

<b>Mrs Deborah Urquhart, Cabinet Member for Environment</b>	<b>Ref No:</b>
<b>December 2019</b>	<b>Key Decision: Yes</b>
<b>Electric Vehicle Strategy</b>	<b>Part I</b>
<b>Report by Acting Chief of Executive and Director of Environment and Public Protection</b>	<b>Electoral Division(s): All</b>

### **Summary**

Under the Automated and Electric Vehicles Act 2019, the Government plans to ban new petrol and diesel cars by 2040, and the Office for Low Emission Vehicles aims for all vehicles to be low emission by 2050.

To support residents in this transition an elected members Executive Task and Finish Group (TFG) was formed to draft an Electric Vehicle Strategy. The Strategy sets out West Sussex County Council's ambition for the County in regard to Electric Vehicles, and the actions required to meet this ambition.

Public consultation on the draft strategy was undertaken between 27 August and 1 October and the results as well as any recommendations made by the Environment, Communities and Fire Select Committee to be held on 7 November will be taken into account before the Cabinet Member for Environment makes a decision to adopt the strategy.

### **West Sussex Plan: Policy Impact and Context**

Delivery of the Electric Vehicle Strategy will contribute to the following aims within the West Sussex Plan:

- Reduced carbon emissions
- Improved air quality
- Infrastructure that supports a successful economy
- A place that provides opportunity for all; by focusing on those residents that do not have access to private driveways it enables all residents in the County to have the opportunity to switch to EV.
- A great place to live, work and visit; by ensuring that West Sussex remains an attractive and accessible location for all.

In addition it aligns with the County Council's Energy Strategy and will support the delivery of the County Council's [Climate Change Pledge](#)

### **Financial Impact**

None

### **Recommendations**

That the Cabinet approves the Electric Vehicle Strategy for the period of 2019 – 2030, attached as Annex 2.

## **Proposal**

### **1. Background and Context**

- 1.1. Under the Automated and Electric Vehicles Act 2019, the Government plans to ban new petrol and diesel cars by 2040, and the Office for Low Emission Vehicles aims for all vehicles to be low emission by 2050.
- 1.2. The County Council has started to prepare for this transition, to support residents to ensure they are not disadvantaged.
- 1.3. At the request of the Cabinet Member for Environment and the Cabinet Member for Highways and Infrastructure, an Executive Task and Finish Group (TFG) was formed to draft an Electric Vehicle Strategy that sets out the County Council's ambition for the County in regard to Electric Vehicles (EVs), and the actions required to meet this ambition.
- 1.4. The TFG consisted of 5 elected members from across the political parties:
  - Jacquie Russell; Member for East Grinstead South and Ashurst Wood (Chairman)
  - Joy Dennis; Member for Hurstpierpoint and Bolney
  - Michael Jones; Member for Southgate and Gossops Green
  - Sean McDonald; Member for Northbrook
  - Kate O'Kelly; Member for Midhurst and surrounding villages
- 1.5. The TFG met five times from April to October 2019 and a summary of their work and findings is in Annex 1.

### **1.6. Additional Input into the Strategy**

- 1.7. The Energy Saving Trust (EST) is funded by the Department for Transport to run a Local Government Support Programme relating to EVs. This Programme aims to provide effective and tailored support to improve local air quality and reduce CO2 emissions at a local level.
- 1.8. The EST has acted as a critical friend, commenting on early drafts of the strategy to ensure all necessary factors have been considered.

### **2. Proposal Details**

- 2.1. The draft Strategy 2019-2030 is attached to this document as Annex 2.

It sets out a vision that will enable West Sussex residents, when travelling in a car or a small van, to choose ultra-low emission vehicles and travel in a carbon neutral way.

- 2.2. The Strategy notes that EVs have many benefits, but can, in particular, help the county to:
  - Reduce carbon emissions
  - Improve air quality
  - Generate revenue, but with minimal risk.

2.3. To achieve the vision, the strategy sets out three highly ambitious aims:

- 70% of all new cars in the County to be electric by 2030.
- To put sufficient charging infrastructure in place to support the vehicles predicted to be reliant on public infrastructure charging points.
- Ensure a renewable energy source for all charging points enabled by the County Council.

The strategy also sets out a series of measures to achieve this ambition (see Annex 2)

## **Factors taken into account**

### **3. Consultation**

Detail of the consultation responses will be published with the decision report, and is available to Select Committee members upon request. A summary is provided below:

#### **3.1. Members**

A cross-party Executive Members' Task and Finish Group (TFG) drafted the EV Strategy.

The Environment, Communities and Fire Select Committee will be consulted on the draft strategy at its meeting on 7 November 2019.

#### **3.2. External**

##### **3.2.1. Local Councils**

District, borough, town and parish councils were approached, not only for their views and comments on the strategy, but also to ask if they would like to be more directly involved in the delivery of a public land solution.

Comments were received from eleven councils who were broadly supportive of the strategy, its aims, objectives and delivery plans.

##### **3.2.2. Targeted Interest Groups**

The Equalities Impact Report identified the potential negative consequences of cables crossing footways for users of pavements. To ensure that groups who might be particularly negatively affected were given the opportunity to comment, targeted communications were sent to Associations for the Blind, Elderly and Access Forums.

One response was received.

#### **3.3. Suppliers**

A soft market test has been undertaken to engage possible EV charger suppliers for their views on elements of our strategy. Thirteen responses were received.

There were no elements of the strategy that would prevent suppliers bidding to deliver a public land electric vehicle charger solution across West Sussex.

### **3.4. Public**

#### **3.4.1. Residents Survey**

At the end of 2018 the County Council ran an online residents survey to ascertain local views and opinions on EVs and EV charging.

#### **3.4.2. Public Consultation on Consultation Draft of EV Strategy**

A consultation took place from 27 August to 2 October 2019 and primarily consisted of an online questionnaire.

