



Department
for Transport

Zero Emission Bus Regional Areas Scheme – 2021 to 2022 Application Form

Call for Expressions of Interest

Applicant Information

Local transport authority: West Yorkshire Combined Authority

(For joint bids only) Which local transport authority is the lead bidder: N/A

Area within authority covered by bid: West Yorkshire

Bid Manager Name and position: Helen Ellerton, Head of Transport Policy

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Submission of proposals:

Applications to the Scheme will be assessed against the criteria set out here and in the guidance document. Please adhere to word limits. We will not accept any additional information unless specifically requested.

Proposals must be received no later than 17:00 on the following days.

- **Fast track process** - 5pm on 21st May 2021
- **Standard process** – 5pm on 25th June 2021.

You will receive confirmation that we have received your proposal within 1 working day.

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

Please include “**ZEBRA (Fast track Process) Local Transport Authority name**” in the subject line of the email if you are applying under the fast track process.

Please include “**ZEBRA (Standard Process) Local Transport Authority name**” in the subject line of the email if you are applying under the standard process.

Enquiries about the Fund may be directed to buses@dft.gov.uk.

Transparency and privacy

Please refer to the guidance for this scheme before completing the application form to understand how DfT will manage your data.

SECTION A: Mandatory Questions

Areas must satisfactorily answer all of the questions in this section to be eligible to progress to Phase 2 of the scheme. If you would like further information, please contact the Department for Transport at buses@dft.gov.uk.

Areas must provide the information requested in questions A1-A5.

A1. In total, how many new zero emission buses will your proposal deliver?

This expression of interest focuses on schemes from each of the three main operators in the West Yorkshire region – Arriva, First and Transdev. These three operators account for 90% of bus services operated across the defined area of the bid and have a total fleet of 1,323.

The total number of buses this proposal delivers is 121. For the purposes of this bid, the overall bid has been split into four schemes, with the total number of buses expected to be delivered set out in the table below. Please note, in addition to the three schemes led by the Operators, an additional ten buses will be delivered through a fourth scheme fully match funded by the Combined Authority.

Table 1: Number of zero emission buses to be delivered by scheme

Scheme	Single decker	Double decker
Arriva		47
First	32	
Transdev	32	
Combined Authority (match funded)	10	
Total		121

The bid would increase the proportion of zero emissions buses in West Yorkshire from 1% to 10%. Note all 121 buses within this bid will be electric.

A2. Total DfT funding sought (£m)

While there is no minimum or maximum size for bids the department is interested in supporting at least three areas across the ZEBRA scheme as a whole, so we expect to see schemes that are approximately £25m – £35m. This is designed to encourage a wide range of bidding areas to come forward and to ensure DfT are able to fund at least three areas across the whole scheme.

There are four schemes included in this proposal, three of these are split geographically across four operator depots with the fourth scheme a fully match funded proposal to ensure geographical coverage across the defined operating area of West Yorkshire.

The total amount of DfT funding that this Expression of Interest seeks is £23,063,925. A breakdown of our funding ask across infrastructure and zero emission buses (ZEBs) can be seen in the table below.

Table 2: Funding sought from DfT

Scheme	DfT funding sought (total)	Infrastructure	Buses
Arriva			
First			
Transdev			
Combined Authority			
Total	£23,063,925		

A3. Third party funding contributions (£m)

The third-party funding contributions, through Operators and the Combined Authority, are set out in the table below.

Table 3: Funding from third party contributions

Scheme	Third party contributions (total)	Infrastructure	Buses
Arriva			
First			
Transdev			
Combined Authority			
Total	£34,452,230		

*Infrastructure costs for the Combined Authority also include overheads, monitoring and evaluation and project management costs.

A4. Funding from other government schemes (£m)

Please set out any funding from other government schemes that is intended to be used alongside funding from the ZEBRA scheme.

No other sources of government funding will be utilised through this expression of interest.

A5. Total cost of the proposal (£m):

This should include DfT funding as specified in A2, any third party contributions as specified in A3 and any funding from other government schemes as specified in A4.

The total cost of the proposal is £57,516,155 with a breakdown of funding displayed in Table 4 below.

Table 4: Total cost of proposal

Scheme	DfT Funding	Match funding	Total
Arriva			
First			
Transdev			
Combined Authority			
Total	£23,063,925	£34,452,230	£57,516,155

Areas must be able to answer yes to question A6-A12 to be able to progress to Phase 2.

A6, If your bid is successful, are you able to invest DfT funding within the time outlined by your scheme?

Yes, a table containing the key deliverables is included in Section F and summarised below.

Table 5: Key actions and deliverables

Year	2022	2023	2024
Key action / deliverable (Arriva)	Placement of order for infrastructure	Installation of infrastructure Placement of order for buses	Delivery and service start of buses
Key action / deliverable (First)	Placement of order for infrastructure Installation of infrastructure Placement of order for buses		Delivery and service start of buses

Key action / deliverable (Transdev)	Placement of order for infrastructure Placement of order for 15 buses Delivery and service start of 15 buses	Installation of infrastructure Placement of order for 17 buses Delivery and service start of 17 buses	
Key action / deliverable (Combined Authority)	Placement of order for buses Placement of order for infrastructure Tender and award of contract	Delivery and service start of buses	

A7. If your bid is successful, are you able to capitalise DfT grant funding?

Yes.

A8. Have you considered whether additional zero emission buses are needed to replace existing buses?

Evidence suggests that replacing diesel buses with zero emission buses can require additional zero emission buses to provide the same level service as provided by diesel buses. Areas should set out how many additional zero emission buses are needed to replace existing buses. If areas are of the view that additional zero emission buses are not required please set out why.

For each scheme below it is stated whether additional buses will be required to deliver the same service levels.

- *Arriva* – the proposal from Arriva will not require additional ZEBs. Route optimisation will be used to ensure that the best mileage can be achieved, and a Euro 6 spare will be utilised if required.
- *First* - the proposal from First will not require additional ZEBs. Routes have been selected to ensure continuation of current service levels with an electric bus spare available. Any spare requirement over and above this would be met by a EURO6 diesel.
- *Transdev* - No additional buses would be required. Modelling has been undertaken with suppliers on a sample of routes of different length and nature. Full day bus workings will need some supplementary charging and opportunity charging capability is included within this scheme. There is also flexibility to amend bus

workings to rotate buses across the evening when frequencies are lower. The operator is also working with the Combined Authority on parallel infrastructure projects which may reduce vehicle requirement or deliver extra frequency as journey times can be reduced.

- *Combined Authority* – no additional buses are required for the match funded proposal. Routes have been selected that have opportunity charging points built in to be used during driver breaks.

A9. Have you provided a breakdown of infrastructure costs for your proposal?

Infrastructure costs could include (but are not limited to): cost of charging unit or refuelling stations electrical or other power components; civil engineering works, labour costs (for installation); hardware costs; capital costs of developing associated software systems; surveys at the point of procuring the infrastructure provided they can be capitalised; upgrades to the energy grid to cater for increased energy demand.

