

# Electric 'Plug-In' Vehicle Infrastructure Plan

2018 - 2023

*Increasing electric vehicle take-up in the District of Daventry*



*Date last revised: 3 August 2018*

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## **1. An Overview of Daventry District**

Daventry District is situated in the county of Northamptonshire. The district is largely rural, made up of one market town (Daventry) and 74 parishes containing 78 villages. There are 77,843 residents living in the district according to the 2011 Census data. These residents form 31,647 households which is an increase of 10% since the last census in 2001. The population of Daventry District is predicted to increase by 7.9% by 2021 to 84,204.

Daventry District has excellent motorway and key road linkages and there are plans for the town and the number of houses to be developed. The town is expected to grow significantly over the next few years. The nearest train station to Daventry town is 4 miles away and although there are bus linkages, regular and direct services are limited to larger village and nearby towns and therefore the local population has a dependency upon the car for work and leisure purposes.

## **2. Aims and purpose**

The Electric 'Plug-In' Vehicle Infrastructure Plan was initially developed in 2016 and aims to facilitate an increase in electric vehicle (EV) charging infrastructure. It aims to identify suitable sites for residents and visitors to the District to recharge at home, at work and when undertaking leisure activities. It aims to promote and build confidence in electric vehicle technology in the District and in doing so, increase the number of electric vehicles on the road. The main aims set for the Council are to

- Enable local residents to take advantage of recharging locally.
- Be a leader in adopting ultra low emission technology and encourage local organisations to do the same.
- Effectively support the efficient operations of Daventry District Council with regards to electric vehicles.

This five year plan follows on from the initial strategy developed in 2016 to increase EV charging infrastructure. The duration of this plan has been increased to five years as this development requires long term investment and planning to ensure infrastructure is sustainable.

## **3. Key Objectives**

There are five key objectives of the Electric 'Plug-In' Vehicle Infrastructure Plan as follows.

1. Identify suitable sites for electric 'plug-in' vehicle infrastructure.
2. Explore funding opportunities both nationally such as Department for Transport / Office of Low Emission Vehicles and locally such as local partnerships and organisations.
3. Work with a range of partners to support the installation of infrastructure.
4. Build confidence in the technology by providing residents and local businesses with information on electric vehicles and recharging infrastructure. Promote home charging grants to residents.
5. Develop an Action Plan for delivery, review this regularly and report on progress internally and externally.

#### 4. Progress by Daventry District Council so far

There has been good progress in the District with regards to the installation of EV infrastructure or 'chargepoints' since the technology started to develop. There is now a total of four chargepoints located in Daventry District as follows:

- Dual 'fast' chargepoint installed in May 2013 at the Lodge Road, Daventry car park for public use and is free for the public to use. It was 100% funded by Plugged in Midlands and Great Central Plastics, a local organisation. Electricity costs were fully funded by Great Central Plastics for the first three years and have since been paid by Daventry District Council.
- Second dual 'fast' chargepoint installed in April 2017 at the Lodge Road, Daventry car park for public use and is free for the public to use. Installation of this chargepoint was funded by Second Homes Funding and electricity costs are paid by Daventry District Council.
- Dual 'fast' chargepoint installed at Welton Road car park, Daventry in November 2015 to support the recharging of Daventry District Council electric vehicles. This chargepoint is operated as a manual key pillar due to signal connection failure.
- Watford Gap Services. Rapid chargepoints have been installed at the Roadchef Watford Gap Motorway Service Station, North and South stations.

At Daventry District Council, there has been progress with supporting electric 'plug-in' vehicles as follows.

- Electric van procured for the Environmental Health department to support environmental cleansing and dog control operations.
- Lease of a hybrid electric vehicle for the IT, Chairman supporting duties and casual business mileage.
- Lease of an electric vehicle for Daventry District Council staff for the sole purpose of undertaking casual business mileage.
- 11 lease car drivers have opted for hybrid and electric vehicles and this is set to rise.

#### 5. 'Plug-In' vehicles on the road – the national, regional and local picture

Plug-in vehicles on the road are rising and very rapidly and this is no surprise following the range of government subsidies available to incentivise plug-in vehicles as outlined in *Section 6* below. In addition, all major vehicle manufacturers now have electric vehicle models available and in some cases, several different types. The latter is a result of EU legislation requiring that new cars registered do not emit more than an average of 130 grams of CO<sub>2</sub> per km by 2015. By 2021, the fleet average to be achieved by all new cars is 95 grams of CO<sub>2</sub> per km.

