Office for
Low Emission
Vehicles

Ultra-Low Emission Bus Scheme
Application Form

Guidance on the application process is available on the DfT website[1].

Applicant Information

Are you a (Tick which of the following applies):

Local Authority ☒
Bus Operator ☐

Local authority or bus operator name(s):

This bid is being submitted by Warwick District Council (WDC), Warwickshire County Council (WCC), Volvo Group UK and Stagecoach Midlands.

If it is a joint bid, please enter the names of all bidders and specify who the lead will be. Only one proforma is expected to be completed for a joint bid, however your proforma should make clear who the individual partners are.

(For joint bids only) Who is the lead bidder? Warwick District Council (WDC)

Bid Manager name and position:

Marianne Rolfe, Head of Health and Community Protection

[1] https://www.gov.uk/government/publications/low-emission-bus-scheme

Name and position of the official with day to day responsibility for delivering the proposed bid

Contact telephone number: 01926 67000

Email address: marianne.rolfe@warwickdc.gov.uk

Postal address: Warwick District Council, Riverside House,
Milverton Hill, Royal Leamington Spa, CV32 5HZ

Website address for published bid (if applicable):

www.warwickdc.gov.uk/info/20505/air_pollution

When authorities submit a bid for funding to the Department, as part of the Government's commitment to greater openness in the public sector under the Freedom of Information Act 2000 and the Environmental Information Regulations 2004, they must also publish a version excluding any commercially sensitive information on their own website within two working days of submitting the final bid to the Department. The Department reserves the right to deem the bid as non-compliant if this is not adhered to. We welcome any bus operator that wishes to do so too.

SECTION A - Bid description and funding profile

A1. Headline description:

The Ultra-low Emission Bus Scheme (ULEBS) we propose for Royal Leamington Spa includes 6 Volvo 7900E electric buses on bus route 67 and 1 to 2 overhead *opportunity* charging points also known as pantographs, which use cutting edge technology (see Fig 1 and Appendix A for further details). The pantographs will be located mid-way along the 67-route in a highly visible area of Royal Leamington Spas town centre where nearly all bus routes cross over. This allows the pantographs to be used in future by other buses on different routes providing Warwickshire's main bus operator Stagecoach Midlands the option of introducing more electric buses into its fleet. Opportunity charging can also be used by urban distribution vehicles once the bus operations have ceased in the evenings giving 24 hour utilisation.

Fig 1 (opposite): Opportunity point in Gothenburg

The Parade is Royal Leamington Spa's prosperous shopping location but shares its space with the one of the major bus routes in the district. The Parade leads on to Bath Street, which is an Air Quality Management Area (AQMA). High regency buildings four storeys high front the Parade, Bath Street and the surrounding roads and these results in vehicle emissions not being able to disperse easily into the atmosphere. According to the World Health Organisation (WHO), Royal Leamington Spa is ranked in the UK's top 40 for worst carbon dioxide (CO_2) emissions in a study carried out in 2016.

This is an exciting scheme and would be a **first on-street *opportunity* charging installation in the UK**. If delivered, this scheme could see environmental cost savings of over £17m compared to the scheme cost, which is approximately £3m. This presents a significant cost benefit ratio.

Conveniently the ULEBS would be delivered ahead of Coventry's year of City of Culture in 2021 and Birmingham's Commonwealth Games in the summer of 2022. Royal Leamington Spa will play a big part in both of these major events since it is an attractive tourist destination and will play host to all bowls and para-bowls events during the Commonwealth games.

Please enter a brief description of the bid in no more than 300 words. You will be able to elaborate on this in the sections below.

A2. Geographical area:

The geographical area covered by the scheme is Royal Leamington Spa and a village immediately outside of the town called Cubbington.Royal Leamington Spa and Cubbington are located in the Warwick District of Warwickshire(approximately 9.8 miles from Coventry) in the centre of England. Royal Leamington Spa's population as of 2011 census is 55,733.

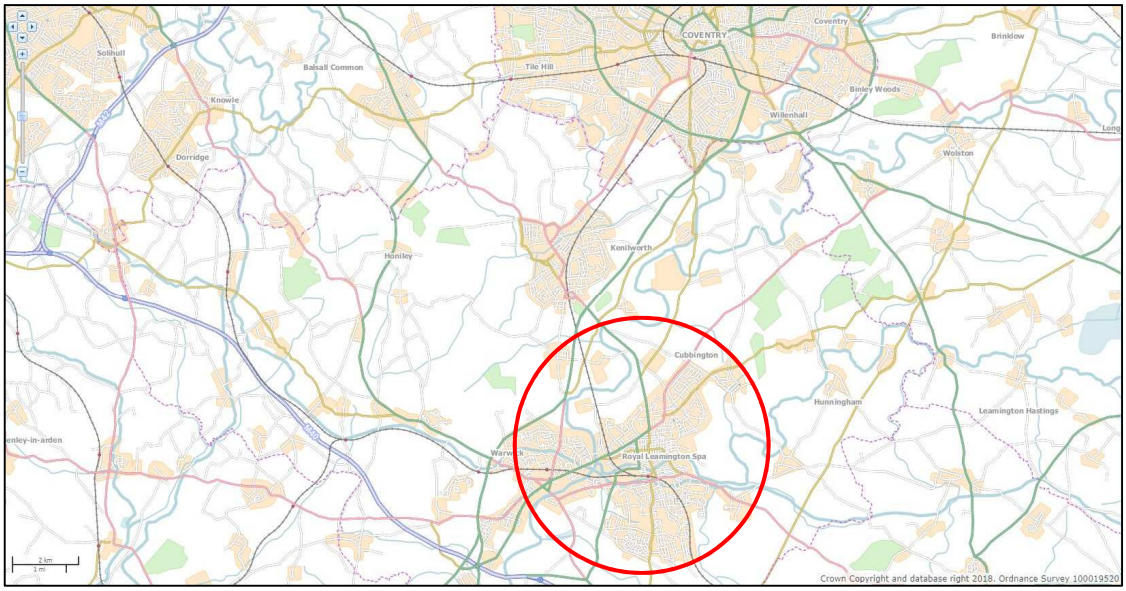

Fig 1: map of Royal Leamington Spa in relation to the surrounding areas

Royal Leamington Spa town centre is an urban conservation area owing to its regency 'stucco' buildings and famous spa baths and waters.

Image 1: The Parade in Royal Leamington Spa

Most of the area covered the scheme can be seen inFig 2, which illustrates almost all of route 67 bus operated by Stagecoach Midlands.

