

TRANSPORTEAST



ENGLAND'S
ECONOMIC
HEARTLAND

Y

electric
drive



EoE APPG: EV Charging road map

7 November 2022

Future of EVs in the East

These briefing slides are intended for use by participants at the East of England APPG Roundtable: Charging up the East of England - Towards a Road Map for Electronic Vehicle Charge Point

Contents

- Context
- Electric vehicle provision in the East of England
- Addressing the issues – STB role
- Next steps



Future of EVs in the East

Context

- East of England carbon emissions from transport 42%, well above the national average of 28%.

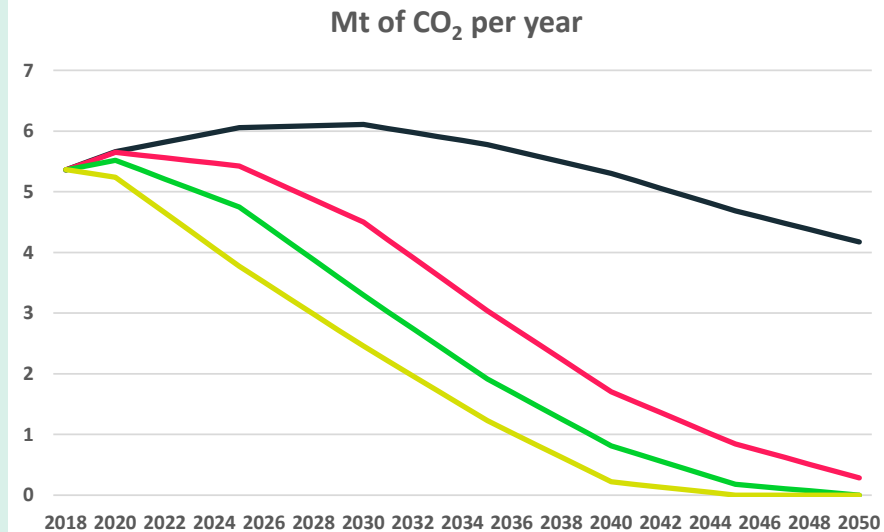
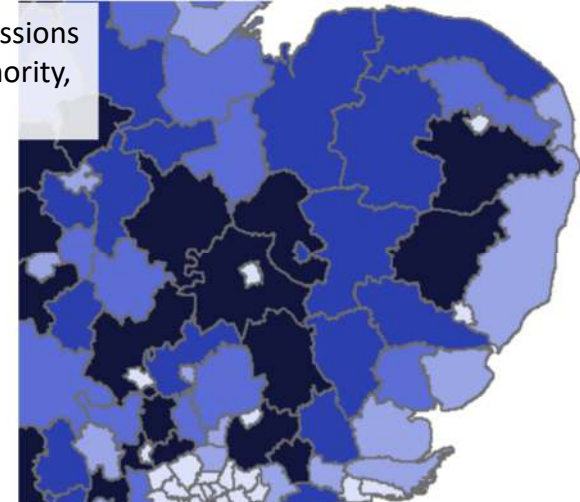
Why?

- Large rural areas and relatively small major urban centres leads to high car-dependency (TE analysis shows rural areas create 45% of transport emissions)
- Nationally important role in the movement of goods

Solution?

- The UK is behind on its trajectory to meeting net zero
- DfT expectations the majority of carbon reductions required to achieve net zero can be met by the transition to alternative fuels.

2018 Transport CO2 emissions per capita by local authority, ONS June 2020



European EV Infrastructure Market



EV Adoption – European Comparisons

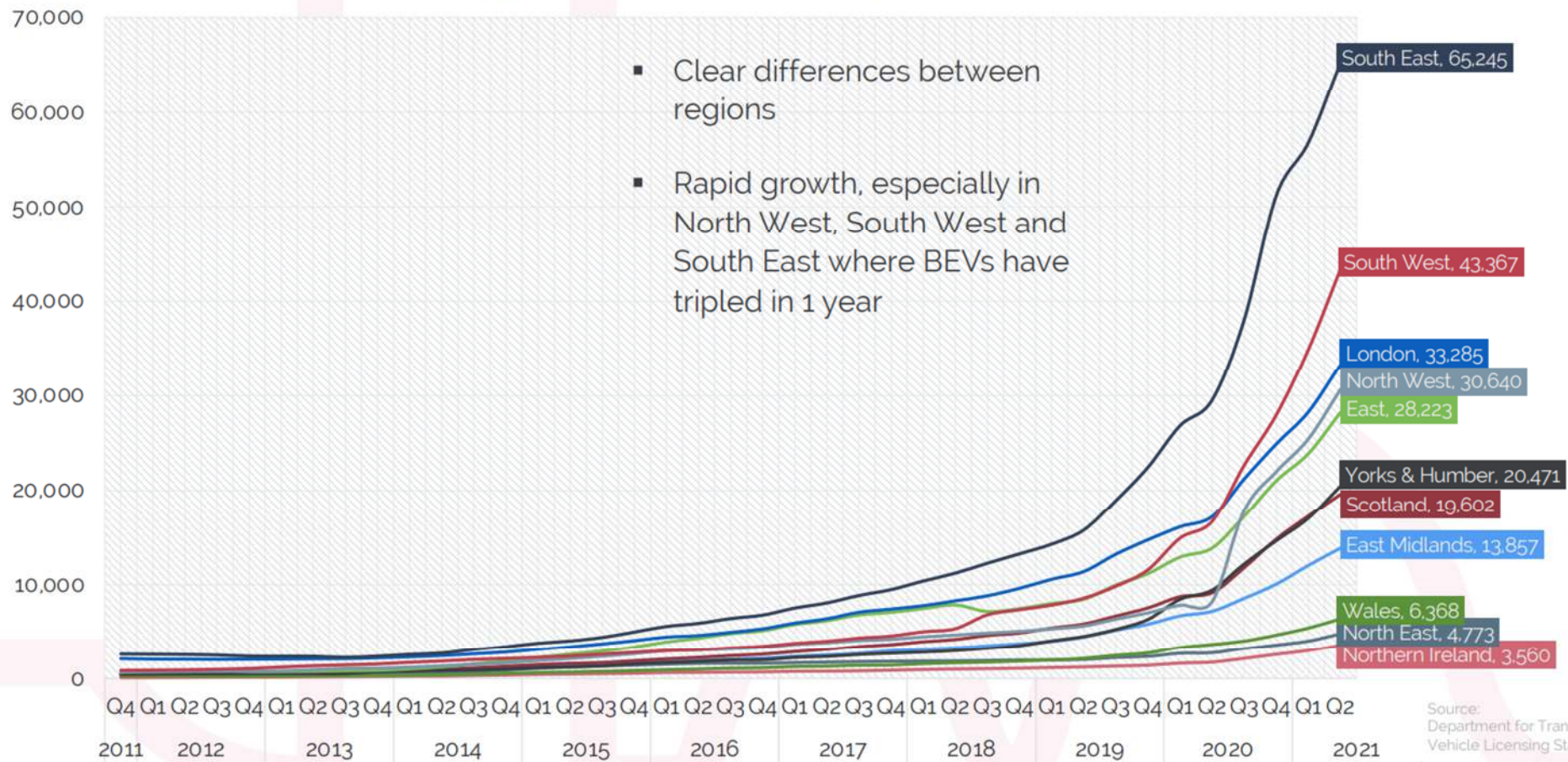
France	24.4%
Germany	22.5%
Ireland	5.9%
Italy	4.4%
Netherlands	25%
Spain	4.8%
UK	6.9%
Norway	86.5%

