



Ultra-Low Emission Bus Scheme Application Form

Guidance on the application process is available on the DfT website¹.

Applicant Information

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

Local Authority

Bus Operator

Local authority or bus operator name(s):

Nottinghamshire County Council

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?

N/A

¹ <https://www.gov.uk/government/publications/low-emission-bus-scheme>

Bid Manager name and position:

Pete Mathieson
Team Manager, Transport & Travel Services
Nottinghamshire County Council

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

Contact telephone number: 0115 9774760

Email address: pete.mathieson@nottscc.gov.uk

Postal address:

Transport & Travel Services
Nottinghamshire County Council
County Hall
Loughborough Road
West Bridgford
Nottinghamshire
NG2 7QP

Website address for published bid (if applicable):

www.nottinghamshire.gov.uk/transportfundingbids

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:

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.

Nottinghamshire County Council's (NCC) vision is that by 2025 our local supported bus fleet will be comprised of low emission vehicles.

This bid seeks to support NCC's aspirations by providing four electric buses and associated infrastructure. This will continue the introduction of low and ultra-low emission vehicles within the NCC area, and supports NCC's already successful deployment of low emission buses following our successful bid to the Low Emission Bus Scheme 2015.

This bid will encourage increased patronage on public transport to address current and emerging air quality issues across the Mansfield and Rushcliffe areas. This investment will see four new vehicles introduced into NCC's fleet to interwork with existing vehicles to cover supported bus services in addition to new routes, to serve 2 large new developments – Sharphill Wood, Rushcliffe (Nottingham conurbation) (1500 homes and 4 ha of employment) and Berry Hill, Mansfield (1700 homes and 23 ha of employment).

Infrastructure will be installed to charge the new buses and will be made available to other electric bus operators outside of the operational needs of the County Council, to encourage other operators to invest in electric buses.

This bid supports OLEV's aims and would enable the Council to continue to assess the benefits of ULEBs in rural and urban environments. The current technologies are suited to a scheme operating in a mixed urban and rural environment thanks to the increased vehicle range and optimised charging schedules provided by manufacturers.

Should this bid be successful the introduction of four electric buses and associated infrastructure will inform and encourage other bus operators to procure ultra-low emission buses in the future. This will help ensure the Government's vision for ultra-low emission buses outlined in the recently published Road to Zero document, where the Government "...want a transition to Zero Emission Vehicles", is realised.

A2. Geographical area:

Please provide details of the area covered by the bid

The bus routes chosen for this bid operate within the Mansfield and Rushcliffe areas and the routes include areas of congestion and urban driving conditions which contribute to poor air quality. Route maps are attached as Appendix A.

The routes serve suburban areas in Mansfield and Rushcliffe which will provide an excellent environment for electric vehicle technology. It will continue to verify the buses' ability to perform on more demanding routes in a mixed urban and semi-rural environment which includes a number of gradients and frequent stopping points over an extended daily range.

The routes also provide links to other public transport options including commercial bus services, rail and tram connections.

MANSFIELD

The Berry Hill development which will be served by the buses, will see 169.3 Hectares of land located on the South side of Mansfield for a mixed-use Sustainable Urban Extension comprising around 1,700 new homes, 23 hectares of land for new businesses including hi-tech research and development facilities, offices and industrial accommodation as well as leisure and retail, a new primary school, children's nursery, health centre, community park and care facilities. This development is important for the growth of the Mansfield area. The developer has been keen to ensure that the site meets the highest environmental standards and are supportive of this bid, a letter of support from the developer can be found as Appendix K of this bid.

This newly introduced service will initially be operated on a 30 minute frequency providing a fast connection to Mansfield Town Centre where there are strict vehicle emission standards, a requirement of the Mansfield Town Centre Statutory Quality Bus Partnership (SQBP) Scheme under the provisions of the Transport Act 2000/2008. The frequency is likely to be increased to 15 minutes as the patronage of this route increases during the build out of the development. During the build out and where capacity allows these vehicles will also be operated on our existing local supported bus routes (204, 217, 218 and 219) in Mansfield to maximise the usage of the ultra-low emission vehicles and encourage patronage.