The highlights are:

- 72% of respondents agree, or strongly agree with the general aims proposed in the strategy
- 62% agree that the strategy should focus on people who will be reliant on public infrastructure
- 61% think only renewable energy should be used to power the chargers, but 33% think renewable energy should only be used if it was not more expensive for users
- 55% think they would be fairly or very likely to use chargers installed
- 39% think the aims were just right; 37% think the aims are not ambitious enough; 23% think the aims are too ambitious
- 40% think that the County Council should allow cables in cable protectors, to run across pavements for charging electric vehicles; 51% think this should not be allowed; 8% didn't know.

Two focus groups also took place for existing electric vehicle users to express their views.

### **3.5. Actions taken as a result of the consultation**

The TFG considered all the consultation responses and made several amendments to the Draft EV Strategy. These are set out in Annex 1: EV TFG Work and Findings.

## **4. Financial (revenue and capital) and Resource Implications**

- 4.1 The adoption of the Strategy will have no cost implications to the County Council. The resources to implement the strategy and deliver the commercial solution can be met from within existing budgets.
- 4.2 The proposed option for delivery, ongoing management, operation and maintenance of chargepoint infrastructure is a third-party supplier. It is likely that the delivery will be via a concession contract, with support from a Government Grants from The Office for Low Emission Vehicles (OLEV).
- 4.3 It is anticipated that the supplier will meet any shortfall in costs after a grant has been awarded, by commercialising the use of the sites and retaining a sufficient proportion of the income generated.

## 5. Legal Implications

- 5.1. The Strategy itself has no legal implications but legal support and advice will be required in the following areas:
- 5.2. The process of market engagement with potential suppliers and procurement of the concession contract to ensure compliance with the Public Concessions Contracts Regulations 2016 etc.
- 5.3. Collaboration agreements with District and Borough Councils and other organisations covering commitment to the Strategy, the procurement of the proposed concession contract and marketing and communications.
- 5.4. The interaction between the OLEV grant (and grant agreement) and the proposed concession contract to ensure consistency between the two documents and their terms and conditions.
- 5.5. The procurement of the concession contract will require an officer/Cabinet member key decision (depending on potential value of the concession) in due course. A more detailed analysis will be required as to the benefits of a concession contract and any income generation strategy resulting from the concession contract and commercialising the charging sites. Further advice will be required from Legal Services, Finance and Procurement at the time.

## 6. Risk Implications and Mitigations

Risk and Impact	Mitigating Action (in place or planned)
<p>Risk: This Strategy is not adopted</p> <p>Impact: WS Residents do not have access to public infrastructure that will enable them to switch to EV.</p>	<p>Mitigating Action: The strategy has been developed with a cross-party members group, there has been input from relevant departments and has been widely consulted on to ensure it is as robust as possible.</p> <p>Links to the Corporate Plan and recent climate change commitments have been made to show how the EV Strategy aligns with existing policies.</p>
<p>Insufficient Funds for delivery</p> <p>Impact: The ambition within the strategy is not realised.</p>	<p>Mitigating Action: The delivery model limits the amount of resources the County Council has to provide to grant funding only.</p>
<p>EVs will remain too costly initially for people to make the switch.</p> <p>Impact – EV take up is lower than anticipated which may impact on the business cases for charging infrastructure</p>	<p>No action is planned to mitigate this risk because it is outside of the County Council's control.</p> <p>It is generally predicted that as the EV market develops, battery costs – and therefore vehicle prices – will continue to drop. In the last five years, battery production costs have fallen by almost 80%. The battery is one of the largest and most expensive elements of</p>

	<p>an EV and, with production costs dropping, the time when an EV costs the same as a comparable conventional model (or even less) is predicted by some in the industry to be only a few years away.</p> <p>Deloitte published research in January 2019 that predicts that EVs will achieve cost parity with conventional vehicles in the UK as early as 2021. From this point, cost will no longer be a barrier to purchase, and owning an EV will become a realistic, viable option for more people</p>
Provision of assets that are underutilised or rapidly obsolete	Mitigation: Develop a clear strategy, work with private sector investors who will take the technology risk.

## **7. Other Options Considered** (and reasons for not proposing)

### **No Strategy**

- 7.1. Some Councils have installed charging points without first adopting a strategy. Charging points are largely installed on an ad-hoc basis.
- 7.2. With the first wave of EV funding some years ago this was the approach taken, and the majority of these assets have now been proven to be underutilised, poorly maintained and no longer fit for purpose.
- 7.3. To avoid a repetition of this, the County Council's preferred approach has been to develop a strategy that is clear on long-term ambition, priorities for action, and is clear on Council requirements.

### **Uptake Scenarios**

- 7.4. Low and Medium uptake scenarios were considered by the TFG and were not supported because, after consideration of the risks and benefits, it was considered that they do not align with Government Policy and significantly limit the benefits that would be seen across the County.

### **Charging point Locations**

- 7.5. In addition to enabling residential charging, rapid hub charging and destination charging the TFG considered enabling workplace charging.
- 7.6. Workplace charging was not proposed as it did not fit within the TFG's overall sustainable transport vision. It would have also involved providing solutions on private land, which was deemed hard to achieve.
- 7.7. Promotion of workplace charging will be included within a Communications Plan, so that local businesses understand the options for their fleets, their workforce and visitors. Businesses will be aware of available grants and how to apply.

## **8. Equality and Human Rights Assessment**

An Equality Impact Report has been completed and is attached as Annex 3.

## **9. Social Value and Sustainability Assessment**

The adoption and delivery of the EV Strategy will have multiple sustainability benefits. Many of these are explored in more detail above, but in summary it will contribute to:

- a) Reduction in the County's carbon emissions, directly aligning to the notice of motion agreed in April 2019 which highlighted the imperative that all countries reduce their carbon emissions as soon as possible and the importance of West Sussex County Council's commitment to carbon neutrality as quickly as possible.
- b) Improvements in local air quality
- c) By focusing on residents that do not have access to private driveways it enables private car users in the County to have the opportunity to switch to EV regardless of the location the vehicle is kept.
- d) By aiming for a public land solution the strategy aims to provide a charging network that would be the best and most appropriate for local residents, not for the Council.

