

# Supercharging the Midlands

Overcoming the challenges of a rapid, region-wide roll out  
of electric vehicle charging infrastructure



**Midlands Connect**  
Transport | Investment | Growth

September 2021

“Against the backdrop of a global pandemic, an even bigger threat looms; one that if left unchecked could cause irreparable damage to our futures, our planet and those that inhabit it. I am speaking of course, about climate change. While we have made huge strides in reducing emissions in other industries, the transport sector continues to lag behind. The uptake of electric vehicles is a central part of our sustainable transport strategy, one which sees the reduction of harmful emissions, and improved air quality. This said, there are huge challenges ahead if we’re to hit our climate targets and end the sale of new diesel and petrol vehicles in nine years’ time.

This report examines the current use of electric vehicles in the Midlands Engine region, the infrastructure in place to support it, and the infrastructure we need to meet and drive demand for zero-emissions travel in the coming years. The research is clear; we must act now to meet this demand, and if we’re to roll out the EV charging points needed, the public sector must forge ahead and play an active role. Midlands Connect will now work to support its partners in doing so, meeting the challenges and reacting to the evolving market conditions this analysis has identified.”

## Sir John Peace, Chairman



## Where we’re at

### The Environment

Climate change is the single biggest challenge we face today, both as a region, nation and part of the global community. Decisive action now, in the form of reduced carbon emissions can slow down this process, protect our communities and secure a legacy of responsible renewal.

The scale of this problem is echoed in Government policy; as well as declaring a climate emergency, the UK has committed to net zero emissions by 2050<sup>1</sup>, and outlined a clear path to carbon neutrality in its Transport Decarbonisation Plan<sup>2</sup>, published earlier this year. By this time, it is hoped that the greenhouse gases released into the atmosphere will be balanced with those taken out, achieving a sustainable environmental equilibrium.

To achieve net neutrality by 2050, we must reduce the amount of greenhouse gases we emit by 100%

compared to the levels recorded in 1990. At the end of 2020, the UK had achieved a 50% reduction on 1990 levels<sup>3</sup>, however, this reduction was partially assisted by temporary social and economic inactivity caused by the COVID-19 pandemic, and its associated restrictions.

In April, Government announced an acceleration in its carbon reduction targets, stating that carbon dioxide should be cut by 78% by 2035 compared with 1990 levels (previously the target had been to achieve a 68% reduction in this time frame).

While significant progress has been made in areas such as the energy sector in reducing carbon emissions (over half of power generated is now from renewable sources), the same cannot be said for the transport sector, where slow progress is an ongoing concern. The figures are stark; as of 2019, the UK

transport sector was the largest source of carbon dioxide emissions in the UK, accounting for 34% of overall output, with emissions falling by only 5% since 1990.<sup>4</sup>

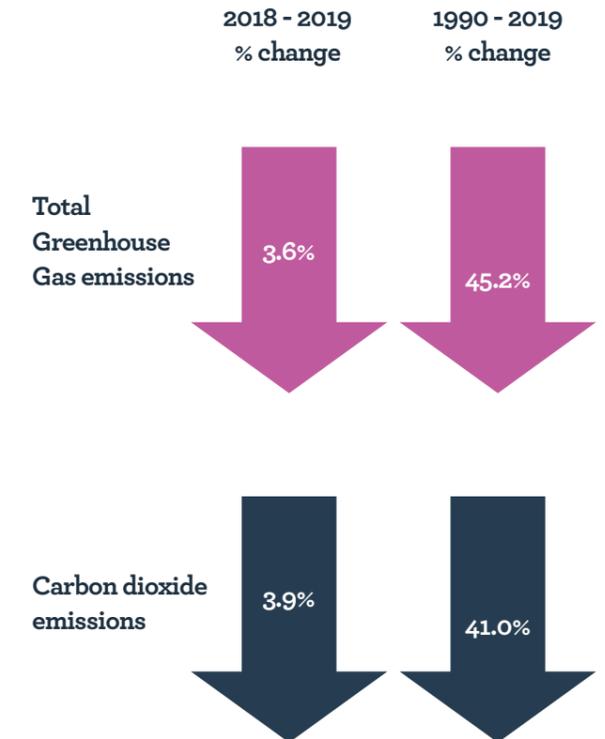
Work undertaken by Midlands Connect<sup>5</sup> estimates that in 2019, petrol and diesel emissions from road transport made up the vast majority of transport emissions (95%) in the region, particularly cars (59%). It’s therefore apparent that changes in emissions will be heavily influenced by the make-up of the UK and region’s car fleet.



### Changes in emissions by UK industry

	2018 - 2019 % change	1990 - 2019 % change
Energy Supply (including power sector)	↓ 8.4%	↓ 62.8%
Business	↓ 1.9%	↓ 42.1%
Transport	↓ 2.8%	↓ 4.6%
Residential	↓ 1.8%	↓ 16.7%
Public	↑ 0.5%	↓ 40.1%

### Net changes in emissions, UK



<sup>1</sup>UK becomes first major economy to pass net zero emissions law - GOV.UK ([www.gov.uk](http://www.gov.uk))

<sup>2</sup>Transport Decarbonisation Plan – GOV.UK ([www.gov.uk](http://www.gov.uk))

<sup>3</sup><https://www.carbonbrief.org/analysis-uk-is-now-halfway-to-meeting-its-net-zero-emissions-target>

<sup>4</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/875485/2019\\_UK\\_greenhouse\\_gas\\_emissions\\_provisional\\_figures\\_statistical\\_release.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/875485/2019_UK_greenhouse_gas_emissions_provisional_figures_statistical_release.pdf)

## Electric vehicles

Transport emissions must decrease significantly and rapidly, if we're to meet our climate targets. Government has taken action to accelerate the uptake of electric vehicles (EVs), providing subsidies to those purchasing a new electric car and banning the sale of new petrol and diesel vehicles from 2030.