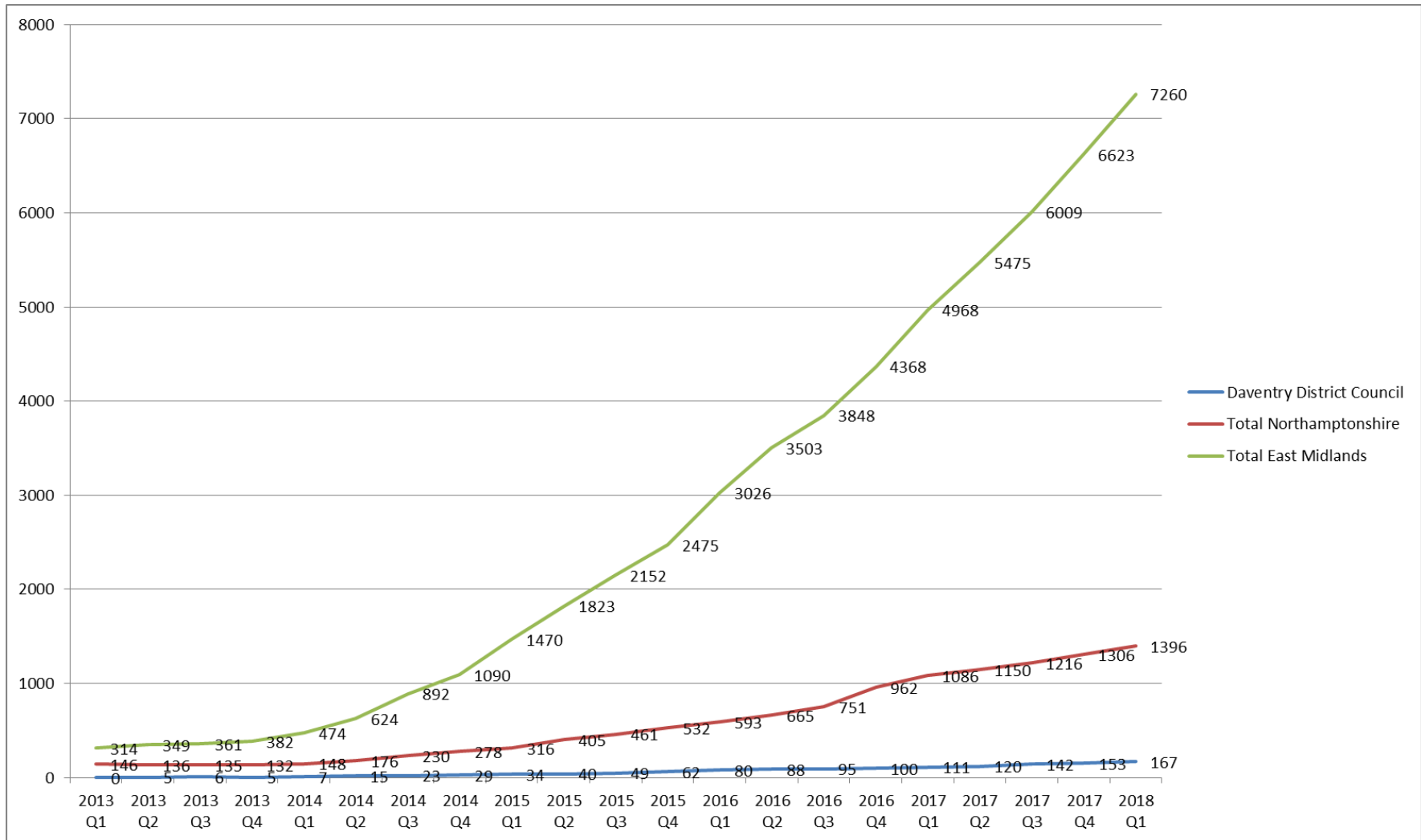
According to the latest available data from the Department for Transport up to the end of Q1 2018, there are now more than 161,000 plug-in vehicles registered on the road in the UK. This is projected to continue with a 25% increase in the number of EVs registered during the first half of 2018 compared to the same period in 2017 with EVs now accounting for 2% of the market share (Go Ultra Low, 2018). *Figure 1* below shows the number of new electric vehicle registrations in Daventry District, the county of Northamptonshire and the East Midlands from 2013 to Q1 2018.

In the UK the Government is committed to reducing the UK's greenhouse gas emissions from 1990 levels by at least 80% by 2050. The Government has the aim of almost every car and van in the UK fleet to be a 'Go Ultra Low' or zero emission vehicle by 2050. The Government further enhanced their commitment to EVs by announcing in July 2017 that production of new diesel and petrol cars and vans will be banned in the UK from 2040.

Policy and legislation in this area is also developing with the announcement of the new Automated and Electric Vehicles Act which will give the Government powers on four key areas for expanding the EV market - i) access and connection to chargepoints ii) availability of information for drivers iii) chargepoints at fuel retailers and motorway service areas and iv) smart capability. A further recent policy development is the introduction of the Road to Zero strategy which was released in July 2018 and sets out new measures for transitioning to zero emission vehicles on UK roads.

The EV industry is an emerging market where the technology is continually developing. A number of chargepoint operators are now offering different charging solutions such as street light pillar charging which may not have been possible even two years ago when this plan was created. It is therefore important for Daventry District Council as a local authority to plan sustainably to meet the expected rise in demand for EV charging.