## **10. Crime and Disorder Reduction Assessment**

None

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### **Annexes**

Annex 1: Summary of EV Task and Finish Group workings and findings  
Annex 2: Draft EV Strategy  
Annex 3: Equality Impact Report

### **Background papers**

None

## **Annex 1**

### **Summary of the work and findings of the Electric Vehicle Executive Task and Finish Group (TFG)**

The TFG met five times from April to October 2019. Over the course of the meetings the TFG reviewed and considered:

- a) The potential benefits of switching to EVs.
- b) Carbon data for the County including a Department for Business, Energy and Industrial Strategy (BEIS) Data Set: UK local authority and regional carbon dioxide emissions national statistics: 2005 to 2016, published in June 2018, and the Department for Transport Road Traffic Forecasts for Traffic Tailpipe Emissions in the South East Region.
- c) Existing County Council strategies relating to energy and sustainable transport.
- d) Models of three EV uptake scenarios (aligned with Government scenarios) across the County, including the risks and opportunities these scenarios presented.
- e) The results of a West Sussex Residents Survey which ran at the end of 2018.
- f) Potential interventions available to the County Council, including the potential benefit and deliverability of these measures.

The TFG also considered all the responses to the 2019 public consultation on the draft EV strategy (Appendix X), and as a result made the following amendments to the Draft EV Strategy as follows:

#### **1. Adjusted the Ambition**

The consultation draft included the aim of:

70% of all new cars in the County to be electric by 2030, but as a minimum at least 50% are electric.

The 50% caveat was removed, and the aim reworded to: At least 70% of new cars in the County to be electric by 2030.

#### **2. Removed enabling cables to cross pavements**

The consultation draft included a provision to enable cables to allow residents to run a cable in a suitable cable cover across a pavement and will develop and issue guidance to assist in ensuring that this is possible at minimal risk to members of the public.

This was removed from the strategy and the County Council will not support residents to run a cable in a suitable cable cover across the pavement.

Instead, the County Council will continue to explore potential solutions to enable residents to charge at home, including keeping up to date with pilots running in other areas, for example channels for cables in Oxford.

### **3. Broadened the public land solution aspiration**

The consultation draft included the aspiration of working in partnership with District and Borough Councils (the main owners of public off street parking) and Parish Councils to provide a public land solution.

This aspiration has been broadened to a community land solution and the County Council's partnership aspirations include charities that run and maintain community land such as village halls and community centres.

### **4. Other**

Adjustments were also made to the text to make it clearer that:

- This strategy was set within the context of a move to more sustainable transport, and this was included in the strategy summary.
- There would be no cost to the County Council to install the chargers
- Chargers enabled by the County Council will be accessible via contactless payments
- Street lighting chargers are not a viable solution within the County
- Efforts will continue to engage with potential market providers to encourage them to invest in charging infrastructure within the County
- Our communications plan will include a focus on local businesses

Several other minor additions and amendments were made to reflect comments and suggestions from the consultation and to provide clarity on various aspects of the strategy.

## Annex 2

# **West Sussex County Council's Electric Vehicle Strategy** **2019-2030** **DRAFT**

Our overall transport vision for West Sussex remains one based on sustainable transport. We recognise the many benefits of sustainable transport, both to individuals, places and the environment more widely, and want to reduce car use overall across the county in favour of public transport and active travel. However, we recognise that for certain activities and individuals, cars and vans remain an appropriate mode of transport. Moving these vehicles from petrol and diesel to ultra-low emission vehicles is critical, to reduce the impact of those journeys, and help us achieve our climate change and air quality ambitions.

Our vision for the County is that when residents travel by car and small van they choose ultra-low emission vehicles, and travel in a carbon neutral way. This strategy focuses on the role of electric vehicles across the county to deliver this vision, and the interventions we will be taking to support West Sussex residents to a transition to electric. It looks forward to 2030, but as electric vehicles, and electric vehicle charging, is very much an emerging technology it is important for us to be able to adapt to changes and ensure a flexible approach to delivery of the strategy. Therefore, the actions within the strategy focus on the next five years and will be reviewed regularly to ensure adaptability to changes in technology, trends in mobility and financial considerations.

This strategy forms one part of the overall transport strategy for the County and should be considered alongside and read in conjunction with other strategies such as the West Sussex Transport Plan, the Bus Strategy and the Walking and Cycling Strategy.

## **Background**

Replacing existing petrol or diesel vehicles with electric vehicles (EVs) brings the environmental benefits of lowering carbon emissions and reducing air pollution.

Users also often achieve savings in vehicle running costs, with some research showing a typical electric vehicle saving its owner roughly £100 in fuel for every 1,000 miles driven, when compared to petrol or diesel.

There are more than 100 fully or part EVs already available to buy or lease in the UK. Car manufacturers are investing heavily in EVs, and many have committed to including substantial numbers of EVs across their model ranges within the next 3 to 10 years.

Although EVs currently cost more to buy than a petrol or diesel car, research predicts<sup>1</sup> that EVs will achieve cost parity with conventional vehicles in the UK as early as 2021. From this point, cost will no longer be a barrier to purchase, and owning an EV will become a realistic, viable option for more people.

Currently modern EVs are available that can drive for over 250 miles, making them suitable for the majority of users. When EVs require refuelling, they must

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<sup>1</sup> Battery Electric Vehicles: New markets. New entrants. New challenges. Published by Deloitte, January 2019

be connected to a charging infrastructure that, depending on the type of the charging point, can fully refuel the vehicle in anything from half an hour to 10-12 hours. The adequate provision of this charging infrastructure is essential to allowing individuals to own and operate EVs. Road to Zero is the Government's strategy in relation to ultra-low emission vehicles. It sets out how they plan to meet their commitment to end the sale of the new conventional petrol and diesel cars and vans by 2040.

Their strategy sets out ambition for at least 70% of new car sales to be ultra-low emission by 2030. These are referred to as high and medium ambition scenarios.

## **Why are electric vehicles important to us?**

There are three reasons why we want to support EV take up in the County.