“Zero emission vehicles are the right solution to tackle greenhouse gas emissions and poor air quality from cars and vans. EVs in particular will strengthen the UK's energy security by partly replacing our reliance on oil with largely homegrown energy sources.”

**Government's 'Transitioning to zero emission cars and vans 2035 delivery plan' released 2021**



For consumers, the benefits of purchasing an EV are numerous; unlike conventional vehicles they have no exhaust pipe and do not emit any dangerous gases such as carbon dioxide or nitrous oxides, reducing pollution and improving air quality for local communities. As well as being considerably cheaper to power – charging an EV in public costs approximately 58 per cent less than filling a car with petrol<sup>6</sup>, while at-home charging is even more cost effective – EVs are also exempt from most congestion charges and road tax.

Although uptake has steadily increased, there is still a long way to go. Research conducted last year by the Society of Motor Manufacturers and Traders (SMMT) found that a lack of affordability (purchasing an EV is generally more expensive, even though fuelling and maintenance costs are lower) and worries about where to charge were the main factors that put consumers off purchasing an electric vehicle.<sup>7</sup> It is clear that a sustained effort to improve charging infrastructure is needed if we're to drive and meet the demand of a growing cohort of EV drivers.

Public charging infrastructure has an important part to play in providing reassurance to prospective buyers and a means of charging for those without

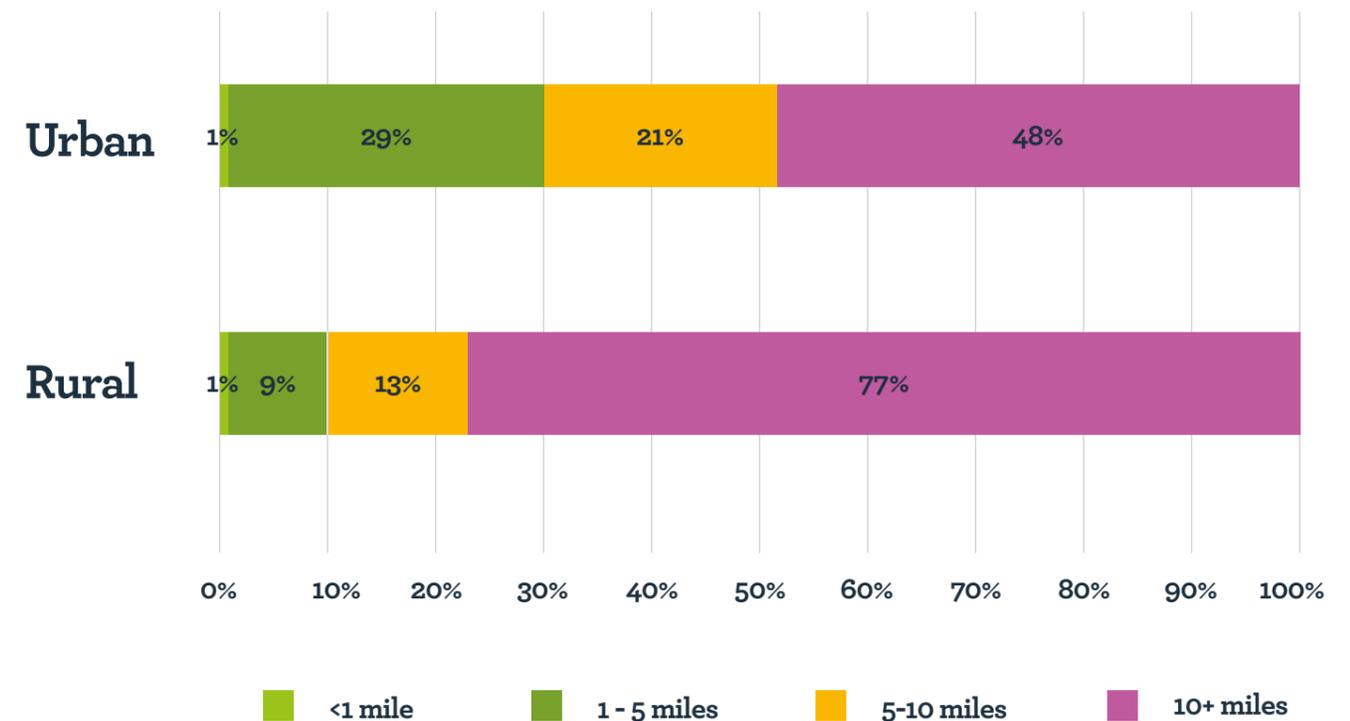
access to off-street parking. Our research suggests that at present, 93% of EV owners are estimated to have access to off-street parking; however 32% of households across the Midlands Connect region are reliant on on-street parking. This is particularly prevalent in denser urban areas; approximately 50% of households in Leicester are reliant on on-street parking, and over 40% of households in Nottingham, Birmingham and Stoke-on-Trent. Even accounting for lower car ownership among households without off-street parking, those with access to off-street parking are over three times more likely to switch to an EV than those without.

Finally, it's also important to acknowledge that the uptake of electric vehicles, although critically important to our carbon-neutral future, cannot drive the change we need in isolation, and must be rolled out alongside other measures to increase active travel and reduce car miles.

Midlands Connect data suggests that EVs may have an increasingly important role to play in rural areas, where a larger proportion of emissions come from longer trip distances over ten miles. These journeys are less likely to be easily transferred to active travel methods such as cycling and walking, and so a higher degree of motorised travel is likely to remain.



