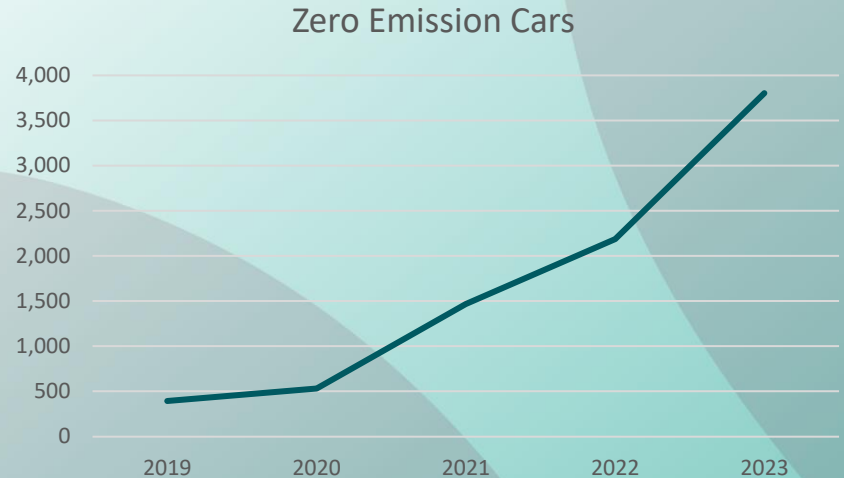


Electric Vehicle Charging Points

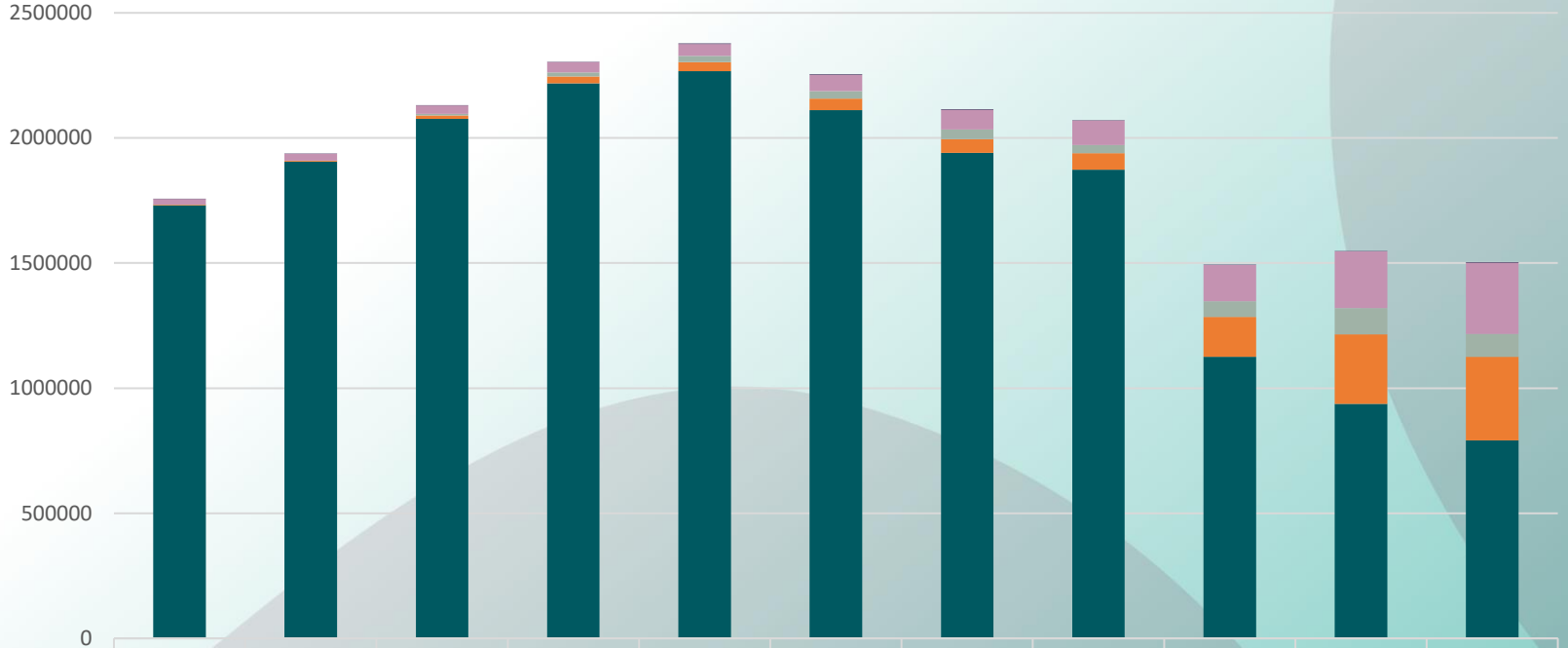
EDTCE Scrutiny Working Group

Electric Vehicles in Leicester