### **Carbon**

Our main, and foremost priority, is to reduce the carbon emissions of the County. We are committed to do what we can to combat climate change. Across the County, 37% of our total carbon emissions are due to road transport,<sup>2</sup> and over half of these emissions are due to car travel.

Enabling and accelerating the move to EVs will help us to reduce our emissions significantly.

### **Air quality**

We want to safeguard and improve air quality across the County. There are currently 10 Air Quality Management Areas<sup>3</sup> (AQMAs) in West Sussex. These AQMAs are locations where Nitrogen Oxide levels exceed, or are likely to exceed, the national maximum threshold. The main cause of this pollution is vehicle emissions.

With our District and Borough partners we are implementing an Air Quality Action Plan but again, enabling and accelerating the move to EVs will help reduce air pollution and improve local air quality.

### **Revenue, with minimal risk**

Finally, we are mindful of the revenue generation opportunity EVs present. The capital costs of installing this charging infrastructure can be considerable but, once installed, the usage of this infrastructure could have significant revenue potential. Alongside this, however, we are aware of the rapid pace of change in this innovative and evolving technology. We are cautious about investing tax payers' money in infrastructure that may become obsolete and a redundant asset before it has paid back on the investment to install it. It is crucial to us that tax payers' money is protected from this risk.

## **Aims**

To achieve this vision we have three highly ambitious aims:

- At least 70% of all new cars in the county to be electric by 2030.
- There is sufficient charging infrastructure in place to support the vehicles predicted to be reliant on public infrastructure to charge.

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<sup>2</sup> Data taken from BEIS Data Set: UK local authority and regional carbon dioxide emissions national statistics: 2005 to 2016. Published in June 2018

<sup>3</sup> For a list of these sites, see the [air quality pages](#) on the West Sussex County Council website

- Ensure a renewable energy source for all charging points on County Council land or highway.

## **Our methodology**

We have worked with a consultant to model what different EV uptake scenarios looked like across the county. We sought to understand both the number of vehicles that would be involved and the number of charging points that might be required to support them.

We have included both battery electric vehicles – vehicles relying solely on battery power and plug-in hybrid electric vehicles – conventional petrol or diesel working alongside an electric motor when carrying out this work.

We drew on the experience of UK Power Networks (UKPN), who had carried out significant modelling and thinking around EV uptake. We used a model, tested by UKPN that draws on models used by the Department for Transport to inform EV policy decisions with predictions including vehicle attributes, expected increases in battery range, energy prices and supporting infrastructure. The model also factors in the results of their substantial charging patterns study.<sup>4</sup> Where we have deviated from the approach of UKPN is to ensure that the local characteristics and behaviours within West Sussex were taken into account. Our model has included local information about access to off-road parking and information about travel patterns, including the number of commuters in an area.

We have applied the model to the smallest geographical area that we could get data for. This is MSOA level.<sup>5</sup>

In applying the model we have assumed that where people have access to off-road parking they will be able to install their own charging point, and will not be solely reliant on publicly accessible charging infrastructure.

Our predictions for the number of charging points required is based on a high home, low work charging scenario. This scenario most reflects both our overall sustainable transport ambitions, (we don't want to be encouraging more journeys by making work the primary place where people can charge) and also the results of our local EV survey,<sup>6</sup> and other national studies,<sup>7</sup> where home charging is the preferred option.

We are focusing primarily on providing charging points for West Sussex residents. The mix of infrastructure proposed will also meet the needs of small businesses and visitors to the area.

## **Key findings**

The modelling work we have done estimates that across West Sussex we need to see 3,305 public charging points by 2025, and 7,346 by 2030.

### **High Uptake Scenario: 70%**

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<sup>4</sup> Recharge the Future - UKPN charging patterns study

<sup>5</sup> MSOA is a geographical geographic hierarchy designed to improve the reporting of small area statistics in England and Wales. The minimum population is 5000 and the mean is 7200

<sup>6</sup> WSCC Electric Vehicle Residents' Survey Dec18-Jan19

<sup>7</sup> Recharge the Future - UKPN charging patterns study

		Now	2025	2030
<b>Total EVs in West Sussex car stock</b>		1,593	66,236	161,583
<b>Number of EVs that will rely on public infrastructure</b>		<10	17,890	44,048
<b>Number of publicly accessible charging points required</b>	<b>Residential Charging points</b>	0 home specific 80 destination	3,169	7,027
	<b>Rapid Charging points</b>	9	136	319

These predictions are reliant on public uptake of EVs, which to a great extent is reliant on car manufacturers.

## Our solution

We want to ensure that our solution tackles the barriers to EV uptake.

Residents told us that lack of public charging points and range anxiety were significant factors that were preventing / discouraging them from switching to EVs<sup>8</sup>. Our solution addresses both of these issues.

To achieve the ambition that we have set out we want and need to encourage everyone to make the switch to EV as soon as possible.

Our solution therefore is two stranded:

1. **Encouraging** – focusing on communications and incentives.
2. **Enabling** – focusing on the provision of charging infrastructure.

## Encouraging

### Communications

We are aware that the EV market is still an emerging one, and in some cases people's perceptions around EV performance and availability of chargers is not current.

We wish to address this, and ensure our residents understand the options for, and benefits of, EV ownership; are aware of grants they can take advantage of (particularly the Government Home charger scheme (where customers can get 75% towards costs), and know where they can find charging points.

An element of our communications will particularly target local businesses to ensure they understand the options for their fleets, their workforce and visitors. It will include ensuring they are aware of grants they can take advantage of and how to apply.

### Incentives

Although our options are limited when it comes to offering incentives, it is something we have been keen to explore. The form of these incentives is important. We do not want to penalise people who cannot currently make the switch to EV, and therefore ruled out options that created an incentive by negatively impacting others.

<sup>8</sup> WSCC Electric Vehicle Residents' Survey Dec18-Jan19

At a national level, grants are already available to support individuals to make the switch, and at a time of considerable pressure for our resources we do not think it would be appropriate to offer any grant over and above this. Although we do not control the majority of public car parks across the county, we do operate controlled parking zones and have authority to set parking charges for these areas. We will explore different charging mechanisms, including differential charges for residential parking permits for low emission vehicles.