Fig 2: map of 67 bus route operated by Stagecoach Midlands

The 67-bus route is a frequent service that provides buses every 15 minutes during its busiest periods. This is throughout the day with services becoming less frequent towards late evenings and Sundays. The journey traverses through all major places of interest in the town such as shops, parks, Leamington Spa mainline rail station, places of employment and housing areas where the bus is the main means of travel. The 67-bus route sees passenger numbers of 500,000 per annum and it is predicted with housing growth that bus patronage will increase.

Image 2: Frequent buses on the Parade in Royal Leamington Spa

Where the 67-bus route ends in the south of Royal Leamington Spa (as shown in Fig 2) there is an allocated housing development to provide an additional 500 new homes. To the north of the 67-route (as shown in Fig 1) there island allocated for the development for an additional 100 new homes.

The route serves a large proportion of the Council's housing as demonstrated in Fig 2. Fig 3 provides a map that illustrates the amount of council owned housing within 200m of the bus route. It does not show the housing owned and operated by housing associations.

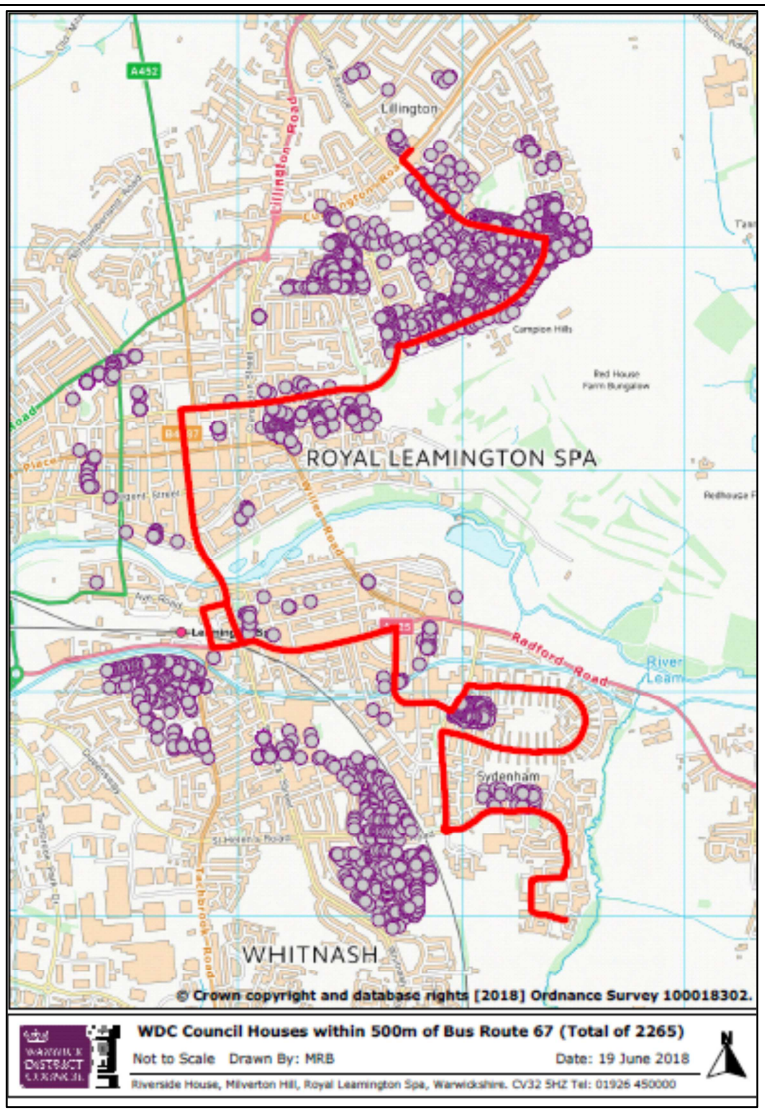

Fig 3: Council housing locations within 500m of bus route 67

Midway on the 67 route are Royal Leamington Spa town centre and the towns train station. The train station links to main lines to the southand north of the country serving trains between London and Birmingham. In the coming years,the train station will form an even more pivotal gateway into the town. In the immediate area, through which the bus route passes, is designated as a location of significantregeneration to harness and enhance creative industries that Royal Leamington Spa is home to (the town is often referred to as 'silicon spa' due to its creative industries). OurULEBS would be a flag-ship development to kick-start the regeneration of the area near Leamington Spa's rail station.

Also midway along the bus route is the AQMA, whichincludes the junction of Bath Street/High Street/Radford Road/Clemens Street where receptors such as residents and

businesses occupy the buildings about ground-level. The road layout, building structures and train over- pass all contribute to the lack of dispersal of emissions in this area.

Over the next four years, Royal Leamington Spa will be involved in the Warwickshire Year of Wellbeing, Coventry's year of City of Culture in 2021 and will be one of the host cities in Birmingham's Commonwealth Games in the summer of 2022. As the home of UK Bowls Royal Leamington Spa hosts the annual international bowls championships and the town will be hosting all bowls and para-bowls events during the Commonwealth Games in 2022. Around the times of these events being hosted, Royal Leamington Spa expects to receive a significant increase in visitor numbers, which in terms of spectators only, is estimated to be in the region of 6,000. This will be in addition to the approximate footfall of 5,000 per day we see throughout the year.

Royal Leamington Spa is an attractive destination for visitors due to its regency style buildings and its famous spa waters and water pumprooms. It is also well known for its shopping experience, which merges a range of high street chains with charming independents.

Please provide details of the area covered by the bid

A3. Total DfT funding sought (£m):

2018/19	£0
2019/20	£919,661 (bus costs) + £831,795 (infrastructure costs) = £1,751,456
2020/21	£0

Although there is no cap on bids, where they exceed £5m, bidders should demonstrate how their plans (and the amount sought) can be scaled down. In this case, bidders should provide the information for the second, scaled-down, bid in section D.

A4. Total DfT funding sought for second, scaled down, bid, if applicable (£m):

2018/19
2019/20
2020/21

A5. Total cost of your proposal (This should include DfT funding as specified in A3 + any 3rd party contributions) (£m):
f

2018/19 £0

2019/20 £2,187,900 (bus costs) + £1,109,060 (infrastructure costs) = £3,296,960

2020/21 £0

A6. Total cost of your proposal for second, scaled down, bid, if applicable (This should include DfT funding as specified in section A4 + any 3rd party contributions) (£m):

2018/19
2019/20
2020/21

A7. Joint bids:

WDC (whose remit is planning and air quality) is being supported by colleagues at WCC (who is responsible for highways and transportation in Warwickshire) to progress the ULEBS proposed for Royal Leamington Spa. WDC will work on the planning aspect and agree internally permission to install the pantograph/s and a substation. WCC will work on the highways element of the scheme and liaise with the Distribution Network Operator (DNO).