### Estimated car emissions by area type and trip length (origin of trips)



Source: Midlands Connect Carbon Baseline Tool

<sup>6</sup><https://www.autoexpress.co.uk/news/352747/electric-cars-are-cheaper-own-petrol-cars>

<sup>7</sup><https://www.smmt.co.uk/2020/09/billions-invested-in-electric-vehicle-range-but-nearly-half-of-uk-buyers-still-think-2035-too-soon-to-switch/>

# Super-charging the Midlands in numbers

In 2019, petrol and diesel emissions from road transport made up the vast majority of transport emissions (95%) in the Midlands region, particularly cars (59%).

(As of the end of 2020, 0.74% of registered vehicles in the Midlands Connect region were EVs)



Predicted number of registered EVs in the Midlands (mid-range scenario)

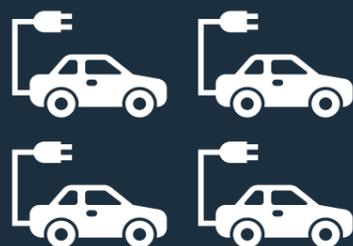
44,909 (0.7%) 2020 (Actual)	418,197 (6.8%) 2025	1,769,855 (28.4%) 2030
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**2020**

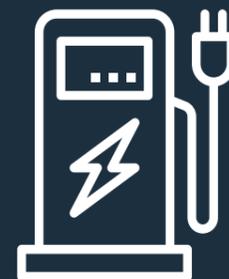
>1 in 100 registered vehicles is electric

**2030**

>1 in 4 registered vehicles could be electric



Over **4x** as many EVs per person in Solihull than anywhere else in the Midlands



On average, there is currently **1 publicly-available** electric vehicle charging point **per 19 electric vehicles in the Midlands**, reflecting the national average of 1 charge point per 20 electric vehicles

To meet the charging requirements of a growing fleet, we must install an average of:

**10.8**

new charging points every day

**75.8**

charging points every week

or **3,941**

charging points each year, from 2021-2030

That means installing **6x** as many charging points as we do now



Households without access to on-street parking are **3x less likely** to have an EV



93% of EV owners currently have access to off-street parking; however, 32% of households across the Midlands Connect region are reliant on on-street parking

# Electric Vehicles in the Midlands

## The current position: EV uptake

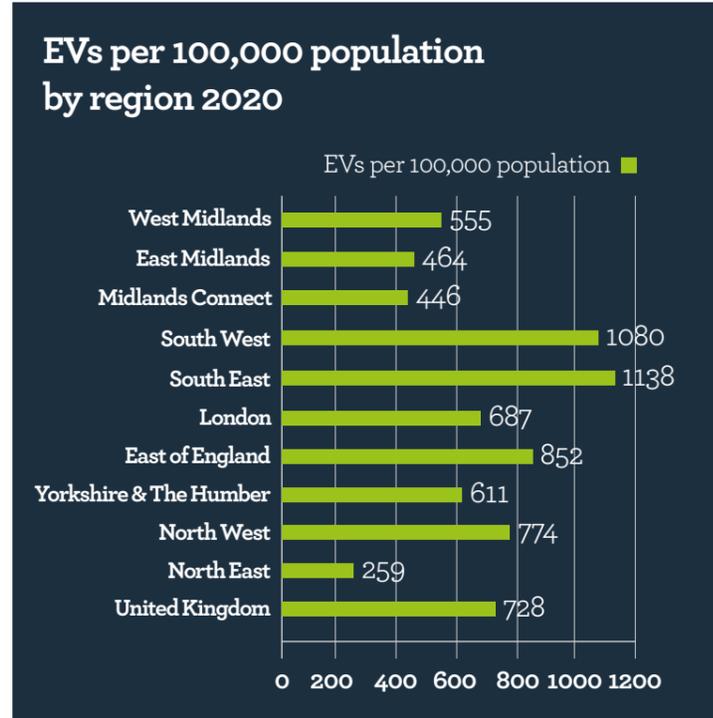
At the end of Q1 2021, 44,909 EVs were registered across the Midlands region; 29,432 (56%) of these were battery EVs and 20,778 were plug-in hybrid EVs (40%). At a region wide level, the East and West Midlands have levels of EV use significantly below the UK average, with the contingent of EVs roughly half that of the South East and South West.

*Note: Due to a small number of vehicles being of unknown transmission type (BEV or PHEV), summing the BEV and PHEV figures will not equal the total EVs figure. This is a known issue with the DfT data, as reported by DfT.*

Source: [Electric vehicle charging device statistics: July 2021 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/statistics/electric-vehicle-charging-device-statistics-july-2021)

## The current position: EV charging infrastructure

At the end of July 2021 there were 2,716 publicly accessible charge points across the Midlands Connect area, with one charging point available for every 19 EVs. While the Midlands has fewer charging points than the UK average, this average is driven up