NCC are hoping that the introduction of ultra-low emission vehicles in the Mansfield area will encourage other bus operators to consider this type of vehicle when they replace their current operating fleets. Informal discussions have been held with a major commercial bus operator in the Mansfield area who are considering their future vehicle investments and the need to move away from traditional diesel buses by 2025. If successful, the introduction of these vehicles will inform the operator's future procurement strategy and investment in Ultra Low Emission Vehicles.

Data regarding Mansfield provides the below areas of concern which this bid will aim to assist to resolve:

- 2011 Census data shows high car use on short journeys to work – 66% of journeys to work in Mansfield are less than 6 miles yet 72% of people respectively drive to work
- Labour market – County Council Employment Bulletins reveal that claimant count in Mansfield is higher than national/regional averages in 11 wards; and according to 2011 Census data 30% have no qualifications
- Car ownership – according to 2011 Census data 25% of households have no access to a car
- Deprivation – according to the DCLG English Indices of Deprivation, Mansfield is in the top 10% most deprived districts in England; four wards in Mansfield are in the top 10% most deprived with several additional wards in the top 20%
- Health – according to Public Health England 32% of adults are obese in Mansfield.

RUSHCLIFFE

The Sharpill Wood development is a sustainable urban extension located to the South of Nottingham. The development area lies to the East and West of Melton Road, to the South and West of Edwalton (and West Bridgford) and to the North of the A52. The site will comprise of around 1,500 dwellings, up to 4ha of commercial and business space, a local centre and primary school. There is also extant planning permission for a Waitrose Food Store. A planning application for an Aldi store and a care home are currently being determined by Rushcliffe Borough Council. It is envisaged that the ultra-low emission buses will encourage new residents to access public transport instead of choosing to travel by private car; to help achieve the modal split targets as outlined in the Transport Assessment submitted as part of the Planning process.

The route in Rushcliffe will operate on a 30 minute frequency and will serve West Bridgford Town Centre and Nottingham City Centre where there are strict vehicle emission standards, a requirement of the Nottingham City Centre Statutory Quality Partnership Scheme (SQPS) Scheme under the provisions of the Transport Act 2000/2008. This SQPS is due to be reviewed as part of Nottingham City's local plan to improve air quality. The review, and future scheme is likely to require a minimum of Euro VI emissions standards for all vehicles entering Nottingham City Centre.

NCC are hoping that the introduction of these ultra-low emission vehicles in the Rushcliffe area will further encourage other bus operators to consider this type of vehicle when they replace their current operating fleets, especially with the impending requirements mentioned above.

IMPACT

If this bid is successful the estimated number of passengers that will benefit from the four new ultra-low emission buses is estimated to be 117,500 passenger trips during the first year of operation, this is then anticipated to increase to approximately 650,000 passengers during the tenth year of operation. These figures are based on current patronage figures for existing routes and anticipated patronage on the newly created routes based on the expected build-out rates. NCC firmly believe that with targeted marketing for these services following a successful bid we will be able to increase patronage above the modal split targets set in the Transport Assessments for each development site.

A3. Total DfT funding sought (£m):

2018/19 **£0m**
2019/20 **£0.3m**
2020/21 **£0.608m**

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):

2018/19 **£0m**
2019/20 **£0.4m**
2020/21 **£1.452m**

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:

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

N/A

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 paragraph 3.2 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;

Our ambition is to expand low emission and ultra-low emission bus operation on local supported bus services into more suburban and rural locations in the County through other low emission technologies to help meet OLEVs aims, and Government’s ambition laid out in the Road to Zero document. This funding will be used to continue to verify the technology locally so that our future procurement strategy will include low emission and ultra-low emission options to provide a fully sustainable fleet solution as technologies continue to improve.

Currently NCC fleet has 15 vehicles operating on local bus routes of which 2 are Euro IV, 8 are Euro V, 5 are Euro VI and 2 are ultra–low emission electric buses. Should this bid be successful the introduction of 4 additional electric buses will mean that 31.5% of NCC’s local bus fleet will be ultra-low emission vehicles.