Alongside this, partners Volvo Group UK will work closely with Stagecoach Midlands on the procurement the 6 electric buses and work with WCC and WDC to help deliver the *opportunity* charge point infrastructure.

Volvo Group UK has been supplying buses to Stagecoach since the 1980s. Fortunately for the ULEBS scheme, Volvo Group UK relocated its group headquarters to neighbouring town Warwick only a few years ago, which is allowing both the District Council, the County Council and Stagecoach Midlands to work closely with them at their offices. This has been beneficial for all partners during the project planning stage and enabled regular meetings in Warwick.

A Project Board led by WDC will ensure the projectis delivered on-time and to budget. In Fig 4 below is an organogram detailing our projectgovernance.

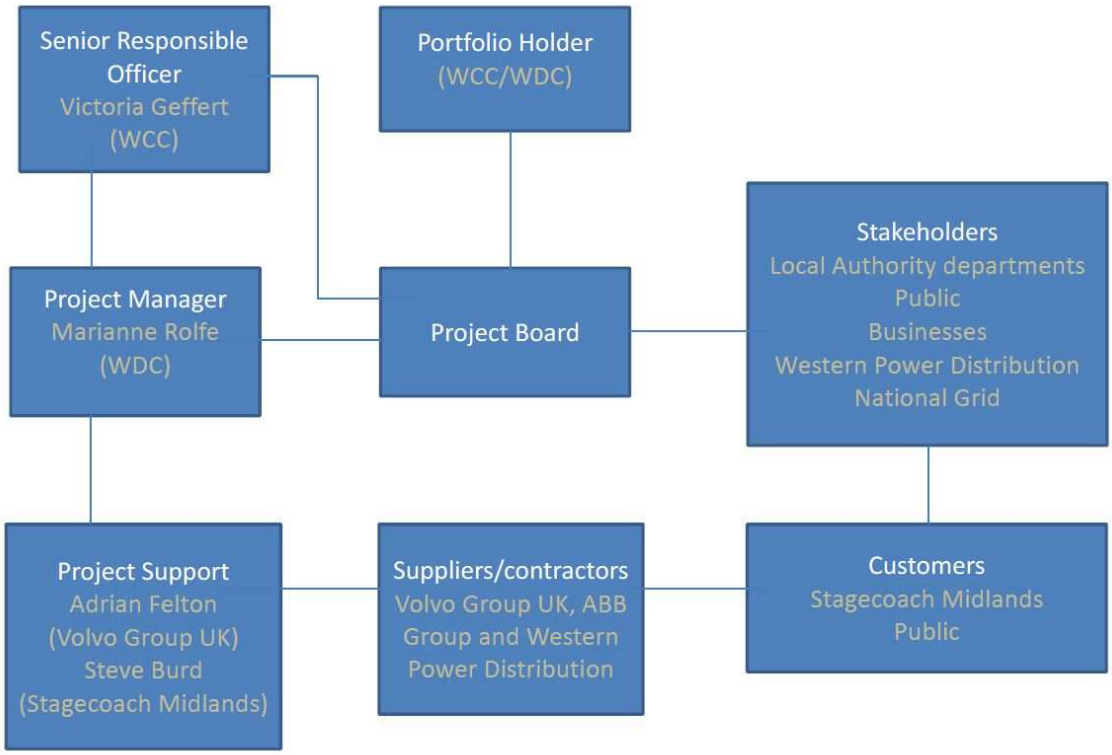

Fig 4: Organogram of governance

An outline project plan and risk register (see Appendix A and F) have already been produced, which set out key mile-stones and identify risks that could impede on the project plan. Copies of these can be found in the appendices. If the bid is successful these will be refined to provide greater detail following furtherinternal conversations and feedback from the DNO.

If this is a joint bid, please give further details of how you will work together and your reason for submitting a joint bid.

SECTION B – Evidence against the assessment criteria

B1. Ambition

Use the space below to set out (using a maximum of 1,000 words) how you meet the "Ambition" criteria, as set out in paragraph3.2 of the bidding guidance. It is highly recommended that you refer to this guidance when providing evidence against the assessment criteria, as this will be crucial to the success of your bid. Ambition has a weighting of 30%. Amongst other things, you may wish to consider:

1. The proportion of your bus fleet that will be ultra-low emission;

The ULEBS for Royal Leamington Spa will see 6 electric vehicles introduced into Stagecoach Midlands fleet. The 6 buses represent 63% of the Royal Leamington Spa and Stratford upon Avon fleet and add to the significant investment in Euro 5 and Euro 6 vehicles in the area over the last few years. The intention of the Royal Leamington Spa ULEBS is that this proportion of electric buses can be increased once the first 6 are in operation and demonstrating their attractiveness compared to diesel alternatives. Existing Euro 6 buses would be moved on to routes where lower Euro class engine vehicles were in operation.

2. How innovative is your bid?

The Royal Leamington Spa ULEBS which uses on-street opportunity charging is a first of its kind in Warwickshire and in the UK. There is only one other town that uses *opportunity* charging in the UK and that is Harrogate however Harrogate's *opportunity* chargers are bus station based only and are in the process of being installed.

The Royal Leamington Spa scheme would see *opportunity* charging points also known as pantographs installed in a town centre location on major thoroughfares. The pantographs would be visible to pedestrians and other road users and would become a beacon of low carbon innovation for all to see.

This is a bold scheme in terms of its location. Royal Leamington Spa is a conservation area with regency buildings and regency spa baths. The look of the scheme will be sensitive to the surroundings and therefore the pantographs will be made as bespoke pieces. A suggestion is that the pantographs themselves could become forms of art. We would look to engage with local academia and development services within WDC to develop the visual design, time and cost permitting.

3. Your vision for the longer term and how this may fit in with wider strategies

Our vision fits with wider strategies to improve air quality and the local economy through transport initiatives. Those strategies most relevant to this bid are as follows:

WCC EV Charging Infrastructure Strategy 2017 -2026[2]
The EV strategy sets out trialling new technologies and exploring opportunities to innovate working with the EV charge point providers and manufacturers to trial new technologies. All of the district councils are signed up to this strategy to assist in its delivery.

WCC Local Transport Plan 2011 – 2031[3]
The LTP sets out reducing transport related carbon emissions and the noise effects of the transport system as well as minimising the impacts of transport on the built, natural and historic environment and improving the quality of transport integration into streetscapes and the urban environment. Improving the journey experience of transport users and providing transport improvements to deliver growth is also set out in the LTP.