## **Enabling**

### **a) New development**

Although we are not the primary planning authority, we see the integration of electric vehicle charging infrastructure into all new developments as critical to the future long term sustainability of a charging network.

- **Guidance on parking**

It is important that developers consider the likely demand for electric charging points within new developments, and how this is likely to change over time. Our Guidance on Parking at New Development to developers states that developers should identify ways to cater for this demand within the design of new developments as part of the overall provision of parking facilities. This could include, for example, a mix of spaces with active charging facilities and passive provision, i.e. ducting to allow facilities to be brought into use at a later stage. Our guidance also states the EV space allocations for active EV charging facilities expected between now and 2030. These are in line with the ambition within this strategy.

- **WSCC Local Design Guide**

Our local design guide sets out our preferences on the application of national highway guidance and standards for residential development within West Sussex. We will update our guide to reflect the principles contained within this strategy.

- **Our buildings**

We will also ensure that any new build projects that we undertake, where it is safe and appropriate for the public to have access to the site, will integrate publically available electric vehicle charging. At a minimum we will ensure charging is integrated for our own fleet vehicles.

### **b) Enable a comprehensive and cohesive charging solution on community land.**

The County Council aspires to work in partnership with district and borough councils (the main owners of public off-street parking), parish councils and charities that run and maintain community land such as village halls and community centres to provide a comprehensive and cohesive solution on public land. We believe that if we can consider all community land when planning a charging network there would be significant benefits to our residents. We could:

- provide a joined-up solution, which looks, and is accessed in, the same way across the county making it easier for people to use;
- provide chargers in the best locations for the users, rather in the places we have the land / space to do it;

- enable chargers to be delivered faster across the whole county as the chances of finding more feasible and achievable sites will be increased if we maximise potentially “in scope” public land;
- avoid duplicating provision in a single area;
- access significantly more government funding than acting alone, and thereby deliver more infrastructure within the county;

Although a community land solution is our overall aspiration, we can only commit our own assets in this strategy.

We are the local Highway Authority, with control over the vast majority of public highways in the County. This includes roads and footways. Notable exceptions are some of the main strategic routes in the county – the M23, the A27 and most of the A23, which are managed by Highways England.

We also own a substantial number of buildings and land assets across the county from which we deliver our services. This can range from individual homes to large corporate office hubs, fire stations, care home and schools.

We are uniquely placed to enable the provision of this charging infrastructure, to enable the switch to EV.

When considering **charging point type and operation** we have some **general principles** that we will be adhering to:

#### **Charging point equipment**

- The charging points installed across the County will look and feel the same, with consistent signage.
- AC Charging points will use standard plugs (Type 2 connectors). We will not be using three pin plug connectors.
- Charging points will be at least 7KW. Modern EVs are, and will continue to be, produced with larger and larger battery packs. Anything less than a 7KW charging point will take an impractical amount of time for these larger vehicles to charge.

#### **Charging point installation**

- We want to minimise the amount of street furniture and clutter.
- Charging points should be at least dual connectors, or if this is not possible, demonstrate that they take up less space than a dual connecting charging point, and equally provide the same value for money.
- Installations will include the creation of charging bays with EV parking bay marking. These will be marked with green bay paint marking with ‘Electric Vehicles Only’ text.
- To maximise the accessibility of the charging points, they will have time related use restrictions, dependent on the location and charge provided.
- Signage, particularly in residential and destination locations will be kept to a minimum, and show clear information about the costs to charge

#### **Payment**

- Users will be charged for the energy that they use.

- Charging points will be easy for anyone to use with a contactless pay as you go system. In addition there will be an option for pre-registering for regular users if they prefer.
- To ensure that residents relying on our residential charging solution (more detailed explanation of this is set out on Page 10 onwards) are able to get a deal as close to being able to charge on their own property as possible, we will offer differential pricing to residents and identified public sector partners through a membership scheme.
- We will consider, on a location by location basis, waiving or reducing parking fees in short and medium term parking locations ( this will be restricted to sites where we have control of the parking)

### **Charging point management system**

- All our charging points will be supported by one branded back office system. Charging points will use the latest open charging point protocol, enabling the Council to transfer the back office function to another user if the back office system proves unfit for purpose, or if users are receiving an unsatisfactory level of service.
- Our charging points will supported by an app and website to help customers locate available charging points. This will interact with other well-known and trusted website providers such as ZapMap. We will also provide a map of planned future charging point locations to keep residents up to date on our plans.

