

Full Business Case (FBC)				
1. General Information				
Directorate	Economy	Portfolio/ Committee	Clean Streets, Recycling and Environment	Transport and Roads
Project Title	ELECTRIC VEHICLE (EV) CHARGE POINT NETWORK DEVELOPMENT PROGRAMME	Project Code	TA-01849-01	
Project Description	<p>The project sets out to deploy an Office for Low Emission Vehicles (OLEV) funded 197 EV taxi charge point network within Birmingham city centre and wider Birmingham local areas, providing the opportunity for a public accessible charge point network to be developed at the same time as a commercial opportunity by a procured EV Network Development Partner.</p> <p>With road traffic, and particularly diesel vehicles, as a primary source of harmful emissions and poor air quality, the project focusses on diesel taxis as a key contributor to NO2 emissions in the city particularly on specific city centre roads where the main taxi ranks are located.</p> <p><b><u>Background</u></b></p> <p>In 2015 the Council commissioned Element Energy to produce the Birmingham Blueprint study that assessed the level of environmental and air quality improvements that could be achieved through the reduction of carbon and other harmful emissions from public and private sector transport vehicles. The key recommendation outlined in the study which was published in February 2015, was the need for a Birmingham low/zero emission re-fuelling infrastructure to include electric charging, hydrogen, compressed natural gas and bio-fuels to enable the take up of low and zero emission vehicles, and to address fleet re-fuelling requirements particularly of taxis (and buses) as older fleets are more concentrated within the city centre contributing towards harmful emissions.</p> <p>Birmingham’s licensed taxi fleet comprises of 1,262 Hackney Carriage Vehicles (HCVs) and 4,098 Private Hire Vehicles (PHVs). They undertake approximately 27.87 million journeys per annum. However, none of the current HCV fleet meet the latest Euro 6 emission standards and there are no zero emission electric vehicles across the fleet of HCVs or PHVs. The Council has worked with the Taxi industry to explore a number of options. These include a pilot scheme for LPG retrofit of 65 taxi engines resulting in CAZ compliance under Petrol Euro 4+, and exploring the transition requirements to ultra-low/zero emission electric vehicles through leasing or purchasing, supported by a robust taxi-only EV charge point network.</p> <p>The Council has worked with Energy Savings Trust (EST) to undertake a feasibility study with the Birmingham taxi industry to assess the potential taxi EV charge point network and location requirements for both HCVs and PHVs. The assessment followed an extensive consultation carried out with taxi owners/drivers, taxi operators, representative taxi associations and RMT Union. Surveys were carried out at the taxi ranks with drivers, on-line questionnaire, workshops, taxi forum meetings and newsletters.</p> <p>Analysis of Licensing Authority data also showed that a large proportion of drivers live on the east side of the city around Tyseley, Nechells, Bordesley, Small Heath and South Yardley wards. Two main charge point hub locations were identified to enable multiple charge point use. These would be at Birmingham New Street Station/Ellis Street Car Park as the main rank, pick up and drop off point in the</p>			

city centre, and Tyseley Energy Park off the A45, as the main route to Birmingham Airport and the NEC and just 2 miles from the city centre, and also being on the east side of the city is in close proximity to where a large proportion of drivers live.

Both of these hubs will provide renewable electricity to ensure the maximum environmental impact of ultra-low emission taxis. Tyseley Energy Park benefits from renewable energy produced from the wood bio-mass plant, and Birmingham New St/Ellis St car park benefits from renewable energy produced from solar as well as renewable energy from their connection to a combined power and heat network. As part of the project, bidders will be expected to liaise with these energy suppliers (already engaged through the development of this project) in formulating the EV Network Development Plan.

The proposed two main charge point hubs will provide a minimum of six charge points each, with the city centre being further supported through seven other charge point sites (Map in Annex A of the FBC). Out-of-city locations, where arterial roads join the A4040 ring road were also recognised as key EV charging opportunities to specifically address PHV drivers' requirements that operate outside of the city centre. In total, 197 fast/rapid charge point facilities for taxis were recommended in the study to meet an initial transition of at least 526 electric taxis by 2020.

In March 2017, the Council successfully bid for £2.929m OLEV Taxi Electric Vehicle (EV) charge point funding from the Department for Transport (DfT) to implement the proposed 197 Taxi EV charge point network across the city. With the Council's Licensing Committee approval ( 23rd October 2017) for a revised Taxi licensing policy that now prioritises emission standards and the transition of the taxi fleet towards clean air compliant vehicles by 2020, zero emission electric HCVs and PHVs will provide a real impact in contributing towards the Council achieving air quality compliance by 2020.

Whilst the conditions of the OLEV funding require the grant to only be spent on a 197 taxi charge point network for the sole use of taxi drivers, the capital grant resource will be used as a lever to attract further investment (set at a minimum of £1m) and potential income from the procured EV Network Development Partner to facilitate the opportunity of developing a publically accessible EV charge point network. Using the Competitive Process with Negotiation procedure, details of the level of investment in terms of the range and extent of EV charge point coverage will be negotiated and agreed.

The proposed development will replace the current 'legacy' public EV charge point network located at 18 EV locations operated by the City Council. This current network of 36 standard 7 -10 hour charge points (map at Appendix 1 of FBC) installed in 2012 as part of the 'Plugged in Midlands' project, consists of a mix of on-street charging facilities (free parking and EV charging for a maximum of 3 hours) and off-street charging facilities in Council owned car-parks (free EV charging but parking must be paid as per car park conditions). This charge point network sits outside of the Amey/PFI contract arrangements, where the Council covers the costs associated with this provision at £19,400 per annum. These costs will not be incurred by the Council when the assets have transferred to the new provider.

#### The current 'legacy' publicly accessible charge point network

The proposed EV Network development will replace the current 'legacy' public EV charge point network located at 18 EV charging points locations operated by the Council. This current network of 36 standard 7 -10 hour charge points (map at Appendix 1 of FBC) was installed in 2012 as part of the 'Plugged in Midlands' project, consists of a mix of on-street charging facilities (free parking and EV charging for a maximum of 3 hours) and off-street charging facilities in Council

owned car-parks (free EV charging but parking must be paid as per car park conditions). This charge point network sits outside of the Amey/PFI contract arrangements, where the Council covers the costs associated with this provision at £19,400 per annum. These costs will not be incurred by the Council when the assets have transferred to the new provider.

The 'legacy' EV Network was installed in 2012. Birmingham where was a pilot city for an OLEV funded roll-out of publicly accessible EV charging points through its "Plugged-in Places" (PiP) programme. The Council was a partner in this development, led by Cenex, a Transport Consultancy, with other regional cities, including Coventry. The programme was branded "Plugged-in Midlands" (PiM) under the Plugged-in Places programme. Over time, a network of EV charging infrastructure at 18 locations around the city was deployed to support the take up of electric vehicles.

The maintenance and back office costs of the charging network were paid up front as part of the OLEV grant agreement. On 25 June 2016 the first of the arrangements established for maintenance and electricity costs of the Council's network started to come to an end. This was a staggered arrangement as the charges points were deployed at 18 sites over a period of time of the project life. Subsequently maintenance arrangements only started when the individual charge points were deployed and working resulting in contractual arrangements ceasing over a period of time.

Added to this, the remaining contractual arrangements that were held with the maintenance and servicing contractor were novated by Cenex to ChargeMaster in June 2016, leaving complicated arrangements in place when the PiM project also ended in June 2016. A key issue was that APT, the original contract holders for service and maintenance, cannot provide parts to ChargeMaster, as they are no longer under contract. This creates problems at times when the charge point assets, now under the ownership of the City Council following the end of the project, break down or are vandalised. The assets are now of limited zero/value and sit outside the Amey/PFI contract.

The Council is now left with a failing EV charge point infrastructure. Given the age of the charge points, the old technology is no longer reliable and regularly breaks down.

The Council could continue to operate this legacy EV network under the existing conditions in response to public demand for an EV charging facility. The Council are currently liable for the cost of the electricity, limited servicing and maintenance for which there is no current mechanism for the Council to recoup costs. These costs are £5,400 and £14,000 per year respectively. Lessons learned from the PIM programme include;

- The need for better alignment with Birmingham Connected transport policy requirements to prioritise modal shift from private cars to walking, cycling, public transport and EV car clubs, the priority of where publicly accessible charge points are located needs to be planned in line with wider community need and equality of access.
- The need for rapid and fast charging for a 'charge and go' approach of up to 20 minutes within specific city centre locations. This should be supported slower charge points for car parks that allow for up to 3 hour slots.
- The need for innovative solutions to suit different 'charge and go' strategies and flexibility of location charging e.g. roadside vehicle to grid, vehicle to lamp post or community EV charging hub.

## **Air Quality**

The context for the EV Network Development Programme is part of the Council's priority to achieve air quality compliance by 2020 required by the Environment Act 1995 (Birmingham City Council) Air Quality Direction 2017.

The EU Air Quality Directive 2008/50/EC sets out the national targets on emission of pollutants, including nitrogen dioxide (NO<sub>2</sub>). The directive and target emission levels are set out and implemented in England under the Air Quality Standards Regulations 2010 and 2016. Under S.82 Environment Act 1985 the Council is required to review air quality locally and to designate Air Quality Management Areas (AQMA), where air quality objectives, as set out under the Air Quality (England) Regulations 2000 and 2002, are not being met.

The Government has since issued the UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations in July 2017 which identified Birmingham as one of the areas experiencing the greatest problem with NO<sub>2</sub> exceedances.