WDC Air Quality Action Plan 2015[4]
The Air Quality Action Plan identifies actions which will improve the air quality of the district and particularly within the AQMA. One of the key actions is the promotion of low emission vehicles and supporting infrastructure to improve air quality.

Other strategies also relevant to this bid are:
Warwickshire's Sustainable Community Strategy (2009-2026);
Coventry and Warwickshire Health Protection Strategy
WDC's Sustainability Approach 2016-2020;
WDC's Health and Wellbeing Approach 2017-2021; and
WDC's Fit for the Future Themes 2017.
WDC's Low Emission Strategy (present - being converted into a Supplementary Planning Document)

The ULEBS for Royal Leamington Spa scheme has the potential to be expanded within and beyond the boundaries of Warwick District in the future. The intention is for electric buses to be operated to and from new park and ride sites that are planned to support employment

[2] https://www.warwickshire.gov.uk/driveelectric
[3] https://www.warwickshire.gov.uk/ltp3
[4] https://www.warwickdc.gov.uk/info/20505/air_pollution

and tourism in the area. Electric buses could also link to major developments sites being proposed in our region such as HS2's UK Central station and the expansion of Birmingham Airport and Stratford upon Avon, which are all only 15 miles away from Royal Leamington Spa's town centre.

B2. Deliverability

Use the space below to set out (using a maximum of 1,000 words) how you meet the "Deliverability" criteria, as set out in paragraphs 3.3 to 3.6 of the bidding guidance. Deliverability has a weighting of 10%. Amongst other things, you may wish to consider:

1. Do you have a delivery strategy?

The delivery strategy is to hold monthly project board meetings and to work to the Project Plan to ensure the project is on schedule to meet key milestones. A copy of the Project Plan is provided in Appendix B.

Below in Fig 5 is the high level timeline of the Project Plan. The key milestones are *contracts to be signed* date on 22/04/19 and *project to go live* date on 17/03/20.

Fig 5: Timeline of ULEBS Project Plan

Following the WDC code of procurement practice, the correct procurement method will be selected. It is believed that an example for innovation is most appropriate meaning that the funding for the electric buses is able to be awarded to Volvo Group UK. This means the buses are able to be manufactured and delivered sooner and the project has an earlier delivery date.

2. Is there any match funding? Bidders can provide more detail in section C below.

Match funding will be provided by through a number of avenues:

Volvo Group UK is able to work with Stagecoach Midlands to provide a deal that is commercially beneficial for both. Stagecoach Midlands is offering to contribute towards the operational and maintenance costs of the project whilst Volvo Group UK will be working with private partners to provide the capital cost of the new electric buses.

The 25% match funding required for the infrastructure will be found from either WCC and WDC or a charge-point provider. The source of that funding will determined if funding from this bid is granted. The cost is estimated to be £11m, which covers the cost of the charging points, substations and installation costs. This cost can be reduced if only one pantograph is installed – the scheme can still be delivered if this is required.

3. Can you show a reducing reliance on government subsidy?

With 17,500 new homes planned to be delivered in the Warwick District over the next 5 – 10 years, we will be looking to developers for Section 106 contributions or Community Infrastructure Levy (CIL) payments to provide further electric bus infrastructure. The delivery of the ULEBS scheme on the 67 bus route in Royal Leamington Spa will enable us to kick-start this model of utilising Section 106 payments for the expansion of electric bus infrastructure in Warwick District. This would remove any reliance on Government for future infrastructure funding.

4. Do you have a proven track record of acquiring ultra-low emission buses?

WCC has previous experience of working with another local bus operator in the area, Johnsons Coaches, who acquired a fleet of electric/hybrid buses to serve WCC's Stratford Park and Ride and Stratford town centre. These buses have been in operation for 5 years and are as frequent as every half an hour. Prior to this, WCC worked with Stratford District Council, Johnsons Coaches and Optare to host the first 100% battery electric bus trial in England in 2012.

Our partner on this bid is Stagecoach Midlands with Volvo Group UK being the bus supplier. Volvo Group UK has a proven track record of providing electric buses and working with bus operators. Volvo Group UK has delivered a 12 month demonstration programme in the UK in various cities and has delivered projects in Harrogate and other European cities. Stakeholder reports have been provided for Manchester, Gothenburg and Stockholm.

Volvo Group UK who is the global leader in electro mobility has been supplying buses to Stagecoach for many years. The development of this bid has been based on detailed conversations between Volvo Group UK and Stagecoach Midlands and the proposed transition to electric.

WDC is keen to see the uptake of electric vehicles(EVs). The Council is currently has a fleet of 5 electric pool cars, which equates to 50%of the Council's operated fleet. We are in the process of reviewing a further 2 vehicles witha view to moving these over to EVs also. WDC received funding from OLEV for the lease of pool vehicles over 2 years - WDC has agreed to continue this funding a further 4 years.In addition, WDC will be looking at installing new EV charging infrastructure as part of their plans move to a new headquarters in Royal Leamington Spa town centre.

WCC has plans to deliver multiple EV charging points across the county utilising funding from the Office for Low Emission On-street Residential Charging Scheme.

B3. Air Quality

Use the space below to set out (using a maximum of 1,000 words) how you meet the "Air Quality" criteria, as set out in paragraph 3.7 of the bidding guidance. Air Quality has a weighting of 30%. Amongst other things, you may wish to consider:

1. What is the air quality problem as identified by this bid?

The route in which the 67-bus in Royal Leamington Spa takes is directly through an AQMA between Royal Leamington Spa town centre and the town's train station operated by Chiltern Railways. The AQMA, namely Bath Street, provides a major route between the north and south of the town under the rail line serving the Cross Country rail service. Unfortunately the rail line segregates the north and the south of the town and there are limited routes available to road traffic meaning routes are heavily congested.