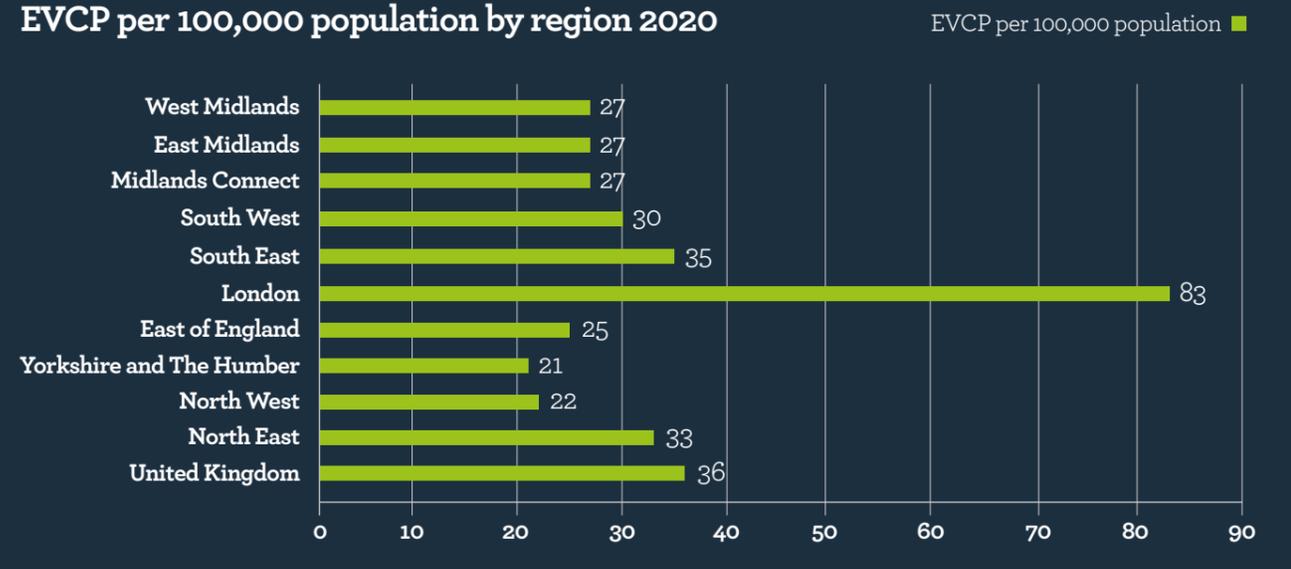


significantly by London, which has more than double the amount of EVCPs per person than any other UK region.

This uneven playing field is exacerbated by the fact that London benefits from a more comprehensive transport network than anywhere else in the UK, and a lower reliance on private vehicles. Although Londoners have access to twice (2.16) as many EVCPs per person than the UK average, they are 40% less likely to own a vehicle.

Source: [All vehicles \(VEH01\) - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/statistics/all-vehicles-veh01)

## EVCP per 100,000 population by region 2020



## An international view

EVCPs by country 2020	Total EVCP	Slow Chargers (<=22kW)	Rapid Chargers (>22kW)	Population	Total EVCP per 100,000 Population	Rapid EVCP per 100,000 Population
Netherlands	66665	64236	2429	17,407,600	383	14
Norway	18719	13547	5172	5,367,600	349	96
Iceland	386	288	98	364,100	106	27
Sweden	10412	8804	1608	10,327,600	101	16
Austria	8232	6885	1347	8,909,100	92	15
Switzerland	7834	6676	1158	8,606,000	91	13
Belgium	8482	8006	476	11,549,900	73	4
France	45751	42000	3751	67,098,800	68	6
Finland	3728	3244	484	5,525,300	67	9
Denmark	3254	2699	555	5,822,800	56	10
Germany	44669	37213	7456	83,166,700	54	9
United Kingdom	20,775	16,895	3,880	67,081,234	31	6
Portugal	2470	1976	494	10,295,900	24	5
Italy	13381	12150	1231	60,244,600	22	2
Ireland	1082	812	270	4,963,800	22	5
Midlands Connect	2170	1618	552	10,070,331	22	5
Spain	8173	6045	2128	47,330,000	17	4
Hungary	1295	1008	287	9,769,500	13	3
Czech Republic	1200	590	610	10,693,900	11	6

At an EU level, the UK is lagging behind countries such as the Netherlands, Finland and Sweden, whose more comprehensive public EV charging networks and other pro-EV policies culminate in much higher EV use.

Sources: [Electric vehicle charging device statistics: January 2021 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/statistics/electric-vehicle-charging-device-statistics-january-2021)  
[d2f799bf-4412-05cc-a357-7b49b93615f1 \(europa.eu\)](https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&code=sdg-13-3-10&plugin=1)



## Lessons from Norway

Last year, Norway became the first country in the world where sales of electric vehicles outstripped purchases of petrol, diesel and hybrid vehicles. In 2020 54.3% of cars sold in Norway were full battery electric vehicles (BEV)<sup>8</sup>, compared to 2.7% in the UK<sup>9</sup>. Over the past three decades the Norwegian Government has phased in a raft of policies to encourage the purchase and use of EVs, including exempting EVs from VAT (introduced in 2001), abolishing import taxes on EVs (1990) and giving EV drivers access to bus lanes (2005). These targeted incentives are aimed at helping Norway to become the first nation to end the sale of petrol or diesel vehicles by 2025, five years ahead of the UK and the rest of Europe.

<sup>8</sup> <https://www.theguardian.com/environment/2021/jan/05/electric-cars-record-market-share-norway>

<sup>9</sup> <https://www.smmr.co.uk/vehicle-data/evs-and-afvs-registrations/>

# How do you solve a problem like no off-street parking?

Residents who don't have access to private parking or a driveway, and who are therefore unable to charge their EVs at home, are much less likely to buy an electric vehicle. At present, just 7% of EV owners live in houses without access to off road parking.

Many towns and cities in the Midlands, especially those with a high proportion of terraced housing, are keen to accelerate the roll out of public chargers to empower these communities to purchase and use EVs. Below are two examples of how Local Authorities in the Midlands have successfully secured Government funding to do just this:

## Leicester City Council (LCC)

A public charge-point trial is currently underway to introduce 22 public electric vehicle (EV) charging points in two areas on the outskirts of Leicester city centre.

