Grant will be paid from Government funds, it is necessary to consider whether it will involve a subsidy. The applicable subsidy control rules are those in the SCA 2022. It will be necessary to consider both whether the Council will be in receipt of a subsidy itself, and whether it may be giving a subsidy to First Bus. It will also be necessary to consider whether the third party suppliers with whom First Bus contracts when purchasing the ZEBs and procuring the charging infrastructure could be in receipt of indirect subsidies from the Council (and DfT).
- 2 Since the Council proposes to pass the entirety of the ZEBRA Grant on to First Bus, it will not itself receive an economic advantage from the ZEBRA Grant, and so will not be in receipt of a subsidy. This conclusion is supported by paragraph 15.51 in the SCA Guidance which confirms that no

subsidy arises for an intermediary when it merely passes the financial assistance on to the end recipient and does not receive a selective advantage itself.

- 3 The provision of the ZEBRA Grant to First Bus will involve a direct subsidy of £3,567,904 given by the Council to First Bus. There will also be an indirect subsidy to First Bus of the same amount from DfT. Assuming the Council's application is successful, both the DfT and the Council will therefore be required to ensure that all applicable subsidy control requirements in the SCA 2022 are complied with.
- 4 The Council and DfT will need to check that none of the prohibitions in Chapter 2 of Part 2 of the SCA 2022 apply. None of them appear to be relevant other than the provision relating to subsidies of particular interest.
- 5 First Bus has already been allocated £6,599,254 (the **ZEBRA 1 Grant**) under the first phase of the ZEBRA programme and a grant agreement between the Council and First Bus in respect of this funding is due to be finalised and signed shortly. Since the combined value of the ZEBRA 1 Grant and the ZEBRA Grant exceeds £10,000,000 and it is anticipated that a grant agreement in respect of the ZEBRA Grant will be entered into with First Bus within the next two financial years (assuming the Council's application is successful), the ZEBRA 1 Grant will be a 'related subsidy' in relation to the ZEBRA Grant (as per regulation 5 of the Subsidy Control (Subsidies and Schemes of Interest or Particular Interest) Regulations 2022). It follows that the ZEBRA Grant will be a subsidy of particular interest and so will have to be referred to the Competition and Markets Authority for review before it is given.
- 6 The Council will need to assess its subsidy for First Bus against the subsidy control principles in Schedule 1 of the SCA 2022 and energy and environment principles A and B in Schedule 2 of the SCA 2022 and ensure it is consistent with those principles. The Council will need to complete this assessment before it agrees to provide the ZEBRA Grant to First Bus and it will be unlawful for the Council to agree to provide the ZEBRA Grant if it is not able to satisfy itself that the ZEBRA Grant is consistent with all of these principles. The DfT will need to take equivalent steps in relation to its indirect subsidy for First Bus.
- 7 The Council will be required to publish details of the subsidy on the UK's Subsidy Database within three months of its formal decision to provide the subsidy to First Bus. It will be important to include all the prescribed details, as per the Subsidy Control (Subsidy Database Information Requirements) Regulations 2022. It would be sensible for the Council to liaise with DfT in relation to publication of the details, so as to avoid a duplicate entry.
- 8 There is the potential for the suppliers from whom First Bus sources the ZEBs and charging infrastructure (and any other goods, services or works in connection with the project) to be in receipt of indirect subsidies from the Council (and DfT) if they are paid more than a market rate by First Bus. The Council can ensure that no indirect subsidies arise by including a provision in its grant agreement with First Bus requiring First Bus to engage all suppliers on market terms (either using a benchmarking analysis or else by using a competitive procurement process which meets the criteria referred to in paragraph 15.63 of the SCA Guidance).
- 9 There is the potential for the third party businesses (such as DPD) who will use the charging infrastructure to be in receipt of indirect subsidies from the Council (and DfT) if they are charged less than a market rate. The Council can ensure that no indirect subsidies arise by including a provision in its grant agreement with First Bus requiring First Bus to charge third parties a market rate for using the charging infrastructure.

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.