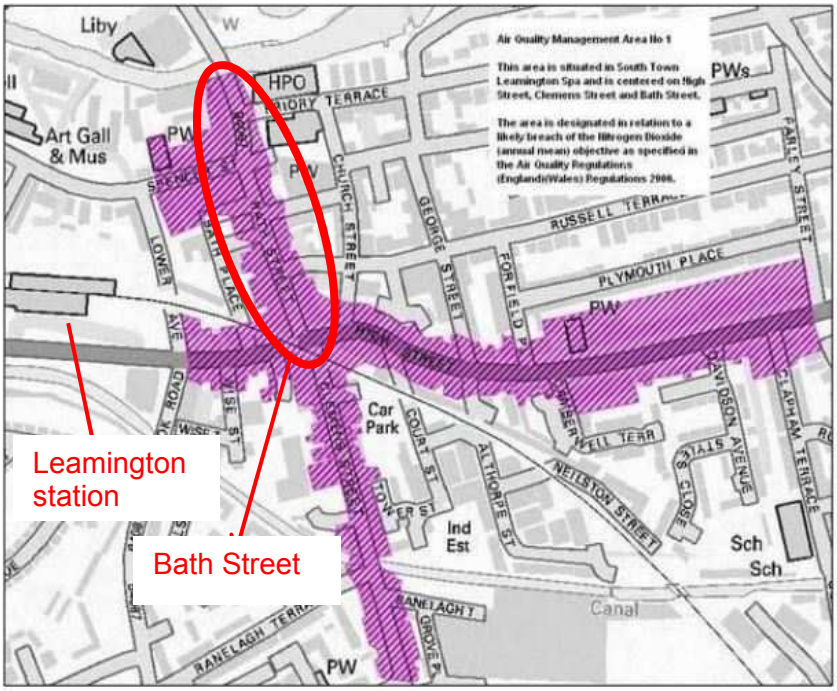

Fig 6 (to the left): AQMA along Bath St/Clemens St/High St/Radford Rd in Royal Leamington Spa

Bus services are as frequent as every 15 minutes on the 67 bus route and Bath Street and these buses operate on diesel fuel. It is diesel emissions that are having a significant impact on air quality on Bath Street. The diesel buses and cars also contribute towards poor air quality on the surrounding roads (see Fig 6 roads highlighted in purple).

The air quality issue in our AQMA is intensified by the four-storey high regency buildings that front the roads in this area that keep emissions contained instead of them dispersing into the atmosphere.

Nitrogen dioxide (NO_2) emission concentrations on Bath Street have been as high as 50ug/m^3 and have started to rise. The legal limit is 40ug/m^3. On High Street/Lower Avenue to the left of Bath Street, readings are approaching 45ug/m^3 and continue to rise. Readings on a typical road not in an AQMA are usually around 20ug/m^3. Automated monitoring sites suggest our background levels in Royal Leamington Spa are 17-24ug/m^3

The screenshot below (Fig 7) is taken from Coventry and Warwickshire's Active Travel website. The traffic-light style system identifies monitoring station locations within our AQMA and the NO_2 readings for 2016. The 67 bus route directly operates through 3 out of the 4 air quality monitoring station locations.

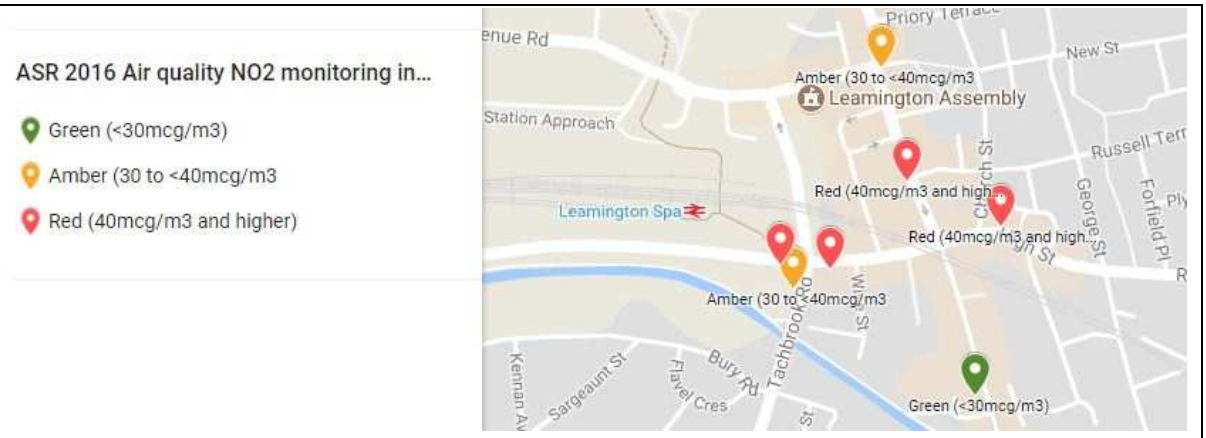

Fig 7: A screenshot from the Coventry and Warwickshire's Active Travel website for air quality monitoring

For the last three years, the AQMA has made national news headlines as the World Health Organisation (WHO) has identified Royal LeamingtonSpa as being having of the worse AQMA's for a town in the UK. The WHO listed Royal Leamington Spa's poor air quality as being in the UK's top 40 and joint in the top 120 in the world. The data used for the WHO report is taken from 2015 samples since then particulate monitoring results remain stable however NO_2 results have deteriorated.

The graph below (Fig 8) shows the source apportionment of NO_2 in the AQMA. For Bath Street in the AQMA we can see that bus emissions make up most of the NO_2 readings. This demonstrates just how busy the Bath Street route isfor buses that then turn off east, west and south to serve the southern part of town beyondthe rail line.