Yes, a full breakdown of costs is included in the table below. Full details of the costs associated with the project, split by year, can be found in the Value for Money Proforma in Appendix D.

Table 6: Infrastructure costs breakdown

Scheme	Infrastructure costs breakdown
Arriva	
First	
Transdev	
Combined Authority	

A10. Does your proposal have the support of bus operator(s) in the area?

*The proposal requires the support of at least one bus operator operating in the area who will operate the zero emission buses. The bid does not, however, need the support of all bus operators operating in the area. If local transport authorities are not able to provide this evidence of support from operators they **must** explain why.*

Each of the three main operators, making up 90% of the bus market in West Yorkshire, have indicated interest in submitting a scheme through this Expression of Interest. Letters of support from each of these operators can be found in Appendix A which demonstrate support from the national Chief Executive of each operator in bringing the schemes forward.

All three of these operators are keen to invest in ZEBs within this region, indicated by the schemes that have been brought forward for this bid. This supports the commitment made by operators in the West Yorkshire Bus Alliance, with a target for 100% of buses to be EURO6 or alternative technology by 2026.

A11. Have you spoken with any energy companies when preparing your proposal?

Energy companies could include Distribution Network Operators, Independent Distribution Network Operators, energy supplier, energy storage companies, smart charging providers or hydrogen fuel providers.

Each operator has engaged with energy companies associated with the development of their individual scheme. The energy companies who have been spoken to in regard to each scheme are listed in the table below.

Table 7: Operator engagement

Scheme	Companies engaged with
Arriva	
First	
Transdev	

A12. Does your proposal comply with the accessibility requirements set out in the scheme guidance?

The scheme guidance sets out a number of accessibility requirements including: requiring buses to incorporate equipment to identify the route, each upcoming stop, and the beginning and end of diversions: providing an induction loop to aid direct communication between drivers and passengers who use a hearing aid and providing an additional flexible space in addition to the mandatory wheelchair space, suitable for a second wheelchair user and/or at least two unfolded pushchairs or prams.

Yes, all operators are aware of the requirements surrounding accessibility and have agreed to purchase buses compliant with these. An Equality Impact Assessment has been carried out on our proposals and is included as Appendix G.

Through conversations with bus operators all new buses that would be purchased through this EOI are compliant with the standards set out in the ZEBRA guidance, this includes commitment to a five-year period of operation and battery warranty. This is set out in the letters of support from Arriva, First and Transdev which are included in Appendix A.

SECTION B. Defining the place

This section will seek a definition of the area to be covered by the Zero Emission Bus Regional Area. Areas should:

- Include information setting out the extent of the area to be covered by the proposal – the **defined area**. If the defined area is different to the area covered by the local transport authority please make this clear. Please provide maps if required.*
- Provide details on the bus sector including naming **all** operators who operate services in the defined area, their market share and fleet sizes. This should include both operators who are supporting your proposal and will be operating the zero emission buses and other bus operators in the defined area.*

- Clarify what proportion of bus services in the defined area will be operated using zero emission buses.

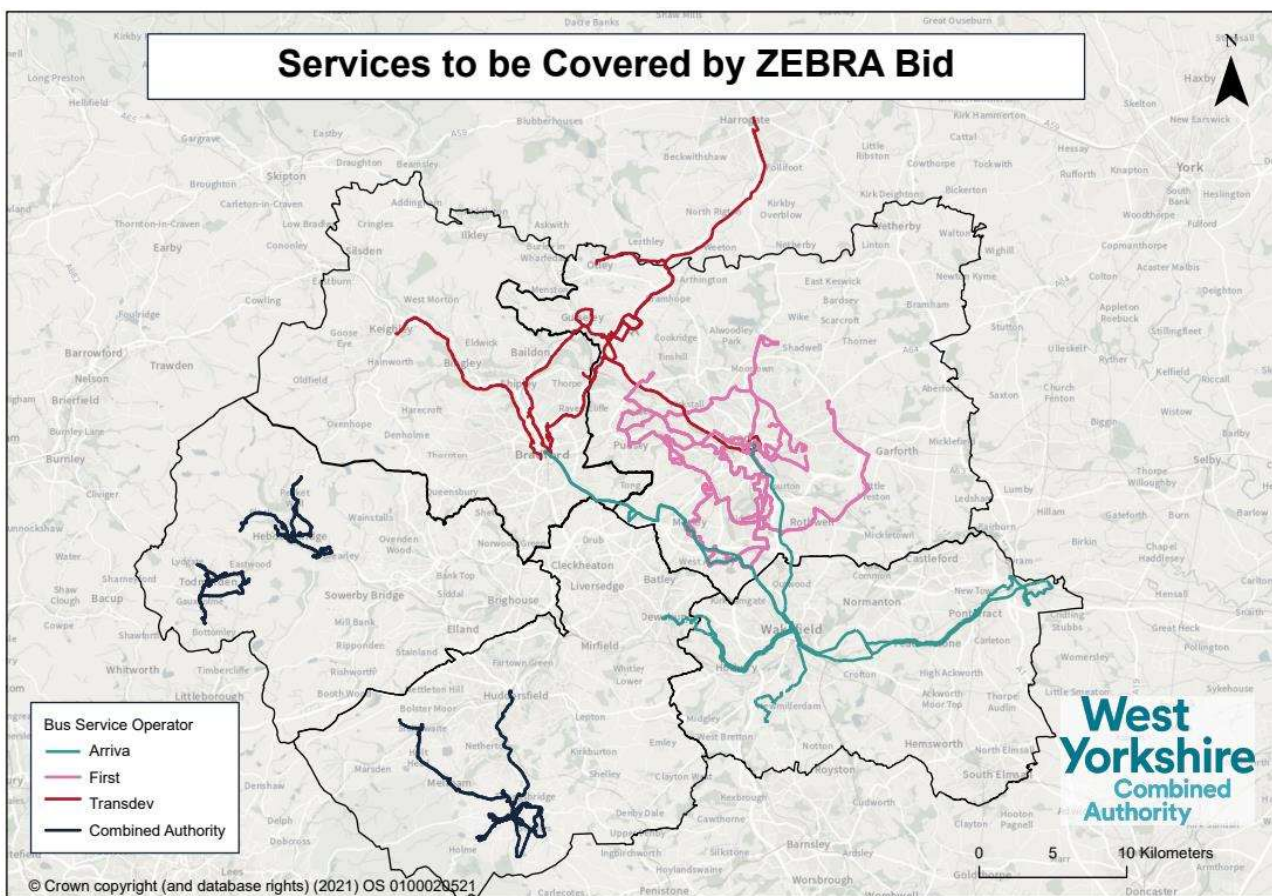
Please limit your response to 500 words. Please provide maps as annex documents if required.