Source – Arcadis, 2022

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EV uptake in the east

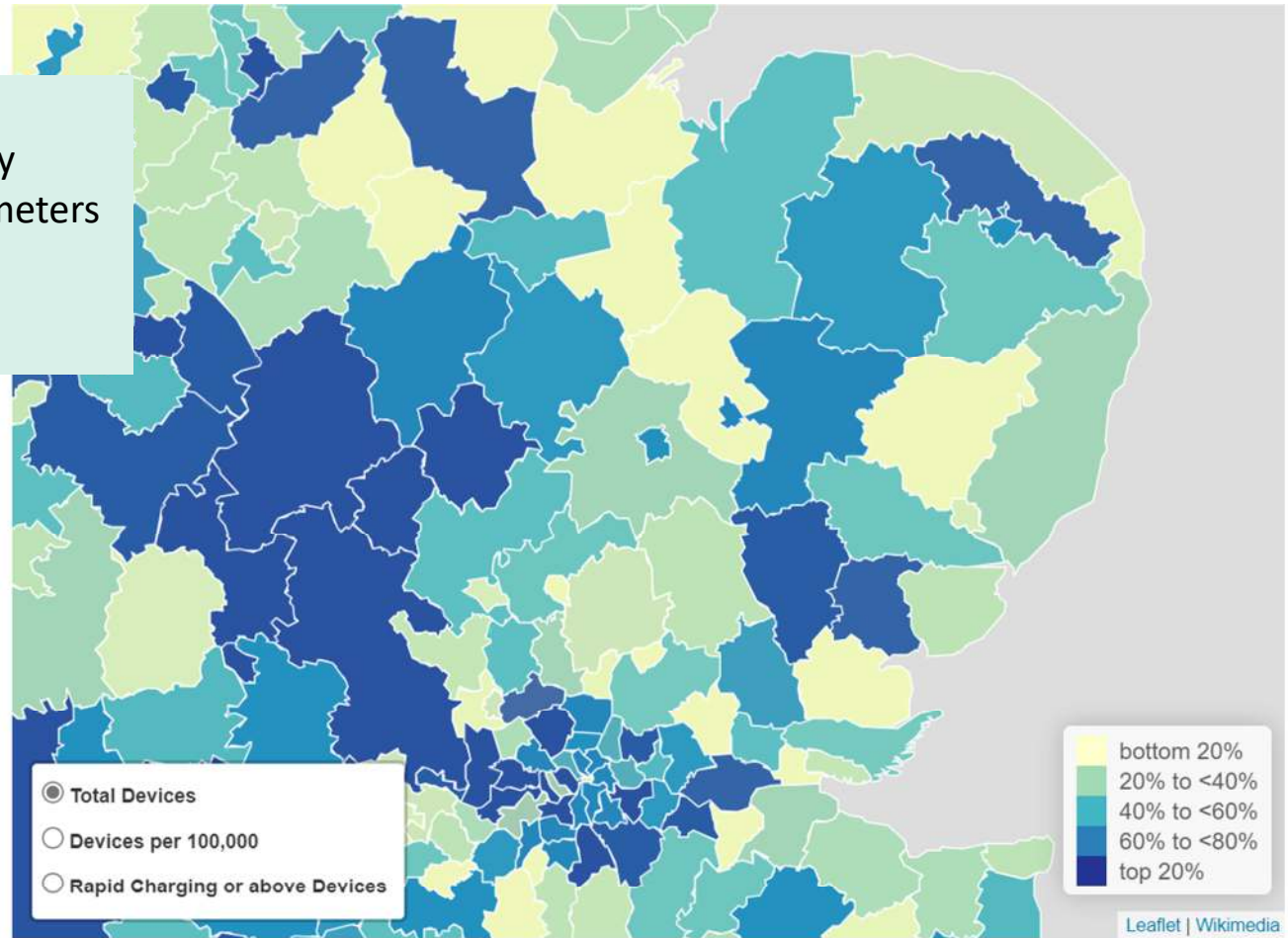
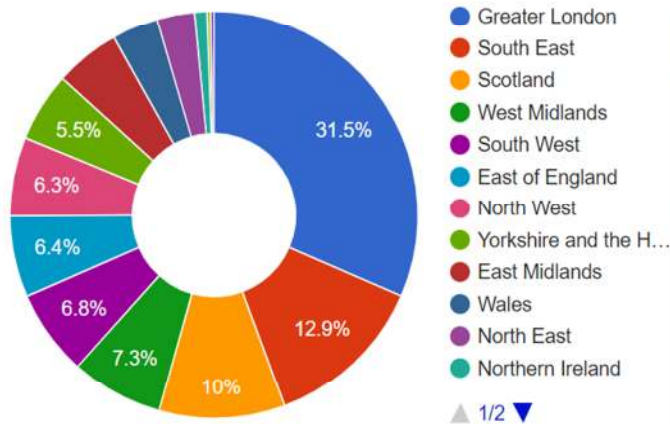
Battery Electric Vehicles by Region