### **Energy supply**

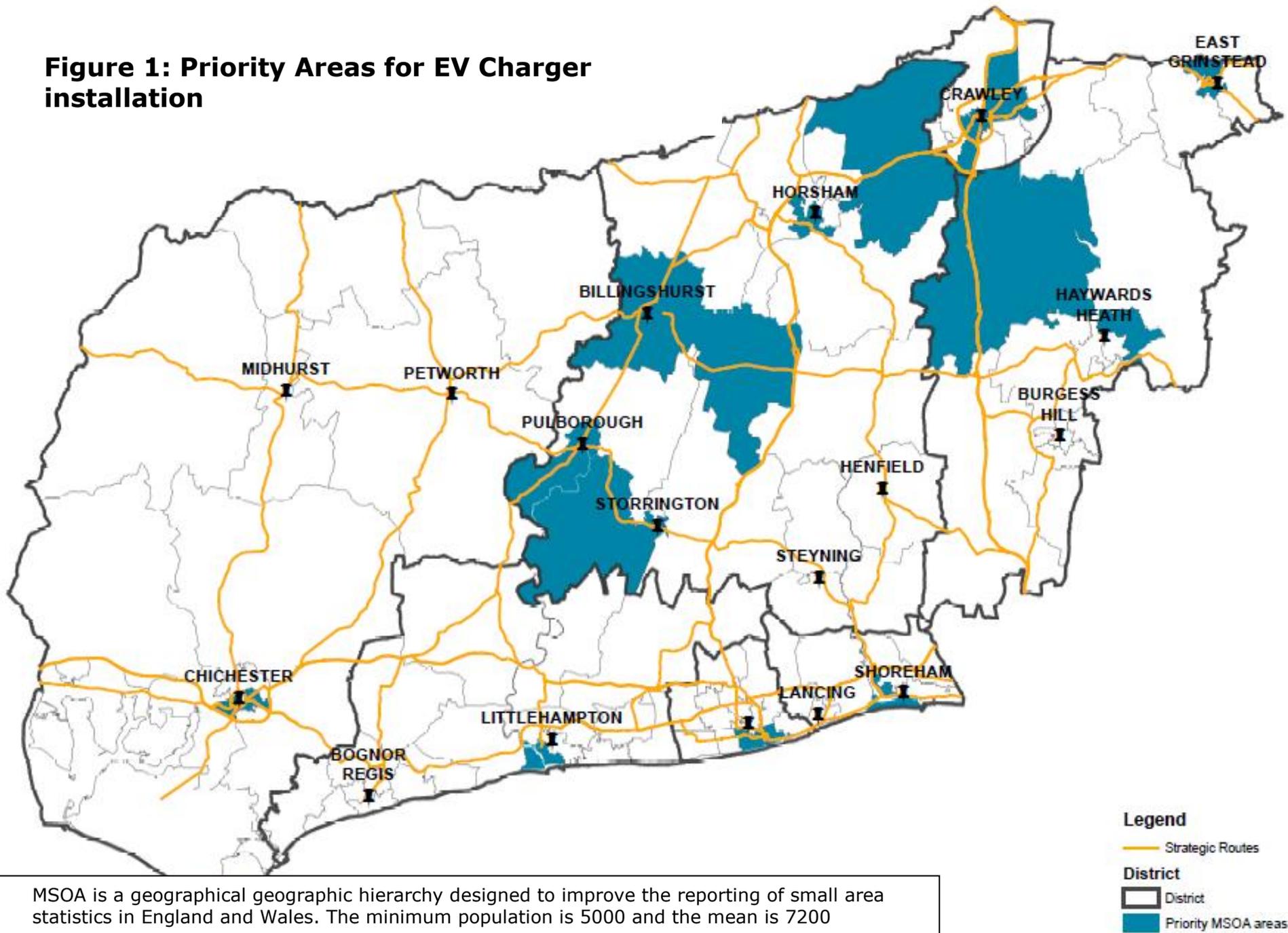
- We will maximise the carbon saving associated with the switch by ensuring that charging points we enable use renewable energy, either by generating and storing energy on site, or through a renewable / green energy tariff.
- WSCC will retain responsibility for the source of the energy used to operate the charging points in order to ensure that the benefits of competitive energy tariffs are passed onto local residents.
- We wish to explore how we can support smart charging, and reduce demand on the grid at peak times, and will investigate solutions for pricing incentives to encourage charging off peak, and the feasibility of vehicle to grid (vehicle to grid technology enables energy stored in EVs to be fed back into the national electricity network (or 'grid') to help supply energy at times of peak demand) for public charging.

### **We also have some general principles in relation to charging point locations:**

- We want to provide charging points in the places that people need them, but not in locations that encourage additional car use.
- We will focus on areas where residents cannot make the switch to EV without access to a public charging network, but we want to ensure a good geographical spread across the county.

- We will ensure any charging points we enable are complementary to, and not in direct competition to others already operating in the area.
- Although efforts to engage with potential market providers (supermarkets, petrol station operators etc) has proved difficult to date, we will work with our preferred supplier to attempt to engage with other potential private providers to encourage them to invest in charging infrastructure within the County and to ensure any additional public charging infrastructure is complimentary to privately owned charging points.
- Our initial efforts will focus in areas where we predict there will be more chargers required. The initial priority areas will be the areas in blue and along strategic networks, as illustrated in Figure 1. These are areas where there is less access to off road parking, where uptake trends are fastest and where there are more commuter journeys happening. (Any individual sites will be subject to feasibility investigations and a clear business case).
- West Sussex residents will have the opportunity to suggest suitable specific sites for charging points to be installed.
- Individual sites will be subject to full feasibility investigations including an assessment of local grid capacity.

**Figure 1: Priority Areas for EV Charger installation**



**Legend**  
 — Strategic Routes  
 □ District  
 ■ Priority MSOA areas

MSOA is a geographical geographic hierarchy designed to improve the reporting of small area statistics in England and Wales. The minimum population is 5000 and the mean is 7200

## Accessibility

- Charging points will be easily accessible and, where the primary user will be the general public, will be available 24 hours a day.
- Ideally charging points will be in busy locations with high footfall.
- Ideally urban sites will have CCTV and be well-lit for use at night.

## Other highway users

- Parking for charging points will not remove parking designated for people with a disability, spaces for car club cars, bus bays or bicycle parking, although we will seek to ensure some disability parking is provided with charge points.
- Charging points and charging bays will only be installed in locations where it is safe to do so and where parked vehicles will not impede current and planned future highway works, as set out in local and strategic transport improvement plans, and pre-existing development agreements.
- On street charging points will be located on the kerbside of the footway, and be situated as close as possible to the kerb to limit the space they take up and reduce trip hazards.
- Charging points will not be installed in areas where installation will restrict access for other footway and road users.

We want to see three main types of charging infrastructure. These are listed below in priority order:

- 1. Residential charging** - serving residents primarily for overnight charging. Addresses lack of public charging concerns
- 2. Rapid hub charging** - serving all EV users, providing 20-30 minute charging. Convenient to as many users as possible. Addresses lack of public charging and range anxiety concerns.
- 3. Destination (top up) charging** - serving all EV users, providing top up charging over a few hours. Addressing lack of public charging and range anxiety concerns.

Below is more detailed information on what our vision is for each of these charging types.

### 1. Residential charging

Where no off-street parking exists we want to enable 2, potentially 3 types of residential charging:

#### a. Enabling charging on home chargers

We want to make it as easy as possible for residents to make the switch to EVs, and are aware of the benefits of charging from your own home charger, for example it may be cheaper and allow easier vehicle to grid solutions)We are very mindful that we need to ensure that our pavements are safe for pedestrians and other highway users, and that we don't expose the County Council or individuals to excessive liability or risk.