The County Council also operates a further 45 vehicles on Adult Social Care services with an ambition to replace these vehicles with ultra-low emission vehicles as suitable products enter the market place. NCC are in continual dialogue with bus manufacturers to try and encourage the expansion of their low and ultra-low emission bus offers.

The County Council’s ambition to influence bus operators’ future procurement strategies will also look at the regulatory tools available to drive up emission standards in both Rushcliffe and Mansfield throughout the duration of this ULEB funding. The County Council in conjunction with the Nottingham City Council are currently considering whether to introduce Advanced Quality Partnerships, and Enhanced Quality Partnerships which will reflect the need to reduce the impact of the bus on air quality and CO2 emissions, as encouraged by the Government and outlined in the recently published Road to Zero document.

The County Council is also committed to working with property developers and Local Planning Authorities to influence bus provision as part of traffic mitigation measures, and through successful negotiation with the Berry Hill developer have agreed to provide the bus service with the highest emission standards. We will continue to work with other developers to influence the

type and level of bus services to minimise impact on air quality and public health.

2. How innovative is your bid?

Our bid is future-centric, it helps to break down barriers through routes designed to facilitate optimum charging arrangements on the supported and commercial network.

This bid also shows innovation through its semi-rural and urban operation which will continue to prove the technology operates in these conditions. We hope that this will encourage other local bus operators and other local authorities to consider such technologies when reviewing their own bus fleet procurement strategies

The Council have researched a number of solutions. This bid adopts the best ultra-low emission solution which we consider to be better than investing in an interim technology which may not be as reliable or could become obsolete.

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

Section A1 of this bid explains that NCC's vision is that all local supported bus routes will be operated by low emission buses by 2025.

The NCC [Local Transport Plan 2011 Chapter 7](#) includes a commitment to working in partnership with transport operators to encourage the take up of cleaner vehicles

This bid also supports NCC's [Integrated Passenger Transport Strategy 2015](#) vision and objectives 6 and 7:

6. Reduce transport's impact on the environment (air quality, buildings, landscape, noise etc.)

7. Adapt to climate change and the development of a low-carbon transport system

The importance of this bid is also reflected in the recently published [Place Strategy 2017](#):

Commissioning Programme 2: Invest in Opportunity Areas

Commitment 5: Notts is a great place to live, work, visit and relax.

Significant progress has been made to realise the ambition to improve the attractiveness and liveability of Nottinghamshire, Nottingham City Centre and suburban areas through the deployment of electric buses on supported services, along with the creation of the UK's first 100% electric Park and Ride service and the expansion of the tram network.

The routes chosen for this bid are operated by NCC to fill gaps in the commercially operated markets in Mansfield and Rushcliffe. The charging

infrastructure is anticipated to be located to integrate with other commercially operated routes and available to all operators which will encourage them to purchase further ultra-low emission vehicles serving the areas in the future.

Nottinghamshire County Council recognise and actively support the aims of the [Carbon Reduction Commitment Energy Efficiency Scheme](#).