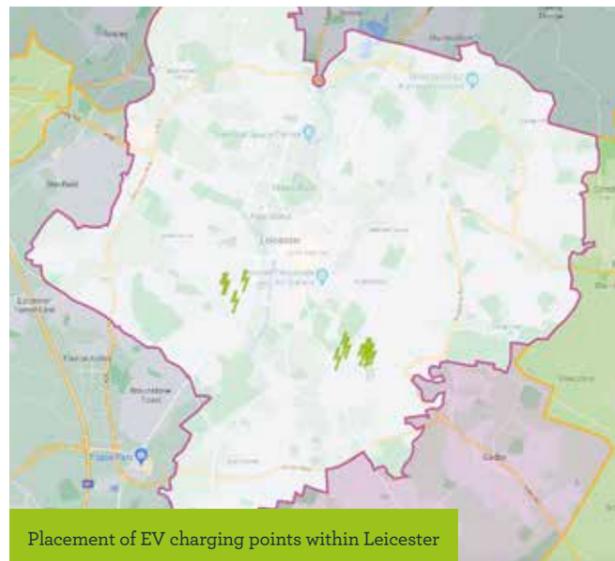
After securing £95,350 in Government funding, through the On Street Residential Charging scheme, Leicester City council identified Westcotes and Clarendon Park as prime locations for the pilot scheme, following engagement with local residents, which identified them as areas with:

- The highest numbers of existing EV ownership, or highest proportion of residents with an intention to buy an EV
- A high proportion of residents with no off-street parking



Charging points are being fitted on and linked to existing lamp posts, reducing street clutter and maintaining kerb space. The standard voltage EV chargers enable a steady charge over around 8 hours and are intended for overnight or longer charging for local residents.

This infrastructure is being managed by private company Char.gy, however, as the full EV infrastructure roll out accelerates in Leicester, the council is keen to form a long-term concessionary agreement with a private organisation to retain influence over how much drivers are charged, the terms of infrastructure maintenance and user experience.

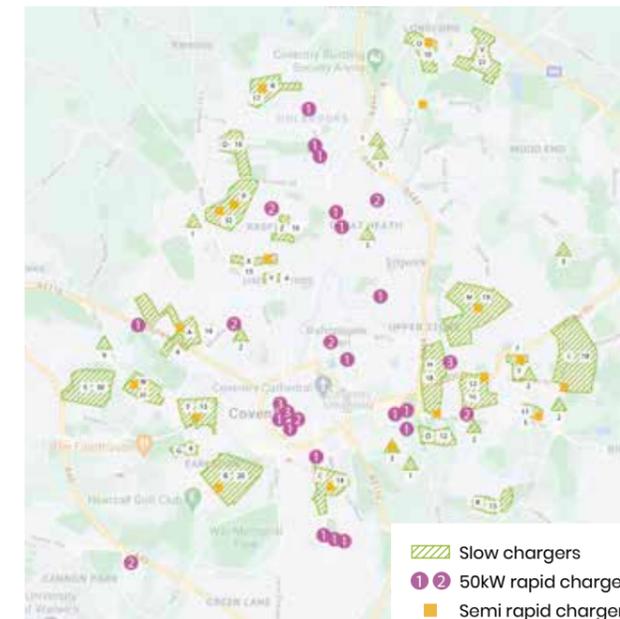


Placement of EV charging points within Leicester

## Coventry City Council

In February 2019, Coventry City Council was awarded £300,000 by the Department for Transport to accelerate the installation of public EV charging points in residential areas.

Since then, through further funding applications, 373 on-street charging points have been installed in 'charging zones' across the city. Typically, each charging 'zone' is located in an area with a high proportion of terraced housing and has both a rapid and standard charging point, each with a corresponding parking space.



### Standard charging point

Aimed at local residents living in adjacent terraced housing, allowing them to park and fully charge their own Electric Vehicle over a period of eight hours, near to their homes.

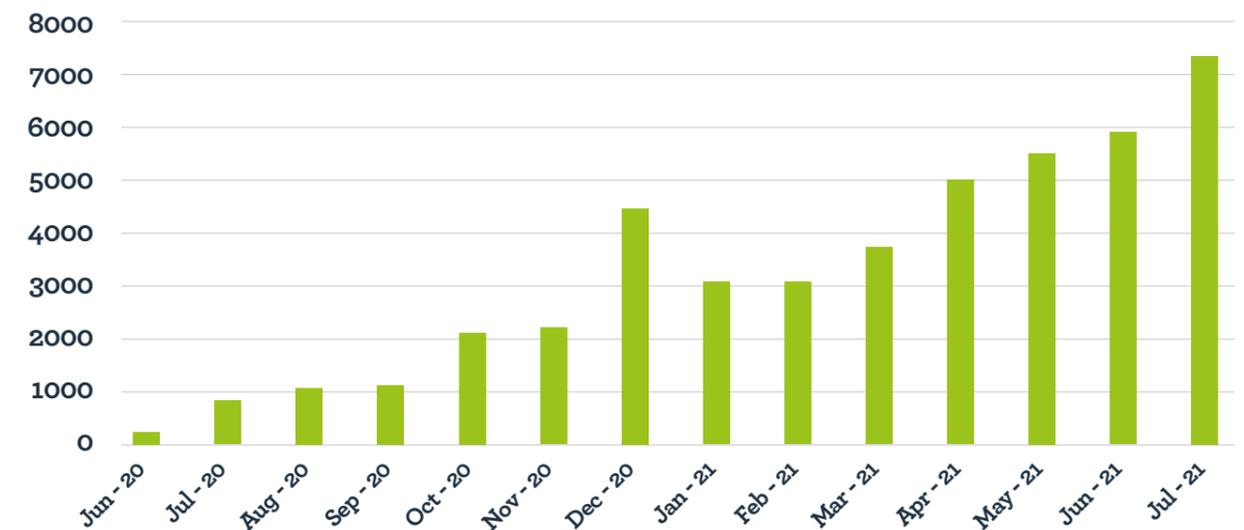
### Rapid charging point

Aimed at commuters or visitors to the area, who are looking for a faster charge, or boost of power before driving back to their destination. Sensors are in place in the charging bays to ensure that they are used for charging only, and not as a parking space by petrol/diesel vehicles.