We will continue to explore ways to enable this option for West Sussex residents, including keeping up to date with pilots running in other areas, for example channels for cables being trialled in Oxford.

#### **b. Residential hub charging**

- Although we aspire to work with District, Borough and Parish Councils to deliver a public land solution in West Sussex, we can only commit our own assets. Therefore hubs will be located on County Council owned land **excluding:**
  - Residential homes;
  - Schools, unless they specifically opt into to providing chargers;
  - Care sites offering residential services, or services to vulnerable people;
  - Leased properties, where tenants fully control the site services and operation;
  - Agricultural land;
  - Greenfield sites;
  - Secure sites;
  - Sites where public access might impede our service delivery, or put the public at risk.
- Will be located close to a residential area without access to off road parking. Ideally this will be less than 500m walk for the majority of users.
- When charging in a County Council owned hub, overnight parking will be available for free.

#### **c. Residential charging on street**

- We will not be pursuing installing charging points located on/in street lights. For a are a number of reasons:
  - Power supply  
Street Light columns have a very low power supply. Most are in the region of 2Kw. With batteries in cars increasing in size, 2kw would be exceptionally slow to charge, and not fit for purpose.
  - Trailing Cables  
WSCC lighting columns are in the main placed at the back of footway as this makes them less vulnerable to damage but this means charge leads would be going across the footway. Ownership / Responsibility  
It is the responsibility of a third party (Tay Valley Lighting) to maintain all our street lights under a 25yr PFI (Private Finance Initiative), this passes all the risk of the street lighting to Tay Valley Lighting. There are some complex and costly legal issues about providing another party access to the lights. Although these might potentially be overcome it will take significant time and resources to do so, and there is no guarantee they can be resolved. We have ambitious aims for EV in the County, and need to be taking early action.

- In areas where parking is already restricted for residents only, these parking restrictions will apply equally to the EV bays.
- Charging points should not be considered the personal charging point of any one individual, but will be an asset for the community to access. To support this, where practical the bay will not be located outside one particular property, but in the best location to serve an entire street.

## 2. Rapid hub charging

- Charging points will:
  - be at least 43kW AC or 50kW DC;
  - be close to a strategic road network or other important route;
  - be in locations that don't already experience significant congestion / don't attract additional trips into already congested areas;
  - consist of at least 3 and ideally 6 charging units, so at least 3 cars with the same connector type will be able to charge at any one time.
- Charging on street, or in off street hubs will be considered.

## 3. Destination (top Up) charging

- Charging points will be located where short/medium term parking is available.
- Charging points will be located in areas with existing car-based activity, with mixed use areas and destinations such as near high streets and transport hubs. (This will support the use of EVs for existing car trips)
- Charging on street, or in off street hubs will be considered.

## How we will deliver

There are two main grant schemes available to us, the On-Street Residential Charging Grant, and the Workplace Charging Grant. These cover 75% and 50% of the installation costs of charging points. There is no provision in the grant for future maintenance.

We are cautious in investing our limited capital funds in an innovative and evolving technology. We lack the resources internally to stay on the cutting edge of developments, and see the market as the main holders of this knowledge and expertise.

Therefore our preferred option for delivery and ongoing management, operation and maintenance is the use of third party supplier.

Other than drawing down on a the Government Grant for electric vehicle charging, we do not intend to use any other Council funds to deliver this scheme.

## ACTIONS

Aim 1: 70% of all new registered cars in the County are electric by 2030,

Objective	Actions for WSCC
Ensure our residents and businesses understand the options for and benefits of EV ownership, are aware of grants they can take advantage of, and where	Develop and start delivery of a communication and engagement plan

they can find charging points	
Offer incentives to encourage residents to make the switch to EVs as soon as possible	We will explore different charging mechanisms, including differential charges for residential parking permits for low emission vehicles.
	As charging point sites come forward, review the reducing parking fees in short and medium term parking locations
West Sussex County Council will lead by example	Develop a phased fleet transition plan to move our fleet to electric.

Aim 2: There is sufficient charging infrastructure in place to support the vehicles we predict will be reliant on public infrastructure to charge.

<b>Objective</b>	<b>Actions for WSCC</b>
Ensure the future long term sustainability of EV charging by integrating infrastructure into new development	Regularly review our Guidance on Parking at New Developments to ensure adequate provision for EV charging on new development
	Revise our WSCC Local Design Guide to reflect our charging point principles
	Revise our own new building design standards to include EV provision that meets our charging point principles
	Lobby for more transparency from market providers regarding future development plans
Provide a comprehensive and cohesive public charging solution on community land.	Collate a long list of sites for consideration for delivery by our delivery partner
	Appoint a market-based partner to work with us to provide the charging point network
	Develop a 5 year rolling delivery programme for charging points across the County. This delivery programme will include measurable targets.

Aim 3: Ensure a carbon neutral energy source for all charging points we enable

<b>Objective</b>	<b>Actions for WSCC</b>
Maximise the carbon saving associated with the switch to EV	Stipulate the requirement for renewable energy, either by generating and storing energy on site, or through a green / renewable energy tariff within our supplier specification

All actions will be subject to clear business cases that demonstrate value for money, and availability of funding.

## Equality Impact Report

<b>Title of proposal</b>	Electric Vehicle Strategy Consultation				
<b>Date of implementation</b>	September 2019 to October 2019				
<b>EIR completed by:</b>	<table border="0"> <tr> <td style="background-color: #e0f2f1;"><b>Name:</b></td> <td>Ruth O'Brien</td> </tr> <tr> <td style="background-color: #e0f2f1;"><b>Tel:</b></td> <td>0330 2226455</td> </tr> </table>	<b>Name:</b>	Ruth O'Brien	<b>Tel:</b>	0330 2226455
<b>Name:</b>	Ruth O'Brien				
<b>Tel:</b>	0330 2226455				

### Decide whether this report is needed and, if so, describe how you have assessed the impact of the proposal.

Under the Automated and Electric Vehicles Bill, Government has announced plans to ban new petrol and diesel cars by 2040, and the Office for Low Emission Vehicles aims for all vehicles to below emission by 2050.