B2. Deliverability

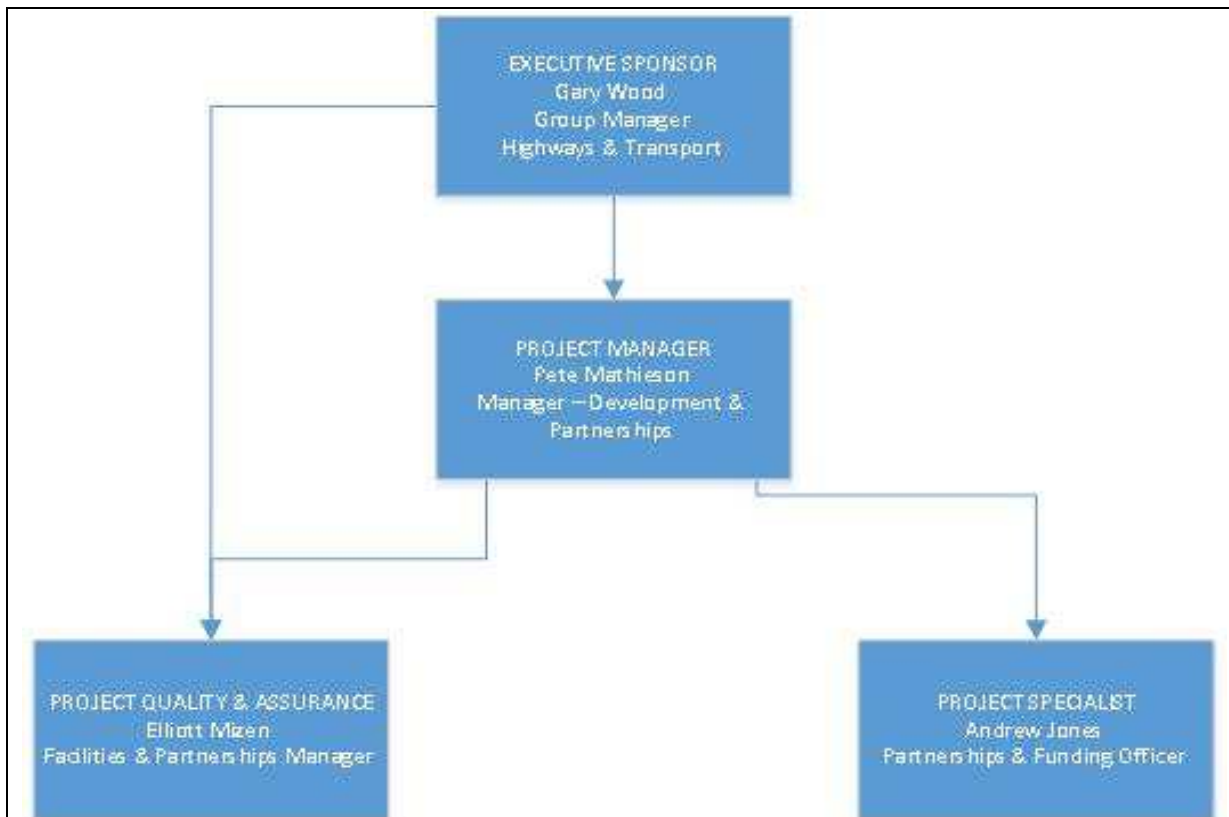
Use the space below to set out (using a maximum of 1,000 words) how you meet the “Deliverability” criteria, as set out in paragraphs 3.3 to 3.6 of the bidding guidance. Deliverability has a weighting of 10%. Amongst other things, you may wish to consider:

1. Do you have a delivery strategy?

The project will be delivered by NCC and our contractors who have successfully implemented similar projects of many sizes for both the County Council and Nottingham City Council. NCC and our contractors now have the expertise to ensure that we can learn from previous experiences in designing the delivery strategy and delivering all elements of this project to avoid any unnecessary delays, meet project milestones, and achieve greater value for money.

The project timetable will include all procurement for the scheme which will be carried out through a competitive tender process within OJEU conditions where applicable. The tender will be evaluated on price and quality which will take into account vehicle range/capabilities and deliverability to meet project milestones. This will ensure that the buses and infrastructure procured will be fit for purpose and will be operational within the funding timescales set out in this application.

This project will have its own project manager and be managed as a discreet project. The scheme will be managed in line with PRINCE 2 project management principles. The Gantt supplied as Appendix B outlines the delivery of the project. A dedicated senior officer will be provided from the local authority’s Transport and Travel Services team to ensure that the monitoring reports are submitted in line with the requested deadlines and to attend review meetings as required. See below the Governance Structure Chart for the project:



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

Yes - NCC funds will provide the match funding for the purchase of the buses and build out of the electric charging infrastructure. The match funding amounts are set out under Section C 'Funding'. None of the match funding will be from Government aid and therefore we anticipate that the County Council will not exceed the maximum level of UK Government funding allowed within EU State Aid rules.