The UK Plan requires the Council to undertake assessments aimed to deliver the best option to achieve statutory NO<sub>2</sub> limit values to improve air quality within the shortest possible time. The Council's plan for tackling NO<sub>2</sub> exceedances will need to be finalised by Summer 2018.

The take-up of ultra-low and zero emission vehicles is set to be one of the measures towards achieving air quality compliance, as soon as possible, before 2020. The timeline for the proposed EV charge point network development plan will align with the Council's submission of its plan for tackling air quality NO<sub>2</sub> exceedances. The EV development programme will address this requirement, alongside other developments such as the deployment of hydrogen buses and alternative fuel technology retrofits, such as LPG (liquid petroleum gas).

## **Establishing an Electric Vehicle Network**

There is urgent need to ensure that an EV charge point network is 'fit for purpose' with the required level of investment made. This needs to be appropriately managed to provide an integrated city level EV Taxi network and public accessible EV charge point network, and should meet the challenges of different residential locations and provide fast and rapid 'charge and go' facilities. As pre-existing arrangements have come to an end, the future of a city level EV charging network has to be considered in the context of the following constraints:

- A requirement for taxi and publicly accessible EV network to be cost neutral to the council;
- The Council does not have the resources, expertise or capacity to deploy or manage a taxi-only or publicly accessible EV network.

With the opportunity of the OLEV funded EV taxi charging network resource, the Council will look to attract further investment from the procured EV Network Development Partner to develop a publicly accessible EV charge point network as a commercial opportunity. For the Council, this will address the current failing and limited EV charge point network at 18 sites (see appendix 1) set up 5 years ago which is no longer 'fit for purpose' given its age.

Building on the taxi charge point network development, the publicly accessible network will provide fast/rapid charging within 20 minutes, as opposed to the current standard 7-10 hour charging that the existing PiM network provides.

A fast and rapid public accessible network will open up equality of access to electric vehicle charging, which to date has been limited, benefiting only a few. A strategy of 'charge and go' will allow many more users, by virtue of a 20 minute rapid charge.

The existing network only allows for two to three users per day per charge point, where the vehicle is parked up in a parking bay from three to seven hours. The new fast and rapid charging network will also provide for innovative charge point solutions to include the use of smart technology in developing the EV charge point access. This will be particularly aimed at locations that present challenges such as terraced housing and blocks of flats, as well as innovative ways to widen take up of electric vehicles by multiple charge points at key locations to enable EV Car Club provision and commercial vehicle EV charging requirements.

The project will be managed by the Air Quality Manager, Transportation and Connectivity with support from the Category Manager, Procurement Services following contract commencement in July 2018. Project management will also align with the Council's obligations under the Highway Maintenance and Management Private Finance Initiative (HMMPFI) contract. Highways and the Street Services Division have been formally notified of proposed changes to the highway inventory arising from the proposed EV Taxi charge point scheme. Additionally, an EV Network Project Board will be set up with representation from the EV Development Partner, Highways Maintenance and Management Private Finance Initiative (HMMPFI) contract personnel, Street Services Division, the Transportation & Connectivity EV Network Project Manager and Procurement Services, to oversee proposed works as an 'inclusive package' outside of the PFI. The EV Development Partner will own, operate, maintain and manage the EV Network, but overall programme co-ordination will be through an EV Network Development Project Board in line with other programmed activities on the highway network and public car parks

## **Financial implications**

### **Capital Costs**

#### **Proposed Taxi charge point network**

The capital cost of the taxi EV Charge Point equipment is £2.929m. This will be funded from capital grant approved by OLEV on 22nd March 2017, subject to acceptance being approved. These resources are allocated specifically to fund the 197 charge points for the Taxi EV charging network within Birmingham city centre and wider Birmingham local areas.

The EV Network Development Partner will be required to install the 197 taxi charge points in total, which will incorporate two key taxi charge point hub locations (with a minimum of six rapid charge points each), one at Tyseley Energy Park and the other at Birmingham New St, along with other key city centre taxi charging locations which will provide a minimum of two charge points per location. This will be supported by an out-of-city Taxi EV charging network

The capital costs that are covered through the OLEV grant, are outlined below.

<b><i>Charge Point Infrastructure</i></b>	<b><i>No. of Charge Points Required</i></b>	<b><i>Cost per Charge Point</i></b>	<b><i>Total Infrastructure Cost</i></b>
<i>Fast charge points</i>	97	£7,000	£679,000
<i>Rapid charge points</i>	100	£22,500	£2,250,000
<b><i>TOTAL</i></b>	<b><i>197</i></b>		<b><i>£2,929,000</i></b>



The number and type of Taxi charge points funded through the OLEV scheme was identified as a result of the Energy Saving Trust feasibility study. The cost of charge point equipment, outlined above, is as per the public OLEV fund guidance which sets out the price per charge point. The EV Network Development Partner will cover the additional cost of installation and connection to the electric grid.

In addition the grant resource will be used to lever in external investment from the appointed EV Network Development Partner through the commercial opportunity to develop, install and operate a publically accessible EV charge point network across the city alongside the EV taxi charge point network. Levels of investment and deliverables will be explored and negotiated as part of the procurement process for the EV Network Development Partner with the minimum value set at £1m.

This anticipated investment is expected to include the innovative use of smart technology such as: grid balancing to draw cheaper off-peak electric from the grid and store for daytime local community EV charging use; development of innovative ways of delivering local community EV charge point facilities, particularly in locations that present challenges such as terraced housing, blocks of flats; new ways to widen take-up of electric vehicles by deploying multiple charge points at key locations to enable potential future EV Car Club provision and commercial vehicle EV charging requirements, (e.g. for electric vans), to support last mile deliveries into the city.

#### Current publicly accessible EV charge point network

In the case of the Council decommissioning the current public EV network of 36 charge points at 18 locations, it has been estimated that the Council would be required to spend £9,000 in order to remove the current EV charge point network and associated highway markings. This is based on estimates of removal fees of £500 and £250 for on and off-street chargers respectively and £25 per metre of paint removal from the highway.

In the case of continuing to operate the EV network under existing conditions of the current much slower PiM chargers that range from 3kw-7kw (7-10 hour per EV charging session enabling only 2 or 3 users per 24 hours), the Council would need to cover the un-planned capital costs. If any of the current charge point network breaks beyond repair, the Council would need to replace the 3kw/7 kw charge units at a cost of approximately £3,500 per stand-alone charger and £1,500 for wall mounted charge points. In addition there would be installation costs ranging between £1,500 and £6,500.

#### **Revenue Costs**

As substantial investment will be required from the EV Network Development Partner, it is not thought viable for the Council to generate income from this contract in the early years. However, the contract will allow for arrangements to be reviewed through an open book policy with the EV Network Development Partner. The tenders will be evaluated on both the level of investment proposed by the EV Network Development Partner (set at a minimum of £1m) and the percentage and timing of gross income to be shared. The EV Network Development Plan will set out the detail of the publicly accessible EV Network, the associated investment and potential income. No decisions relating to the use of any potential income generated for the Council will be made until the likely values and timing are more certain however, possible uses could include reinvestment into development of the EV Network or other projects supporting improvements to air quality, reducing carbon dioxide (CO<sub>2</sub>) emissions and improving the local environment.

The current limited network of charging points operated by the Council will also transfer to the selected provider for decommissioning/replacement in line with the

EV Development Plan. The Council currently covers the costs associated with this 'legacy' provision, circa £19,400 per annum. These costs will cease to be incurred by the Council once the assets transfer to the new provider and so represent a saving. Please refer to paragraph 5.8 for further information.

The costs associated with the development, legal, procurement, implementation and management of the programme will be contained within current resources, as outlined in section 3 of this FBC.

There are no other revenue cost implications for the Council arising from this proposal. As part of the contractual arrangement the EV Development Partner will incur all revenue costs as they will own, operate and maintain the taxi and publicly accessible charge point network. They will cover their costs through EV charge point customers' use of the EV network, where the customers will pay for their electric charge use in re-charging their vehicles.

### **Options**

The options that have been considered in the full business case are as follows:

- Do Nothing - Allow Charge Master to continue to manage the existing network without formal agreements. This option was discounted as it would not demonstrate value for money and would result in the Council having to maintain the existing network, at a current annual cost of £19,400, which is limited by the number of available working charge points and the low charging level up to 7 kw which is only suitable for a 7-10 hour charge, significantly reducing the amount of users who can benefit from the charge point network. This conflicts with the priorities set within the Birmingham Connected Transport Strategy to encourage Green Travel Districts and the emissions reduction targets set through the Government's air quality compliance targets. The £2.929m grant for the taxi-only EV charging network would be returned to OLEV.
- Decommission the existing PiM EV charging network (at both on-street and car park locations), and not seek to develop a publicly accessible EV charging network, only taking up the OLEV funded taxi EV charge point network – This option would limit the level of investment made in the city, where EV network demand has already been demonstrated by the level of information requests and complaints by members of the public who want to either purchase an electric vehicle or have experienced problems in using the current 'legacy' EV charge points. Additionally, the City Council is under pressure to meet compliance with air quality targets, where any transition to electric car use would provide an immediate impact of reducing emissions. This requires a city wide publicly accessible EV charging network to be available.
- Tender a City Council Contract for the EV Charge Point Network development programme. This is the recommended option as it would minimise legal, financial and reputational risks whilst enabling the council to improve current provision according to policy and insight on a cost neutral basis. The new contract will select an EV Network Development Partner to deploy an EV network that brings together the OLEV funding grant requirements aligned with the recommendations of the EST feasibility study for an EV taxi charge point network. They will also collaborate with the Council in planning and deploying a 'fit for purpose' and innovative publicly accessible EV charging network. The contract would specify requirements for the operator to co-produce and execute a plan shaped by Council priorities for zero emission taxis, car clubs and flexibility of accessible EV charging across the city for the public and commercial vehicles. Such a network would make use of on-street and off-street parking locations including Council owned car parks, to provide a mix of short stay charging and longer stay parking/ EV charge facilities where appropriate. The OLEV funding of £2.929m would be the incentive for the Development Partner to commercially invest in the charge point networks

and would take away some of the financial risk they could be exposed to.