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Current EV infrastructure

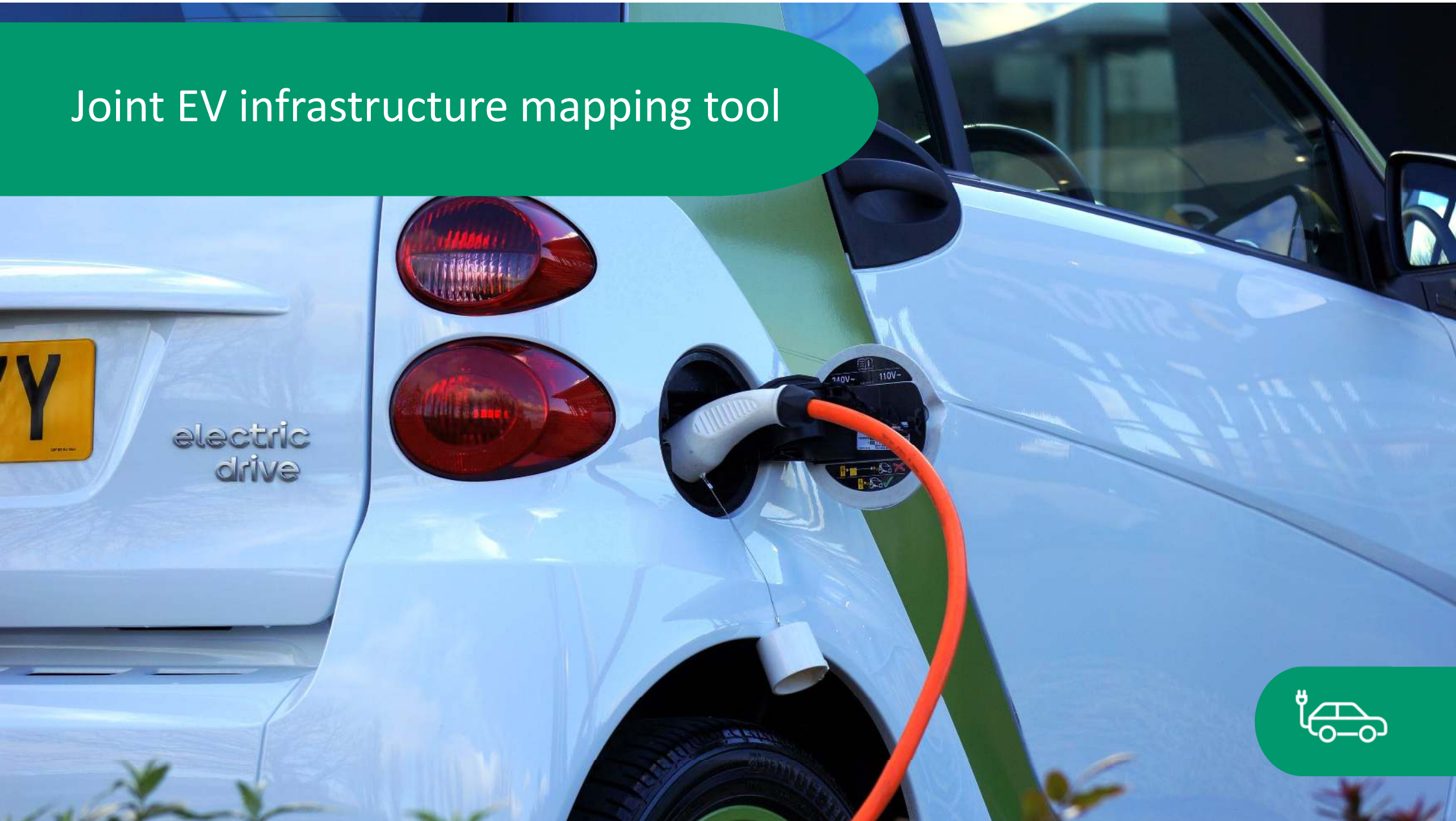
Government keen to accelerate and widen delivery
 Local authorities constrained by funding pot parameters
 Risk that investment will flow to same locations
 Risk of grid infrastructure not keeping pace



Total charge devices: 35778. Source: Zap-Map database, 31st October 2022



Joint EV infrastructure mapping tool



Future of EVs in the East **Our role**

EV infrastructure environment is a rapidly shifting one. How can STBs help the East of England get on the front foot?

We need to answer six strategic questions for the East:

1. What is the scale of future demand for EVCI's in the East?
2. Where is the demand?
3. What is the best mix of EV charging infrastructure?
4. What should the STBs/public sector prioritise?
5. Will it actually deliver Net Zero Carbon emissions?
6. How will the EVCI rollout impact our residents and other transport modes?

STBs are creating a tool to understand this and plan for the future.



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The challenge

A **huge increase** of EVChs is **urgently needed** to meet demand.

- For high EV uptake we need:
 - **x 10** current chargers **by 2025**
 - **x 30** **by 2040**
- Even a low EV uptake we need:
 - **x 5** **by 2025**
 - **x 27** **by 2040**

25% of these need to be publicly funded

These need to be in the right place, at the right time to reduce unnecessary cost for both the public & private sectors.

		Existing 2022	2025	2030	3035	2040
Low EV uptake	Fast	541	12,800	22,740	43,900	59,900
	Rapid	2015	2,100	3,500	6,800	9,300
	Total	2556	14,900	26,200	50,700	69,200
High EV uptake	Fast	541	18,500	34,400	57,300	68,400
	Rapid	2015	3,100	5,400	9,000	10,700
	Total	2556	21,600	39,800	66,300	79,100

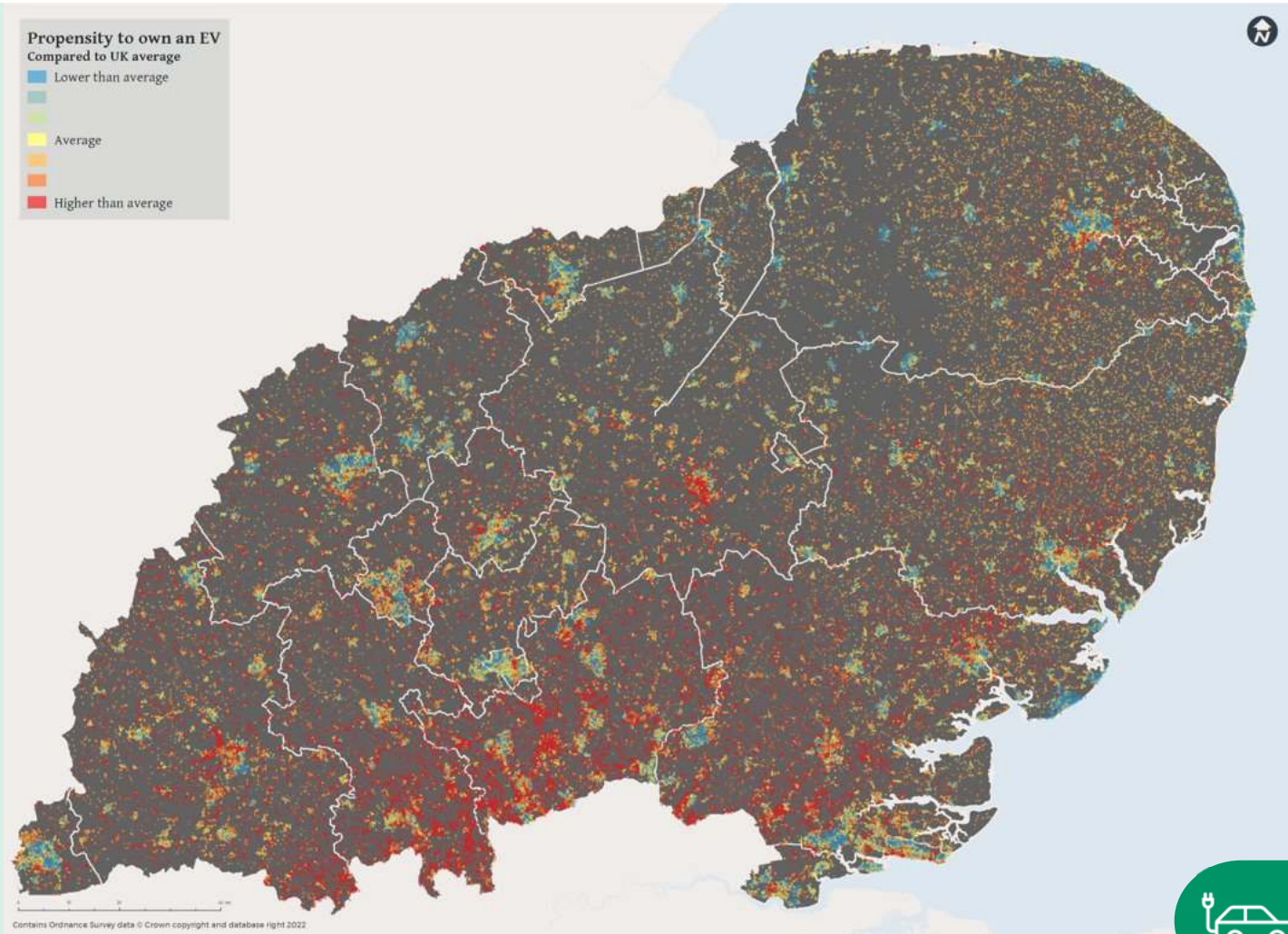


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Where is the demand?