The defined area

The area this bid covers is West Yorkshire, a region covering 780 square miles with a population of over 2.3million. The region is polycentric in nature and is comprised of five metropolitan districts: Bradford, Calderdale, Kirklees, Leeds and Wakefield. This bid includes investment in each of the five West Yorkshire districts which will target some of the worst air quality areas within the region.

The Combined Authority see this funding bid as key in achieving our ambitions around boosting productivity, enabling inclusive growth, tackling the climate emergency, and delivering 21st Century transport. As the largest metropolitan area in Europe without an urban mass transit system, the bus is the most used form of public transport accounting for approximately 6% of journeys within the region and is therefore a key mode to target within our decarbonisation ambitions.

The bus services that will benefit from the investment in ZEBs can be seen in the figure below and show the spread of benefits across the West Yorkshire region.



Bus market and fleet profile

There are 29 bus operators in West Yorkshire (see table below), with First, Arriva (including Yorkshire Tiger) and Transdev, running approximately 90% of the services.

The total fleet size across the three main operators is 1,323, with the breakdown across the operators being: Arriva (including Yorkshire Tiger) 361 buses, First 838 buses, and Transdev 124 buses.

Table 8: Operators in West Yorkshire

Operators in West Yorkshire	
A Lyles & Son/Longstaff of Mirfield	Station Coaches
Arriva Yorkshire & Yorkshire Tiger	Stagecoach Yorkshire
CT Plus Yorkshire CIC / Leeds Alternative Travel Ltd	Stevenson's Travel Ltd
Dales Bus	Stots Bus & Coach Travel
D K Travel	Streamline
E Stott & Sons	Tetley Motor Services Ltd
First	TLC Travel Ltd
Globe Holidays Ltd	TM Travel
Harrogate Coach/Connexionstravel	Transdev Harrogate & District Travel Ltd
Jacksons of Silsden	Transdev Keighley & District Travel Ltd
J and B Travel	Transdev Yorkshire Coastliner
North Yorkshire County Council	Ross Travel Ltd
Ross Travel Ltd	Waterson's Coaches
South Pennine Community Transport CIC	York Pullman
Square peg Bus Ltd	

Proposed schemes

The funding bid has been separated into four distinct schemes which are geographically based around four operator depots, plus a fourth Combined Authority scheme. The Combined Authority scheme is fully match funded and looks to introduce 10 electric single deck buses to service tendered routes in Hebden Bridge, Todmorden and the Holme Valley. Details of depots and routes to be served are included in table 9.

Table 9: Depots and locations to be served

Scheme	Depot location	Districts to be served
Arriva	Wakefield	Wakefield, Leeds, Kirklees
First	Leeds	Leeds
Transdev	Bradford (2 depots locations to be utilised – Keighley and Idle)	Bradford
Combined Authority	TBC -dependent on winning tenderer for the contract	Calderdale, Kirklees

Proportion of ZEBs

Currently, 1% of buses operating in West Yorkshire are zero emission, with 3% of vehicles being hybrid. The schemes included within this bid see the introduction of an additional 121 ZEBs, increasing the proportion across the region to 10%.

SECTION C: Ambition

This section will seek evidence of the level of ambition from the local transport authority to decarbonise their bus fleets, support bus services and decarbonise transport.

C1. Public transport ambitions

Areas should:

- Provide clear explanation of your ambition to decarbonise the bus fleet in the defined area and how this proposal will support this ambition. If the defined area is different to the local transport authority area please explain your ambitions to decarbonise the bus fleet in your local transport authority area and how this proposal will support this ambition.*
- Provide evidence of existing plans to support the provision and operation of local bus services in the area. This could include existing partnership working between the local transport authority and bus operators, bus priority measures, improvements to information about bus services.*
- Include complementary policies to decarbonise transport in the area.*
- Explain how the proposal supports wider ambitions to increase public transport use and active travel in the area.*

Please limit your response to 500 words.

Ambition for decarbonisation

This bid complements the West Yorkshire Mayor's pledges on decarbonisation, inclusion and equality. Our schemes align strongly with tackling the climate emergency and protecting our environment through reducing emissions.

The Combined Authority declared a Climate Emergency in 2019, supported by the Region's local authorities. This strengthened the ambition for West Yorkshire to become a net zero-carbon economy by 2038, with significant progress by 2030. This ambition has been explored through the Carbon Emission Reduction Pathways study showing transport is the largest carbon emitting sector in West Yorkshire, contributing 4.4 MtCO₂e/yr from road transport alone. Recommendations included building sustainable infrastructure and embracing new technologies alongside a shift of journeys to active and public transport travel between 2020-2038.

Our ambition for ZEBs is set out through our Zero Emission Bus Roadmap undertaken in 2019, modelling scenarios against carbon emission savings and air quality improvements. By transitioning to a zero-emission bus fleet by 2036 scenario a carbon emission saving of 89% is possible.

Our ambition for increasing the proportion of ZEBs is reflected in the introduction of the all-electric Stourton Park and Ride site in Leeds and the forthcoming Demand Responsive Transport trial which will utilise all-electric minibuses.

Support for bus

The West Yorkshire Bus Alliance is a voluntary partnership agreement across operators and the Combined Authority, aiming to improve the bus offer and increase patronage across West Yorkshire. The Alliance has several workstreams including Air Quality and Carbon and Highway Infrastructure. Within the Alliance a target was set to transition the West Yorkshire bus fleet to 100% Euro VI or alternative technology by 2026, recently furthered by ambitions to transition to a zero-emission fleet by 2036 in line with net zero carbon targets.

A recent strategic bus network review examined current and future demand for buses across West Yorkshire. This study made recommendations around service provision and bus priority to support buses in the future. This work will be extended through developing our Bus Service Improvement Plan, looking at how to support the provision and operation of bus services across the region.

Complementary policies and programmes

The Combined Authority has ambitious modal shift targets included within our Transport Strategy 2040 with targets to increase bus patronage by 25%, active travel trips by 300% and rail trips by 75% by 2027. This demonstrates our wider ambition to support public transport and promote modal shift.

Bus is at the heart of our emerging Connectivity Infrastructure Plan (CIP), which has recently been out to public consultation. The CIP sets out the vision for transport in West Yorkshire over the coming 20 years with a key focus on creating an integrated transport network for the Region.

The West Yorkshire Low Emission Strategy (WYLES) sets out steps to accelerate investment in zero emission technologies to reduce emissions. Buses are a particular target within WYLES as a means of improving air quality within the region's towns and cities.

Additional complementary policies are included in Appendix F.

C2. Community benefits

Please highlight any community benefits from your proposal. This could include economic development in the area or the creation and/or retention of jobs and apprenticeships related to the maintenance of zero emission vehicles, including batteries and fuel cells, and supporting infrastructure.

Please limit your response to 500 words.