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

One of the aims of this scheme is that the investment created from it allows manufacturers of ultra-low emission buses to bring the purchase costs down in the future. This along with verifying the benefits of these bus services locally will allow us to make a compelling case for ultra-low emission vehicles to be purchased by our authority, other bus operators and other local authorities in future. It is expected that lower ongoing costs related to these vehicles will make running and maintenance overheads more commercially viable in the longer term even taking into account a potential reduction in the LCEB incentive that is currently available.

As battery technology continues to improve, it makes the higher initial cost more affordable as the range of the vehicles increases. By 2025 the current upfront costs required to purchase these vehicles is anticipated to be significantly lower.

Also other local operators who currently keep vehicles for up to 16 years , will also by this date need to be making long term investment decisions taking into account the Governments Road to Zero ultra-low emission bus ambitions for 2040. Also during the transition period from 2025 to 2040 it is envisaged there will be ever more stringent emission standards for urban centres, or for services operating in other AQMA's; therefore these projects and the supporting infrastructure will help inform future vehicle procurement.

The investment in the electric charging infrastructure will help to validate the commercial viability of electric buses and vehicles operating within Nottinghamshire and beyond. By addressing concerns of 'range anxiety' associated with the lack of electric vehicle charging infrastructure locally, regionally and nationally, this investment will contribute to the government's ability to reduce the levels of subsidy currently in place to encourage the take-up of electric vehicles. Investment in charging infrastructure will also support growth in the commercial market for electric vehicles, with the resulting demand, sales volumes and economies of scale enabling vehicle manufacturers to produce the electric vehicles at a lower unit cost.

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

NCC has well established procurement expertise in the procurement of vehicles and will be able to call upon these resources to complete the procurement.

NCC has purchased two ultra-low emission vehicles in the recent past and we are committed to the introduction of ultra-low emission vehicles in the future as the technology continues to improve and the costs over the lifecycle of the vehicle match current diesel technologies.

Any funding awarded and new vehicle and infrastructure purchased will be conducted with appropriate consultation and with reference to issues including ownership for provision of infrastructure.

This project will be managed by NCC using the Prince2 methodology setting out timescales and milestones and including a risk register (Appendix C). Procurement colleagues have been appraised of the bid and the Council is able to readily deploy statutory EU procurement processes as part of the Council's procurement strategy. This will ensure bids are fully compliant with relevant regulations to meet the project milestones as set out in the high level project plan (Appendix B).

It is not envisaged that further consultation will be required beyond that already carried out to formulate this bid (Mansfield District Council, Rushcliffe Borough Council and local bus operators).

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?

In Nottinghamshire the main threat to health from poor air quality arises from anthropogenic particulate air pollution, NO₂ (generated from NO_X) and other gases. In urban areas, road transport is responsible for up to 70% of the harm associated with air pollution.

For the population of Nottingham in 2010, the scale of impact on life expectancy due to air pollution was calculated as being equivalent to a loss of 4270 life – years. When the impact of air pollution was quantified in Nottingham City and Nottinghamshire as if it were the sole cause of death, the impact on death rates was equivalent to 150 deaths in Nottingham City and 430 deaths in Nottinghamshire County in 2010. (Source: Nottingham City Health and Wellbeing Board Report – Air Quality and Health: delivering longer, healthier lives in Nottingham City, October 2014).

Air pollution disproportionately affects the health of the vulnerable and most deprived in society, through occupying housing closest to main transport routes.

In Nottinghamshire there are currently six transport related NO₂ AQMAs. Four of the locations are on the Highways England managed motorway and trunk road network at:

- **M1/A6007 east of M1 in Iona Drive and Tiree Close, Trowell**
- **M1/B600 Nottingham Road and Back Lane, Nuthall closest to the M1**
- **A52 – (trunk road) from Nottingham Knight roundabout northwest to the borough/city boundary**
- **A52 – Holme House, Stragglethorpe.**

The other two locations are on the NCC managed road network at:

- **A60 –Trent Bridge at its junction with Radcliffe Road (in AQMA declared in 2005) adjacent to Nottingham City Council AQMA along London Road**
- **A60 – Mansfield Road, Daybrook between Sherbrook Road and Parkyn Road (in AQMA declared in 2011).**

DEFRA air quality modelling has also identified air quality concerns on the A38 in Ashfield which are being investigated further.