### **Legal Implications**

Under the general power of competence per Section 1 of the Localism Act 2011, the Council has the power to enter into the arrangements set out in this report and are within the boundaries and limits of the general power of competence Section 2 and 4 of the Localism Act 2011.

Where public land is used to locate the EV charge point network, the relevant primary legislation required to enable this project to install a charge point network in regard to where it is located and to support specification requirements for civil works on the public highway, includes the use of Traffic Regulation Orders (TRO's), the Highways Act 1980; Road Traffic Act 1974; Road Traffic Regulation Act 1984 and Traffic Management Act 2004.

Where private land is identified as the most appropriate location given proximity to electric grid or private wire network, the EV Network Development Partner will liaise directly with the land owner where the primary legislation is not required, but planning permission may be required.

The Government are set to mandate Birmingham to introduce a Clean Air Zone (CAZ) by December 2019 to enable compliance with the Environment Act 1995 (Birmingham City Council) Air Quality Direction 2017 and EU Air Quality targets by 2020. The minimum vehicle standards will be Euro 6 level for diesel vehicles and Euro 4 for petrol vehicles. Increased use of electric vehicles will support the City in achieving compliance and this project in turn supports this transition.

### **Procurement Strategy**

The procurement of an EV Network Development Partner for a contract duration for a period of 7 years with the option to extend for a further 3 years subject to satisfactory performance regarding installing the 197 Taxi EV charge point network, an EV Development Plan and installation of a publically accessible EV network to support EV take-up by citizens and Council priorities, including potential future EV Car Club provision and commercial vehicle EV charging requirements. This period has been chosen in consultation with the market as it represents a reasonable period for a return on investment taking into account the high level of investment required by operators.

### **Procurement Options**

The following procurement options were considered:

- Use of the Amey PFI Contract

This option was considered and discounted as the scope of this project falls outside the existing contractual agreement with Amey Under the PFI.

- Use a collaborative framework agreement - There is a collaborative framework agreement in place that cover EV charging points awarded by Crown Commercial Services - Traffic Management Technology 2 (TMT2). The framework call-off process restricts bidders to submitting a single tender and does not allow for dialogue meetings or revisions to be made to the Council's requirements. The complexity of this project, (e.g. the charging technology, the taxi/public infrastructure implementation and operation, hubs, pricing, level of private investment and potential income), is likely to result in a variety of possible solutions. Without the ability to enter into competitive dialogue it was not felt possible to deliver the best outcome for the Council. For this reason the TMT2 framework was discounted.
- Tendering a Birmingham Only Contract using the Competitive process with Negotiation-This route will provide the most flexibility in specifying the



Council's requirements. Working with suppliers through a competitive dialogue process will enable the Council to consider a variety of options in working towards a tailored solution, whilst also allowing for negotiation on the level of investment and pricing for the network, resulting in best value for the Council. This is the recommended option.

### **Scope and specification**

- EV charging network development strategy for Birmingham city centre and local city area to ensure a network of accessible EV charging locations for taxis, public use and commercial vehicles.
- The EV Development Partner investment for the EV charge point network in excess of £1m detailed through the Competitive process with Negotiation. This will cover installation costs and development of a 'fit-for-purpose' taxi and publicly accessible EV charge point network.
- Transfer and/or removal of existing EV network assets in line with EV network strategy as below;
- Responsibility of ownership for operation, development and maintenance of the EV charge point network;
- Requirement for the operator to:
  - Operate, upgrade (when necessary), and develop the EV network at no cost to the council and to consider income and revenue share arrangements between operator and the council at contract negotiation stage and during the life of the contract through an open book policy. Set the price of charging in order to recover the cost of operating, and developing the EV network.
  - Co-produce with the Council an overall strategy (The EV Development Plan) to deploy the network in the city based on the council's principles, market information and grid capacity which will include the priority for 'charge and go' rapid and fast chargers and use of innovative solutions to ensure equality of accessibility to EV charging.
  - Collaborate through the EV Network Project Board that has representation from the EV Development Partner, Highways Maintenance and Management Private Finance Initiative (HMMPI) contract personnel, Street Services Division and the Transportation & Connectivity EV Network Project Manager, to oversee proposed works as an 'inclusive package' outside of the PFI.
  - Provide data analysis of network usage for the duration of the contract
  - Liaise with Distribution Network Operators
  - Comply with relevant industry standards to protect the public and provide best service
  - Contract appropriate civil and electrical works
  - Arrange for purchase, delivery, installation & commissioning of EV chargers
  - Make necessary changes to associated infrastructure e.g. road signs from the highway network if appropriate and obtain the relevant approvals from the highway authority.
  - Indemnify the Council in the event of early termination of contract or a dispute of non-performance (including covering reasonable costs that the council would incur in respect of re-procurement, management and other reasonable fees).

## Procurement Route

As the Competitive process with Negotiation procedure does not impose any time restrictions on the process, it provides increased flexibility to both the Council and tenderers. It also allows for early due diligence for all parties and should reduce bid costs for unsuccessful tenderers as there are gateways at each stage of the process that allows tenderers to either drop out or to be discounted from the process.

The procedure is conducted in successive stages, with gateways. It is proposed that tenderers will make an initial tender submission based on the provided specification. This will be evaluated and followed by dialogue with individual tenderers to discuss the proposed solution. This part of the process allows for the refinement of a solution that is most likely to lead achieve the project outcomes.

Throughout the course of the process the evaluation will provide coverage of fundamental measures such as, but not limited to, cost, quality, risk, operational capacity, KPIs, technical expertise, customer care and affordability. Other dimensions such as value for money, performance, strategic vision, innovation and creativity, integration and implementation will also be incorporated.

To assist tenderers with the construction of their bids, the Council will, prior to the commencement of each stage of the process, supply more detailed information on the evaluation criteria for that particular stage. This will be issued alongside the invitations to participate, providing clarity on the key areas the Council will be assessing and the weighting that will be applied to each.

The process can be divided into stages:

- **Stage 1: SQ.** This stage allows the Council to assess for example tenderers status and legitimacy, commercial, technical ability and professional competence, financial standing, insurance, environmental, health and safety to determine whether they meet the minimum criteria of the contract. The aim at this stage is to deselect down to 5 tenderers.

### Competitive process with Negotiation Structure:

- **Stage 2: Invitation to Submit Initial Tenders.** This is the beginning of 'The Dialogue Phase' which formally acknowledges the need to talk around solutions, develop ideas and explore options and provision of the required service. Tenderers long-listed from the SQ stage are invited to submit an initial tender and participate in dialogue with the Council. This will effectively be the first gateway of the process where some tenderers may choose to drop out of following feedback of their initial tender.
- **Stage 3: Invitation to Submit Detailed Tenders.** The dialogue in the 'ISDT' stage focuses on the development of a detailed proposition of how the required services will be organised, delivered, and governed. The dialogue will continue until the Council has clearly identified and specified its detailed requirements, and solution(s) capable of meeting these have been determined acceptable by the Council. These solutions will then form the basis upon which Final Tenders (FT) will be submitted. The Council will formally declare when the dialogue has been concluded and will notify which of the remaining tenderers are invited to submit Final Tenders.
- **Stage 4: Invitation to Submit Final Tenders.** The Council will invite selected tenderers to submit their final offers. The Final Tender must contain all the elements required and necessary for the performance of the proposed contract. A preferred tenderer will be appointed and there will be limited scope to make any amendments to the FT. The core purpose of the Dialogue is that negotiations are brought upstream in the procurement

process, helping to shape the tender and limit the need for further amendments at a later stage. The aim at this stage is to conclude with a single tender that can be recommended for award.

### **Contract Duration**

The proposed duration of the contract will be for a period of seven years with the possibility to extend for a further three years, subject to satisfactory performance and take up by citizens and Council priorities.

### **Evaluation and Selection Criteria**

A full detailed tender and selection process will be carried out according to Birmingham City Council procurement policy and obligations to find an organisation that can operate and develop the existing publicly accessible EV charging network.

The evaluation and selection process will be split into 4 stages as follows:

*Stage 1 – Selection Stage (SQ) (Pass/Fail)*

- Company Information
- Grounds for Mandatory Exclusion
- Grounds for Discretionary Exclusion
- Economic and Financial Standing
- Technical and Professional Ability
- Additional Selection Questions
  - Environmental Management
  - Insurances
  - Compliance to Equalities Duties
  - Health & Safety
  - Compliance to the Birmingham Business Charter for Social Responsibility
  - Technical & Professional Experience (Scored)

The top 5 ranked tenderers will proceed to Stage 2.

The following evaluation process will apply to each tendering stage (ISIT, ISDT, ISFT).