**Figure 1 – Number of ‘plug-in’ vehicle registrations 2013 - 2018**



Source: Department for Transport statistical release, 14 June 2018

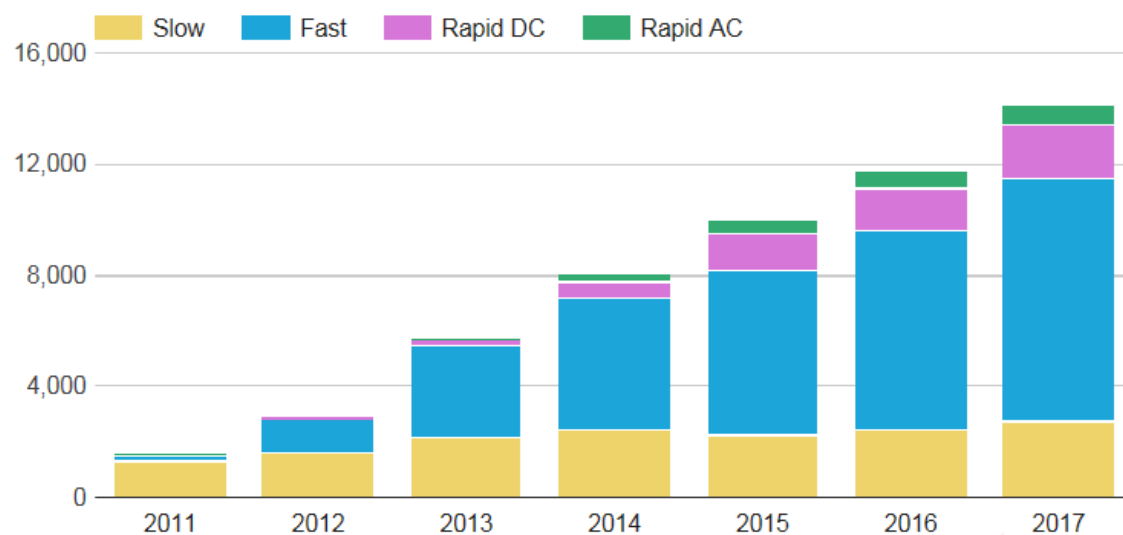
## 6. Electric chargepoint installs over time

In the UK there are 6,130 locations with public chargepoints installed; of these locations, there are 10,264 devices or chargepoints and the number of connectors is 17,615 as some of the devices are dual and have more than one connector (Source: Zap-map, September 2018). In the District of Daventry, there are currently three public devices located at the Lodge Road car park and the M1 Watford Gap Services with a total of six connectors.

Figure 2 below demonstrates the number of UK public charging installations from 2011 to 2017 and shows a breakdown of connectors by type whether this be Slow, Fast, Rapid DC and Rapid AC for the last six years. The different types of charger relate to the speed with which vehicles are able to be recharged. There is a move towards implementing rapid chargepoints which allow a much quicker charge than the current predominantly installed 'fast' chargepoints. Further explanation of chargepoint types and speeds is outlined in Section 9.3 below.

Figure 2 – UK public EV chargepoint installations by type 2011 - 2017

### CHARGING CONNECTORS BY TYPE: ZAP-MAP, 2011-2017



Source: 2011-2017 Zap-Map statistics, [www.zap-map.com/statistics](http://www.zap-map.com/statistics)

## 7. The pull factors of electric ‘plug-in’ vehicles

### 7.1 Government incentives

#### Individual support

Government support through the Office for Low Emission Vehicles (OLEV) is available in the form of the Plug-in Vehicle Grant to reduce the initial cost of purchasing an electric vehicle. This provides a subsidy of 35% of the cost of a car, depending on the category type as outlined below that the model belongs to. There is also a 20% grant towards the cost of a van, up to a maximum of £8,000.

The three grant categories for cars are based on the carbon dioxide emissions and zero emission range.

Category 1: carbon dioxide emissions of less than 50g/km and a zero emission range of at least 70 miles.

Category 2: carbon dioxide emissions of less than 50g/km and a zero emission range between 10 and 69 miles.

Category 3: carbon dioxide emissions of 50-75g/km and a zero emission range of at least 20 miles.

Vans: carbon dioxide emissions of less than 75g/km and a zero emission range of at least 10 miles.

Since 1 March 2016, two grant rates are available: ‘Category 1’ vehicles benefit from a grant of £4,500. ‘Category 2 and 3’ vehicles with a shorter zero emission range — such as plug-in hybrid vehicles with a petrol or diesel engine — receive £2,500.

In addition, there is a grant available of £500 towards the cost of installing a home chargepoint through the Electric Vehicle Homecharge Scheme.

#### Business Support

Financial support is also available for businesses looking to provide chargepoints for staff and fleet vehicles through the Workplace Charging Scheme. This is a voucher based scheme offering support towards the up-front costs of purchasing and installing a chargepoint through a grant of £500 for each socket up to a maximum of 20 across all sites for each application.

#### Support for Local Authorities

At the end of 2016 OLEV introduced a new grant scheme to provide funding for local authorities towards the cost of installing on-street residential chargepoints, known as the On-street Residential Chargepoint Scheme (ORCS). This enables local authorities to provide charging infrastructure in areas which lack off-street parking and therefore currently present a barrier to uptake of EVs for residents who are unable to charge at home. The ORCS provides 75% funding of the capital costs of procuring and installing a chargepoint up to a maximum of £7,500 per chargepoint.