Our tool assesses the **propensity to own an EV** across the region (compared to the UK average).

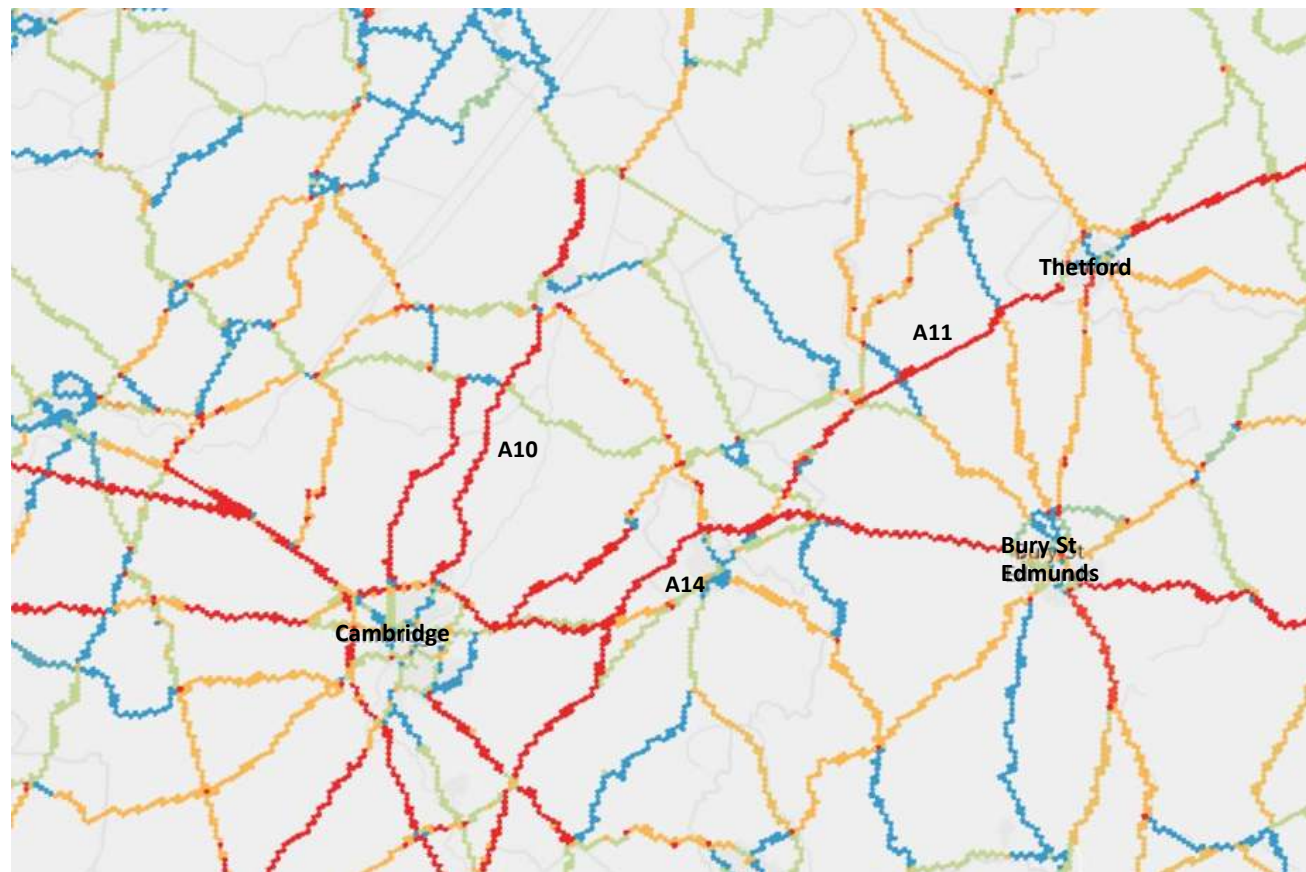
- Propensity to own an EV varies significantly by location
- Higher than average propensity in the **south**, and clustered around **urban areas**
- Lower than average propensity in the **north**, and in **rural areas**



Example data: Rapid charger demand

High demand for **rapid chargers** on the major and strategic **road network**

Also demand on **roads connecting with strategic roads** and those serving **economic centres**