- 3,802 battery electric and plug in hybrids in Leicester as of June 2023.
- 2% of total cars registered in Leicester

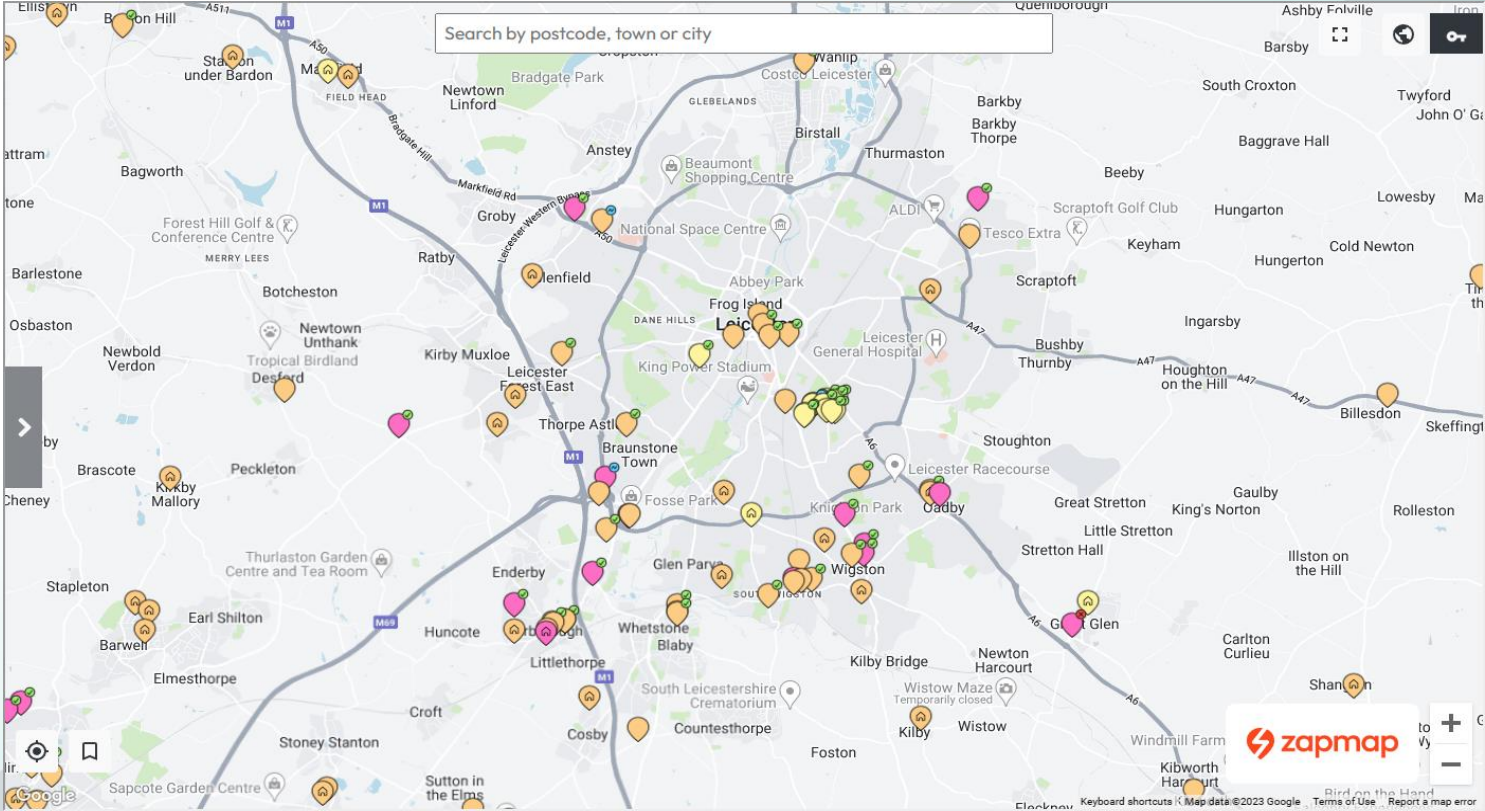


New Vehicle Registrations by Fuel Type (National)