### 7.2 Running costs

The low running fuel costs are by far the biggest pull factor to owning an electric vehicle, whereby a full charge will cost around £2-3 and will give a typical range of 100 miles. In comparison, driving 100 miles in a petrol or diesel car, will cost £9 to £13 in fuel. This means there are savings of around £100 for every 1,000 miles driven in an electric vehicle. Home recharging could cost even less for owners with access to an overnight low rate electricity tariff. Additional benefits of plug-in vehicles are as follows.



1. Vehicle Excise Duty (road tax) exemption.
2. 100% discount from the London Congestion Charge, worth up to £2,900 a year.
3. Free parking is often available for electric vehicles.
4. There are fewer mechanical components than conventional vehicles, so servicing costs are likely to be lower and maintenance costs may be lower too (Energy Saving Trust).
5. Low company car tax or associated employer national insurance contributions.
6. Benefit in kind exemption for employees charging EVs at work

## 8. Electric 'plug-in' vehicles – health and the environment

A zero emission 100% electric vehicle produces no CO2 emissions at the tailpipe, which is referred to as a 'tank-to-wheel' CO2 rate and is the basis of 'road tax' bandings. However, this does not account for the emissions created through the drilling, refining and shipping process needed to get the fuel into your tank.

According to the Office for Low Emission Vehicles, an average 1.6 litre hatchback is likely to list its emissions as 99gCO2/km. In a 'well-to-wheel' measurement, an extra 20g needs to be added, rising to 119g CO2/km. A fully electric car, based on the emissions from power generation needed to provide the electricity would give an equivalent 'well-to-wheel' figure of 87g CO2/km.

Considerable progress is being made in reducing emissions from energy generation through the increase of renewable energy and as a result of this emissions from power generation will continue to decline. Therefore, an electric vehicle has lower carbon emissions now and will have even less in the future as power generation decarbonises and there is a move to utilising renewable technologies.

Additional emissions from tailpipes to CO2, include particulates, nitrogen oxides and sulphur oxides, which directly impact on local air quality and health particularly amongst children. The Department of Health estimates that poor air quality costs our economy up to £17 billion each year through increased health problems and reduced life expectancy.

Electric vehicles also have the added benefit of little or no engine noise, which can help reduce noise disturbances and improve the local environment and mental health of people living near to busy roads.

### 9.1 Types of electric 'plug-in' vehicles

**Pure EV** - A pure EV also known as a BEV (battery operated electric vehicle) is a vehicle powered solely by a battery charged from mains electricity. Research from the Energy Saving Trust shows in 2016 the typical range of a pure EV was 124-155 miles, in 2018 this has now risen to 180-250 miles and is expected to continue rising as the technology improves. Current mainstream models include the Nissan Leaf, BMW i3, Renault Zoe and Kia Soul. As with conventional motoring, driving style, speed, use of air conditioning and heating use can reduce the range available. The top-end vehicle manufacturers including Chevrolet and Tesla have ranges of over 200-260 miles.

**PHEV (Plug-in Hybrid EV)** - A vehicle with a plug-in battery and an internal combustion engine powered by petrol or diesel. Typical PHEVs will have a pure-electric range of up to 30 miles. After the pure-electric range is utilised, the vehicle reverts to the benefits of full hybrid capability using both battery power and the engine. The benefit of these vehicles is that once the electric battery is depleted, journeys can still continue in hybrid mode. Current models include the Mitsubishi Outlander PHEV, Audi e-tron and VW Golf GTE.

**E-REV (Extended Range EV)** - These are a version of plug-in hybrids, with the vehicle powered by a battery with a petrol or diesel powered generator on board. With an E-REV the propulsion technology is always electric and range can be between 150 to 300 miles. Examples include the Vauxhall Ampera and BMW i3 with range-extender.

## 9.2 Types of electric chargepoints

There are three main types of chargepoints which are defined by the power in Kilowatts they can produce and this relates to the speed they are capable of charging an electric vehicle.

**Slow ‘Trickle’ Chargers (up to 3kW).** These are the most common method of charging electric vehicles and are use best suited for 6-8 hours overnight. It largely involves a standard single-phase 13 Amp three-pin plug used to draw up to 3kW of power – with a full charge typically taking 6 to 8 hours.

Home or workplace overnight charging is the most common type of charging for this type. Although a standard single-phase 13 amp three-pin domestic socket is adequate for home charging, a dedicated EV unit should be installed.

**Fast Chargers (7kW).** These chargers can fully recharge some models in 3-4 hours compared to the ‘slow charger’ charge times to around half of that by doubling the available current to 32 amps (7kW). This means a full charge can typically be achieved in 3 to 4 hours. Most commercial and many public on-street chargers already use this technology.

**Rapid AC Chargers (up to 43kW).** Rapid AC chargepoints provide a high power alternating current (AC) supply with a power rating of up to 43kW. At this level of power, an electric vehicle can typically be charged to 80% in less than half an hour. The Rapid AC option is a new development and only available on one or two electric models in the UK.