*Stage 2 – Quality (60% weighting)*

<b>Sub-Criteria</b>	<b>Sub-Weighting</b>
<b>Data Security</b>	<b>Pass/Fail</b>
Network Strategy	25%
Network Management	25%
Equipment	10%
End User Experience & Pricing	10%
Marketing & Promotion	10%
Management Information	10%
Customer Care	10%
<b>TOTAL</b>	<b>100%</b>

Tenderers who score less than 60% of the quality threshold i.e. a score of 300 out of a maximum quality score of 500 will be deselected from taking any further part in the process.

### *Stage 3 – Social Value (20% weighting)*

Sub-Criteria	Sub-Weighting
Local Employment	20%
Buy Birmingham First	10%
Partners in Communities	20%
Green and Sustainable	40%
Ethical Procurement	10%
<b>TOTAL</b>	<b>100%</b>

Tenderers who score less than 40% of the social value threshold i.e. a score of 200 out of a maximum social value score of 500 will be deselected from taking any further part in the process.

### *Stage 4 – Pricing (20% weighting)*

Sub-Criteria	Sub-Weighting
Investment alignment	70%
Proposed profit share	30%
<b>TOTAL</b>	<b>100%</b>

### Overall Evaluation

The evaluation process will result in comparative quality, social value and price scores for each tenderer. The maximum quality score will be awarded to the bid that demonstrates the highest quality. The maximum social value score will be awarded to the bid that demonstrates the highest social value. Examples of social value outcomes could include local employment in the installation of the EV Network, apprenticeships created and local initiatives to enable people living and working in challenging locations to gain easier access to EV charging.

The maximum price score will not be awarded on the basis of highest/lowest investment, but how the investment aligns with the quality of the network strategy, equipment, network management, consumer pricing, as well as level of profit share. Other tenders will be scored in proportion to the maximum scores.

Following the evaluation of the Invitation to Submit Detailed Tenders suppliers will be ranked and the top three suppliers will proceed to the Final Tender stage.

### Evaluation Team

The evaluation of the tenders will be undertaken by officers from Transportation Policy and Transportation and Connectivity Project Delivery (Transport Policy Manager, Air Quality Manager and Senior Transportation Officer) to be delegated by Assistant Director. The team will be supported by the Assistant Procurement Manager of Corporate Procurement Services.

### Planned Procurement Timescales

Cabinet approval to strategy	24 <sup>th</sup> January 2018
OJEU notice issued	1 <sup>ST</sup> February 2018
Clarification period	1 <sup>ST</sup> -28 <sup>TH</sup> February 2018
SQ return date	5 <sup>th</sup> March 2018
SQ evaluation	5 <sup>th</sup> -6 <sup>th</sup> March 2018 – 2018
Invitation to submit initial tenders (ISIT) sent	7 <sup>th</sup> March 2018
Clarification period	7 <sup>th</sup> March – 3 <sup>rd</sup> April 2018
ISIT return date	6 <sup>th</sup> April 2018
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	First round of negotiation	16th– 20 <sup>th</sup> April 2018
	Invitation to submit detailed tenders (ISDT)	23 <sup>rd</sup> April –4th May 2018
	ISDT evaluation period	8 <sup>th</sup> – 11 <sup>th</sup> May 2018
	Notify Bidders of outcome of evaluation of detailed tenders and invite shortlisted Bidders to participate in the final round of negotiations	11 <sup>th</sup> May 2018
	Final round of negotiation	14 <sup>th</sup> – 18 <sup>th</sup> May 2018
	Invitation to submit final tenders (ISFT)	21 <sup>ST</sup> May-1 <sup>st</sup> June 2018
	Final tender evaluation	4 <sup>th</sup> -8 <sup>th</sup> June 2018
	Delegated contract award	11 <sup>th</sup> – 22nd June 2018
	Contract Start	1 <sup>st</sup> July 2018
	<p><u>Service Delivery Management</u></p> <p>The contract will be managed operationally by the Assistant Director Transportation and Connectivity (who may delegate this task to a member of their team) and commercially by the Contract Manager, Contract Management Team, Corporate Procurement Services.</p>	
*Links to Corporate and Service Outcomes	<p><b>Birmingham City Council's Priorities</b></p> <p>The proposal supports the City Council's Vision and Forward Plan 2017 and supports the following priorities:</p> <ul style="list-style-type: none"> <li>• Job &amp; Skills - Build upon our assets, talents and capacity for enterprise and innovation to shape the market and harness opportunity.</li> <li>• Health - Help people become healthier and more independent with measurable improvement in physical activity and mental wellbeing.</li> </ul> <p><b>Birmingham Development Plan</b></p> <p>This proposal also links into the Birmingham Development Plan, Birmingham Connected, West Midlands Combined Authority Strategic Economic Plan and Movement for Growth by supporting improvements to air quality and reducing carbon dioxide (CO<sub>2</sub>) emissions and improving the local environment.</p> <p><b>Birmingham Connected</b></p> <p>This project is linked to the following core objectives:</p> <p>Efficient Birmingham</p> <ul style="list-style-type: none"> <li>• Birmingham Connected will facilitate the city's growth agenda in the most efficient and sustainable way possible, strengthening its economy and boosting jobs. <ul style="list-style-type: none"> <li>○ Efficient and sustainable movement of people.</li> <li>○ Efficient and sustainable movement of goods.</li> </ul> </li> </ul> <p>Sustainable Birmingham</p> <ul style="list-style-type: none"> <li>• Birmingham Connected will specifically reduce the impacts of air and noise pollution, greenhouse gas emissions and energy consumption.</li> </ul>	



	<ul style="list-style-type: none"> <li>○ Reduced greenhouse gas emissions from transport.</li> </ul> <p>Healthy Birmingham</p> <ul style="list-style-type: none"> <li>• Birmingham Connected will contribute to a general raising of health standards across the city through the promotion of walking and cycling and the reduction of air pollution.</li> <li>○ A reduction in air pollution.</li> </ul> <p><b>West Midlands Combined Authority Strategic Economic Plan</b></p> <p>This project is linked to the following SMART objectives:</p> <p>Environment</p> <ul style="list-style-type: none"> <li>• Improved competitiveness through energy and resource efficiency, stimulating new technology and business</li> <li>○ Carbon dioxide (CO2) produced from direct emissions by transport, businesses and housing based on 2010 baseline will be 40% less.</li> </ul> <p><b>Greater Birmingham and Solihull Strategic Economic Plan</b></p> <p>This project is linked to the following pillars and enablers:</p> <p>Place</p> <ul style="list-style-type: none"> <li>• Optimising physical, cultural and environmental assets</li> </ul> <p><b>Transport for West Midlands, Movement for Growth</b></p> <p>This project is linked to the following objectives:</p> <p>Environment</p> <ul style="list-style-type: none"> <li>• To significantly improve the quality of the local environment in the West Midlands Metropolitan Area.</li> <li>• To help tackle climate change by ensuring large decreases in greenhouse gas emissions from the West Midlands Metropolitan Area.</li> </ul> <p>Public Health</p> <ul style="list-style-type: none"> <li>• To assist with the reduction of health inequalities in the West Midlands Metropolitan Area.</li> </ul> <p><b>Birmingham Business Charter for Social Responsibility (BBC4SR)</b></p> <p>Compliance with the BBC4SR is a mandatory requirement that will form part of the conditions of contract. Tenderers will submit an action plan with their tender that will be evaluated in accordance with the Evaluation and Selection criteria in the procurement strategy, and the action plan of the successful tenderer will be implemented and monitored by the Council through the EV Project Manager, during the contract period.</p>		
	<b>Project Definition Document Approved by</b>	N/A	<b>Date of Approval</b> N/A
	<b>Benefits Quantification - Impact on Outcomes</b>	<b>Measure</b>	<b>Impact</b>
		Diesel taxis are a key contributor to NO2 emissions in the city, on specific city centre roads where the main taxi ranks are located.	<ul style="list-style-type: none"> <li>• The taxi EV charge point infrastructure will support the transition of the Hackney Cab Vehicles (HCV) and Private Hire Vehicles (PHV) towards zero emission electric vehicles.</li> <li>• Reduction in emissions supports better health and well-being benefits.</li> </ul>