Since the installation of these public charging points, usage has rapidly and steadily increased, hitting an all time high of 5,869 kilowatts worth of power in June 2021. It is hoped that this comprehensive network of public charging infrastructure will increase the purchase and use of EVs by local residents, especially those with no off-street parking.



## Energy usage from on-street residential EV charging in Coventry in kilowatts



# Where we're going

There are a number of political and market forces that are driving an increase in EV sales, with growth due to accelerate even further. These include:

- A strong pipeline of new EV models due to be launched
- Ban on the sale of new petrol and diesel cars from 2030
- Increases in production volumes as manufacturers increase their focus on EV production
- Rise in affordability – EVs will cost roughly the same as conventional vehicles from 2024-2025
- Ongoing Government support and incentives



We analysed a wide range of industry forecasts from sources including Bloomberg NEF, Department for Transport, National Grid, Institute of Economic Affairs, International Council on Clean Transportation and Deloitte, to develop a picture of the likely future uptake of EVs in the Midlands.

This analysis provided three different scenarios:

## Scenario 1



### Slower EV Growth

This scenario results in a forecast of approximately 21% of total registered vehicles in the Midlands Connect region being EVs by the end of 2030.

## Scenario 2



### Mid-range EV Growth

This scenario results in a forecast of approximately 28% of total registered vehicles in the Midlands Connect region being EVs by the end of 2030.

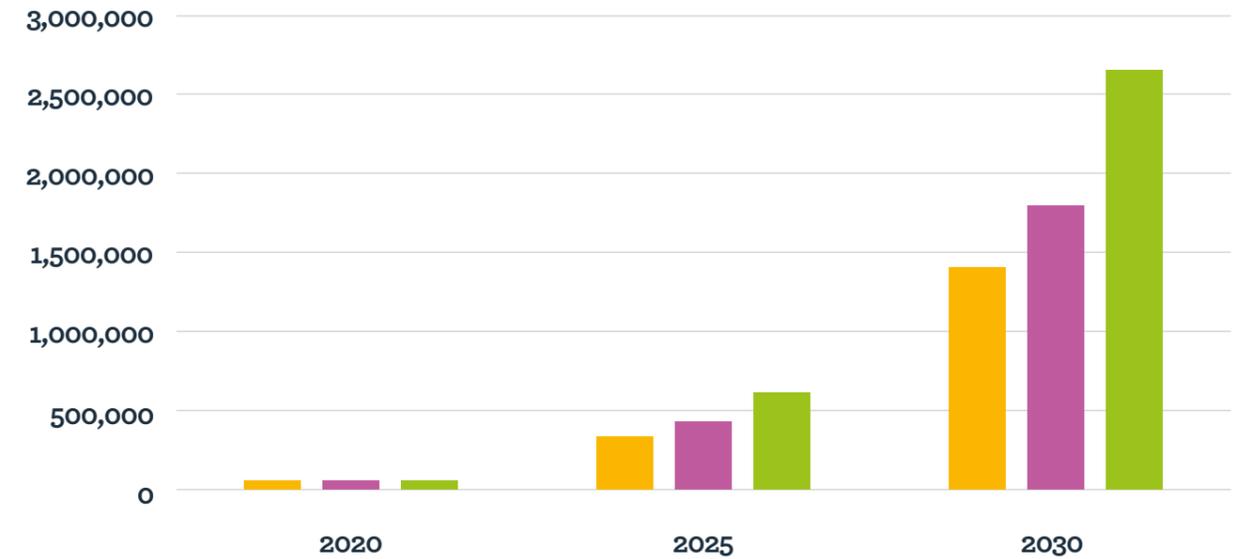
## Scenario 3



### Accelerated EV Growth

This scenario results in a forecast of approximately 41% of total registered vehicles in the Midlands Connect region being EVs by the end of 2030.

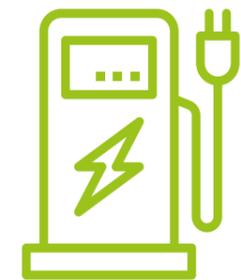
Forecast EV uptake for Midlands Connect area, up to 2030



EVs Registered	Baseline	2025	2030
Scenario 1 - Slower Uptake	44,909 0.7% (2020 Actual)	344,951	1,304,156
% EV		5.6%	20.9%
Scenario 2 - Mid-range Uptake		418,197	1,769,855
% EV		6.8%	28.4%
Scenario 3 - Accelerated Uptake		642,762	2,527,845
% EV		10.5%	40.6%

To support the number of EVs on the road in Scenario 2, the Midlands needs 17,000 EV chargers in place by 2025, and over 39,000 EV chargers by 2030.

To meet this need, we must install on average 10.7 new EV charging points every day, 75.8 charging points every week, or 3,941 charging points each year, from 2021-2030. With these figures in hand, we must now examine how we can support the rapid acceleration of new EV charging points; between October 2019 and October 2020 just 612 new EV charging points were installed in the Midlands area.