**Rapid DC chargers (up to 50kW).** Rapid DC chargepoints provide a high power direct current (DC) supply with power ratings of up to 50kW. At these charging rates, charging an electric vehicle to 80% typically takes half an hour.

## 10.1 National attitudes

The Department for Transport produces annual statistics with regards to public attitudes towards electric vehicles and the most recent study was published in September 2016 and this Section provides an outline of the top level results.

For driving licence holders, the percentage of drivers who hadn’t thought about buying an electric vehicle was 55% compared to 69% in the previous year demonstrating a gradual shift in opinions on electric cars.

Factors considered most important to encouraging people to buy an electric vehicle were cost (32%), battery / distance travelled on charge (19%), convenience of recharging (19%) and the vehicle being environmentally friendly (11%). These results are not dissimilar to the 2015 survey results. The study revealed that those that hold a degree are more likely to report that they had thought about buying an electric vehicle.

## 10.2 Local attitudes

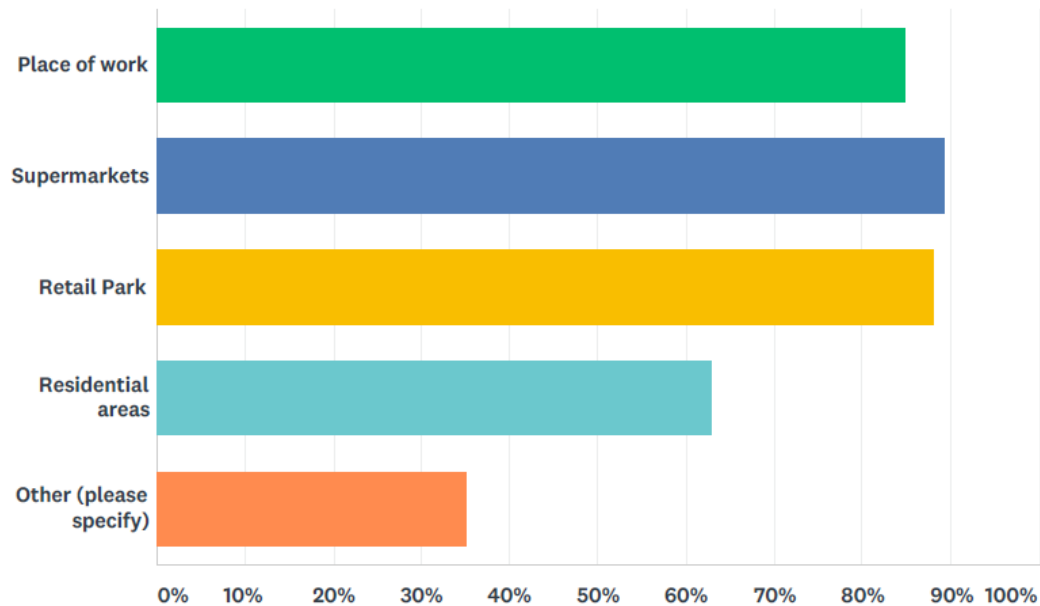
To assist in developing the update to this plan, a resident’s survey was held in May 2018 which built upon the initial survey held in May 2016. The 2018 survey achieved 219 responses which helps to demonstrate the increased interest in this technology compared to the 69

responses received just two years ago. Just under 27% of respondents state that they currently drive an electric or plug-in hybrid vehicle so electric vehicle drivers were overrepresented in our survey. The responses were mainly positive towards EV technology with 74% of respondents stating they would consider buying an EV or PHEV in the near future, compared to 62% two years ago.

Of those who are not considering purchasing an EV or PHEV, the reasons cited were the same as those in the 2016 survey, mileage range isn't good enough or EVs are deemed too expensive.

Along with a question on the preferred locations for public chargepoints (Figure 3 below) a question was also asked of those who do not have access to off-street parking to see if they would consider using an EV chargepoint located near to their home. All respondents to this question answered that they would consider it and this will enable DDC to explore the possibility of the grant scheme available through OLEV, referenced in section 7.1.

**Figure 3 – Preferred locations for public chargepoints**



Source: Daventry District Council Electric Vehicle Infrastructure Survey, May 2018

## 11. Site selection criteria

The following criteria have been identified to help establish locations to install chargepoints.

### Meeting the demands of residents

- Resident, parish council or other requirements / demands including known locations of electric vehicle owners.

### Site considerations

- Proximity to key destinations e.g. town or large village centres, leisure centres, markets, village halls, supermarkets and retail parks.
- Proximity to the strategic road network.
- Even distribution of chargepoints across the District.
- Areas where there is little or no parking stress in the local area.
- Proximity to incoming electricity supply.
- Remote Communication and Signal strength
- Lower levels of vandalism.

### Costs and legal considerations

- Council owned land preferable to avoid costly and complex legal arrangements.
- Funding opportunities from Government and/or local businesses.

### Other

- DDC own operational requirements for increased recharging infrastructure.

## 12. Site selection matrix

The following site selection matrix in *Figure 4* was developed in 2016 to identify a number of potential sites for chargepoint installations. The matrix identified suitable sites taking account of the DDC local attitude survey, discussions with Parish Councils and other local knowledge. It is by no means exhaustive, for example, future planning permission particularly in relation to new developments should take advantage of electric vehicle infrastructure installation opportunities. Funding opportunities are outlined in *Section 14* below.