	Ownership and responsibility for the existing network will transfer to a new EV charge point operator who will replace with new EV charge point network.	<ul style="list-style-type: none"> <li>The cost of electricity used by the network that is currently paid by the council will reduce to nil.</li> <li>Individual charge-point down time due to malfunction/ damage will decrease.</li> </ul>
	The proposed programme will provide an enhanced electric vehicle charging network over time which will provide faster charging times allowing more users access to the network and optimised charging access to address issues of range anxiety and improve opportunities for EV owners. The network will also be used more efficiently by virtue of the introduction of short stay conditions at on-street chargers.	<ul style="list-style-type: none"> <li>Greater numbers of individual EV owners will access the network.</li> <li>Number of individual uses of the entire network per year will increase.</li> <li>The efficiency of the use of the on-street network will increase (measured as average charge drawn per minute of time occupied)</li> <li>The number of off-street charge points will increase.</li> <li>Increase the number of electric vehicles registered and used in Birmingham, contributing towards air quality and carbon reduction targets (indirect benefit).</li> </ul>
<b>Project Deliverables</b>	<ul style="list-style-type: none"> <li>Completed tender and selection process for an EV Network Development Partner to deliver an EV charge point network.</li> <li>A Birmingham EV Charge Point development strategy and EV Development Plan jointly developed with the EV Network Development Partner, that brings together a taxi, public and commercial vehicle accessible EV charge point network.</li> <li>Removal of current 'legacy' EV charge point assets – as a result of transfer of Council ownership of PiM EV charge point network of 36 charge points to EV Development Partner, and replacement as part of the EV charge point network development programme.</li> <li>Installation of Birmingham EV charge point network.</li> </ul>	
<b>Scope</b>	<p>The scope of service considered in this business case includes;</p> <ul style="list-style-type: none"> <li>The EV Development Partner's ownership, operation, maintenance and management of the proposed 197 taxi EV charge point network.</li> <li>Transfer and removal of the Council's existing EV network of 36 charge point assets (legacy of PiM trial programme) and replacement with upgraded charge points as part of an EV charging network development strategy for Birmingham city centre and wider local areas to ensure a network of publicly accessible EV charging locations, to be owned, operated, maintained and managed by the EV Development Partner.</li> <li>An open book policy with the EV Development Partner to determine income and revenue share options.</li> </ul>	
<b>Scope exclusions</b>	<p>The scope of service does not include:</p> <ul style="list-style-type: none"> <li>The provision of public accessible EV charging at locations where there are access restrictions to specific fleets such as; bus, Hackney Carriage and PHV taxis,, council owned fleets, or car clubs .</li> <li>EV charging provision in other Council facility car parks other than pay and display car parks.</li> <li>EV charging provision outside of Birmingham geographical boundaries.</li> </ul>	

<b>Dependencies on other projects or activities</b>	<ul style="list-style-type: none"> <li>• Appointment of EV Network Development Partner.</li> <li>• Agreement with Highways/Car Parking sections/PFI contract</li> </ul>		
<b>Achievability</b>	<p>A detailed feasibility study was produced by Energy Savings Trust, following a detailed consultation process with the taxi trade from October 2016 to January 2017. The feasibility recommends key sites within the city centre and the outline strategy for radial routes out of the city centre into local areas. This led to securing the OLEV grant funding to deploy the 197 rapid and fast charge points.</p> <p>Significant work has been undertaken as part of the collaboration led by the proposed Project Board, Procurement and operators which the Council have been engaged with to date as part of soft market testing and have experience and capability in delivering similar projects.</p> <p>The Council already has a key relationship with Tyseley Energy Park, as part of the Birmingham Development Plan for the Tyseley Environmental District and the Eastern Corridor regeneration plans. Tyseley Energy Park received full planning permission in November 2016 to deliver a range of low and zero emission fuels including electric charging hub facilities, as well as hydrogen, compressed natural gas (CNG), and Liquefied Petroleum Gas (LPG). Likewise, the Council already has a strategic relationship with Network Rail and where plans are in progress to support the taxi community and the public to access EV charging facilities.</p> <p>It is anticipated that the successful tenderer will provide a partnership, consortium or a set of contractual arrangements that will cover all parts of the process associated with service delivery. The charge point supplier may subcontract parts of the service (such as back office service provision).</p> <p>The successful supplier will need to work with the council to develop a strategy for development of the EV network with subsequent detailed designs to bring forward sites. Tenderers will be assessed within the evaluation criteria on their proposed timescales for producing the strategy and plans as well as their project management capabilities.</p>		
<b>Project Manager</b>	Sylvia Broadley – Air Quality Manager – Transportation & Connectivity, Economy. Tel: 07730 282091 E-mail: sylvia.broadley@birmingham.gov.uk		
<b>Budget Holder</b>	Simon Garrad – Head of Delivery– Transportation & Connectivity, Economy. Tel: 0121 303 7409 Email: simon.garrad@birmingham.gov.uk		
<b>Sponsor</b>	Phil Edwards – Assistant Director – Transportation and Connectivity, Economy. Tel: 0121 303 6467 E-mail: philip.edwards@birmingham.gov.uk		
<b>Project Accountant</b>	Andy Price – Finance Manager Tel: 0121 303 7107 E-mail: andy.r.price@birmingham.gov.uk		
<b>Project Board Members</b>	<p>A Project Board will be set up to oversee delivery of the project. This will include representatives for the successful consortia.</p> <p>The project board will include:</p> <p>Project Sponsor – Phil Edwards</p> <p>Project Users – Kevin Hicks</p> <p>Project Supplier – To be determined through tender</p> <p>Additional support to be provided by Sylvia Broadley (Air Quality Manager), David Harris (Transport Policy Manager), and Kevin Cummins (Senior Transportation Officer). Additional contract management/legal support may be required on an ad hoc basis.</p>		
<b>Head of City Finance (HoCF)</b>	Simon Ansell	<b>Date of HoCF Approval:</b>	15/01/2018

## 2. Initial Options Appraisal Records

<b>Option 1</b>	<b>Do nothing</b>
<b>Information Considered</b>	Policy, EV uptake and EV usage analysis (ANNEX B and C), soft market testing, previous contract management information.
<b>Pros and Cons of Option</b>	<p><i>Pros</i></p> <ul style="list-style-type: none"> <li>The network could continue to provide a level of limited uptake of EVs in Birmingham. No resource implication for Council staff resources to implement the taxi-only charge point network and align commercial opportunity for a 'fit for purpose' publicly accessible charge point network.</li> </ul> <p><i>Cons</i></p> <ul style="list-style-type: none"> <li>Given that the contractual relationship between the city council and the current charge point operator has ended along with PiM grant funding that subsidised the cost of electricity used and maintenance costs, the Council is exposed to ongoing revenue risk.</li> <li>There is a risk that charge point units break down and need repairing or replacing. Therefore the Council is not only exposed to the cost of maintaining the charge points which is estimated at £5,400 per year for the current network, but also replacement cost at approximately £3,500 per unit.</li> <li>The Council is exposed to the risk of covering the cost of electricity which is estimated to be £14,000 per year for the current use of charge point units.</li> <li>The Council is exposed to the risk of service ending at any time at the 'interim' operator's discretion causing significant service disruption.</li> <li>There are no opportunities under procurement regulations that would allow for the current EV network to develop. There is a risk that the Council's reputation could be damaged if it is not seen to be proactively developing the publicly accessible EV charging network given the significant policy drivers.</li> <li>The Council will have to maintain the existing network which is limited by its capacity of the number of available working charge points and the low charging level up to 7 kW which is only suitable for a 7-10 hour charge, which significantly reduces the amount of users who can benefit for the charge point network. This conflicts with the priorities set within the Birmingham Connected Transport Strategy to encourage Green Travel Districts and the emissions reduction targets set through the Government's air quality compliance targets.</li> <li>The £2.929m for the taxi-only EV charging network would be returned to OLEV.</li> </ul>
<b>People Consulted</b>	Assistant Director – Transportation and Connectivity, Economy, Transport Policy Manager, Green Fleet Manager, Senior Transportation Officer, Assistant Procurement Manager, Solicitor (Legal), Finance Manager, EV Network providers through soft market testing meetings.
<b>Recommendation</b>	That this option not be considered.
<b>Principal Reason for Decision</b>	The financial and reputational risk to the Council.

<b>Option 2</b>	<b>Decommission the PiM EV Network (at both on-street and car park locations) and not continue to provide a publicly accessible EV charging service, only taking up development of the OLEV funded taxi EV charge point network.</b>
<b>Information Considered</b>	Policy, EV uptake and EV usage analysis (ANNEX B and C), soft market testing, previous contract management information.
<b>Pros and Cons of Option</b>	<p><i>Pros</i></p> <ul style="list-style-type: none"> <li>• This would minimise risk of unwanted running costs to the council.</li> <li>• Public highway would be de-cluttered</li> </ul> <p><i>Cons</i></p> <ul style="list-style-type: none"> <li>• The uptake of ULEVs in the city could stagnate which would mean that air quality and carbon benefits would be jeopardised.</li> <li>• The Council's reputation could be damaged as it would be seen to be acting inconsistently with its own policy.</li> <li>• There would be a cost associated with decommissioning the 18 existing sites. This is estimated to be £9,000.</li> <li>• Citizens would experience significant service disruption.</li> <li>• Not taking up the opportunity of combining the Taxi funded scheme with the public accessible charge point network would limit the level of investment made in the city, where EV network demand has already been demonstrated by the level of information requests and complaints by members of the public who want to either purchase an electric vehicle or have experienced problems in using the current 'legacy' EV charge points.</li> <li>• The Council is under pressure to meet compliance with air quality targets, where transition to zero emission electric cars would provide an immediate impact of reducing emissions. Not going forward with a city wide publicly accessible EV charging network will significantly undermine the Council's ability to be able to comply with air quality targets.</li> </ul>
<b>People Consulted</b>	Assistant Director – Transportation and Connectivity, Economy, Transport Policy Manager, Green Fleet Manager, Senior Transportation Officer, Assistant Procurement Manager, Solicitor (Legal), Finance Manager, soft market testing.
<b>Recommendation</b>	That this option not be considered.
<b>Principal Reason for Decision</b>	The lack of strategic fit with the council's transport policies, which could be damaging to the Council's reputation and ability to meet air quality compliance.