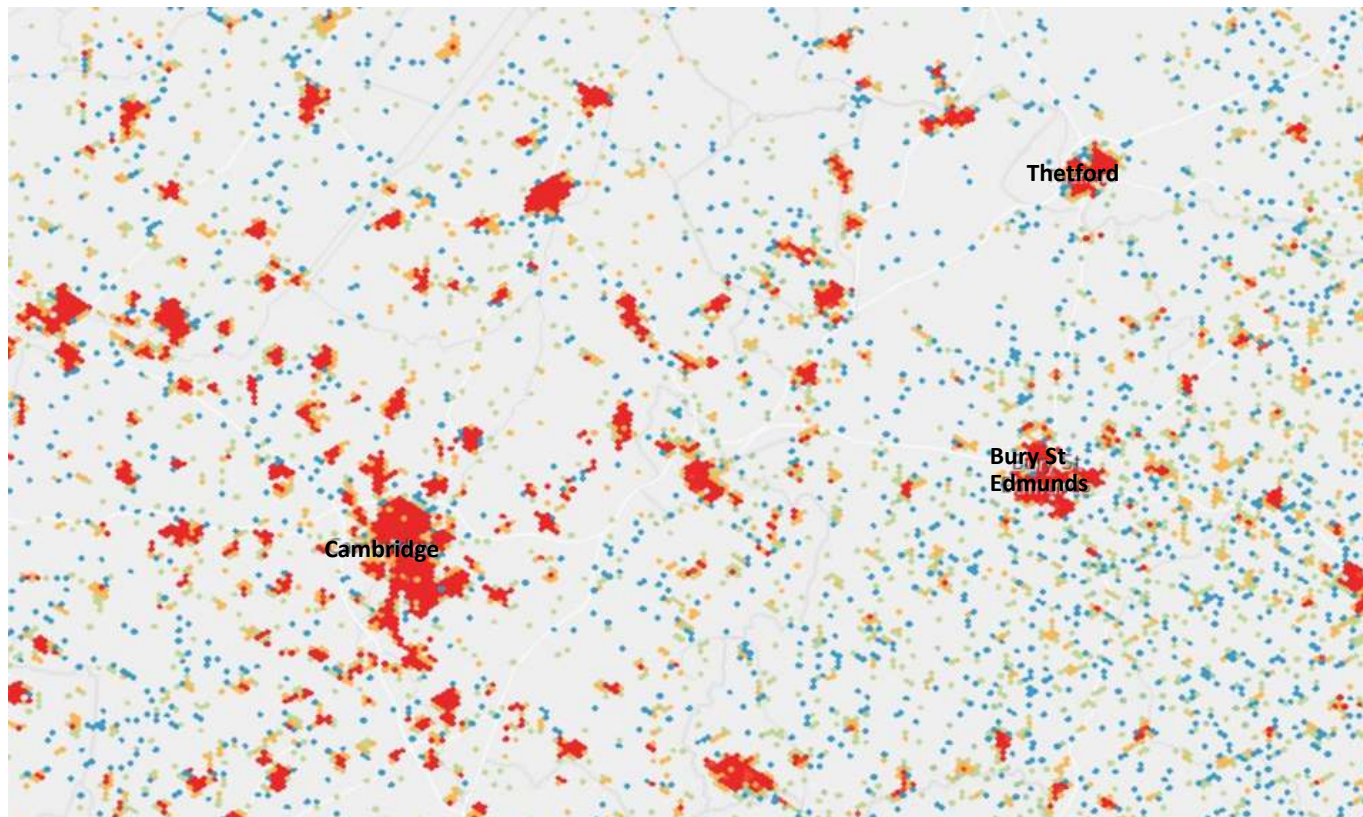
Slide 11

EY0 Labels of towns and roads. Crop and explainer note
Esme Yuill, 2022-11-07T11:16:46.722

Example data: Standard charger demand

Highest demand in urban areas

Also hotspots in smaller market towns and large villages



Slide 12

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Same as previous slide

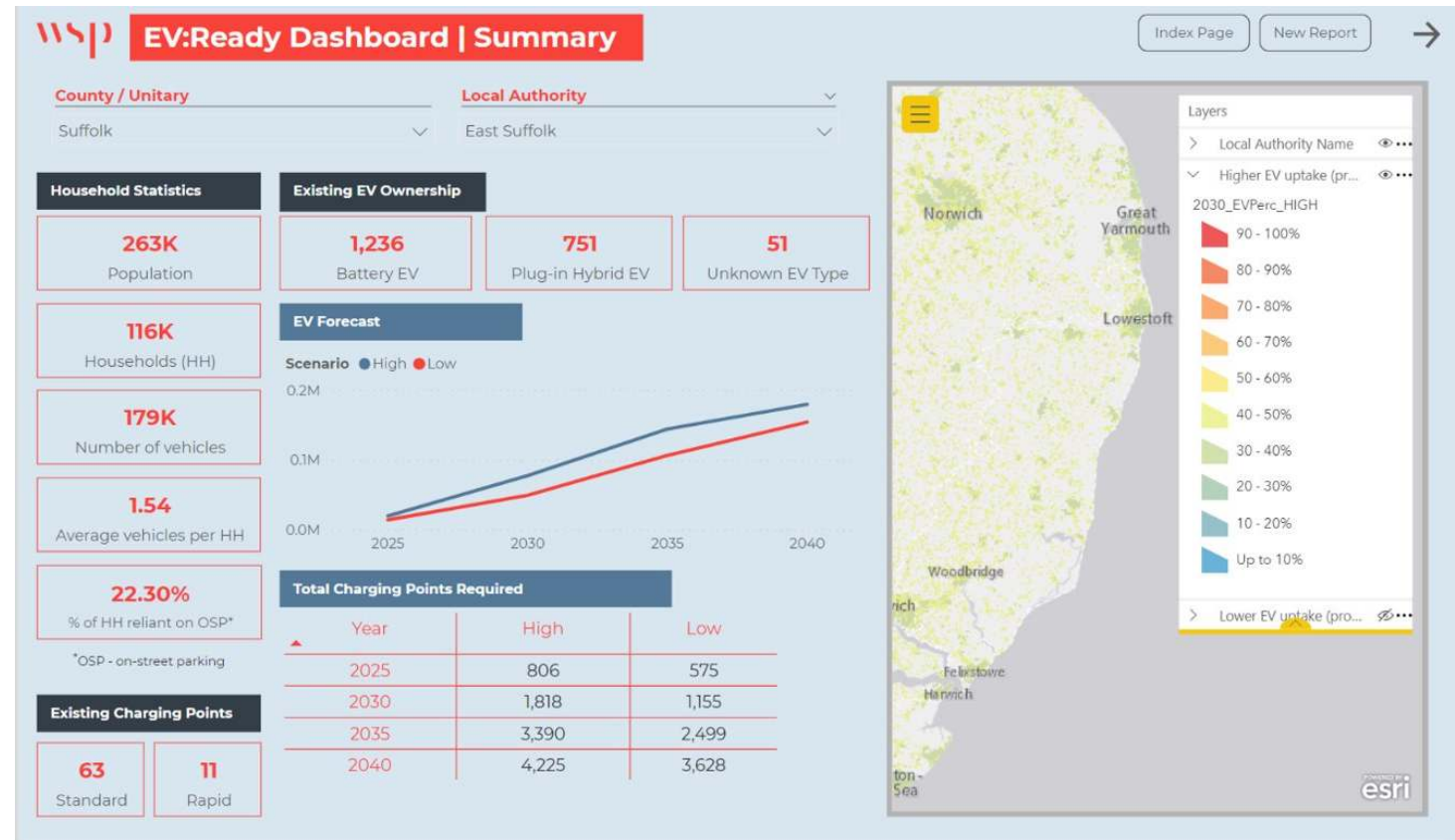
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Focus for STB partnerships

Example data: Local authority insight

- Many LTAs and districts already leading the way on planning for EVs
- An evidence base is vital to plan and prioritise
- Our data is helping strategic planning for EVChs
- E.g. Product: 'EV Ready' dashboard for local authorities