The air quality issues in these areas relate to nitrogen dioxide (NO₂) and the target is to have an annual NO₂ mean concentration of no more than 40µg/m³.

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

In Rushcliffe the new bus route will operate through the AQMA known as “Rushcliffe Borough Council AQMA No.1” which covers the area between Lady Bay Bridge/Radcliffe Road junction, Trent Bridge/Loughborough Road/Radcliffe Road junction and the Wilford lane/Loughborough Road/Melton Road junction in West Bridgford. The route will operate along Loughborough Road and over Trent Bridge into the city centre. The route will also serve the Nottingham City SQPS which is aiming to improve air quality in the city. NCC are tackling bus emissions through the AQMA and into the Nottingham City SQPS by encouraging and supporting local operators to upgrade their vehicles to meet the emerging new Euro VI requirements. We were successful in obtaining JAQU funding from the Clean Bus Technology Fund which will support operators to retrofit existing fleet vehicles to meet new requirements, this along with the introduction of these ultra-low emission vehicles should assist in bringing the NO₂ concentrations within statutory limits.

Pollution Climate Map (PCM) modelling provided by Ricardo Energy & Environment (2017) was used in their recent analysis of the UK national average NO_x roadside concentration apportioned by source of NO_x emissions (2015). This modelling established that 16% of NO_x emissions from road transport were generated by diesel buses. If an estimated 95% reduction in these emissions is applied as a result of the application of SCR technology and the introduction of ultra-low emission buses, an emissions reduction of 15.2% could be expected to be realised if all buses passing through the AQMA are retrofitted or replaced. In fact, given the high frequency of bus services at the AQMA location it may be that buses account for a greater proportion of NO_x emissions at this location. Proper testing and aggregation of all emissions from road transport and other background sources at the AQMA location would be required to validate the anticipated reductions in NO_x at the specific AQMA location but unfortunately, resources do not exist within NCC to test out this hypothesis within the Bid submission timescales. However, reductions of NO_x well below the predicted 15.2% reductions would mean that AQ objectives are met and enable the AQMAs in the county to be revoked – reductions of NO_x of only 4% at A60 Trent Bridge would enable the AQMA to be revoked.

Although the routes specified in the Mansfield area do not pass through the AQMAs identified as exceeding statutory limits, they will help remove some traffic from congested roads with poor air quality as outlined in the supporting letter from Mansfield District Council. With continued evaluation of ULEB technology, this bid will help us to address these problems in future. This will be achieved by modifying the procurement strategy of NCC and other local operators especially for vehicles which are to pass through or close to any AQMAs that may be identified in the future.

The services selected operate on roads which are considered to be congested and have poor air quality. These routes will also encourage use of other public transport links as they serve town and city centre locations allowing easy connections to other longer distance locations.

NCC are currently exploring emission standards in congested areas using an Advanced or Enhanced Quality Bus Partnership framework to accelerate take up of ULEBs and LEBs.

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

NCC estimate that the annual air quality improvements which are detailed in Appendix D&E, would be as follows based on introducing four new ultra-low emission buses instead of Euro VI vehicles:

Estimated WTW GHG Emissions Saved (Kg/per annum) between 125,960 and 234471

Estimated NOx Emissions Saved (Kg/per annum) between 221 and 254

Estimated PM10 Emissions Saved (Kg/per annum) between 1.3 and 1.7

The figures achieved will depend on whether a midi, or larger bus meets our tender requirements.

The estimated improvements to air quality are detailed in Appendix D&E of this bid which was calculated using the spreadsheet provided for this scheme. The NOx and PM10 figures above are based on introducing four new ultra-low emission buses onto these routes.

A letter of support from Mansfield District Council and Rushcliffe Borough Council for this proposal can be found at Appendix F&G.

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?