Option 3	Enter into a procurement process to appoint an EV Network Development Partner to provide investment towards the £2.929m OLEV funding for the development and installation, operation, maintenance and management of a new taxi EV charging network, incorporating 2 taxi charging hubs in locations specified ; Taking on ownership and subsequent removal of the council's existing EV network of 36 charge point assets (legacy of PiM trial programme) providing investment to replace with upgraded 'fit-for purpose' public and commercial vehicle accessible charge points as part of an EV charging network development strategy within Birmingham city centre and wider local areas; provide an open book policy with the Council to determine potential income and revenue share options.
Information Considered	Policy, EV uptake and EV usage analysis (ANNEX B and C), soft market testing, previous contract management information.
Pros and Cons of Option	<p><i>Pros:</i></p> <ul style="list-style-type: none"> <li>• This would minimise risk of unwanted running costs to the Council.</li> <li>• There would be minimal disruption to service.</li> <li>• Tendering will allow the council to ensure that the EV network is operated under specification and contract requirements that make provision for the following: <ul style="list-style-type: none"> <li>○ That the EV network will be operated, upgraded when necessary, and developed at no cost to the Council.</li> <li>○ The option of a revenue share approach between the EV Network Development Partner and the Council could be considered when the contract is negotiated and annually reviewed through an open book policy.</li> <li>○ That the existing city centre on-street charging be repurposed for short stay charging, maximising access for more users and minimising abuse of the current network.</li> <li>○ That the Council will set priorities for how the EV network will be further developed.</li> <li>○ That the Council will specify the process for the EV Network Development Partner for approval for EV charge point sites. The process will be supported by the initial co-production with the Council of the Birmingham EV Charge Point development strategy and EV Development Plan which will set out detailed proposals for each charge point site and will have been approved by Project Board of stakeholders which also includes the EV Network Development Partner.</li> <li>○ That the Council will be able to transfer ownership of the current charge points over to the successful EV Network Development Partner. This will help ensure that the EV Network Development Partner can upgrade equipment with minimal bureaucracy and risk of unforeseen costs to the council are minimised.</li> <li>○ That the EV Network Development Partner would be responsible for covering costs in excess of the OLEV capital grant of £2.92m which is already allocated to the taxi element of the EV charge point network</li> <li>○ The EV Network Development Partner would set the price of charging in order to recover commercial investment costs.</li> <li>○ That the operator would have to provide the council with usage data on the network.</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ That the network would be operated by an EV Network Provider with appropriate expertise and experience.</li> <li>○ The network would continue to stimulate uptake of EVs in Birmingham and would develop as required to ensure that this continues into the future.</li> </ul> <p><i>Cons</i></p> <ul style="list-style-type: none"> <li>• The highlighted model would represent a change for the industry current operators given that EV charge point networks are primarily focussed only on providing charge and park facilities with a particular preference for on-street locations. This introduces a level of commercial risk for the operator.</li> </ul>
<b>People Consulted</b>	<p>Taxi drivers, operators and representative organisations, OLEV, Energy Savings Trust, DEFRA, EV Infrastructure companies, Tyseley Energy Park, Network Rail, and Transport for West Midlands consulted and support the project.</p> <p>Internal consultees who support the project include Assistant Director Transportation &amp; Connectivity; Transport Policy Manager, Director for Public Health, the Head of Licencing and the Operational Manager for Air Quality and Environmental Services have been consulted and support the proposal; Procurement , Solicitor (Legal), Finance Managers and the Council's. Air Quality Members Steering Group (AQMSG) which includes the Cabinet Member for Clean Streets, Recycling and the Environment, Cabinet Member for Transport and Roads, Cabinet Member for Health and Social Care, Chair of Licensing and Public Protection Committee and Chair of Planning Committee.</p> <p>As part of the City Council's obligations under the Highway Maintenance and Management Private Finance Initiative (HMMPFI) contract, Street Services Division have been consulted on proposed changes to the highway inventory arising from this scheme and support the proposal.</p>
<b>Recommendation</b>	That this option be taken forward.
<b>Principal Reason for Decision</b>	This option provides the council with a way of minimising risk (financial and reputational) whilst continuing to encourage and facilitate the uptake of EVs to significantly impact on air quality compliance.

	2017/2018	2018/19	2019/20	2020/2021	Totals
	£	£	£	£	£
<b>EV Taxi-only charge point infrastructure</b>					
<b>Capital Costs and Funding</b>					
<i>Expenditure</i>					
City Council – 97 fast charge points x £7k 100 rapid charge points x £22k		811,000	1,044,250	1,073,750	<b>2,929,000</b>
<b>Total Capital Spend</b>		811,000	1,044,250	1,073,750	<b>2,929,000</b>
<b>Funding</b>					
OLEV Taxi-Only Grant		811,000	1,044,250	1,073,750	<b>2,929,000</b>
<b>Total Capital Income</b>		811,000	1,044,250	1,073,750	<b>2,929,000</b>
<b>Revenue Costs and Funding</b>					
<i>Expenditure</i>					
Development costs to proceed to Full Business Case	10,000				10,000
Procurement development costs	12,000	4,000			16,000
Staff project management resources		15,000	10,000	10,000	35,000
<b>Total Revenue Spend</b>	<b>22,000</b>	<b>19,000</b>	<b>10,000</b>	<b>10,000</b>	<b>61,000</b>
<b>Funding</b>					
Future Council Programme – SN2 – Clean Air Zone	22,000	19,000	10,000	10,000	61,000
<b>Total Revenue Income</b>	<b>22,000</b>	<b>19,000</b>	<b>10,000</b>	<b>10,000</b>	<b>61,000</b>

**Notes:****Capital Implications**

As ownership, upgrade and development of the network will be totally transferred to the EV charging network operator, it has been determined that there will be no capital implications for the Council in progressing this project.

It should also be noted that the current charge points that will transfer to the new operator are believed to have negligible residual value as they are now old technology.

**4. Milestone Dates**

Remaining key milestones for this project have been assessed and are listed in table 1 below:

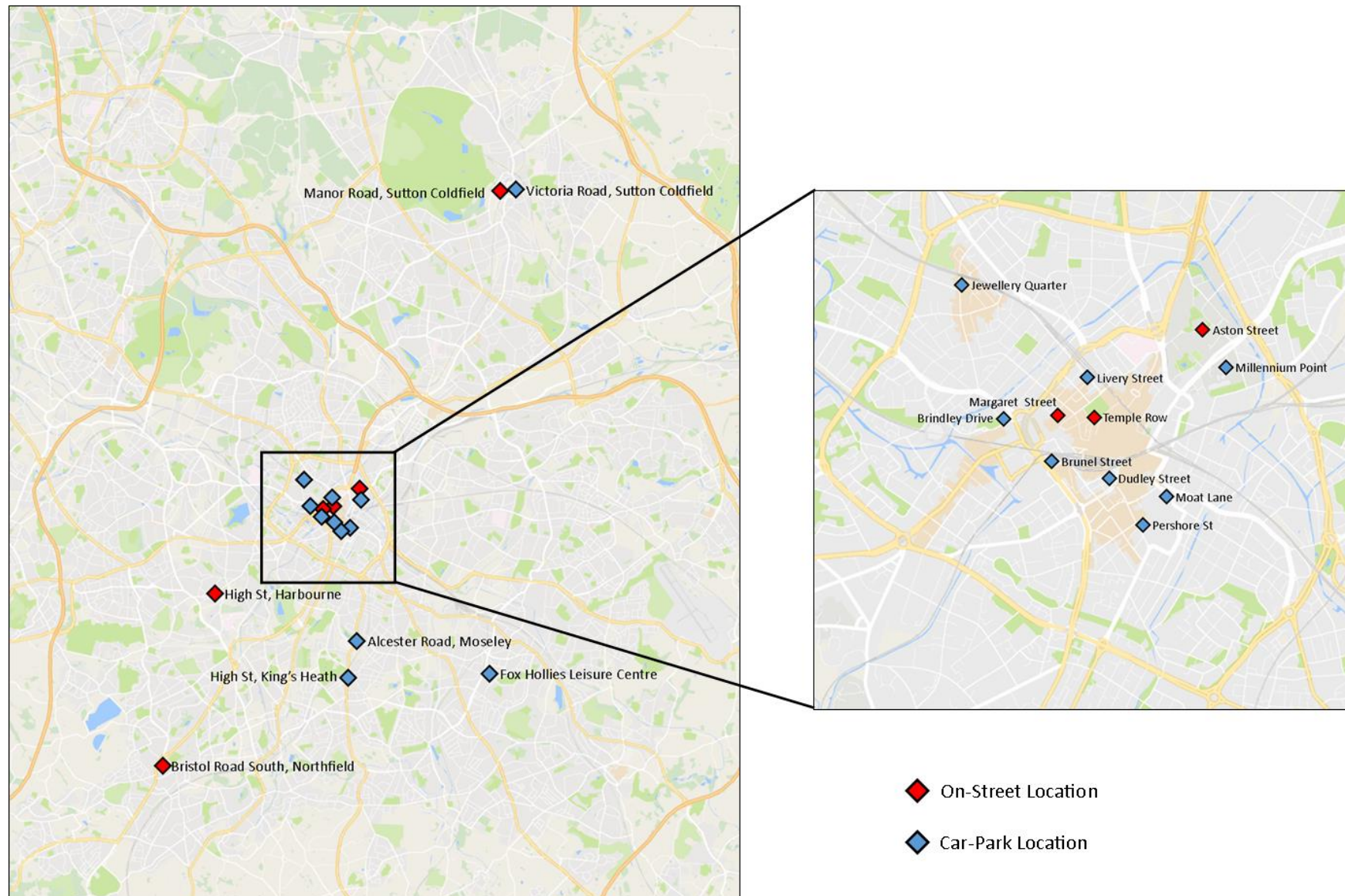
**Table1: Key Milestones**

<b>Milestone</b>	<b>Target Date</b>
Cabinet approval to strategy	24 <sup>th</sup> January 2018
OJEU notice issued	1 <sup>ST</sup> February 2018
Clarification period	1 <sup>ST</sup> -28 <sup>TH</sup> February 2018
SQ return date	5 <sup>th</sup> March 2018
SQ evaluation	5 <sup>th</sup> -6 <sup>th</sup> March 2018 – 2018
Invitation to submit initial tenders (ISIT) sent	7 <sup>th</sup> March 2018
Clarification period	7 <sup>th</sup> March – 3 <sup>rd</sup> April 2018
ISIT return date	6 <sup>th</sup> April 2018
ISIT evaluation period	9 <sup>th</sup> – 13 <sup>th</sup> April 2018
First round of negotiation	16 <sup>th</sup> – 20 <sup>th</sup> April 2018
Invitation to submit detailed tenders (ISDT)	23 <sup>rd</sup> April – 4 <sup>th</sup> May 2018
ISDT evaluation period	8 <sup>th</sup> – 11 <sup>th</sup> May 2018
Notify Bidders of outcome of evaluation of detailed tenders and invite shortlisted Bidders to participate in the final round of negotiations	11 <sup>th</sup> May 2018
Final round of negotiation	14 <sup>th</sup> – 18 <sup>th</sup> May 2018
Invitation to submit final tenders (ISFT)	21 <sup>ST</sup> May - 1 <sup>st</sup> June 2018
Delegated contract award	11 <sup>th</sup> – 22 <sup>nd</sup> June 2018
Contract Start	1 <sup>st</sup> July 2018

<b>5. Checklist of Attachments included in the FBC:</b>		
<b>Item</b>	<b>Mandatory attachment?</b>	<b>Number attached</b>
<b>Financial Case and Plan:</b>		
Detailed Workings in support of budget implications	Mandatory	Included in Section 3
Statement of required resource (people, equipment, accommodation) – append a spreadsheet or other document	N/A	N/A
<b>Project Development products:</b>		
Milestone Dates and Timing Plan	Mandatory	Included in Section 4
Risk Management Assessment	Mandatory	Included in Appendix 3
<b>Other Attachments (list)</b>		
Map of current PiM legacy EV charging locations and proposed city centre taxi locations.	Non-mandatory	Included in Appendix 1
Summary of PIM background details and key policy relating to the provision of EV charging	Non-mandatory	Included in Appendix 2



## Appendix 1 – Map of Current PiM Publicly Accessible EV Charging Locations



## Proposed city centre taxi charge point locations

The locations displayed on the map as below are shown in the table. The proposed charge point locations A to I are listed in priority order, based on their importance to the continuity of the existing taxi trade as indicated by survey responses from the industry. Ellis St Car Park and Tyseley Energy Park will be taxi charging hubs with approximately 6-10 charge point units each. In addition, a further 150 taxi charge point units will be located in proximity to the outer circle route covering each arterial route in/out of the city centre from local areas.

Location Summary	Indicator	Charge Speed
Ellis Street Car Park	A	Rapid
Tyseley Energy Park	B	Rapid
Albert Street Car Park, off Freeman Street	C	Rapid
Sheepcote Street Car Park, off Broad Street	D	Rapid
Birmingham Coach Station	E	Rapid
University of Birmingham/Queen Elizabeth Hospital	F	Rapid
Star City	G	Fast
Vesey Street Car Park	H	Fast
Moseley Hall Hospital	I	Fast



The high-priority points (A-D) are intended to cover busy, central locations and, as such, are all recommended to be rapid charge. Points A, C and E are all based near to popular public transport hubs. The results of the survey indicated that Point A at New Street Station was the most desirable location for taxi drivers to work and that the majority of drivers would utilise a charging hub at the Ellis Street Car Park, making this an ideal top-priority location to install rapid charging infrastructure and develop into a taxi charge point hub.

Point B at Tyseley Energy Park as the second charging hub will have rapid charging infrastructure installed. The drivers' survey indicated that most drivers would use this location to charge their vehicles, and its location is ideal to cover journeys to the east and southeast

including Birmingham International Airport, the NEC and Coventry. This point is also recommended for rapid charge speed as it will be used in transit as well as a location to take a longer break. Further analysis of Licensing Authority data showed that a large proportion of drivers live on the east side of the city around Tyseley, Nechells, Bordesley, Small Heath and South Yardley wards. The location of the proposed Tyseley Energy Park hub and the ability to rapid charge within 20 minutes for a full charge would benefit these drivers either at the start or at the end of their shifts- especially those that do not have drives, garages or other access to overnight charging.

TOA taxis, a key Birmingham Taxi Operator, who operate around 400 vehicles and have contract work within the airport/NEC area, were very strongly supportive of this location. Many of their drivers are hackney drivers working for them in a private hire capacity.

Point C, at the uncovered area of the Albert Street Car Park, would add similar infrastructure for drivers working at Moor Street Station. Point E is based on the Birmingham Coach Station in Digbeth, where many drivers indicated that they frequently work.

Point D is based in Sheepcote Street Car Park, a side-road off of Broad Street. The most common feedback given by drivers in the survey was that the most ideal location for charging infrastructure would be on or near to Broad Street. Installing infrastructure on Broad Street may prove challenging, owing to the developed and busy nature of the street. As an alternative, it is recommended that a charge point site in a car park, a very short distance from Broad Street should be located.

Point F is based to the southwest of Birmingham City Centre in a location intended to service drivers picking-up or dropping-off passengers at both Queen Elizabeth Hospital and The University of Birmingham. These were both raised in the drivers' survey as popular pick-up and drop-off locations. This site will also be rapid charge, as drivers do not rank or break here, meaning little time will be available to charge their vehicles.

The lower priority points (G-I) are all recommended for fast charge speed, as they are all appropriate locations to take longer breaks. Point G is Star City, a popular attraction for residents and tourists, with a good amount of local amenities to make it an ideal location to take breaks. Point H at the Vesey Street Car Park is another central location near to destinations including Aston University, Birmingham City Council offices and Birmingham Children's Hospital, with amenities making for an ideal break location.

Finally, point I is proposed in proximity to Moseley Hall Hospital, firstly as it is a potential pick-up and drop-off location, but also to provide charging infrastructure near to the homes of many of the drivers in Birmingham. It was seen in the drivers' survey that the majority of taxi drivers in Birmingham would like to see charging infrastructure installed near to where they live. It was indicated that many drivers live in and around this area of South Birmingham.



## **Appendix 2 – Background on publicly accessible charging including summary of key policy relating to the provision of EV charging**

### **Background History of the Existing Publically Accessible EV Network**

#### Building Birmingham's EV Charging Network

In 2012, the Office for Low Emission Vehicles (OLEV) offered 60% match funding to organisations for the installation of EV charging points through its “Plugged-in Places” programme 3 year trial.

Birmingham was located in an area that was branded “Plugged-in Midlands” (PiM) under the Plugged-in Places trial. The Council used the available funding to implement a network of Electric Vehicle (EV) charging infrastructure at 18 locations around the city. This included the upgrade of 4 locations that were originally installed as part of the Coventry and Birmingham Low Emission Demonstrators (CABLED) project.

#### Administration of PiM

OLEV originally appointed Cenex to administer PiM on their behalf. The Council entered into a contract with Cenex in September 2012. The primary role of the PiM administrator was to provide data on the usage of the PiM charging points to OLEV. This was required in order to honour the Council's obligation to OLEV to provide this data as part of the OLEV grant conditions; this obligation lasted for 3 years following installation of sites and has now ended.

#### Managing Birmingham's EV Charging Network

Initially, the maintenance and back office costs of the charging network were paid up front for three years (as part of the OLEV grant agreement).

#### *Maintenance*

The warranty and maintenance agreement which was in place with the charge point supplier, APT has now lapsed on all sites, however, under the novation agreement between Cenex and ChargeMaster, maintenance responsibilities have been passed over to ChargeMaster at no cost to the Council. Unfortunately APT have refused to supply parts to any third party which has resulted in ChargeMaster being only able to carry out basic maintenance of the charge point units but unable to replace any faulty or broken parts.

The maintenance arrangement that we are currently operating under is not sustainable; any major repairs or replacements may have to be procured by the council on an ad hoc basis, or sites may have to be decommissioned. It is estimated that the council is potentially exposed to a financial risk of £5,400 per year.

Chargemaster have offered to replace the units at no cost to the Council, however, legal advice suggests that this would not be appropriate as it would allow Chargemaster to take on Birmingham's charging network without the Council determining whether they are the appropriate service provider through an appropriate procurement route.

#### *Back Office Support*

Back office support was originally delivered by Pod Point; however, in August 2014 BCC transferred this responsibility to Charge Your Car under recommendation from Cenex as the information supplied by Pod Point on the EV network's usage to the PiM administrator was deemed insufficient.

Back office support includes the following:

- Software to provide charge point location and status to BCC and members
- Booking and prepayment systems for charging spots
- Payment, billing and account status
- 24/7 contact centre

## *Electricity Charges*

As part of the PiM arrangements E.ON agreed to provide free electricity up to an agreed maximum cap of £3,500 over the first three years. It was the responsibility of the council to pay for usage over and above this level. This meant that end users would not have to pay for electricity during this period (however, end users of the off-street car park charging points were and are still required to pay a parking charge).