Forecast EVCP Requirement	Baseline	2025	2030
Lower EVCP Provision	2,716 (2020 Actual)	9,466	19,705
Mid-range EVCP Provision		16,837	39,410
High EVCP Provision		23,957	70,580

# How to get there

## The Challenges

Our analysis identified several issues that could hinder our ability to install charging points at the pace needed by 2030, which could in turn stifle the demand for EVs and have negative environmental consequences. These include:

### Market volatility

The EV market has evolved rapidly since the release of the first commercial electric car in 1990. With the average range of a single battery charge increasing, and new models being released onto the market more rapidly than ever, we must continue to monitor the effect this has on driver behaviour and charging point compatibility. There is no one universal charging point for all EVs – forecasting market changes and keeping in dialogue with manufacturers is essential if all EV owners are to be sufficiently catered for.

Furthermore, the EV policy landscape is likely to change over the course of this decade, as political priorities shift and Government looks to react to the financial pressures of the coronavirus pandemic. For example, in the March Budget, the Chancellor announced a reduction in the plug-in vehicle subsidy from £3,000 to £2,500, with the top value of eligible vehicles lowered from £50,000 to £35,000.

### Action: Establish EV forum

Midlands Connect will work with its partner authorities to establish and co-ordinate an 'EV Forum' to support knowledge sharing, upskilling resources and facilitating engagement between Government and the private sector. This will seek to enable greater co-ordination and cross-boundary working and to aid monitoring and evaluation of EV charging infrastructure delivery.



### Lack of grid capacity

Significant strain will be put on the National Grid to meet the charging demand created by projected growth in EV ownership. By 2030, there is expected to be a significant reduction in available capacity at the primary substations in the region, potentially slowing down EVCP roll out by adding to delivery cost, introducing delays and preventing sites from being commercially viable. Early engagement with Distribution Network Operators (DNOs) can be hugely beneficial in ensuring available energy is being used effectively, and in exploring ways to increase the energy supply available to the chargers. These include conventional grid upgrades, grid level load management and flexible connections, through to battery storage and on-site generation.

### Action: Engage with DNOs

Midlands Connect will engage with Distribution Network Operators to better understand how to overcome the grid constraints present in the region, sharing this information and coping strategies with its local authority partners.



## Planning for the right charging point, in the right location, at the right time

When planning the specification and location of EV chargers, a number of factors should be taken into account to ensure they are fit for use. One of the most important factors to consider is dwell time; while it's reasonable to think an EV owner can park their car overnight or for a longer period of time at a location close to their home, to allow for slower charging, the same cannot be said for those stopping off for a top up charge on a long-distance journey, or those with an EV geared up for rapid charging.

Balancing the cost of installing the charging point, how many EV owners are able to use it, and how convenient it is as a charging location is essential to ensure the deliverability and longevity of new charging points.

There are five categories of publicly accessible electric vehicle charging point:

### Off-street charging

#### 1. Destination charging via off-street chargers

Typically found in leisure and retail locations, park and ride sites or council owned car parks. They usually have moderate speeds (7-22kW) for occasional daytime charging and top up charging with a dwell time of one to three hours or more.

#### 2. Destination charging via off-street residential / community charging hubs

Provide locations for residential charging where on-street charging is not practical, and where there is limited opportunity for at-home charging. Examples include flat/apartment developments with a private car park, or housing estates that have local centres. Charging speeds can vary to cater to different users –including slower speeds (7kW) for those charging overnight and higher speeds for those wanting a top-up charge (50-150 kW).

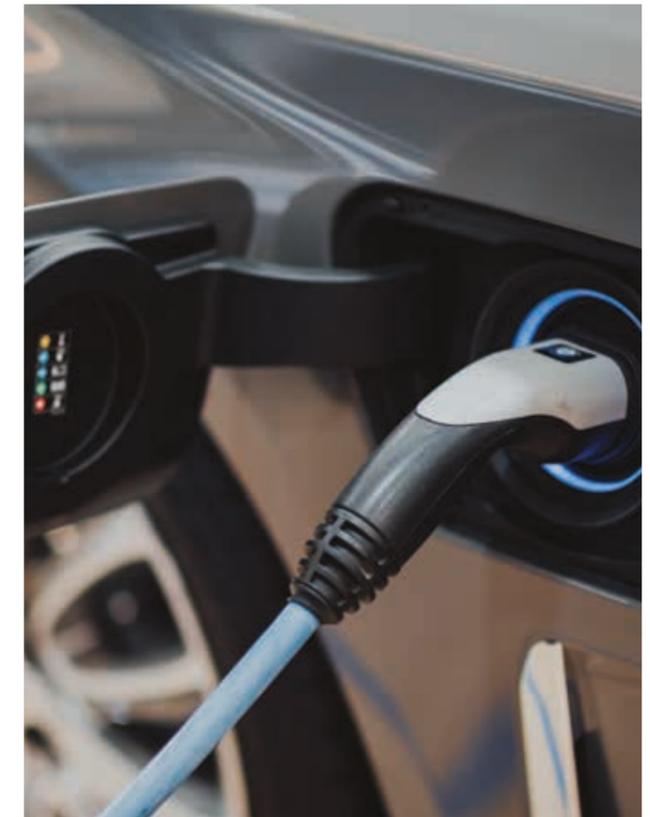
#### 3. Intermediate Charging at Rapid hubs

Usually located along main transport routes, these charging points provide high speed charging (50-150 kW) requiring users to only remain on site for a short time.

### On-street charging

#### 4. Residential charging via on-street chargers

Typically found in residential areas with limited off-street parking but may also be found in other locations such as e-car club bays. As vehicles are likely to be



parked for a long time, the EVCPs used typically have slower speeds (3-7kW).