The proximity to incoming electricity distribution is important to determining site suitability and will impact on cost and needs to be assessed from a site visit by a potential network provider. The potential for vandalism will also be considered with in relation to local issues and locations that may be more exposed at specific times of the day. The signal strength is key for operational use of the chargepoint, without stable connectivity the chargepoints are not operational.

Planning permission for chargepoints is permitted upon meeting the requirements of the Part 2 Class E of the Town and Country Planning (General Permitted Development) (England) Order, 2015. Each site will consider all necessary planning requirements.

For the purposes of transparency, an update on each of the 8 potential locations identified in 2016 has been added to the table below. Daventry District Council have been leading in the EV sector with the investment in charging infrastructure and use of EVs for fleet vehicles,

and this plan when initially developed in 2016 forecast an ambitious number of sites for development of EV infrastructure. The sector has grown rapidly over this two year period with advances in both charging technology and charging range so it is sensible that DDC have not rushed the install of these chargepoints while the technology is still advancing.

The update to this plan will therefore identify potential areas for EV infrastructure without specifically stipulating locations until the relevant investigative work has been completed and discussions have progressed with relevant parish councils.

**Figure 4 - Site Selection Matrix**

Potential Site Locations	Meeting the demands of residents	Site considerations				Costs and Legal Considerations	Other	Suitability Score	Proposed chargepoint installations	Update July 2018
	1. Resident, parish council or other demands including known locations of electric vehicle owners.	2. Proximity to key destinations e.g. town or large village centres, leisure centres, markets and supermarkets including shopping centres.	3. Proximity to the strategic road network.	4. Even distribution of chargepoints across the District.	5. Areas where there is little or no parking stress in the local area.	6. Council owned land preferable to avoid costly and complex legal arrangements.	7. DDC own requirements for increased recharging infrastructure.	Sites that are suitable have been scored out of 7. Each 'x' accounts for one point. It is considered that 4 or more points could be a feasible install.		
<i>Daventry Tesco car park</i>	x	x	x		x			4	1 x Rapid DC chargepoint	Leasehold car park, Tesco approached.
<i>Daventry Waitrose car park</i>	x	x	x					4	1 x dual fast chargepoint	Private land owner, more complex arrangement
<i>Daventry Aldi car park</i>	x	x	x			x		4	1 x dual fast chargepoint	DDC land, two chargepoints in Daventry town already, not as high priority
<i>Daventry Abbey Retail Park</i>	x	x	x		x			4	1 x Rapid DC chargepoint	Leasehold car park. Located very close to current chargepoints so lower priority.
<i>New Moulton Library (build deadline Feb 2017)</i>	x	x		x	x			4	1 x dual fast chargepoint	New library located at community centre not central village location. Moulton

Potential Site Locations	Meeting the demands of residents	Site considerations				Costs and Legal Considerations	Other	Suitability Score	Proposed chargepoint installations	Update July 2018
	1. Resident, parish council or other demands including known locations of electric vehicle owners.	2. Proximity to key destinations e.g. town or large village centres, leisure centres, markets and supermarkets including shopping centres.	3. Proximity to the strategic road network.	4. Even distribution of chargepoints across the District.	5. Areas where there is little or no parking stress in the local area.	6. Council owned land preferable to avoid costly and complex legal arrangements.	7. DDC own requirements for increased recharging infrastructure.	Sites that are suitable have been scored out of 7. Each 'x' accounts for one point. It is considered that 4 or more points could be a feasible install.		
										PC interested in chargepoint at Barlow Lane instead, reviewing solution options
<i>Woodford Halse Co-operative car park</i>	x	x		x				3	Site not considered suitable at present	Interest received from PC during 2018 survey so will explore other locations
<i>Lodge Road car park, Daventry</i>	x	x	x		x	x	x	6	1 x dual fast chargepoint	Second chargepoint installed in April 2017
<i>Daventry Country Park</i>	x				x	x		3	Site not considered suitable at present	
<i>Brixworth Country Park</i>	x			x	x			3	Site not considered suitable at present	
<i>Brixworth High Street /</i>	x	x		x				3	Site not considered	