The council needs to start preparing for this transition and support the wider county so that its businesses and residents are not disadvantaged. Early investment in infrastructure to support the transition from petrol and diesel vehicles to alternative fuels is critical.

The council, under its Strong, Safe and Sustainable place commitment in the West Sussex Plan, has ambition to support the uptake of electric vehicles into the county.

Introducing electric vehicles will also help us to deliver against our measures for successes of improving air quality and becoming carbon neutral.

Following a consultation at the end of 2018 to establish what people would like and need to see in order for them to make the switch to electric vehicles, the County Council has now produced a draft Electric Vehicle (EV) Strategy.

We are consulting with the public to seek views on this strategy before it is formally adopted. Analysis of a survey carried out at the end of 2018 to gather information to form this strategy showed that the following people were underrepresented:

People living in Crawley

Women

People who park their car on-street

People with a disability

We have targeted the consultation on the draft strategy to ensure that underrepresented groups have a chance to be heard.

### Describe any negative impact for customers or residents.

Not all residents have off-street parking to enable them to charge an electric vehicle at home. The Strategy focuses on providing public charging for this group of people to reduce this impact.

Users will be charged for the electricity they use in charging their vehicle.

Disabled drivers will not necessarily be able to charge their vehicle directly outside their home if they do not have off-street parking.

There is potentially a negative impact for other footway users, with the chargers limiting the amount of usable spaces, or cables crossing footways.

### Describe any positive effects which may offset any negative impact.

Our proposals include measures to limit distance people will have to walk and also will offer differential pricing to residents so that their costs are as close as possible to the amount they would pay if charging at home.

To maximise the accessibility of the charging points, they will have time related use restrictions, dependent on the location and charge provided.

Charging points will be easily accessible and, where the primary user will be the general public, will be available 24 hours a day.

Ideally charging points will be in busy locations with high footfall.

Ideally urban sites will have CCTV and be well-lit for use at night.

The chargers will not remove parking designated for people with a disability, spaces for car club cars, bus bays or bicycle parking. They will only be installed in locations where it is safe to do so and where parked vehicles will not impede current and planned future highway works, as set out in local and strategic transport improvement plans, and pre-existing development agreements.

On-street charging points will be located on the kerbside of the footway, and be situated as close as possible to the kerb to limit the space they take up and reduce trip hazards.

Charging points will not be installed in areas where installation will restrict access for other footway and road users.

We proposed in the draft consultation enabling residents to trail EV charging cables across the footway, as long as certain conditions are met. Although this might help a large number of people who are currently unable to charge at home, the consultation did not support this option, without the majority of respondents against this idea. As a result of the consultation response, the proposal was removed.

**Describe whether and how the proposal helps to eliminate discrimination, harassment and victimisation.**

Not applicable

**Describe whether and how the proposal helps to advance equality of opportunity between people who share a protected characteristic and those who do not.**

The Electric Vehicle Strategy Consultation has been effectively promoted to ensure that people with protected characteristics are reached as widely as possible. This included targeting groups and organisations that can disseminate information directly to those individuals. Disability access groups, age organisations, community groups and other key stakeholders have all been engaged as part of this process.

**Describe whether and how the proposal helps to foster good relations between persons who share a protected characteristic and those who do not.**

The Electric Vehicle Strategy Consultation was publicised and monitored throughout the consultation period to ensure that participation was as inclusive as possible.

The Electric Vehicle Strategy applies to all residents and visitors to the county outlining the Council's approach to delivering appropriate infrastructure. The Strategy supports the needs of all electric vehicle users including disabled and older people, and aims to support services and infrastructure that can be used by a wide variety of users who may have different needs.

**What changes were made to the proposal as a result? If none, explain why.**

The TFG considered all the consultation responses, and made the following amendments to the Draft EV Strategy presented today:

1. Adjusted the Ambition

The consultation draft included the aim of:

70% of all new cars in the county to be electric by 2030, but as a minimum at least 50% are electric.

The 50% caveat was removed, and the aim reworded to "At least 70% of new cars..."

2. Cables across Footways

The consultation draft included a provision to enable cables to allow residents to run a cable in a suitable cable cover across a pavement, and will develop and issue guidance to assist in ensuring that this is possible at minimal risk to members of the public

This was removed from the strategy and replaced with text about enabling residents to charge at home and continuing to explore potential solutions, including keeping up to date with pilots running in other areas, for example channels for cables in Oxford.

3. Broadened the public land solution aspiration

The consultation draft included the aspiration of working in partnership with District and Borough Councils (the main owners of public off street parking) and Parish Councils to provide a public land solution.

This aspiration has been broadened to a community land solution and the County Councils partnership aspirations include charities that run and maintain community land such as village halls and community centres.

3. Other

Adjustments were also made to the text to make it clearer that:

- This strategy was set within the context of a move to more sustainable transport, and this was included in the strategy summary.
- There would be no cost to the Council to install the chargers.
- Chargers enabled by the Council will be accessible via contactless payments.
- Street lighting chargers are not a viable solution within the County.
- Efforts will continue to engage with potential market providers to encourage them to invest in charging infrastructure within the County.
- Our communications plan will include a focus on local businesses.

Several other minor additions and amendments were made to reflect comments and suggestions from the consultation and to provide clarity on various aspects of the strategy.

**explain how the impact will be monitored to make sure it continues to meet the equality duty owed to customers and say who will be responsible for this.**

It is our preference that the strategy will be implemented by a third party supplier.

The supplier will be required to respond to customer feedback, and keep a record of any issues and complaints and how they have been resolved.

The quality of the customer service will be very important to the service that is delivered, and the supplier will be tested on their ability to deliver a good service to all residents.

**To be signed by a Director or Head of Service to confirm that they have read and approved the content.**

Name

Date

Your position