Investment in skills and low-carbon jobs

The Combined Authority actively supports the creation of jobs and investment in skills through:

- The Green Skills and Jobs Partnership in the Region made up of skills providers, employers, and other parties to accelerate demand and facilitate training for green jobs.
- The Low Carbon Collaborative Skills Partnership which identifies existing provision and common skills gaps in the region, before working with stakeholders to explore and test innovative solutions.

The Combined Authority will invest a further £6.5m into adult training for skills, including provision for green technologies including battery technology and vehicle electrification as part of our economic recovery plan.

Creating social value through our procurement process

The Combined Authority seek to ensure that social value is enhanced through our procurement process. We ask bidders how they will enhance social value, including by:

- utilising and managing new entrant trainees within delivery of the project;
- upskilling the workforce and supporting / assisting lower paid workers; and
- the environmental policies / practices that will be in place to reduce waste, CO₂ emissions and promote energy efficiency.

Creation/retention of jobs and apprenticeships

The introduction of electrical infrastructure across four depots in West Yorkshire will require upskilling of existing workforce to ensure that personnel were accredited in the maintenance of ZEBs. This will help to support the West Yorkshire Mayoral pledge to *introduce 1000 well paid, skilled, green jobs for young people* through this additional training.

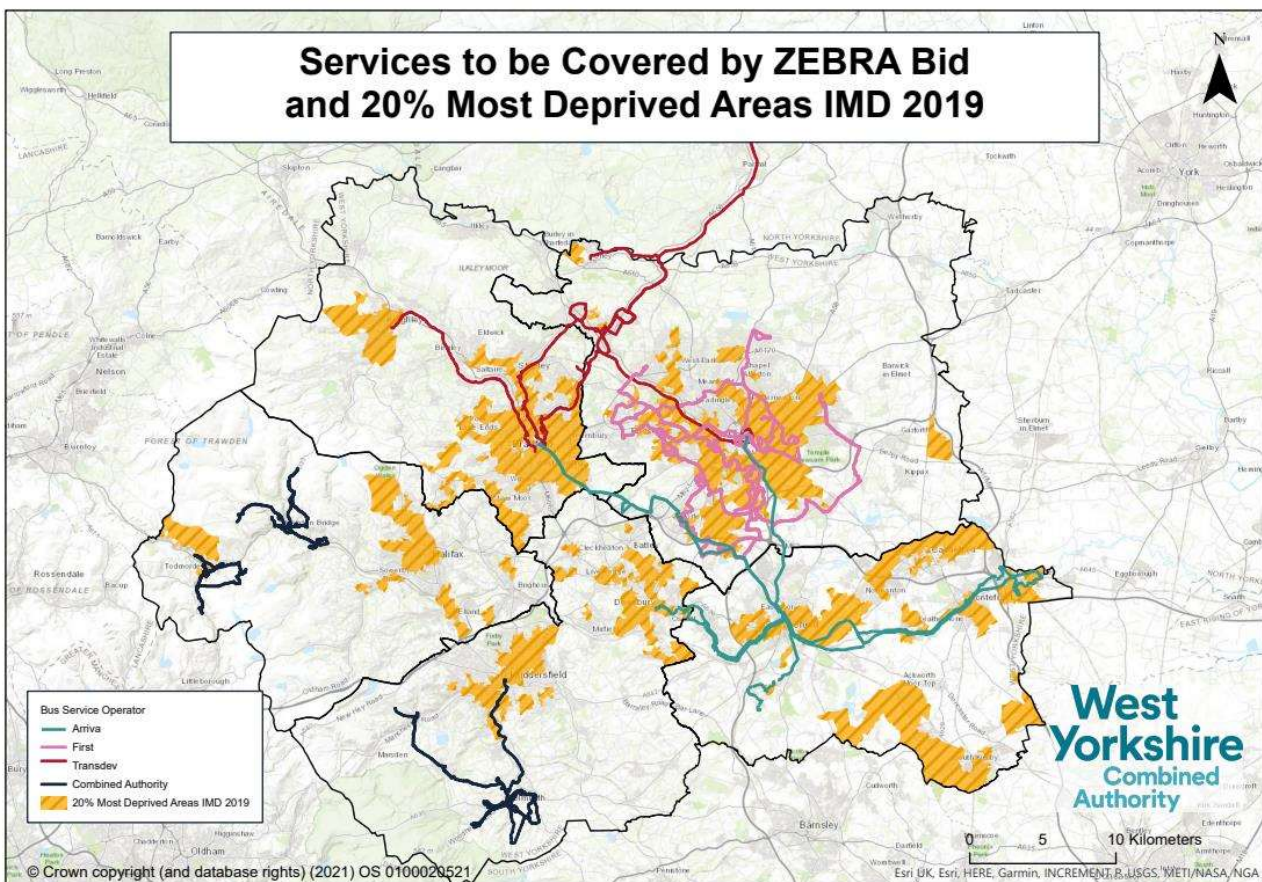
Through the delivery of this bid, the Operators have confirmed that the following training will be provided to their employees:

- Arriva have confirmed that 16 engineering staff at their depot will be upskilled for the introduction of electric vehicles, with over 150 drivers attending a half day familiarisation course.
- First have confirmed that the introduction of electrical vehicles will result in the upskilling and retraining of 36 maintenance staff plus all drivers who will be operating the vehicles at Bramley. This will mirror previous work undertaken on a smaller scale at Hunslet Park which already has 9 electric buses. The introduction of electric buses at the Bramley depot will help secure jobs at the depot going forward, whilst it will also develop the largest commercial EV fleet in Leeds.

- Transdev have confirmed that their established apprenticeship scheme will now include training on electric vehicle maintenance. Transdev are also considering making charging equipment available commercially to other businesses while not required for charging buses which may help introduce electric vehicles in the community for those without charging capacity.

Community benefits from investment in zero emission buses

Many of the routes selected in this bid run through low income, urban areas that are those most often disproportionately affected by poor air quality (see figure below). Through providing ZEBs on routes that run through these areas, local air quality will be improved. These schemes will particularly benefit the inner-city communities of Bradford and Leeds and Five Towns area to the East of Wakefield.



C3. Support for your proposal and wider vision

Provide evidence of support for your proposal and wider vision, such as letters of support or evidence of engagement, from partners.

*This **must** include evidence of support from the bus operator(s) who will operate the zero emission buses. You **do not** need to include evidence of support from all bus operators within the area, only the operator(s) who will be operating the zero emission buses. This evidence must be a signed letter by both the CEO/equivalent level of the company and the local MD, committing to investing in the buses and operating them in the defined area for a minimum of 5 years.*

Local transport authorities that have not included this evidence must clearly set out the reasons for this.

*You **must** also include evidence of engagement with an energy company. Energy companies could include Distribution Network Operators, Independent Distribution Network Operators, energy supplier, energy storage companies, smart charging providers or hydrogen fuel providers.*

Areas may also wish to include evidence of support from other relevant bodies, depending on the proposal, for example:

- *Other tiers of local government*
- *Local Enterprise Partnerships*
- *Local Energy Hub*
- *Leasing companies*
- *Finance companies*

Please limit your response to 1000 words. Evidence of support, such as letter of support, can be included as annex.