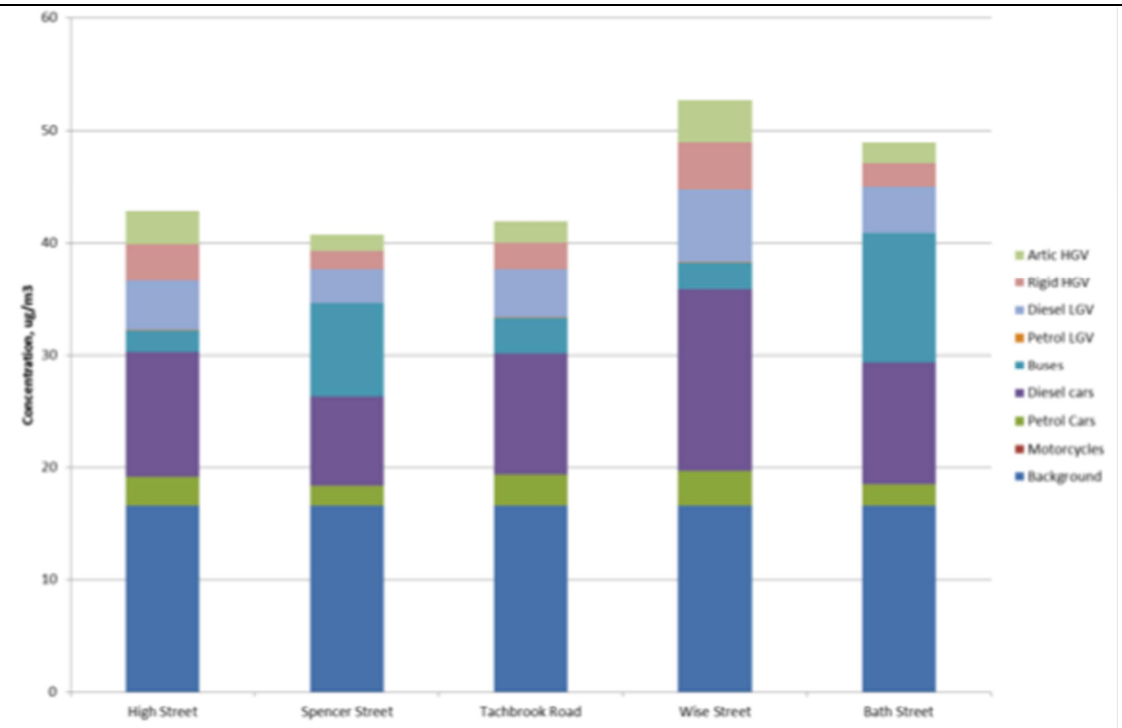

Fig 8: Apportionment of NO_2 figures taken from WDC's 2015 air quality monitoring data

2. To what extent does your proposal address the local air quality problem?

Our proposal will allow local bus operator, Stagecoach Midlands to operate electric buses for the 67-bus route. The operation of the electricbuses will allow stagecoach to place the remaining buses into service on routes within Warwick District and remove lower engine standard buses from service.

Stagecoach currently operates 89 buses in Royal Leamington Spa and Stratford upon Avon area. See Fig 9 below.

Euro standard	*Amount of buses in fleet*
Euro 6	*22*
Euro 5	*39*
Euro 4	*8 (5 of which are owned by WCC)*
Euro 3	*20*

Fig 9: Euro standard buses operated by Stagecoach Midlands within Royal Leamington Spa and Stratford upon Avon

Once the 67-bus route is in operation, Stagecoach Midlands is able to review the business case to extend electric buses across its fleet. With more electric buses in operation we will begin see an improvement in air quality for our AQMA where our buses route through.

3. Are you able to estimate the improvements in air quality as a result of the grants made available through this fund?

The table below (Fig 10) by Volvo Group UK compares a Euro 6 diesel and the electric equivalent for their environmental and noise impacts in £s. The comparison was undertaken for the 67-bus route using Volvo Group UK's route analysis tool. Current buses on the 67-bus route are in fact older than a Euro 6, so the savings are even greater than in Fig 10. The 6 electric buses that we propose to deploy already significantly outweigh the cost of the scheme. Over the lifetime of the scheme, it is estimated to save over £17m in environment and noise costs. This compared to the cost of the scheme, which is approximately £3m delivers a significant cost benefit ratio.

The below figures are according to EU Directive 2009/33/EC.

	Diesel (Euro 6)	*Diesel (Euro 6) x6*	*Electric*	*Electric x6*	*Difference in x6 diesel v x6 electric*
Environment in £s/km	*£0.17*	*£1.02*	*£0.06*	*£0.36*	*£0.66*
Noise in £s/km	*£0.34*	*£2.04*	*£0*	*£0*	*£2.04*
Total	*£0.51*	*£3.06*	*£0.06*	*£0.36*	*£2.70*
Environment in £s/month	*£992*	*£5,952.00*	*£384.00*	*£2,304.00*	*£3,648*
Noise in £s/month	*£2,021*	*£12,126*	*£0*	*£0*	*£12,126*
Total	*£3,013*	*£18,078*	*£384.00*	*£2,304*	*£15,774*
Environment in £s over lifetime	*£1,072,000*	*£6,432,000*	*£415,000*	*£2,490,000*	*£3,942,000*
Noise in £s over lifetime	*£2,184,000*	*£13,104,000*	*£0*	*£0*	*£13,104,000*
Total	*£3,256,000*	*£19,536,000*	*£415,000*	*£2,490,000*	*£17,046,000*

Fig 10: The environmental cost savings of the Euro 6 bus compared with the diesel equivalent bus. Figures produced by Volvo Group UK

In terms of emission savings, it has been calculated that the proposed scheme will provide the following savings each year of operation against an equivalent Euro 6 engine single

decker bus scheme. See Fig 11 below for emission savings provided by Volvo Group UK. These savings are explained further in the supporting document included in the appendices.

Emissions	*Measurement per year for 6 Euro 6's*
Carbon dioxide	*320 tonnes*
Nitrogen oxides	*899 kg*
Particulates	*13 kg*
Carbon monoxide	*1797 kg*

Fig 11: Emission savings for 6 Euro 6 buses – data provided by Volvo Group UK

B4. Value for Money

Use the space below to set out (using a maximum of 1,000 words) how you meet the "Value for Money" criteria, as set out in paragraph 3.8 of the bidding guidance. Bidders should make clear where they are referring to buses and where they are referring to infrastructure. Value for money has a weighting of 30%. Amongst other things, you may wish to consider:

1. How competitive is your bid?

This is without doubt a competitive bid. This won't be the biggest bid in terms of size and funding sought but the impact this scheme could have in the future offers a real difference to the bus operation in Royal Leamington Spa and Warwickshire. Through cleaner fuel buses we are able provide an attractive service and promote an alternative to private car use. WCC will use this knowledge and experience to build this further. Should this bid be successful we will seek Section 106 contributions and/or CIL payments to expand the routes the scheme can serve.

The bus route we propose to operate electric buses is one of the bus operators most used services. Per year the 67-bus can carry 500,000 passengers. With new housing developments planned for Royal Leamington Spa those passengers numbers are set to increase.

The scheme also has the option to provide *opportunity* charging for urban distribution vehicles. The *opportunity* charging points would enable the urban distribution vehicles to charge outside of bus operating times maximising usage.

2. Have you provided evidence to support any infrastructure ask?

From conversations with ABB UK and from Volvo GroupUK's previous experience of delivering ULEBSs, we are comfortable with the estimated costs for the *opportunity* charging point/s. Quotes are provided in Appendix C.

Uncertainty exists around the cost of DNO infrastructure and this has been explained in an email from Volvo Group UK to the Department for Transport (see Appendix D for email). We explained that this bid would have to be submittedprior to having DNO costs confirmed. Worse case costs have been provided by Volvo GroupUK and ABB and can be evidenced.