#### 5. Destination charging via on-street chargers

Often found at destinations such as taxi ranks and shopping locations, providing occasional day time and top up charging. A short dwell time would be expected and therefore higher charging speeds are provided, anything from 7-22kW up to rapid 50-150kW chargers.

### Action: Create EV Infrastructure Planning tool

Midlands Connect is developing an 'EV Infrastructure Planning tool' which will help its local authority partners to identify the best locations for new charging infrastructure. By analysing what charging infrastructure exists at a destination, information about car parking, hospitals, and tourist attractions, as well as identifying areas where communities are likely to switch to or purchase a new EV, the tool will help our LA partners to choose the best locations to install new EV charging points.



# The role of the public sector in delivering EV charging infrastructure



income and reward. When deciding upon the best option, local authorities face a trade-off; the lower the financial risk they are prepared to take on, the lower the income they will receive, and the less control they will retain, and vice versa.

Unsurprisingly, the private sector tends to fully fund EVCPs where the commercial case for doing so is strongest. At the moment, **fully funded charging infrastructure** is usually found at destinations and ‘intermediate sites’ such as public charge points at motorway service stations and petrol stations. These sites are typically used for longer journeys, or where a quick turnaround charge is required, and rapid chargers are the most likely to be commercially deliverable.

**Public and concessionary models** are expected to remain dominant in areas where the commercial case is weaker, and does not appeal to private sector investors, either because usage is likely to be modest or the delivery costs are high. Examples of where the private sector may fail to deliver include on-street residential charging, and rapid or ultra-fast charge points in rural areas, or areas with high grid connection costs. In the longer term, EV charge points are likely to be delivered on an increasingly commercial basis, as the number of EVs increases and business cases improve.

Engagement with Midlands Connect’s partner authorities revealed a widespread **preference for concessionary models**, where grant funding from Central Government and private sector investment work hand-in-hand to deliver charging infrastructure. By offering a balanced profile of control, risk and reward, this model allows multiple sites to be packaged up together, with companies invited to bid for the opportunity to operate them. Crucially, this allows less commercially attractive sites to be offset by those that are more attractive to operators. This prevents local authorities being left only with hard to deliver sites, which are likely to be loss making, and allows greater charging point coverage.

Another way local authorities can optimise charge point delivery is by leveraging scale - putting together wider area funding applications and procurement processes. This can attract economies of scale, lessen the resource burden on their staff, and strengthen the strategic case for investment, whilst providing greater consistency across the region.

There is a widespread appetite among the private and public sectors to invest in EV charging infrastructure. Without investment from both parties, we are highly unlikely to deliver the infrastructure needed.

The models typically deployed to fund public EV charging points are outlined in the table adjacent; each model provides a different profile of potential

Delivery Model	Potential Income	Potential Risk	Advantages	Disadvantages
<b>Fully funded options – revenue share</b> All costs paid for by a Charge Point Operator (CPO), which is granted a long-term lease/license by the Local Authority, to allow the CPO to recover its costs	Low	Low	<ul style="list-style-type: none"> <li>• Lowest risk</li> <li>• Rent paid to LA by CPO provides some guaranteed income</li> <li>• CPO heavily incentivised</li> </ul>	<ul style="list-style-type: none"> <li>• Many areas are currently commercially unviable</li> <li>• Lowest potential income for local authorities</li> <li>• Least control and inability to incorporate wider goals</li> </ul>
<b>Concessionary Model</b> Funded by the public sector or part funded by the public and private sector, and operated by a Charge Point Operator (CPO) for an agreed period under a profit share arrangement	Medium	Medium	<ul style="list-style-type: none"> <li>• Some income share</li> <li>• CPO incentivised</li> <li>• Reduced risk for public sector</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced income share compared to full ownership</li> <li>• Complex procurement process</li> <li>• Needs to cover a relatively large number of sites</li> </ul>
<b>Public Ownership</b> Paid for and owned by the public sector, with capital and maintenance costs recouped from usage charges. Operations are contracted to a Charge Point Operator (CPO)	High	High	<ul style="list-style-type: none"> <li>• Highest income potential</li> <li>• Full control over locations and pricing</li> </ul>	<ul style="list-style-type: none"> <li>• Requires significant grant funding</li> <li>• Highest risk for LAs as they have ongoing liability and are responsible for maintenance costs (hard to cover these if EVCP usage is low)</li> </ul>

# What now?

The research outlined in this report is both encouraging and concerning, and above all, highlights the need for swift action. To install the electric vehicle charging points needed to support the growing market, and to reach our decarbonisation goals, we must do so five times as quickly as we have done before. It is clear that while both the private and public sector must play an important role, there are a set of enduring challenges that must be overcome including; a lack of grid capacity, market volatility and selecting the right charging point in the right location at the right time, using the correct delivery model.

In setting out an understanding of where we are now, where we think we need to get to and how we can get there, there is the opportunity for the region to come together to overcome these challenges and enable an uptake in electric vehicle usage that will be critically important to our carbon-neutral future.



## To assist its local authority partners, Midlands Connect will now:

- Establish an 'EV Forum', bringing together the public and private sectors to share data and discuss a region-wide EV strategy
- Engage with Distribution Network Operators to discuss how we can overcome limits to local grid capacity
- Complete and share an EV tool, that will help local authorities to identify the best places to install new EV charging infrastructure
- Further develop this line of research and work alongside the Department for Transport to position the Midlands as a test bed for the accelerated delivery of charging points, while also encouraging EV uptake.
- Examine what role the public and private sectors must take in the future rollout of public charging points, developing suggestions for how these roles can be supported in Government policy





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