There is widespread support for the adoption of ZEBs across the West Yorkshire fleet. First, Arriva and Transdev have all supported this bid and have provided letters of support that are included in Appendix A.

In addition, support and engagement with energy companies is demonstrated in the letters of support included as Appendix B. Each operator proposing a scheme has supplied evidence from an energy supplier that they have engaged with. <detail of each letter redacted>

As part of the development of this bid, consultation with key stakeholders, such as the West Yorkshire Districts, the LEP and North East and Yorkshire Energy Hub have been undertaken. Letters of support from these stakeholders are included in Appendix C. If our bid is successful in progressing to development of full business case, we will work with the North East and Yorkshire Energy Hub to understand the options for provision and purchase of clean renewable energy to power ZEBs, as set out in the National Bus Strategy.

DecarboN8 have also issued a letter of support, Appendix C3, showing how the ZEBRA bid works towards their aims of greater collaboration between government, industry and academia to maximise the adoption of and learnings from innovative new technology.

The Combined Authority has also received assurances of support from the Transport and Health working group should the bid progress to the next stage.

Specifically concerning the Arriva bid, letters of support have been received from Wakefield Council, Wakefield BID, Trinity Walk shopping centre and The Ridings shopping centre confirming the ZEBRA bid aligns closely with their ambitions (Appendix C4-C7).

Letters of support for this bid have been included from:

- North East and Yorkshire Energy Hub
- Local Enterprise Partnership

- West Yorkshire Combined Authority Transport Committee
- Wakefield Council and Wakefield BID
- National level CEOs of Arriva, First and Transdev
- DecarboN8
- Wakefield Council
- The Ridings Shopping Centre, Wakefield
- Trinity Walk Shopping Centre, Wakefield

In addition to this, operators have also engaged with the following stakeholders.

Table 10: Stakeholder engagement <detail in table redacted>

Scheme	Stakeholder engagement
Arriva	
First	
Transdev	

SECTION D: Air Quality

This section will seek evidence of the air quality challenges in the area and how your plans tackle air quality in the area. Areas should:

- *Set out the air quality challenge in the area, such as whether the area is identified in the national assessment as exceeding statutory limits.*
- *Set out how the proposal would address the local air problem.*
- *Provide evidence of existing transport plans to tackle air quality and greenhouse gas emissions.*

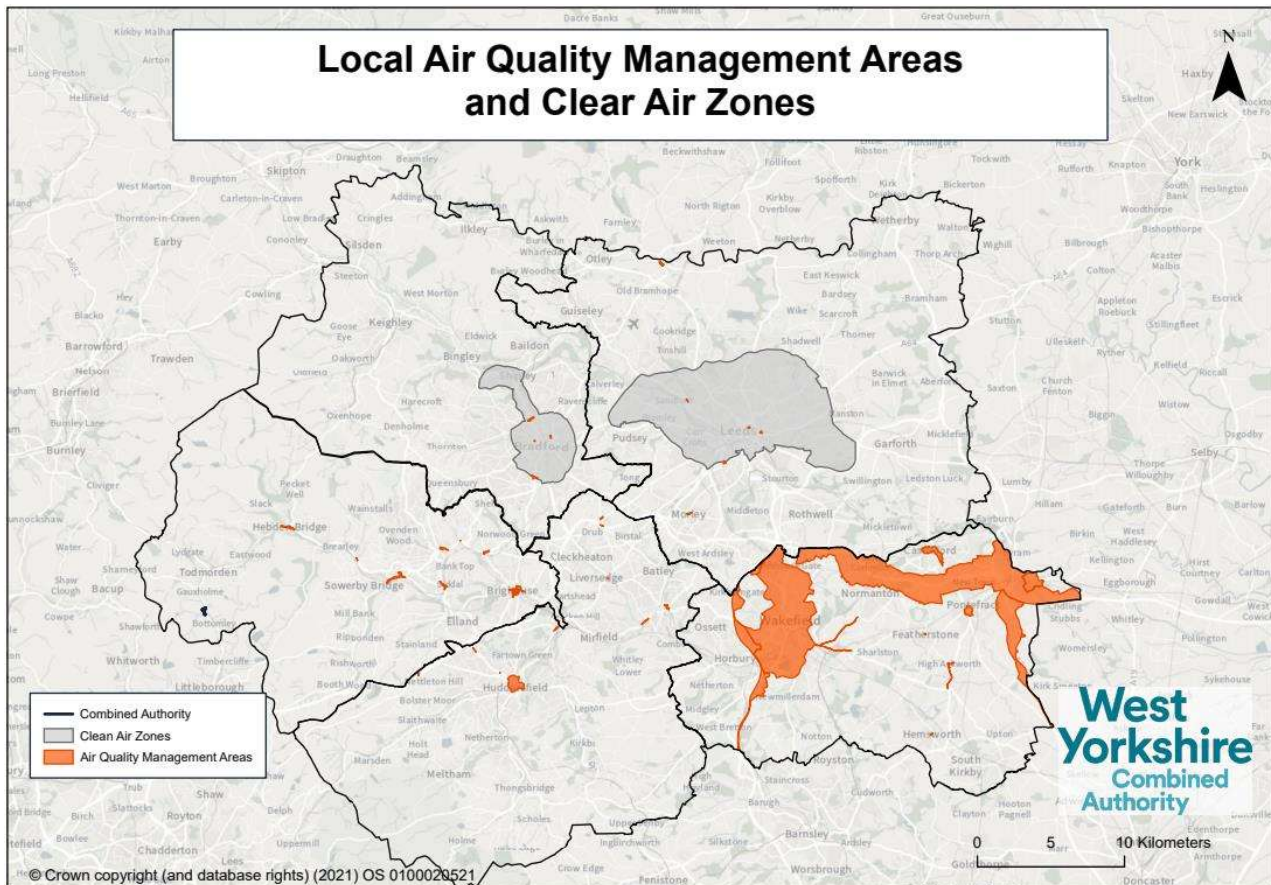
Please limit your response to 500 words.

We will not accept bids covering places that cannot show that they have air quality issues.

Air quality

Urban areas in West Yorkshire have the highest air pollution in the UK outside London, with poor air quality accounting for 1 in 20 deaths. Without action, Government targets on NO₂ will be missed and CO₂ emissions will rise 28% by 2040.

West Yorkshire has 34 Air Quality Management Areas (AQMAs) and two proposed CAZs (figure below). Bradford are introducing a Class C+ CAZ in 2022 with charges for all non-compliant vehicles, including buses. Leeds are currently reviewing their CAZ plans.