REDACTED

	Quote from preferred manufacturer	Quote from second manufacturer
(For hydrogen proposals) Fuel cell power rating (kW)	REDACTED	REDACTED
Total system power rating	REDACTED	REDACTED
Hydrogen Storage Capacity (kg)	REDACTED	REDACTED
On board hydrogen Storage Pressure (bar)	REDACTED	REDACTED
Vehicle length	REDACTED	REDACTED
Passenger capacity (seated)	REDACTED	REDACTED
Number of PSVAR compliant wheelchair spaces	REDACTED	REDACTED
Number of additional flexible spaces	REDACTED	REDACTED
Total passenger capacity	REDACTED	REDACTED

* The Zemo Partnership (formerly Low Carbon Vehicle Partnership) have developed the Zero Emission Bus definition and test process, and a certification of compliance is provided as each bus type is tested. Bidders can find these certificates on Zemo Partnership's website: www.zemo.org.uk/work-with-us/buses-coaches/low-emission-buses/certificates-hub

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). Please see Annexes 7 and 8. LTAs must input key information on charging infrastructure in the below table.

Electric	Quote from preferred manufacturer	REDACTED
Manufacturers name	REDACTED	REDACTED
Make and model name	REDACTED	REDACTED
Number of charging units (charging unit with dual plug counts as one unit)	REDACTED	REDACTED
Cost per charging unit	REDACTED	REDACTED
Has evidence for the cost of this model been provided alongside the application form?	REDACTED <input checked="" type="checkbox"/> <input type="checkbox"/>	REDACTED <input checked="" type="checkbox"/> <input type="checkbox"/>
Max Charging rate (kW)	REDACTED	REDACTED
AC or DC charger	REDACTED	REDACTED
Chargepoint protocol utilised	REDACTED	REDACTED

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.

Hydrogen	Quote from preferred manufacturer	Quote from second manufacturer
Hydrogen refuelling station (HRS) operator	N/A	
Technology provider		
Number of HRS		
Cost per HRS		
Hydrogen storage (kg)		
Dispensing pressure (bar)		
Fuelling capacity (kg/day)		
Production on-site or off-site?	<input type="checkbox"/> On-site <input type="checkbox"/> Off-site	<input type="checkbox"/> On-site <input type="checkbox"/> Off-site
(If on-site) Size of electrolyser stack		
(If off-site) Source of hydrogen: supplier and location of hydrogen supply		
Hydrogen supplier		

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.

ZEB specifications

The detailed technical specification for each vehicle type has been developed by our operator First Bus – specifically the Head of Technical & Training in their central engineering team. The specifications fully reflect DfT/customer needs and are in line with the Public Service Vehicles (Accessible Information) Regulations 2023 (SI 2023 no 715).

Our operator First Bus has determined if a route requires single- or double-deck vehicles and has also sized vehicle lengths to accommodate the current passenger numbers for the service and to also accommodate a 10% predicted customer growth.

The proposed battery sizes reflect the expected energy demands of the routes – these have been modelled based upon existing First Bus ZEB fleet operational experience and modelling data provided by First Bus ZEB manufacturer partners reflecting the topography of Portsmouth routes, 2, Star 7 and Star 8.

The specified livery will be agreed by First Bus and Portsmouth City Council.

Additional bus attributes e.g. Tap On Tap Off (TOTO) ticketing equipment are installed by First Bus following delivery of the new ZEB, and so are excluded from the technical specification.

The vehicles are specified to be compatible with First Bus' chosen charging infrastructure (details provided below).

First Bus secured prices for the required technical specifications for all vehicle types from four OEM partners and selected Yutong and WrightBus as preferred partners for this ZEBRA2 proposal. First Bus has experience of operating both manufacturers' vehicles.

Infrastructure specifications

REDACTED

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.

Our operator partner First Bus has already accepted the Scottish and Southern Electricity Networks (SSEN) DNO quote to provide power for Hilsea depot electrification. Connection construction works are scheduled to commence early in 2024 and will complete mid-2024.

The proposed ICP for the project is Murphy whose construction delivery works are being priced and will be accepted by First Bus in due course.

The costs of grid connection and associated construction works are therefore not included in this application as they have already been paid for by First Bus.

The SSEN DNO Point of Connection offer, signed (i.e. offer accepted) by First Bus and a plan denoting the proposed cabling route and main power grid connection points are attached in Annex 9.

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.

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.

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.

Portsmouth City Council has an established Enhanced Partnership and well-funded Bus Service Improvement Plan. We are currently meeting fortnightly with First Bus on the on-time introduction of 62 ZEBs to the Portsmouth city region by March 2024 through funding from ZEBRA 1 and would propose that our proven governance arrangements continue if this proposal is successful.