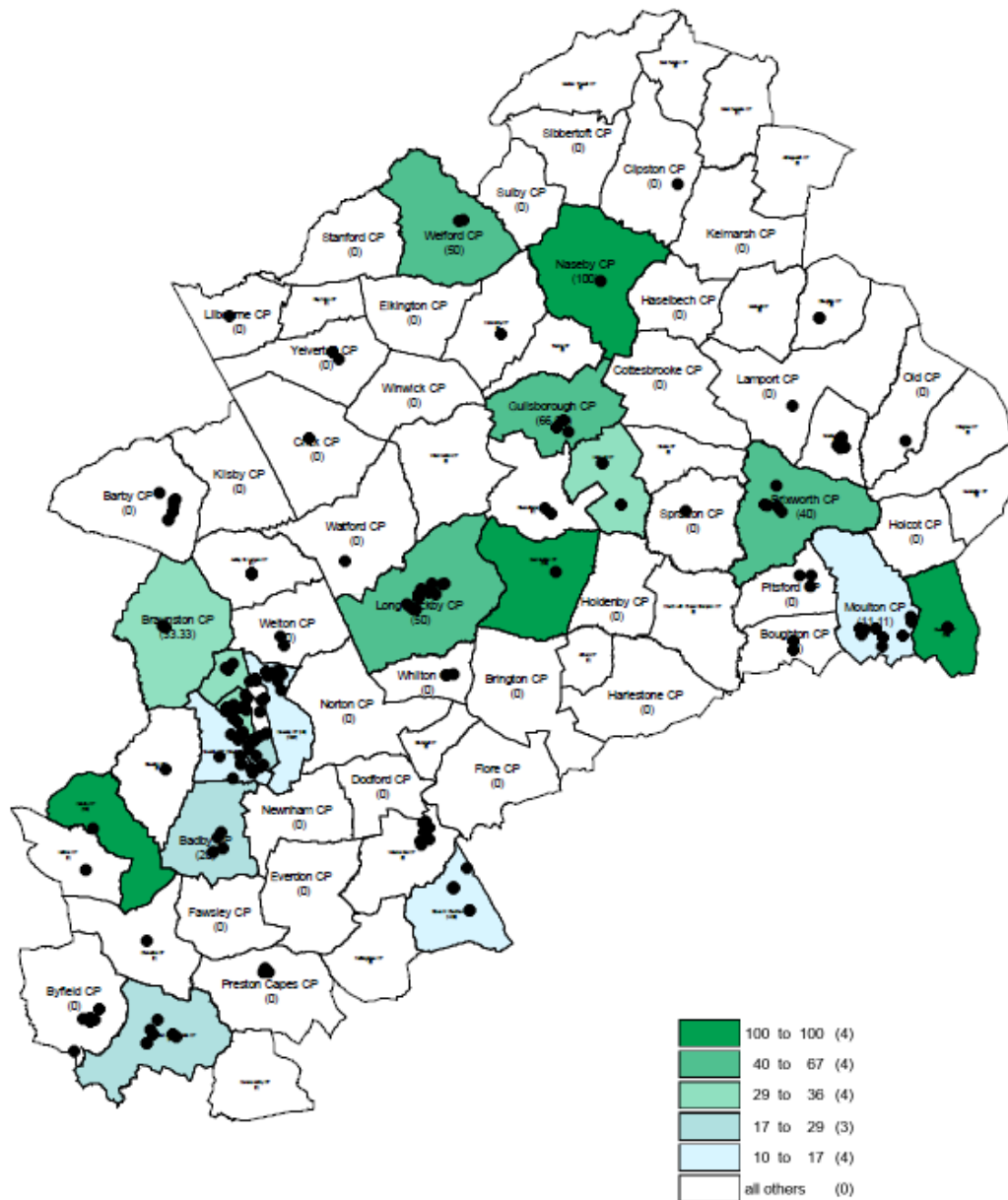


Potential Site Locations	Meeting the demands of residents	Site considerations				Costs and Legal Considerations	Other	Suitability Score	Proposed chargepoint installations	Update July 2018
	1. Resident, parish council or other demands including known locations of electric vehicle owners.	2. Proximity to key destinations e.g. town or large village centres, leisure centres, markets and supermarkets including shopping centres.	3. Proximity to the strategic road network.	4. Even distribution of chargepoints across the District.	5. Areas where there is little or no parking stress in the local area.	6. Council owned land preferable to avoid costly and complex legal arrangements.	7. DDC own requirements for increased recharging infrastructure.	Sites that are suitable have been scored out of 7. Each 'x' accounts for one point. It is considered that 4 or more points could be a feasible install.		
<i>Information Centre</i>								suitable at present		
<i>Long Buckby Library</i>		x		x				2	Site not considered suitable at present	
<i>Long Buckby, The Co-operative Food car park</i>		x	x	x	x			4	1 x dual fast chargepoint Parking stress evident in this area, Co-op car park not deemed suitable. Market Place more appropriate but demand not evident to Long Buckby PC.	
<i>Weedon. Tesco Metro, BP or other site in the village centre</i>	x	x	x	x				4	1 x dual fast chargepoint Initial discussions with PC held, to be reviewed.	
<i>Long Buckby Train Station</i>	x	x	x	x	x			5	Developer funded. Chargepoint installations Unfortunately these chargepoints have not been	

Potential Site Locations	Meeting the demands of residents	Site considerations				Costs and Legal Considerations	Other	Suitability Score	Proposed chargepoint installations	Update July 2018
	1. Resident, parish council or other demands including known locations of electric vehicle owners.	2. Proximity to key destinations e.g. town or large village centres, leisure centres, markets and supermarkets including shopping centres.	3. Proximity to the strategic road network.	4. Even distribution of chargepoints across the District.	5. Areas where there is little or no parking stress in the local area.	6. Council owned land preferable to avoid costly and complex legal arrangements.	7. DDC own requirements for increased recharging infrastructure.	Sites that are suitable have been scored out of 7. Each 'x' accounts for one point. It is considered that 4 or more points could be a feasible install.		
								outlined in the approved car park planning application although these were not a specific condition. Number of chargepoints to be confirmed.	installed as hoped by the developer. These were not stipulated as a planning condition.	
<b>Total</b>								<b>8 chargepoints</b> <b>16 connectors</b>		