Addressing the problem

This proposal targets ZEBs on routes through poor air quality areas (figure below). These routes correspond with priority routes for electrification in the Zero Emission Bus Roadmap, prioritising routes of greatest need based on CAZ and AQMA data. Priority routes are those West of Bradford, throughout Wakefield and Leeds City Centre.

Air quality benefits can be seen in Table 11.

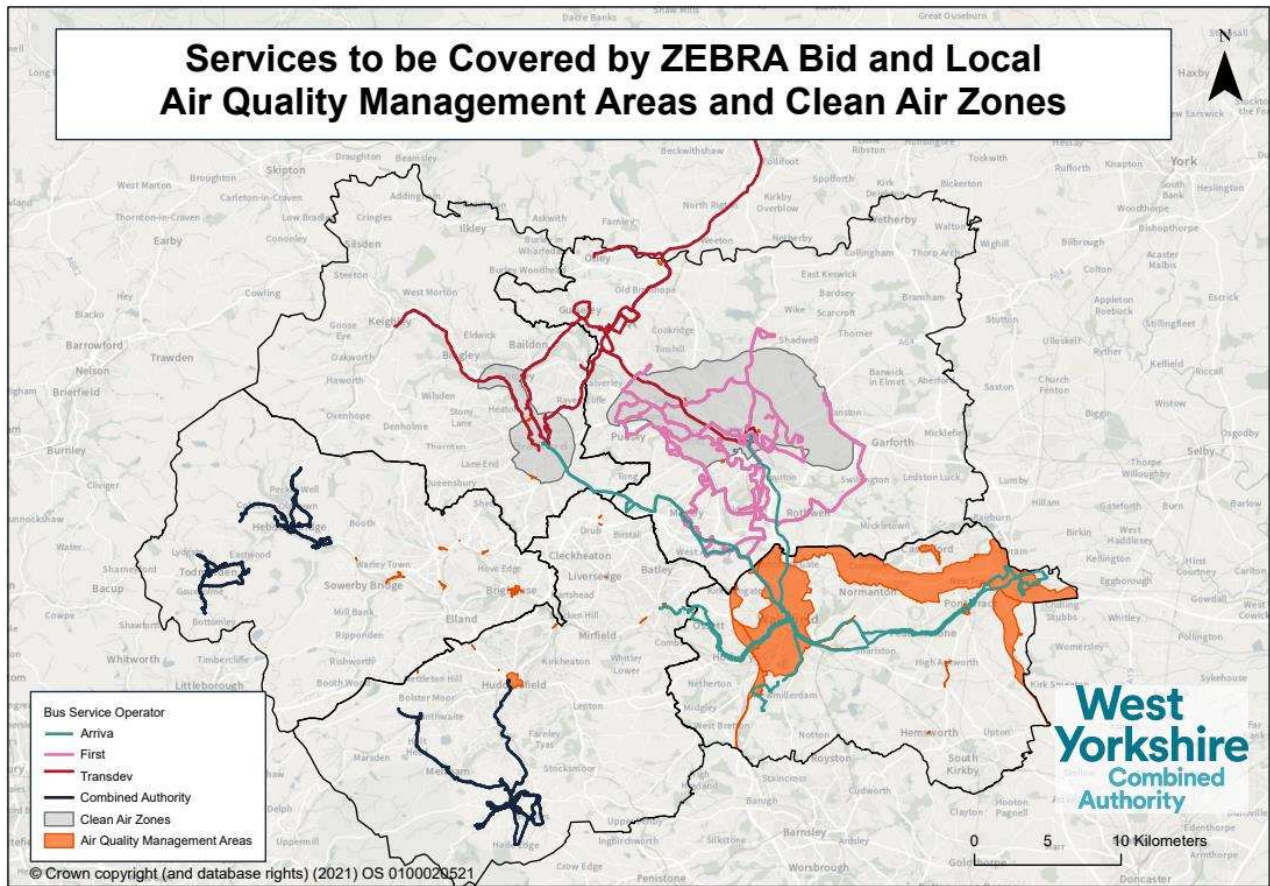


Table 11: Estimated NOx savings

Scheme	Current buses	Estimated annual NOx savings (g)**
Arriva	14 x Euro III	11,362,731
	33 x Euro VI (potential cascade)	
First	32 x Euro III	21,707,904
Transdev*	15 x Euro III	17,298,486
	2 x Euro IV	
	11 x Euro V	
	2 x Euro VI buses (potential cascade)	
Calderdale/Kirklees	10 x Euro III	6,783,720
Total	119	57,152,841

*Two Transdev vehicles kept as spares.

** Figures based on approx. NOx emissions per EURO standard (g/km), multiplied by mileage in VfM proforma and number of ZEBs.

First estimate ZEBs will reduce carbon emissions by 1,300 tonnes¹ with estimated reduction in air quality related emissions (NOx and PM2.5) of circa 11.7 tonnes (11,700 kg)².

Complementary policies

The Mayor has pledged to *tackle the climate emergency and protect our environment* with transition to ZEBs helping to achieve this. Additional complementary policies are in Table 12 and Appendix F.

Table 12: Complementary policies

Policy	Ambition
West Yorkshire Transport Strategy 2040 (2017)	Improving environmental impact of buses.
West Yorkshire Bus Strategy (2017)	Reducing emissions through bus patronage growth and bus technology improvement.
Declared Climate Emergency and Carbon Emission Reduction Pathways (2019-2020)	Target to become a net zero carbon region by 2038, with significant progress by 2030.
Leeds City Region Energy Strategy and Energy Delivery Plan (2018)	Reducing carbon emissions through modal shift and technology.
West Yorkshire Low Emissions Strategy (2016)	WY to improve air quality and carbon emissions, efficiency, and uptake of low carbon technologies.
West Yorkshire Zero Emission Bus Roadmap	Strategy to transition to ZEBs across West Yorkshire.

SECTION E: Value for Money

This section will seek evidence how you meet the Value for Money criteria, as set out in the guidance. Areas are also required to submit a separate value for money proforma that has been published alongside the application form. This spreadsheet requests basic information about the proposed investment to enable the value for money to be assessed using the Department’s “Greener bus model”.

The information in a completed pro forma, enables the model to estimate the greenhouse gases (GHG) emissions savings, other environmental & social impacts such as reduction in particulate matter (PM) and nitrogen oxide (NoX) emissions and savings & costs in the public and private sectors. By quantifying the key impacts of a proposed investment, this model helps provide decision-makers with as full a view as possible, about impacts on the environment, society, transport operators and the government finances.

¹ The carbon reduction estimate is based on an emissions conversion factor of 2.51072 kgCO2 per km and for tailpipe emissions only, i.e. ‘Tank to Wheel’ (TTW). A calculation based on ‘Well to Wheel’ (WTW) carbon reduction could be undertaken, and with emissions associated with grid electricity for the charging of the EVs offset for a fuller picture. Calculation uses average fuel and mileage figures from FY2021

² Applying air emissions inventory approach - the following exhaust Emission Factors have been used for EURO III vehicles - 9.847278171 g/km NOx / 0.180627988 g/km PM2.5.