First Bus (operator partner) track record

Our operator partner is First Bus which has a proven track record in successfully delivering zero emissions infrastructure and fleets across the UK. First Bus now (December 2023) operates ZEB fleets from ten depots across the UK. First programme-managed (in-house) infrastructure delivery at nine of these locations and has also delivered ZEB charging infrastructure in two further locations for third party use.

Five of the First Bus electrified depots secured ZEBRA1 funding, and all have been delivered to programme or are on schedule to do so.

Delivery team attributes

The full delivery team and attributes are described in further detail below.

Specifically, First Bus and their delivery team offer the following capacity strengths:

- Underwritten balance sheet, confirmed in the attached letter from the First Bus Managing Director (Annex 3)
- An established in-house First Bus decarbonisation delivery team, headed up by the First Bus Chief Sustainability & Compliance Officer (First Bus Exec). The team is skilled in liaising with local stakeholders/regulators, whose collective expertise includes power connection negotiation, construction management, low carbon engineering, project management, procurement, real estate and contract law, specialist HS&E practitioners, and bus policy and partnerships
- A dedicated First Bus project/construction manager will be allocated to the Hilsea electrification project
- An engaged supply chain ready to mobilise. Specifically, the team includes:
 - designers, planning consultants and legal advisors – all of whom have established working relationships with First Bus, and all have capacity to meet required project milestone timeframes. Design work has already been concluded and a planning permission for full depot electrification has been submitted to the local authority.
 - construction delivery partners (selected from a First Bus retained contractor framework) – each of whom has confirmed their capacity to deliver the power connection and depot infrastructure works
 - charger infrastructure supplier – an established partner, who has confirmed their ability to deliver to meet the project timescale, following completion of the power connection works and installation of site transformers, substations, gantries etc
 - space reserved on OEM WrightBus and Yutong production lines to deliver the 40 vehicles to Hilsea in 2025, following conclusion of the power connection and infrastructure works
 - An agreed power connection programme with the local DNO Scottish and Southern Electricity Networks.
 - Established engineering ZEB apprenticeship and full depot high voltage training programmes, OptiBusEV scheduler training and a fledgling driver ZEB apprenticeship programme – ensuring that all drivers, schedulers and engineers will be ready for roll-out in 2025
 - In-house finance and legal expertise to progress the LTA grant agreement at pace

Operator ownership

Portsmouth City Council does not own the bus operator. First Bus will operate the zero emission buses.

Bus ownership

First Bus will own the buses.

ZEB battery ownership

REDACTED

Charger infrastructure ownership

First Bus will own and operate the charger infrastructure. Chargers will be set up to accommodate secure third-party EV charging for local businesses and public services partners.

Depot ownership

First Bus owns and will continue to operate the depot.

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.

Portsmouth City Council, as the local transport authority, will hold the project funds if awarded by the DfT. Funds will be drawn down by First Bus subject to delivery of agreed project milestones.

A Grant Agreement will be entered into by Portsmouth City Council and First Bus. This legally binding agreement will provide for funds to be drawn down and transferred to First Bus at the appropriate project stages. The provisions of the agreement include the following:

- Purpose of the grant
- Payment of the grant
- Use of the grant
- Accounts and records
- Monitoring and reporting
- Acknowledgement and publicity

The Council and First Bus have already entered into two such agreements to deliver schemes funded by the ZEBRA1 programme. An example is shown in Annex 10 but will be updated to reflect independent legal advice received as part of this application.

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 project plan is set out in Excel in Annex 11. Key activities and milestones are also summarised in the Word Table set out at Annex 12.

Key milestones based on our operator First Bus's previous electrification deployments are summarised (non-exhaustively) below.

Agree Funding Agreement with LTA

First Bus and Portsmouth City Council are together targeting an end June 2024 deadline to agree the Funding Agreement. This will ensure timely delivery of funds to our operator partner First Bus and ensures an appropriate cash flow.

To achieve this milestone date, Portsmouth CC is working closely with First Bus and seeking to share draft funding deeds for review as soon as practical.

Grid Connection (DNO) order

First Bus has secured the power connection for Hilsea from Scottish and Southern Energy Networks in advance of this bid. First Bus is currently work with the DNO and their ICP contractor to deliver the connection with construction works scheduled to commence in early 2024.

A dedicated First Bus construction manager will work closely with the DNO and local stakeholders to ensure that their forecast 15-18 month programme is achieved.