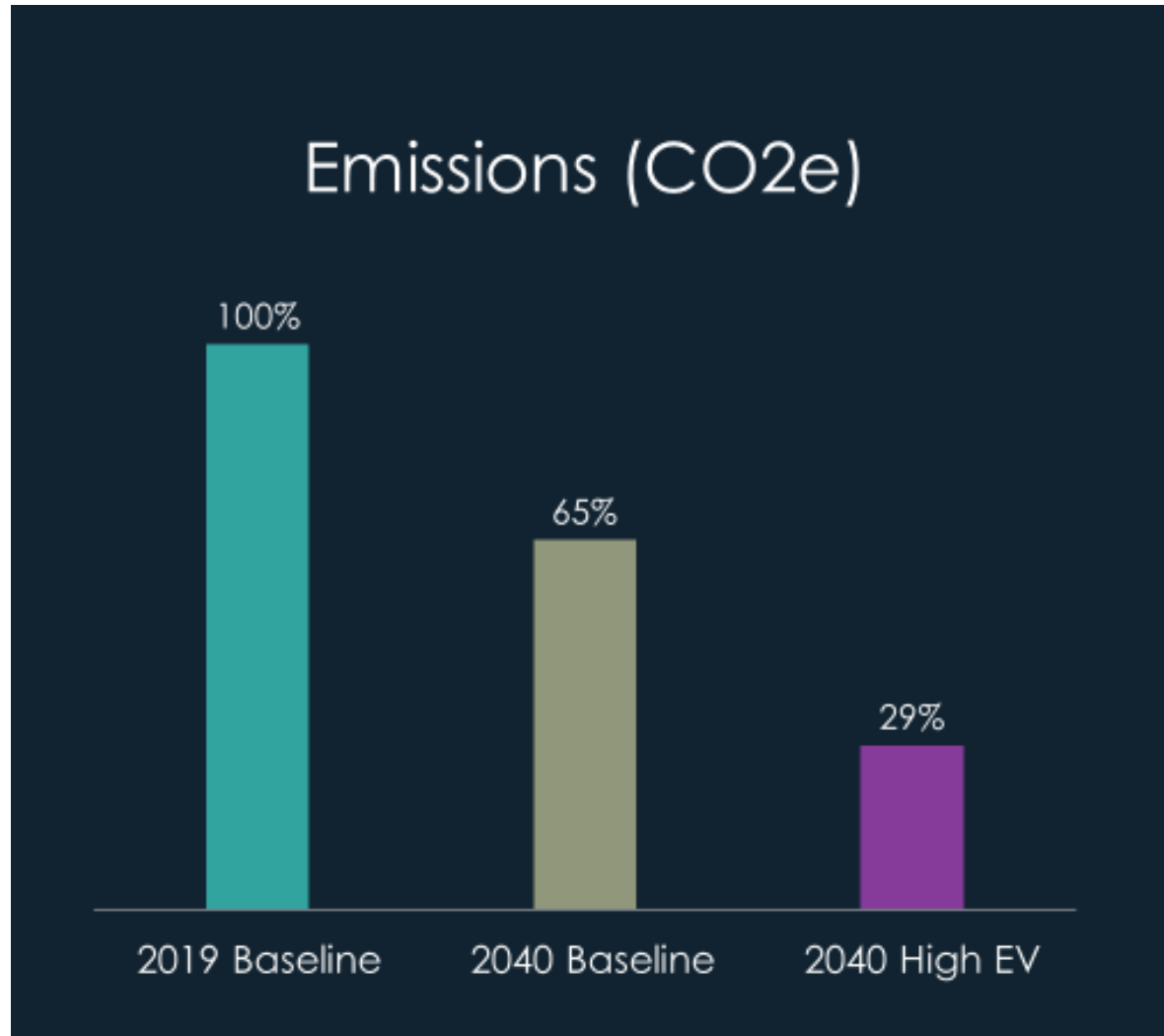
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Will EV's deliver net zero carbon?

Pursuing a high-EV strategy within the East would achieve a **significant shift in carbon emissions.**

High EV scenario: 88% of cars and 81% of LGVs to be EV by 2040.

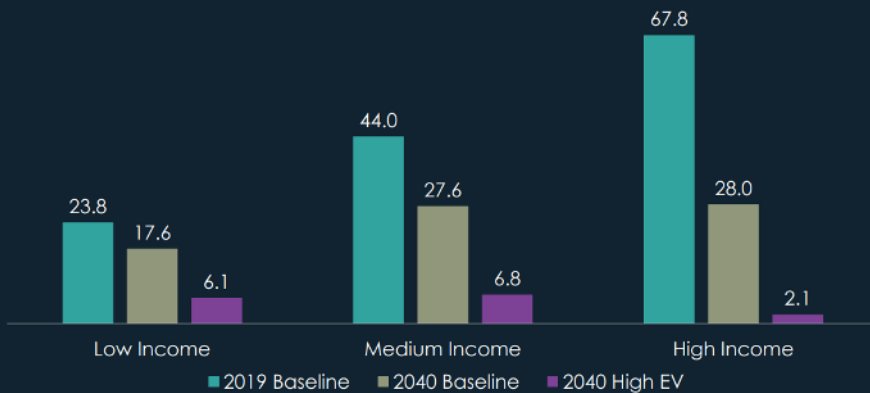
However, it doesn't get us all the way **and** it has potential adverse consequences...



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Consequences to high-EV uptake

Emissions by Income Group
(kg CO2e per person)



Equity impacts

Mode choice impacts

Trip Change: High EV Scenario



Bus
-4.8%



Walk
-1.0%



Rail
-5.0%



Cycle
-1.4%



Tube
-6.4%



Car
+0.9%

Car trips in 2040 Baseline are approximately 7 million, so >63,000 new trips

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Insights & Actions

Insights from this work	What STBs are doing to address
Sheer scale of challenge and speed needed to deliver	This mapping project gives richer insight to focus investment and will be available publicly
Gaps within LTA capacity & capability especially in best-value procurement	Live project on the market infrastructure investment pipeline – both private & public sector (EEH & TE)
Implications for energy generation, energy network and land-use planning. Needs a regional systems approach to integrate properly	Engaging with energy and grid infrastructure sector on challenges, and National Infrastructure Commission – but this is a big gap in current government thinking
Freight remains an urgent challenge to full decarbonisation	Live project on Alternative Fuels for Freight (EEH, TE & TfSE) and scoping a future regional freight plan
Even high-EV uptake will not solve transport decarbonisation	Planning and increasing evidence for additional sustainable transport and active travel investment
High EV uptake has potential adverse implications for equity, public health and local economies	Planning and increasing evidence for additional sustainable transport and active travel investment



Future of EVs in the East

APPG support

We would appreciate the APPG's support to:

1. Raise the profile of the **urgency of the situation** and level of investment required
2. **Inform STB work on Local Authority barriers** to EV infrastructure delivery
3. Push DfT for clarity on **Local Transport Plan guidance** on integrating EV with other modes
4. Support **immediate investment in passenger transport improvements** to reduce the demand for EVs
5. Support a deeper **role for STBs in regional coordination** of infrastructure delivery