Initial conversations with a DNO suggest a sub-station is required for the pantograph/s at a cost of £60k. The DNO has also made recommendationsas to where the best pantograph location/s will be in terms of lowering costs. However, in this bid (going on Volvo Group UK's experience) we have gone with a maximum cabling and ducting cost to ensure we are not under estimating the cost of the scheme. Correspondence from the DNO is included in Appendix E.

3. What are the estimated annual carbon savings of your proposal?

The estimated annual carbon savings have been calculated at 320 tonnes per year for the scheme. The savings are compared against single decker Euro 6 engine buses operating the 67 bus route.

4. Have you explained the assumptions underlying any quantitative analysis provided?

The carbon savings that have been calculated have been passed upon the current vehicles operating on the route, which are Euro 5 covering 72,000km/year and consuming 28.1 litres of diesel/100kms. All savings have been calculatedusing Environmental impact according to EU Directive 2009/33EC. Volvo Bus can provide more detail on the input should this be required by OLEV.

5. A description of the buses you are replacing

The buses that are to be replaced on the 67 serviceare Alexander Dennis Enviro 200 vehicles, which are Euro 5 standard. These will betransferred onto other services currently operating buses of a lower Euro standard.

6. How renewable will the source of fuel be?

We will aim to ensure that the electricity providedis sourced from a provider which is using and or promoting renewable energy sources. Figuresfrom National Grid indicate that their energy is 52% renewable from June to September 2017compared to 35% in the same period in 2013. This will be specified in the ULEBSprocurement documents.

B5. The bid – supplementary information

Please use the space below to provide any further information about the bid not covered elsewhere (max 300 words):

This ULEBS proposed for Royal Leamington Spa not only supports new housing growth in the town (approximately 17,000 new homes are planned within the district), it also supports a master plan to develop the Bath Street area (where the AQMA is present) and regenerate this into a Creative Quarter, an area of the town,which is a hub for innovation, computer games programmers and digital artists. This is a grand master plan, which encompasses the change of use of some of the buildings in the area and an improved public realm space and supports the town's economic growth as the hubof digital and the gaming industry within the UK and globally as referenced by NESTA (National Endowment for Science, Technology and the Arts).

In order to enhance the creative quarter master plan, the AQMA is very much something the authorities are keen to address. Through the ULEBSwe are able to progress and innovate more towards a cleaner and healthier Royal Leamington Spa. This will have a positive effect on encouraging new creative businesses to the area and driving inward investment. This strengthens the appeal of the area making Royal Leamington Spa a better place to live, work and visit.

SECTION C – Funding

C1. The Buses

In total, how many new ultra-low emission buses are you bidding for?	6 new electric buses
In total, how much grant are you seeking?	£919,661

For each separate bus type, please provide the following. The calculator will give you the "Base grant", "Top-up grant" and "Total grant eligibility": If needed, please copy and paste more tables below. All rows are mandatory.

Note – You **must** submit your completed 'calculator' alongside this bid.

Manufacturer's name[5]	Volvo Group UK
Make and model of bus	7900e
Ultra-Low Emission Bus Technology (e.g. plug-in electric etc.)	*Opportunity* charging point (pantograph)
Number of buses in bid	6
Anticipated date of order	04/2019
Anticipated date of entry into service	03/2020
Cost per ultra-low emission bus[6]	£364,650
Cost per bus of diesel equivalent	£155,000
Base grant per bus (as per the calculator)	£104,825
Top-up grant per bus (as per the calculator)	£50,000
Total grant eligibility[7] per bus (as per the calculator)	£154,825
Total grant being sought per bus	£153,277
Value for Money (VfM) Score (as per calculator)	3%

Space below for copying more tables if needed:

Please Appendix A for details on the Volvo 7900e bus

C2. The Infrastructure

Please give a description of any infrastructure funding being sought over the period of funding (i.e. 2018-2021):

[5] In exceptional cases where this may be unknown, for example where a local authority is yet to go out to tender, it is sufficient to state the type of technology sought (e.g. hybrid, plug-in electric, gas).
[6] In the case where local authorities are yet to go out to tender, an average cost can be given
[7] This is the total maximum grant you are eligible for as set out in your calculator (base grant + top-up grant, subject to any imposed caps)

The table below shows a summary of the items that make up the infrastructure costs and how the 75% funding being sought has been calculated.	
Items	*Costs*
Groundworks (estimated max 100m) Based on worst case of £113,00 per site	*£226,000*
DNO connection fee	*£400,000*
New substation x2	*£120,000*
Depot chargers low power 22kw	*£21,060*
Pantograph x2 (Volvo Group UK offering second at a reduced cost)	*£342,000*
Estimated total	***£1,109,060***
25% infrastructure contribution	*£277,265*
75% OLEV funding offer	*£831,795*
In total, how much grant are you seeking for infrastructure?	£831,795
For each type of infrastructure[8], please provide the following. If needed, please copy and paste more tables below. All rows are mandatory.	
Manufacturer's name[9]	Volvo Group UK
Type of infrastructure	Pantograph (opportunity charging point)
Anticipated date of order	04/2019
Anticipated date of installation[10]	12/2019
Total cost	£1,109,060 (please note this cost includes groundworks, 2 new substations and DNO connection fees)
Total eligible amount[11]	£831,795
Total grant sought	£831,795

[8] Please refer to paragraphs 1.7 and 1.8 in the guidance
[9] Where a local authority is yet to go out to tender, the name may not be known. The remaining rows should be filled in however.
[10] This is the date after which buses will be refuelled using the infrastructure
[11] This will be 75% of the cost of your infrastructure

C3. Funding Profile

Please use the information in sections C1 and C2 to complete the following summary funding table:

Please complete the following tables. **Figures should be entered in £000s** (i.e. £10,000 = 10).

£000s		**2018-19**	**2019-20**	**2020–21**			**Total**
Buses							
Number of buses in bid			6				6
Total grant eligibility (as per your calculator)			928.9				928.9
Total grant being sought			919.6				919.6
Infrastructure							
Total cost			1109				1109
Total eligible amount (i.e. 75%)			831.7				831.7
Total grant sought			831.7				831.7
TOTAL grant sought (Bus and infrastructure)			1751.3				1751.3
Match funding (if any)[12]			TBC				

Please provide more information below on any match funding, notably:
1. What it will buy;
2. When it will be bought; and
3. The source(s)

[12] This should include any 3rd party contributions that have been secured

Secured match funding includes revenue to operate and maintain the electric buses. Capital funding is able to be secured however not within the deadline of this bid.