The model provides a measure of the ‘Value for Money’, in the form of a benefit cost ratio (BCR) alongside other metrics such as the total estimated GHG savings and a cost effectiveness indicator estimating the net cost per tonne of carbon saved. These outputs will be used to score bids based on value for money.

The model does not capture every possible impact from a proposed investment, such as impacts from any resulting increases in patronage, improvement to the quality of journeys, or increased reliability. Where wider impacts (positive or negative) from investment are expected these should be stated, in the pro_forma, as non-monetised impacts. These will be considered when making a value for money judgement, as set out in the Department value for money framework.

Summary of Value for Money Proforma

A summary table is below showing the funding profile of the schemes. Further detail on split by year is available in the Value for Money proforma in Appendix D.

Table 13: Summary of funding profile <redacted>

SECTION F: Deliverability

This section will seek evidence of how the Zero Emission Bus Regional Area will be delivered, and demonstrate that plans are credible and deliverable.

F1. Method of delivery and timescale for implementation

Establish the method of delivery, to cover:

- *How you will work with local bus operators and other partners to deliver the proposal*
- *Any public consultation or third-party permission that will be required (e.g. for infrastructure)*
- *Explain any mitigations put in place for SMEs.*
- *Timescales for implementation, including when orders will be placed for zero emission buses and when supporting infrastructure will be delivered.*

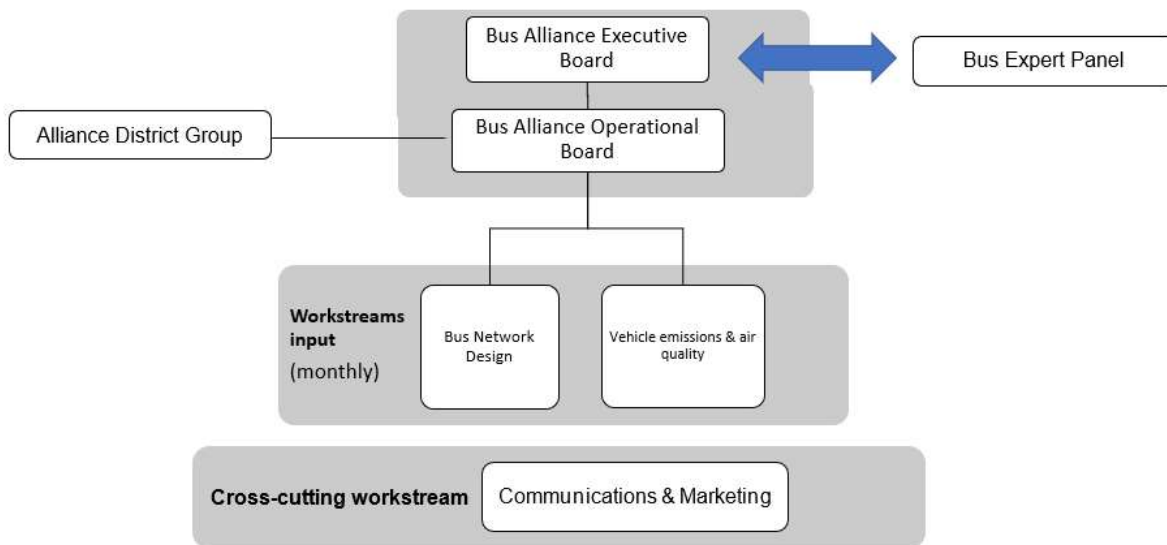
Please demonstrate how your plans are credible and deliverable in the time proposed, and that any risks have been understood and mitigated

Please limit your response to 1,000 words.

Project management

The scheme will utilise the well-established project and programme management systems the Combined Authority has in place for managing all large programmes and capital investments (PRINCE2 and Managing Successful Programmes). The scheme will also be assured through the Combined Authority’s Portfolio Appraisal Team (PMA) and our adopted Assurance Framework (see Appendix E).

The bid has been developed through the Combined Authority’s existing Voluntary Partnership Agreement, the West Yorkshire Bus Alliance. This partnership approach will continue throughout the scheme and throughout delivery and evaluation. The Bus Alliance governance mechanism will allow partnership work from bus operators and district partners – with strategic senior oversight at the Executive Board, local oversight at the operational board and opportunities to feed in through the monthly workstream meetings and district meetings. Political representatives will also receive updates through the Executive Board. The appropriate working groups and boards connected to the Bus Alliance can be seen below.



The Bus Alliance has already seen the successful delivery of several programmes and projects including the Clean Bus Technology programme retrofitting over 400 buses to EUROVI emissions standards, demonstrating the ability of the voluntary partnership to deliver complex schemes.

Public consultation and third-party permission

Charging infrastructure within the schemes is all within depots under the ownership of bus operators in West Yorkshire, it is therefore not expected that any third-party permissions will be required for these schemes. Through conversations with Northern Powergrid, operators understand that the depots selected for the introduction of electric buses have sufficient grid capacity.

In order to consult and communicate the project, a communications and stakeholder management plan will be developed. This will ensure that stakeholders are engaged throughout the process and will include partner districts, political representatives and the public. This will feed into our monitoring and evaluation framework and allow for key learning to be drawn out from these schemes.

Involvement of SMEs

To benefit SMEs electric buses will be purchased through match funding by the Combined Authority, reducing the sometimes-prohibitive costs of purchase of electric vehicles for smaller bus operators and allowing them to bid into the tender for this scheme.

Our Transport Services team have been approached by some bus operators and town councils within the geographical area of the Combined Authority scheme wanting to promote electric vehicles within this area.

Timescales for implementation

As there are several schemes within this bid, a breakdown of key deliverables has been provided in the following table.

Table 14: key deliverables

Year	2022	2023	2024
Key action / deliverable (Arriva)	Placement of order for infrastructure	Installation of infrastructure Placement of order for buses	Delivery and service start of buses
Key action / deliverable (First)	Placement of order for infrastructure Installation of infrastructure Placement of order for buses		Delivery and service start of buses
Key action / deliverable (Transdev)	Placement of order for infrastructure Placement of order for 15 buses Delivery and service start of 15 buses	Installation of infrastructure Placement of order for 17 buses Delivery and service start of 17 buses	
Key action / deliverable (Combined Authority)	Placement of order for buses Placement of order for infrastructure Tender and award of contract	Delivery and service start of buses	

Risk mitigation

A summary of the key risks associated with this project have been outlined below, demonstrating mitigations are in place.