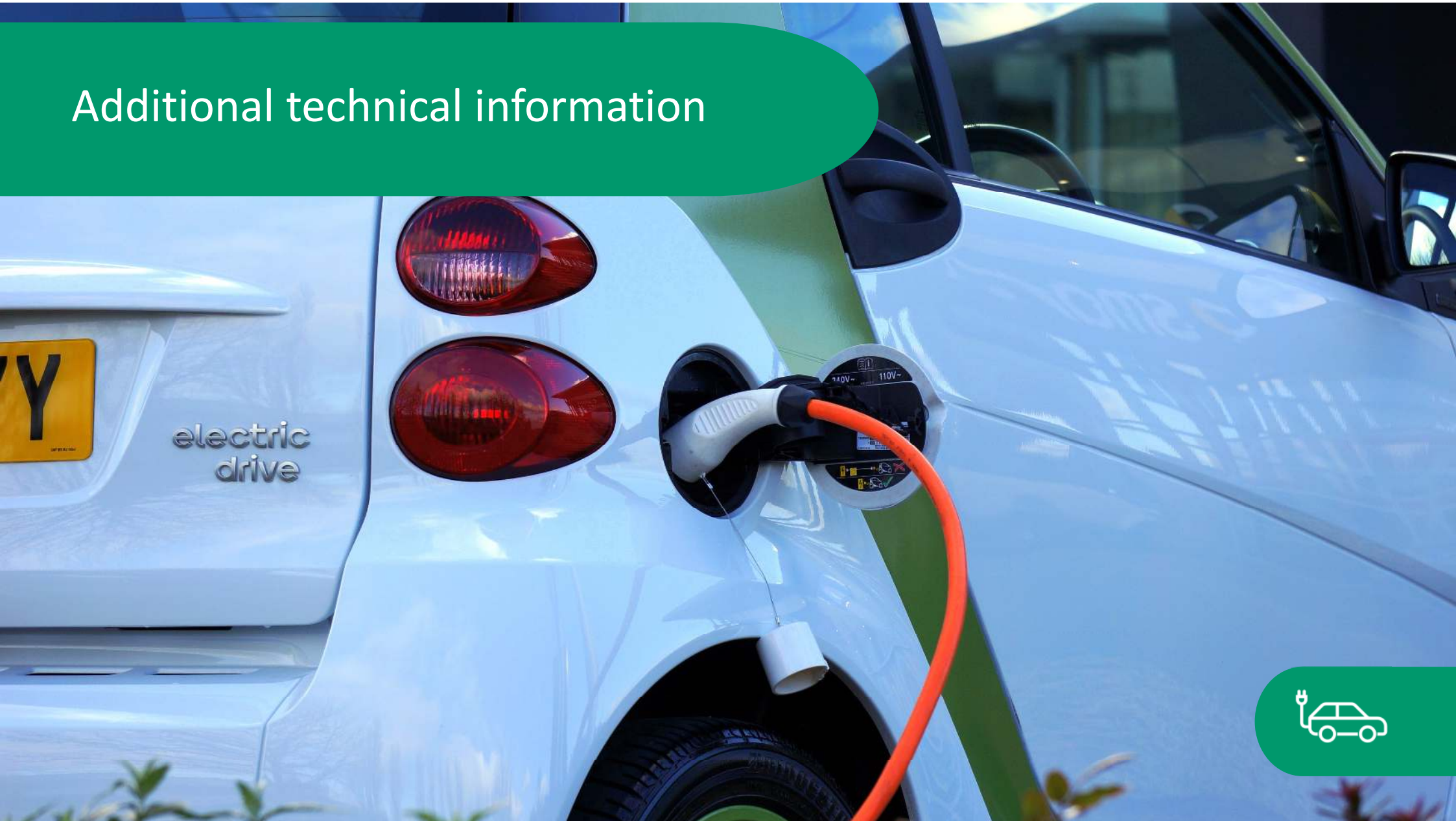
Key Contacts

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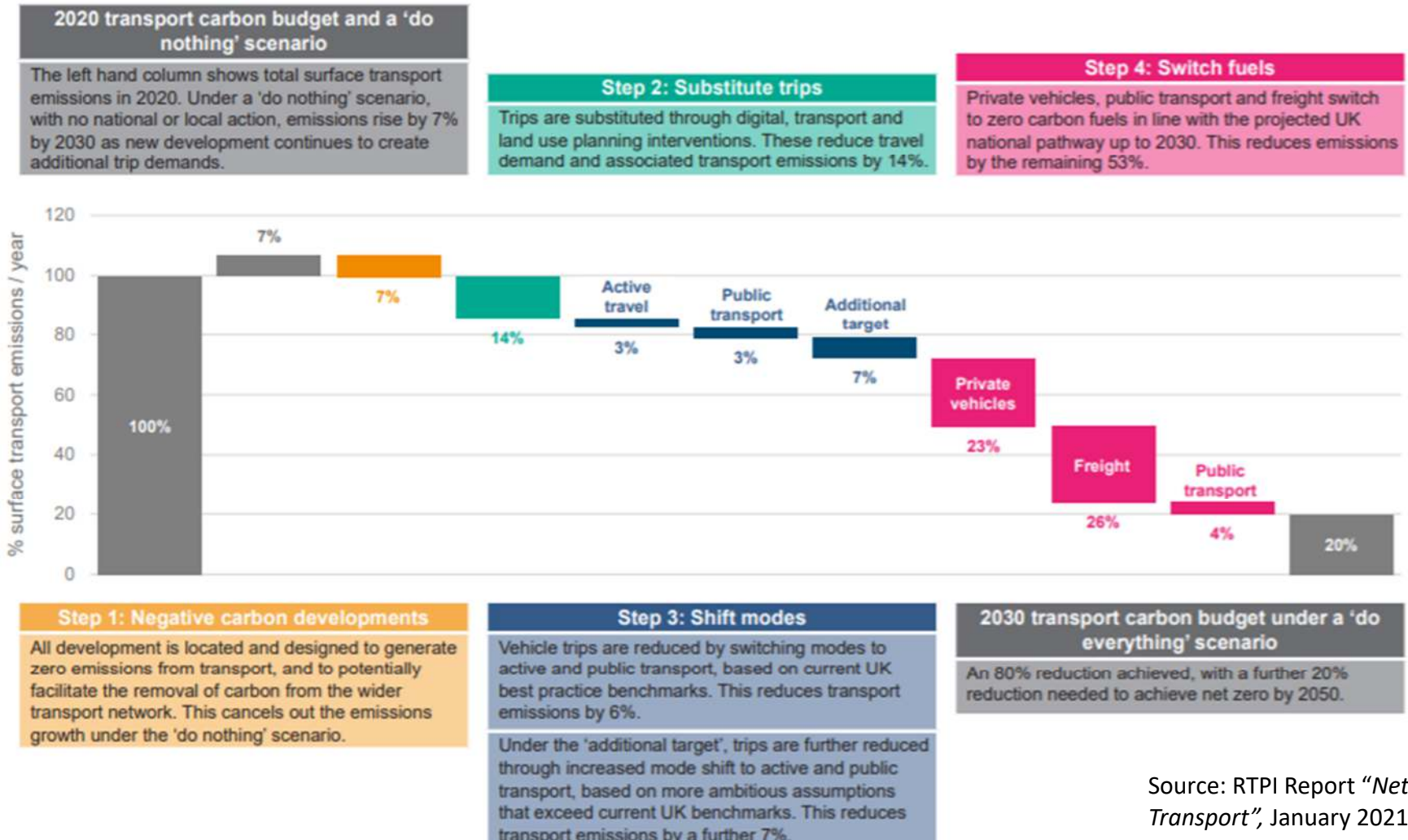


Additional technical information



Future of EVs in the East

A Whole Systems solution



Source: RTPI Report "Net Zero Transport", January 2021



Infrastructure

- Connectivity and availability of power, and cost of connection
- Procurement – route to purchasing infrastructure
- Funding for delivery
- Streetscape