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Other	558	387	1291	1704	1905	2381	2166	352	769	1847	2639
Hybrids	22840	26782	34112	40856	47264	64737	78060	98108	145888	226253	284744
Plug In Hybrid	526	629	6070	16256	25247	30582	38935	32151	61733	104407	90753
EV	2532	3402	13279	26837	36459	45336	55166	66613	158882	278119	333566
Fossil Fuel	1730329	1905009	2076098	2218129	2265954	2111311	1939835	1872584	1125930	937558	791564

Public Charger Availability (117)



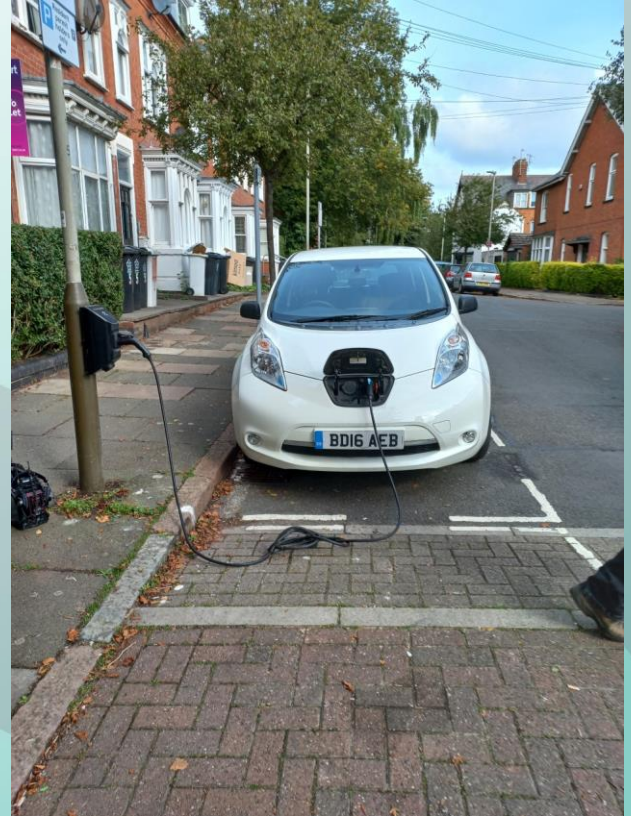
Charger Types and Speeds

Slow	Standard	Fast	Rapid
<7.1kW	7.1kW – 22kW	22kW – 50 kW	50kW – 150kW
<5:29 hours	5:29 – 1:46 hours	1:46 – 0:46 hours	0:46 – 0:15 hours

Charging times based on a new Nissan Leaf, 39kWh battery. Not all vehicles will support all charger types

Delivery Streams

- On Street Residential Chargepoint Scheme (ORCS) – **22** (slow) chargers - **Delivered**
- European Regional Development Fund (ERDF) – **5** rapid and **30** fast chargers – **Being delivered**
- Local Electrical Vehicle Infrastructure Fund (LEVI) – indicative allocation of £3.38m – **Planned Delivery**



Types of charging solutions

Hyper-Local

- Off street parking
- Kerb channels and fitments

Local

- Lamp column chargers
- On street charging docks

Destination

- Charging hubs
- Car park charging



National Policy

- Decarbonisation of road transport a key part of the government Net Zero Strategy and Transport Decarbonisation Plan.
- All new cars are to be zero emission by 2035.
- 80% of new cars and 70% of new vans to be zero emission by 2030.
- Most of the demand for EV charging to be provided by the private sector.