Our bid is competitive and is based on indicative figures supplied by bus and infrastructure suppliers prior to the procurement and tender processes that will need to take place should the bid be successful.

The purchase profile will be as follows:

- **2019/20 – Charging infrastructure for the specified route.**
- **2020/21 – Bus delivery based on estimated delivery timescales following award of tender.**

The investment in the electric charging infrastructure will increase the commercial viability of electric buses and vehicles operating within the Mansfield and Rushcliffe areas and beyond. The introduction of charge facilities in close proximity to these routes will ensure that NCC and its partners are able to realise the optimum operational use of the vehicles whilst tackling local air quality issues. It will address concerns of ‘range anxiety’ associated with the lack of charging infrastructure locally, regionally and nationally.

This investment will contribute to the government’s ability to reduce the levels of subsidy currently in place to encourage the uptake of electric vehicles.

Investment in charging infrastructure will also support growth in the commercial market for electric vehicles, with the resulting demand, sales volumes and economies of scale to encourage manufacturers to produce the vehicles and associated infrastructure at a lower cost.

The Council will use renewable energy sources wherever practicable through working with our appointed energy suppliers to achieve a sustainable value for money service.

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

Yes. Please see Section C for details of the infrastructure requirements and how it will support continued investment for electric buses in the Mansfield and Rushcliffe areas and beyond.

NCC considered inductive and pantograph charging infrastructure on these routes, however the increased costs would offer limited value for money in comparison to plug-in charging, especially as the range available from several bus manufacturers can meet our daily running requirements without the need for on route charging.

The infrastructure required for this proposal will be dependent on the tender process for the provision of the buses as different chargers and power supply requirements are needed for the different buses that are available. The proposed scheme will require chargers to be installed at bases in both Mansfield and Rushcliffe in order to minimise dead mileage and maximise ultra-low emission journeys when operating the selected routes.

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

Estimated Well to Wheel (WTW) total carbon savings per annum would be between 125,960 and 234471 Kg/per annum dependant on the type of bus procured.

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

The estimated total carbon savings are detailed in the Appendix D which was calculated using the spreadsheet provided for this scheme. The figures quoted for estimated WTW GHG Savings have been obtained from bus manufacturers based on conservative estimates as the vehicles are yet to be tested on the new ULEBS cycle. NCC are aware that no grant will be paid for any buses until they have received the relevant ULEBS certification.

5. A description of the buses you are replacing

NCC will purchase four new vehicles to add to its existing local bus fleet in the Mansfield and Rushcliffe areas, these vehicles will not replace existing fleet vehicles as the new routes which will be served are not yet in operation.

The estimated improvements to air quality are detailed in Appendix D&E. The NOx and PM10 figures above are based on the differences between Euro VI diesel buses which would be purchased without this funding and the ultra-low emission buses that would be procured with this funding.

6. How renewable will the source of fuel be?

The Council will use renewable energy sources wherever practicable through working with our appointed suppliers to achieve a sustainable value for money service. The Councils suppliers offer green energy tariffs which would be used wherever practicable. A letter of confirmation from NCC's Waste & Energy team is included in Appendix H.

B5. The bid – supplementary information

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

The grants requested have been calculated using information provided by electric bus manufacturers. All figures remain estimated until the relevant procurement processes and the ULEBS certification processes take place upon confirmation of this bid being successful. This is due to the commercially sensitive nature of the information required.

NCC are aware that no grant will be paid for any buses until they have received the relevant ULEBS certification.

Grant calculations can be found as Appendix I of this bid, emissions factors for heaters have been conservatively estimated in the WTW GHG emissions figures quoted in the calculator. The Low Carbon Vehicle Partnership's recommendation to include 170.5gCO₂e/km for diesel heaters may not be relevant when the vehicles are ULEB certified as a number of manufacturers

have indicated that electric or hybrid-electric heaters may be available for the new buses.

NCC's PSV Licence confirmation can be found as Appendix J of this bid.

SECTION C – Funding

C1. The Buses

In total, how many new ultra-low emission buses are you bidding for?	4
In total, how much grant are you seeking?	£608,000 – Estimated maximum to be confirmed by procurement process.