The electricity charges over and above the maximum cap set by E.ON have been paid for out of budgets determined largely by the location of charge points; charges for electricity for on-street sites have been paid for out of Growth & Transformation budgets whereas charges for EV charging points in Council car parks have been covered from Highways budgets and off-set by the parking charges. Based on recent usage of the EV network, the cost of electricity used across all 18 council owned sites is estimated to be £14,000 per year (see ANNEX B).

## End of the OLEV Agreement

On 25 June 2016 the arrangements established for the back office support (including network usage data and charging management), maintenance and electricity costs of the Council's network came to an end. This marked an end of the three year PiM trial and the Council took ownership of assets and must decide how it wishes to proceed with the network. The assets are now of limited zero/value and sit outside the Amey/PFI contract.

For now, Chargemaster has agreed to continue to administer, provide back office support and maintain (to the extent of their capability without APT cooperation) the EV charging network on a voluntary basis at no cost to the Council.

*The arrangement that the City Council is currently operating under is not sustainable as it is liable to cover the costs of electricity and maintenance without the necessary budget or user charging model to account for the costs. The total financial risk represented by this is approximately £19,400 per year. Additionally, the current arrangement is voluntary and so imminent disruption to service could result from the current operator withdrawing their service.*

## Council Policy and Other Drivers

The provision of an electric vehicle charge point network is consistent with the policies in the Birmingham Development Plan, Birmingham Connected, the Birmingham Blueprint for Low Carbon Fuel Refuelling Infrastructure and the Carbon Roadmap. Additionally it will be a key measure to support the success of the Clean Air Zone to ensure compliance with air quality legislation by 2020.

### *Birmingham Development Plan and Birmingham Connected*

Future demand for travel into the city centre is forecast to increase, not only in the context of major developments such as the Enterprise Zone and HS2, but the city's expanding population and significant housing growth. By 2031 work undertaken as part of the Birmingham Connected transport strategy (which considers land use changes proposed in the Birmingham Development Plan) forecasts 150,000 new residents, 80,000 more cars on the roads and 200,000 extra daily trips. Circa 4 million daily trips are expected across the city by 2031, an increase of 30% from today's levels.

The Birmingham Development Plan includes a low emission vehicles policy (TP42) for city connectivity. Accordingly proposals for Low Emission Vehicles will be supported by a range of measures including:

- Where appropriate the City Council facilitating the introduction of charging points in public places.

Whilst the policy clearly indicates that the city council supports the provision of adequate infrastructure for EV charging where appropriate, terms such as "adequate" and "where appropriate" provide significant scope for interpretation.

### *Birmingham's Clean Air Zone*

In December 2015, Birmingham City Council received a mandate from Government to implement a Clean Air Zone so as to achieve compliance with UK and EU air quality legislation in the shortest possible time. In order for the CAZ to be a success, it is accepted that two effects need to be seen:



- A reduction of vehicles on the road (as a result of people making smarter, more sustainable decisions over the way they travel)
- An increase in the proportion of cleaner vehicles on the road (including electric vehicles)

#### *Carbon Roadmap and Blue Print for Low Carbon Fuel Refuelling Infrastructure*

In 2013, the Birmingham Green Commission published the Carbon Roadmap which is a strategic plan that highlights the key initiatives that Birmingham will aim to complete to ensure:

- the city achieves its vision of becoming a leading green city
- a reduction in carbon dioxide emissions by 60 per cent by 2027 (when compared to 1990 baseline levels)

The Carbon Roadmap highlighted that transport emissions account for 23% of Birmingham's CO<sub>2</sub> emissions and therefore is a key area for improvement. By reducing NO<sub>2</sub>, CO<sub>2</sub> is proportionally reduced as a result. Supporting the fleet share of low emission vehicles and encouraging adoption of green fleets is a key component of the approach for improving the carbon footprint of transport in the city which also impacts on other emission reduction of NO<sub>2</sub>, NO<sub>x</sub> and particulate matter (PM 2.5 and PM10)

A Birmingham Blue Print for Low Carbon Fuel Refuelling Infrastructure was published in 2015. This report outlined a route forward for developing the city's low carbon fuel refuelling infrastructure. The report outlines the best way forward to grow the city's EV charging network. For light plug-in vehicles (taxis, cars and vans) the main charging mode is likely to be residential charging where this can be made possible, which requires charging facilities to be installed at the driver's home or wherever the vehicles are kept. Also, depending on the duty cycle for these vehicles which averages at 80 miles per full charge, use of fast and rapid public chargers are required only for fast and rapid "top-up" charging during the day. In supporting EV vehicle take-up, by helping to reduce "range anxiety", which has to date been a concern for the wider take-up of electric vehicles, it also moves away from the need for long stay charging requirements which impacts commercial viability, by enabling multiple users of the charge point network.

## Appendix 3 – RISK REGISTER

No	Risk Description	Owner / Manager	Inherent Risk			Measures in place to manage/mitigate	Residual Risk			Further Action
			Impact	Likelihood	Exposure		Impact	Likelihood	Exposure	
1	There is a risk that reducing the max stay at city centre EV charge points or removing underused charge points will be met by resistance from vocal EV owners who use the current network. This could cause reputational damage to the council.	Air Quality Manager / EV Network Operator	Moderate (3)	Likely (4)	Significant (12)	Before the conditions on charge points are changed, the city council will work with the EV network operator to communicate the changes and the reasons for the changes to the general public and targeted at EV charge point users. This will reduce the likelihood and impact of the risk.	Minor (2)	Possible (3)	Moderate (6)	No further action required.
2	There is a risk that adding charge points in new locations (that may replace existing parking bays) will be met by resistance from local residence.	Air Quality Manager / EV Network Operator	Minor (2)	Possible (3)	Moderate (6)	Before charge points are added, the city council will work with the EV network operator to engage with the public on the proposed changes and communicate reasons for the changes to the general public. This will reduce the likelihood and impact of the risk.	Insignificant (1)	Unlikely (2)	Low (2)	No further action required.
3	There is a risk that there will be a delay in commencement of the project due to the time required for the procurement process. During this time, the council will continue to be exposed to the cost of electricity from the network and a high risk voluntary arrangement with Chargemaster.	Green Fleet Manager	Major (4)	Likely (4)	High (16)	Dialogue with key officers to ensure procurement plan timescales are met. Advance briefing of Cabinet members and chief officers achieve political buy-in and create urgency. BCC to negotiate new tariff with energy supplier to reduce the impact of bills on budgets.	Moderate (3)	Possible (3)	Significant (9)	Risk will be accepted.
4	There is a risk that the availability of electric taxis (specifically EV Hackney Cabs) on the market and the cost particularly of the electric hackney carriage vehicles will delay take-up and will impact, on generating sufficient interest from charge point operators to provide further investment.	Air Quality Manager	Major (4)	Likely (4)	High (16)	Ongoing market engagement with taxi EV manufacturers. Focus on Private Hire taxis will be prioritised as the current fleet is around 4,500 vehicles and the vehicle types are smaller saloon vehicles where the cost of an EV is much lower/more affordable. Ongoing work/campaigning with communications team on improving air quality will support the uptake of EVs by the public which will enable sufficient scope and confidence to satisfy charge point operators that they will be able to make a commercial success of the venture.	Major (4)	Possible (2)	Moderate (8)	. Risk will be accepted

No	Risk Description	Owner / Manager	Inherent Risk			Measures in place to manage/mitigate	Residual Risk			Further Action
			Impact	Likelihood	Exposure		Impact	Likelihood	Exposure	
5	The chosen charge point operator may experience financial problems leading to them withdrawing from the contract leaving the council with costs associated with re-procurement, temporary network management, network decommissioning.	Air Quality Manager	Catastrophic (5)	Unlikely (2)	Significant (10)	Financial checks will be carried out during the tender evaluation process. Additionally, the operator will be required to indemnify the council against an early termination of the contract.	Moderate (3)	Rare (1)	Low (3)	No further action required.
6	There may be a lack of demand at chosen/changed sites meaning that the network would be less commercially viable.	EV Network Operator / Air Quality Manager	Major (4)	Likely (4)	High (16)	Effective marketing to promote awareness of the charge points. Making use of all opportunities to promote the scheme. The successful bidder will be required as part of the social added value element of the procurement process to work with local organisations / schools etc. to develop effective and localised marketing campaigns - specifically targeting the target groups and raise awareness around ultra low emission vehicles. In addition, the charge point operator will be required to account for the selection of new sites for EV charge points within business plans to justify their selection.	Moderate (3)	Unlikely (2)	Moderate (6)	No further action required.
7	Proposals may conflict with wider works such as the change in parking policy.	Air Quality Manager/Assistant Director Highways Infrastructure	Major (4)	Likely (4)	High (16)	The Project board will review the EV charge point network development strategy and plans will have representatives from both Transportation & Connectivity and Highways who will be able to spot potential conflicts. In addition the contract must detail a resolution process for cases when a council decision requires the removal of a charge point, this may include provisions for relocation of sites.	Minor (2)	Unlikely (2)	Moderate (4)	No further action required.
8	Expenditure is not incurred to deliver the Air Quality Improvements by 2020	EV Network Operator / Air Quality Manager	Major (4)	Unlikely (2)	High (16)	The procurement process is designed to identify a network operator with the most appropriate experience of delivering such networks and the timescales are clearly identified.	Moderate (3)	Rare (1)	Low (3)	No further action required.