From the list above, the sites which are likely to be progressed are those outside of Daventry town in order to provide chargepoints further afield in the district. Discussions have taken place with both Moulton PC and Long Buckby PC. Results from the recent 2018 survey also demonstrate a demand for chargepoints in Brixworth and Guilsborough so discussions will commence with these parish councils. Figure 5 below shows the percentage of respondents who currently use an EV/PHEV in the district from the recent 2018 survey. As outlined above, these sites are by no means exhaustive and further opportunities both within Daventry town and elsewhere in the district will be explored as and when they arise.

**Figure 5 – Percentage of respondents who currently use an EV/PHEV for personal use**



## **13. Costs and funding opportunities for chargepoint installations**

### **13.1 Infrastructure costs**

The costs of installing chargepoints will to some extent depend on site specific details and in particular, proximity to incoming electricity supply. However, to take average costs, based on previous chargepoints installed, an installed 'fast' dual chargepoint will cost approximately £6,000 and an installed dual rapid chargepoint will cost approximately £20,000.

Over the coming months, DDC will work with the parish councils identified above to look at locations within the villages which will meet the requirements of OLEVs On-street Residential Chargepoint scheme. Such sites which are deemed suitable will be used to form an application to this grant scheme which if successful would cover 75% of the infrastructure and installation costs.

### **13.2 Electricity costs and parking arrangements**

There needs to be a long term sustainable plan to cover electricity costs from recharging at newly installed chargepoints. Daventry District Council was fortunate to have the electricity costs of its first installed public chargepoint paid for by a local business and is able to meet operational costs internally for the charging of the pool car and lease vehicles. It could get very complicated if different arrangements are in place to cover electricity costs for different chargepoints across the District, either by Daventry District Council, local businesses or Developers.

It is recommended for car parking charges to be avoided for recharging at the proposed chargepoint locations. However, it would be a sensible approach for the user of newly installed public chargepoints to incur the small electricity cost or recharging. One such arrangement with the network provider Chargemaster is through a POLAR scheme whereby the driver of the plug-in vehicle can purchase a charging 'RFID' card and pay a monthly fee with the benefit of charging their vehicle at all national Chargemaster chargepoints. The electricity bill payer / land owner then invoices Chargemaster for the electricity costs. In the time since this plan was initially developed, chargepoint technology has improved and users can now access a number of chargepoints on a pay as you go basis which avoids multiple membership cards and makes access to chargepoints easier for the user. As mentioned in section 5, the impending Automated and Electric Vehicles Bill will give Government powers in this area to make access for customers as easy as possible which DDC should consider when choosing the chargepoint supplier. It is therefore recommended that future chargepoints to be installed will allow the user the option to pay for the small electricity costs using a membership card or a pay as you go option such as a debit card or mobile phone. This will set a platform for a sustainable long term solution to avoid overly complicated arrangements put on the Council.

## **14. Funding**

### **14.1 Government funding**

Investments are being made by Government in relation to plug-in vehicle infrastructure; £400 million has already been committed to encourage people to buy and drive ultra low emission vehicles, providing money for innovation, infrastructure and incentives. A further £500 million is committed between 2015 and 2020.

Specifically, funding has already been obtained by Daventry District Council from OLEV (Office of Low Emission Vehicles) as outlined previously. OLEV have expanded their grant schemes through the introduction of the On-street Residential Chargepoint Scheme and DDC will look to take advantage of this. Further details on government grants are available in section 7.1 of this plan.

## **14.2 Additional funding**

Second Homes funding has already been used for one of the public chargepoints and it may be possible to secure further funding once external funding opportunities have been explored. Local businesses should be targeted to install chargepoints on their own sites and help fund chargepoints across the District. Section 106 funding should be explored and partners of 'Love Daventry' may have funding in support of Daventry specific initiatives. If chargepoints are to be installed in village locations, parish councils will be asked to make a contribution to funding where possible.

## **15. Further Areas To Explore**

1. Encourage local businesses to install chargepoints in their own workplaces which should include an emphasis at DIRFT in particular.
2. Develop promotional literature and explore the possibility of undertaking a promotional event with regards to 'plug-in' infrastructure, electric vehicles and government funding available to residents.
3. Work with Parish Councils to identify suitable locations for chargepoints

## **16. Summary**

The introduction of the electric 'plug-in' vehicle infrastructure plan in 2016 helped to steer the direction for increasing uptake of electric vehicles in the district. It is clear from national and local data that electric vehicles on the road are increasing, but a number of constraining factors are limiting this including the convenience of recharging. With the increased investment and interest in EV technology and having already invested in this technology, DDC are well placed to continue developing charging infrastructure across our district with the support of local partners. This longer term plan allows DDC to identify a sustainable long term solution to providing charging infrastructure to our residents.