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 ²	Plug-in Electric – TBC by Tender
Make and model of bus	TBC by Tender – Midi or Standard Single Deck
Ultra-Low Emission Bus Technology (e.g. plug-in electric etc.)	Plug-in Electric
Number of buses in bid	4
Anticipated date of order	06/2019
Anticipated date of entry into service	06/2020
Cost per ultra-low emission bus ³	£363,000
Cost per bus of diesel equivalent	£159,000
Base grant per bus (as per the calculator)	£102,000
Top-up grant per bus (as per the calculator)	£50,000
Total grant eligibility ⁴ per bus (as per the calculator)	£152,000
Total grant being sought per bus	£152,000
Value for Money (VfM) Score (as per calculator)	2.6

Space below for copying more tables if needed:

² 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).

³ In the case where local authorities are yet to go out to tender, an average cost can be given

⁴ 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)

C2. The Infrastructure

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

2019/20 Charging points to be installed at suitable depot sites, this will include the installation of the charging points and all related power supply infrastructure needed including the upgrade of the capacity at substations for the sites.

The specific infrastructure requirements will only be confirmed once the bus procurement process is complete as different bus suppliers use different charging infrastructure.

These charging facilities will be available to other bus operators to carry out charging on or close to their routes.

In total, how much grant are you seeking for infrastructure?	£300,000
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For each type of infrastructure⁵, please provide the following. If needed, please copy and paste more tables below. All rows are mandatory.

Manufacturer's name ⁶	TBC by Tender
Type of infrastructure	Charging Points, associated electrical connections and installation.
Anticipated date of order	06/2019
Anticipated date of installation ⁷	05/2020
Total cost	£400,000 – Maximum estimated
Total eligible amount ⁸	£300,000
Total grant sought	£300,000

⁵ Please refer to paragraphs 1.7 and 1.8 in the guidance

⁶ 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.

⁷ This is the date after which buses will be refuelled using the infrastructure

⁸ 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		0	0	4			4
Total grant eligibility (as per your calculator)		£0	£0	£608			£608
Total grant being sought		£0	£0	£608			£608
Infrastructure							
Total cost		£0	£400	£0			£400
Total eligible amount (i.e. 75%)		£0	£300	£0			£300
Total grant sought		£0	£300	£0			£300
TOTAL grant sought (Bus and infrastructure)		£0	£300	£608			£908
Match funding (if any) ⁹		£0	£100	£844			£944

Please provide more information below on any match funding, notably:

1. What it will buy; **The remaining share of the electric buses and charging points required to run this scheme.**
2. When it will be bought; and **Please see funding schedule above.**
3. The source(s) **Nottinghamshire County Council Transport & Travel Services budgets.**

⁹ This should include any 3rd party contributions that have been secured

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?	
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In total, how much grant are you seeking?	
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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.)	
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Number of buses in bid	
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Anticipated date of order	MM/YYYY
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Anticipated date of entry into service	MM/YYYY
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Cost per ultra-low emission bus	£
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Cost per bus of diesel equivalent	£
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Base grant per bus (as per the calculator)	£
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Top-up grant per bus (as per the calculator)	£
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Total grant eligibility ¹⁰ per bus (as per the calculator)	£
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Total grant being sought per bus	£
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¹⁰ 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)

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.

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 infrastructure¹¹, 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.

¹¹ 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.

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D3. Funding profile (bid 2)

Please use the information in sections D1 and D2 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							
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) ¹²							

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

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:

NCC buses, funded through the last funding round, have telematics hardware (Viriciti) installed on the buses which provides high levels of monitoring and management data. It is envisaged that this will be used on the 4 new vehicles to simplify telematics infrastructure and bus management.

This telematics tool will meet the monitoring / reporting requirements specified as a condition of this funding.

It is also the intention of NCC to hold a Nottinghamshire operators drop in session so local operators can learn about electric buses, their maintenance requirements and the performance data associated with their operation. It is hoped this session will influence small (and large) operators to invest in similar solutions in the medium term.