Local Objectives and Policy

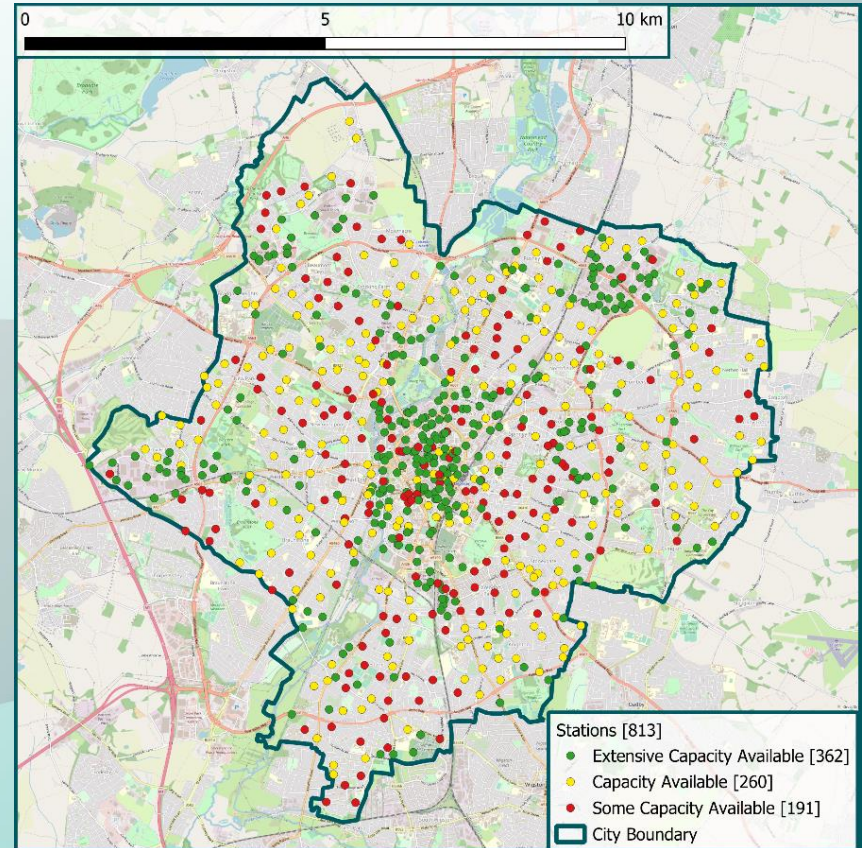
- Transitioning vehicles to zero emission a key part of the Carbon Neutral Roadmap – largest possible impact on transport related emissions.
- Also a key feature of the Local Plan, Climate Emergency Action Plan, and Air Quality Action Plan, recognising the benefits to local air quality as well as decarbonisation.

Challenges

- Grid capacity
- Cost
- Highway space/constraints
- EV uptake
- Market development for chargers

Grid Capacity

- Grid capacity a primary barrier to the volume and type of chargers that can be deployed
- Grid capacity can be an issue at various levels, from substations through to transformers.
- Not always logical where streets are grid connected, each site requires engagement with National Grid.
- In discussions with National Grid



Cost

- Electrical vehicle chargers can range from £22,000 - £57,000 dependent on type. This does not include potential upgrades to the power network.
- Upgrades to electrical grid expensive, but within scope of LEVI grant – though this will reduce the number of chargepoints that can be installed.
- Expectation is that LEVI grant will provide around a fifth of the necessary level of support, nationwide, with the private sector to provide the remainder.

Highway Space and Capacity

- In many areas of the city, there is limited space for the necessary infrastructure without sacrificing some amount of utility e.g. general parking.
- Solution such as kerb channels and cables create expectation of reserved parking outside of homes, and in many locations will only support one side of the street.
- Insufficient highway space to provide one charger for every formal or informal parking space in the city.

EV Uptake

- Most electric vehicles continue to come at a higher price premium compared to ICE counterparts. Second hand market still growing.
- Increase in electricity costs reduces value benefits over conventional fuels for those without private charging options.
- Lingering concerns over driving range, battery life, fire safety, and viability continue – government information campaign promised to begin to challenge myths around EVs.

Market Development

- Charger suppliers, systems, and solutions are entering the market rapidly – confusing market.
- Advances in battery technology are leading to new vehicles having over 300m of range, and being suitable for charging within 30 minutes – approaching ICE vehicle utility.
- Charging solutions standards still being developed and risk of installations not supporting new generations of vehicles.