SECTION D – Funding (bid 2 – scaled-down)

Although there is no cap on bids, where they exceed £5m, bidders should demonstrate how their plans (and the amount sought) can be scaled down. In doing so, please complete tables D1-D3 below.

D1. The Buses (bid 2)	
In total, how many new ultra-low emission buses are you bidding for?	
In total, how much grant are you seeking?	

For each separate bus type, please provide the following. The calculator will give you the "Base grant", "Top-up grant" and "Total grant eligibility": If needed, please copy and paste more tables below. All rows are mandatory.

Note – You must submit your completed 'calculator' alongside this bid.

Manufacturer's name	
Make and model of bus	
Ultra-Low Emission Bus Technology (e.g. plug-in electric, etc.)	
Number of buses in bid	
Anticipated date of order	MM/YYYY
Anticipated date of entry into service	MM/YYYY
Cost per ultra-low emission bus	£
Cost per bus of diesel equivalent	£
Base grant per bus (as per the calculator)	£
Top-up grant per bus (as per the calculator)	£
Total grant eligibility[13] per bus (as per the calculator)	£
Total grant being sought per bus	£

Please give a description of how this scaled down bid still meets the objectives of the fund as set out in the guidance and helps deliver your longer term vision.

[13] This is the total maximum grant you are eligible for as set out in your calculator (base grant + top-up grant, subject to any imposed caps)

D2. The infrastructure (bid 2)

Please give a description of any infrastructure funding being sought over the period of funding (i.e. 2018-2021):

In total, how much grant are you seeking?	

For each type of infrastructure[14], please provide the following. If needed, please copy and paste more tables below.

Manufacturer's name	
Type of infrastructure	
Anticipated date of order	MM/YYYY
Anticipated date of installation	MM/YYYY
Total cost	£
Total eligible amount (i.e. 75%)	£
Total grant sought	£

Please give a description of how this scaled down bid still meets the objectives of the fund as set out in the guidance and helps deliver your longer term vision.

D3. Funding profile (bid 2)

Please use the information in sections D1 and D2 to complete the following summary funding table:

[14] Examples of the infrastructure most likely to be bid for under this fund are: standard, fast and inductive charging equipment, gas (this includes portable or fixed) and hydrogen re-fuelling systems.

Please complete the following tables. **Figures should be entered in £000s** (i.e. £10,000 = 10).

£000s		**2018-19**	**2019-20**	**2020 – 21**			**Total**
Buses							
Number of buses in bid							
Total grant eligibility							
Total grant being sought							
Infrastructure							
Total cost							
Total eligible amount (i.e. 75%)							
Total grant sought							
TOTAL grant sought (Bus and infrastructure)							
Match funding (if any) [15]							

Please provide more information below on any match funding, notably:
1. What it will buy;
2. When it will be bought; and
3. The source(s).

[15] This should include any 3rd party contributions that have been secured

SECTION E – Monitoring and evaluation

E1. Monitoring and Evaluation (optional)

While this section is optional, we encourage bidders to comment on how air quality could be monitored and evaluated as part of this scheme (as per paragraph 3.7 of the guidance). This will not form part of the assessment criteria, however, and will only be used to inform DfT on how best to monitor and evaluate this scheme.

Consideration of this could include any existing monitoring arrangements in place on the route(s) set out in the bid. Unless the route is bus-only, there can be difficulties in monitoring specific emission levels. As such, we may monitor and evaluate air quality through other parameters, such as the degree of zero emission running on the route. Please use the space below to do this:

The Royal Leamington Spa ULEBS will be monitored for its air quality improvements using a number of air quality-monitoring devices. With the buses having zero tailpipe emissions, we would expect to see the routine monitoring of the air quality improve.

There are passive monitoring devices directly in the Royal Leamington Spa AQMA (see Fig 6) and surrounding areas, which the 67-bus travelspassed every 15 minutes during the weekdays and Saturdays. These devices monitor NO_2 levels, which are an indicator of traffic emissions. In addition, a background air quality monitoring station in Royal Leamington Spa provides daily air quality data to the Department for Environment Food and Rural Affairs for their own monitoring. It is proposed that these monitoring systems will allow monitoring of the air changes within the operational area of the proposed ULEBS. The data collected can be compared against the data held forprevious years to evaluate the impact of the scheme.

Further to the above, WCC's Public Health team hasrecently secured funding for portable air quality devices that can be worn by street users to measure an individual's direct exposure to tailpipe emissions. It is proposed thatthese will be used to conduct a pre and post implementation survey to demonstrate the impact on other road users/receptors exposure.

The air quality monitoring will be conducted as part of the work of the existing WDC and WCC teams with support from existing contractors. The monitoring and evaluation of the proposed ULEBS will be reported in Air Quality Status Reports produced by WDC.

SECTION F - Declarations

F1. Section 151 Officer Declaration (for local authorities)	
As Section 151 Officer for [*name of authority**] I declare that the scheme cost estimates quoted in this bid are accurate to the best of my knowledge and that [*name of authority*]: - has allocated sufficient budget to deliver this scheme on the basis of its proposed funding contribution; - accepts responsibility for meeting any costs over and above the DfT contribution requested, including potential cost overruns and the underwriting of any funding contributions expected from third parties; - accepts responsibility for meeting any ongoing revenue and capital requirements in relation to the scheme; - accepts that no further increase in DfT funding will be considered beyond the maximum contribution requested and that no DfT funding will be provided after 2020/21; - confirms that the authority has the necessary governance / assurance arrangements in place and the authority can provide, if required, evidence of this.	
Name: Mr Mike Snow Head of Finance Warwick District Council	Signed:

**This is only required from the lead authority in joint bids*

Submission of Bids

The deadline for bids is 12pm, **16 July 2018**

An electronic copy should be submitted to ulebs@dft.gsi.gov.uk

Please also include the supporting documentation specified either within the guidance document or in this proforma. This should include, but is not limited to: a PSV licence (operators only) and quotes from the manufacturer(s) for the ultra-low emission bus and its' diesel equivalent. We also require evidence of the calculation of your base grant, top-up grant and total eligible grant. This will be given by the calculator as specified in the guidance. Bidders are also required to submit a separate GHG and air quality improvements spreadsheet which will be published alongside the guidance. Further information on the data required is located within the spreadsheet. Where match-funding has been secured, evidence of this will strengthen a bid. Please also provide evidence that the ULEB has been certified as such.

If, for any reason, you need to send hard copies of papers to DfT, please provide 3 copies to:

Ultra-Low Emission Bus Scheme
Buses & Taxis Division
Department for Transport
Great Minster House
33 Horseferry Road
London
SW1P 4DR