Planning Permission

First Bus has developed the designs for the proposed depot electrification and planning

application has already been submitted to the local authority. First Bus anticipates securing planning permission in March 2024.

Celebratory events: e.g. ground-breaking ceremony

The investment in this project will be a step change in Portsmouth's transport offer and inviting the local community and key stakeholders to celebrate this investment is important.

First Bus led celebratory events at each of the five ZEBRA 1 sites and these were successful in engaging interest and support at a local level. These events also present a prime opportunity to further build on commitments set out in our local transport strategy.

M&E initiation

The continued Monitoring and Evaluation of the project is essential to ensure that the project achieves its desired outcomes. It is essential to plan for M&E at the outset to ensure that M&E can commence immediately following deployment of ZEBs. This is discussed in further detail in Section 8.3.6.

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.

Our partnership with First Bus on ZEBRA 1 has demonstrated to us that it applies risk management techniques aligned to the Association for Project Management's Body of Knowledge.

The First Bus team held a number of risk capture workshops involving both internal and external Subject Matter Experts (SMEs), analysing and condensing outputs into mitigation actions which have measurably impacted the project residual risk. Full details are available in the Quantitative Risk Assessment (QRA) attached at Annex 5. A summary of the top five project risks is presented below.

REDACTED

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 No

Share relevant monitoring data in an electronic format (e.g. Microsoft Excel): Yes No

Share relevant monitoring data on a quarterly basis Yes No

Ensure relevant monitoring data is collected automatically via telematics Yes No

8.3.6 Scheme level Monitoring & Evaluation

LTA's 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:

We commit to complying with the full set of M & E requirements as set out by DfT in the ZEBRA 2 guidance and agreed subsequently to funding award with the relevant DfT team.

The Logic Map appended at ANNEX 13 details some of the expected impacts of this scheme.

We understand that scheme level M&E is a critical element of successful ZEB deployment as knowledge share will helpfully inform future decarbonisation programmes.

We outline below key (not exhaustive) data sets that we anticipate sharing. The majority of live operations data are owned by and will be provided by our bus operator partner First Bus, and not all data sets will be available from day 1 of project implementation.

Many of the data sets will be drawn from ZEB telematics system, and supplementary First Bus data platforms (e.g. engineering maintenance Infor EAM). Initial deployment data will be made available through operator and LTA records to provide a baseline from which the success of the scheme can be measured.

Our operator First Bus has engaged in earlier ZEBRA1 funding rounds and a set of Monitoring and Evaluation requirements and their expected data sources was established during that process

Scheme Implementation

We will monitor spend at stages throughout the project aligned with our agreed grant drawdown stages as well as in a final review of the project delivery. Regular monitoring of key delivery milestones as set out in section 8.3.4 and budget spend against plan will include :

- Lessons learnt from ZEBRA1 project deployment and operations – and subsequent application to this project
- Lessons learnt from ZEBRA2 project deployment and operations
- Project milestone meetings minutes
- Project review outputs
- Final purchase price of ZEBs and related infrastructure/power component costs
- Final delivery schedule vs planned
- Regular risks & issues reviews (as documented in the Quantitative Risk Assessment)

Total Cost of Operations (TCO)

The TCO for ZEBs is known to be higher than for ICE equivalents, with a particular year zero investment cost challenge. Meanwhile, in operation over 20 years, it is anticipated that costs are lower. Our operator partner First Bus will share relevant metrics to help inform a national DfT TCO position. These will include:

- Power prices over time
- Energy consumption per vehicle (per day) and ZEB range (and subsequent kWh/km efficiency)
- Engineering maintenance and replacement costs (including battery replacement)
- ZEB infrastructure maintenance costs
- ZEB vehicle availability and reliability (and subsequent impact on spare fleet)
- Ongoing software costs (eg telemetry, smart charging)

Community benefits

A primary ambition of ZEB deployment will be to improve the lives of the communities where the ZEBs operate, and of course benefit the customer and bus operator driving and engineering team experience. Key data sets that will be shared include:

- LTA local air quality monitoring data
- Noise data (individual bus vs community level)

- ZEB emissions data (CO2, well-to-wheel greenhouse gases etc)

Customer satisfaction and modal shift

- Customer satisfaction based on annual bus user surveys
- Patronage change over time based on First Bus passenger data
- Third party use of ZEB charging infrastructure

An electronic copy only of the bid including any supporting material should be submitted to BUSES@dft.gov.uk



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