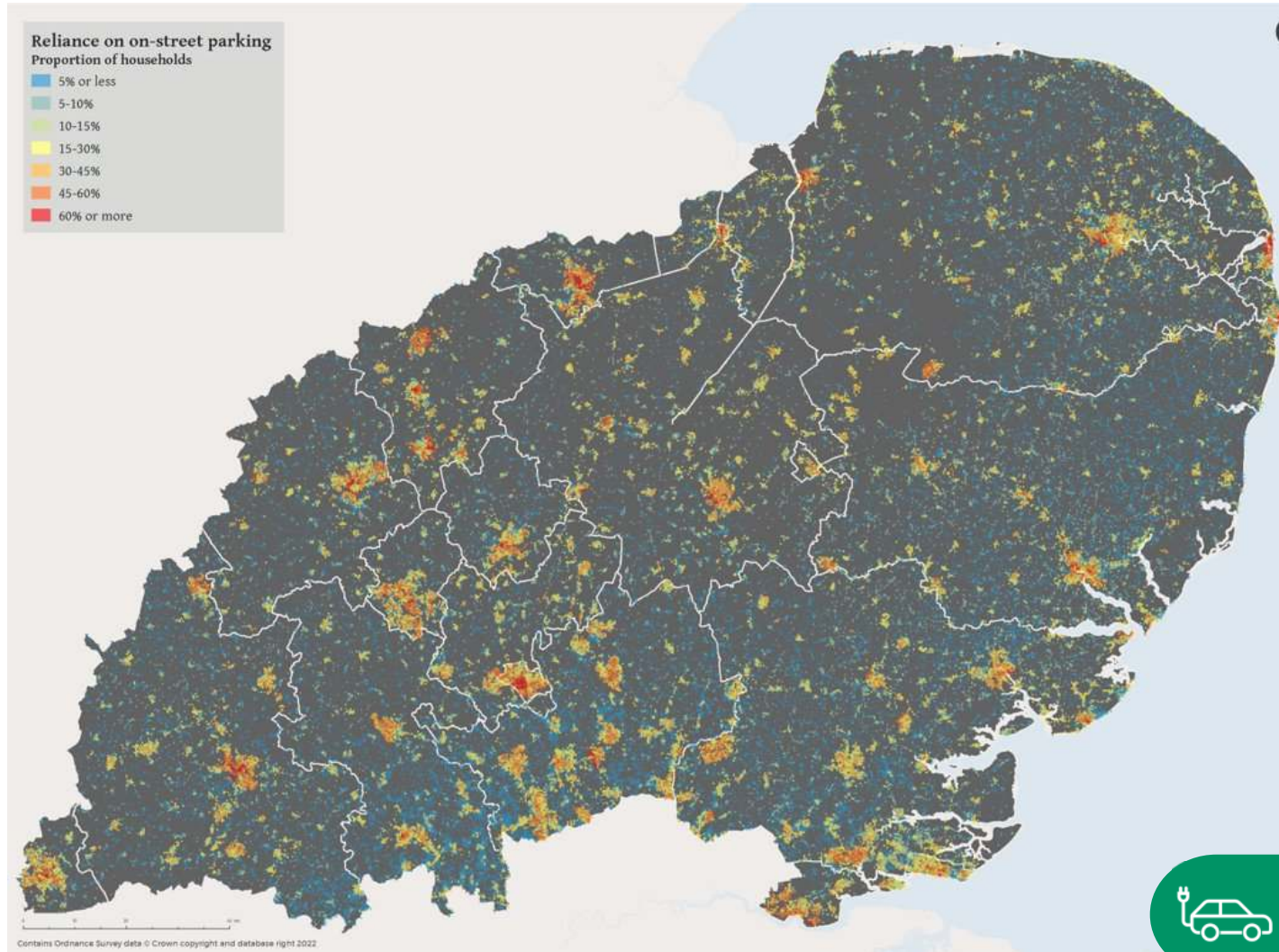
Vehicles

- Cost
- Infrastructure and range anxiety
- Equity
- Buses
- Freight



Example data: Reliance on on-street parking

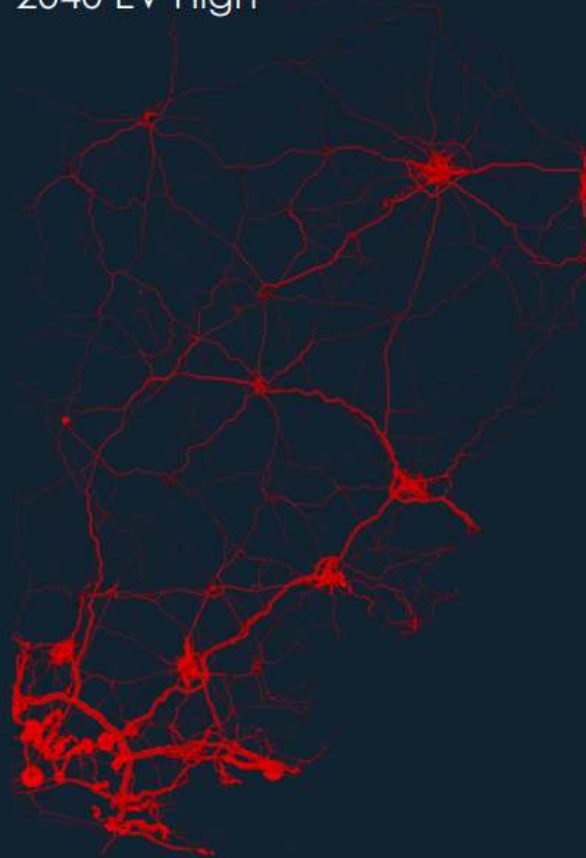
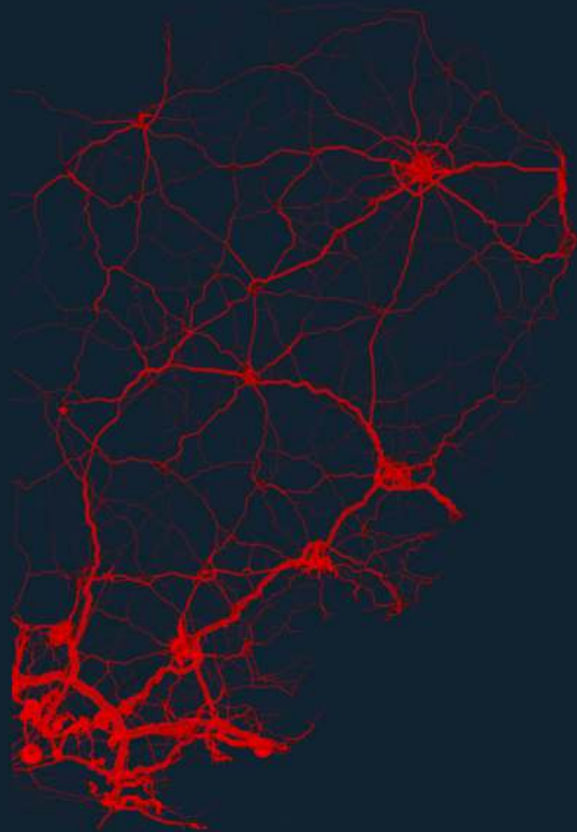
- Most **urban** areas have large areas where **60% or more residents** reliant on on-street parking
- Reliance on on-street currently **very low** in most rural areas
- There are **hotspots** in **historic market-towns** with limited footpath space
- **Towns and cities** face significant challenge in meeting on-street demand



Emissions from all modes

2040 Baseline

2040 EV High



EYO

Delete?

Esme Yuill, 2022-11-07T16:57:05.256