Table 15: summary of key risks

	Description	Mitigation	Risk Level
1	Vehicles cannot be manufactured or delivered within the project time-scales	Operators have had initial conversations with bus manufacturers and no concerns flagged. DfT have consulted with bus manufacturers prior to scheme launch.	G
2	Range issue of vehicles prohibitive for some routes	Operators have undertaken initial analysis of suitable routes and have selected routes which will allow for the introduction of electric vehicles. In addition, funding includes opportunity charging infrastructure.	G
3	Bus operators wanting to move vehicles before 5-year term	Through this submission operators have agreed to the terms of ZEBRA.	A
4	Due to slow recovery from pandemic operators have less resource and are unable to invest in new vehicles	Fleet renewal required in many areas due to other priorities eg. CAZ in Bradford, net zero carbon targets, Government ending sale of diesel vehicles	A
5	Due to further COVID-19 related lockdowns patronage does not return impacting finances and not realising full benefits of scheme	This scheme is wider part of bus reform strategy closely related to carbon reduction strategy – modal shift is required and significant work on behaviour change to help boost bus patronage.	A
6	Delays caused in installation of infrastructure impact delivery of buses	All bus operators have engaged with Northern Powergrid and are aware of timescales in terms of ordering and installation of infrastructure.	A

F2. Monitoring and evaluation

Please provide indicative details of how monitoring and evaluation will be used to ensure learning about the project and inform future schemes. A detailed monitoring and evaluation plan is not required at this stage but should explain how the approach to delivering services will ensure that future learning is maximised.

Please limit your response to 500 words.

West Yorkshire Combined Authority has developed a robust approach to evaluation aligned with *Magenta Book* guidance and standards. The Combined Authority Evaluation Strategy operates under the following key principles:

- Evaluation planning is an integral part of developing the business case;

- The focus of evaluation reflects the business case;
- Evaluation efforts are proportional to the intervention's scale and complexity;
- Monitoring and evaluation data are consistent across policy;
- Evaluation will be undertaken independently of delivery;
- Evaluation is a learning process and a key component in policy development;
- Evaluation data and findings are disseminated effectively.

Evaluation of transport schemes is undertaken in line with the DfT Monitoring and Evaluation Framework for Local Authority Major Schemes (2012). Given the value of the proposed investment, the ZEBRA scheme will be subject to 'enhanced monitoring' including the collection of, noise, local air quality and accidents data (DfT 2012). Further, the innovative nature of the scheme, gaps in the existing evidence base, and the need to develop learning that effectively feeds back into policy and practice, makes it suitable for a 'fuller evaluation' approach, covering three strands of enquiry: process, impact and economic (DfT 2012).

Process evaluation is crucial to meet scheme objectives and to develop learning that engages stakeholder at all levels. Alongside the ongoing collection of scheme-build and delivery data, this would incorporate an initial stakeholder mapping exercise and consultation process, opportunities for regular reflection and the recording of lessons learned throughout the implementation of the services.

Post-delivery, a stakeholder survey, and dedicated workshop/learning event would take place to develop and maximise learning relevant across the partnership and beyond. This would include the development of a case study to best consolidate learning building on how partnerships develop, the summary of key challenges, and good practice. Baseline data will be collected pre and post-delivery, in order to evaluate impact in relation to scheme objectives, travel behaviour, and impacts on air quality. A programme-level framework will be developed that sets out the data collection requirements. Key measures are likely to include:

- Air quality - NO_x, SO_x and PM_x, impacts on AQMAs
- Bus operating costs - electric vs. diesel vehicles
- Environmental impact – carbon emissions savings, noise, accidents
- Health and wellbeing - longer term health impacts
- Modal shift - travel behaviours

Economic evaluation will be undertaken to determine whether the costs of the intervention have been or will be outweighed by the benefits achieved. Outturn appraisal assumptions will be monitored throughout the lifecycle of the scheme. Opportunities to develop enhanced understanding of net impacts and relative cost effectiveness of the scheme, through comparison with existing schemes outside the area will also be explored.

Finally, as well as ensuring a robust approach to local evaluation, WYCA will comply with further guidance from DfT in order to fulfil the requirements of the national evaluation of the scheme.

An allowance for monitoring and evaluation has been included within the Combined Authority's infrastructure costs for this bid. A breakdown of these costs is included in table 5.

F3. Procurement, State Aid and subsidy rules

Please confirm you have received advice on legal requirements in relation to procurement, subsidy control and state aid.

Please also demonstrate how you will abide by legal requirements in relation to procurement, subsidy control and state aid, including an explanation, together with supporting evidence, of how you will comply with the principles under the UK-EU Trade and Cooperation Agreement.

Please limit your response to 500 words.

The Combined Authority has received advice on procurement, state aid and subsidy from DLA Piper (see Appendix H) and internal specialists on Legal and Procurement at the Combined Authority. The table below summarises our assessment of the ZEBRA funding against the principles set out in the EU Trade and Cooperation Agreement.

Table 16: procurement principles

Principles	How does the subsidy comply with the principle?
The subsidy pursues a specific public policy objective to remedy an identified market failure or to address an equity rationale such as social difficulties or distributional concerns ("the objective").	Identified market failure – low proportion of zero emission buses in use within West Yorkshire.
The subsidy is proportionate and limited to what is necessary to achieve the objective.	The subsidy is specifically focussed on funding the additional cost of zero emission vehicles and the infrastructure required to deliver services utilising zero emission buses.
The subsidy is designed to bring about a change of economic behaviour of the beneficiary that is conducive to achieving the objective and that would not be achieved in the absence of the subsidy being provided.	The proportion of zero emission buses currently in WY is currently 1%. The ZEBRA funding seeks to accelerate the take up of ZEBs at a faster rate than would otherwise be achieved. If the bid is successful, the uptake of ZEBs in West Yorkshire will increase to 10%.

<p>The subsidy should not normally compensate for the costs the beneficiary would have funded in the absence of any subsidy.</p>	<p>The fund only covers the additional cost of ZEBs not the total vehicle cost and will enable the operators to deliver ZEBs at a faster rate than they would have been able to in the absence of any subsidy.</p>
<p>The subsidy is an appropriate policy instrument to achieve a public policy objective and that objective cannot be achieved through other less distortive means.</p>	<p>There is no other appropriate method that has been identified to encourage operators to move towards utilising a higher proportion of ZEBs in their fleet within West Yorkshire.</p>
<p>The subsidies' positive contributions to achieving the objective outweigh any negative effects, in particular the material effect on trade or investment between the Parties.</p>	<p>All operators in West Yorkshire were given the option of being part of this bid. Working with the bus operators in a positive manner will hopefully avoid the need for further air quality charges to be levied in the future in West Yorkshire. If further air quality charges are applied, this will increase the price of public transport and may create financial difficulties for smaller operators.</p>
<p>Where relevant, record consideration against Article 3.5 [Prohibited subsidies and subsidies subject to conditions], including consideration of whether that subsidy has or could have a material effect on trade or investment between the Parties.</p>	<p>The three largest bus operators in West Yorkshire are all included in the bid and several smaller operators will also benefit from the match funding investment from the Combined Authority in Calderdale.</p>