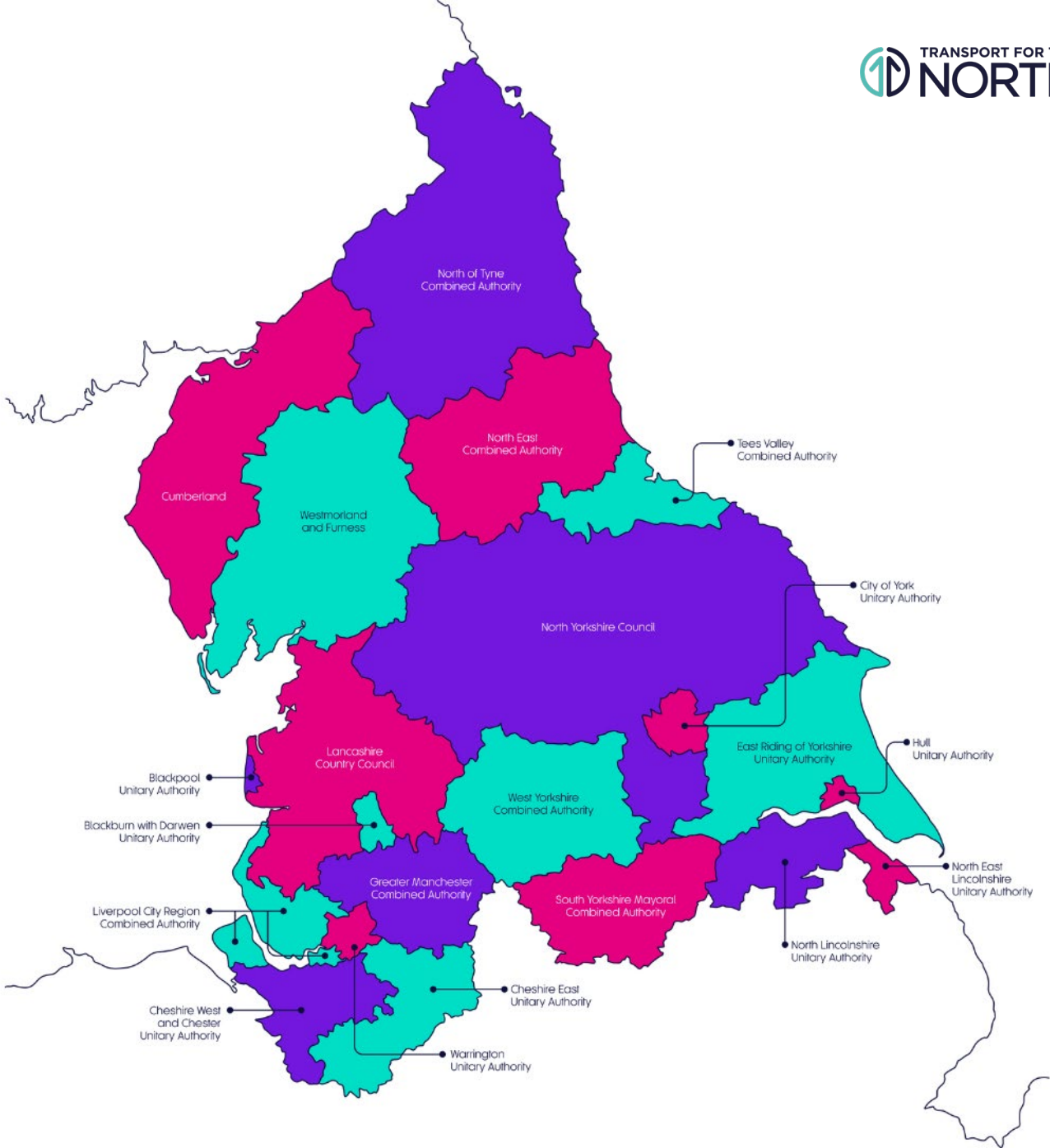


Transport for the North: EV Charging Infrastructure update



Our Role



TfN's Strategic Transport Plan

By 2050 the North of England will have become a thriving, socially inclusive region. Our communities, businesses and places will all benefit from sustainable economic growth, improved wellbeing and access to opportunities for all. This will be achieved through a transformed zero emission, integrated, safe and sustainable transport system, that will enhance connectivity and resilience, support modal shift and improve journey times for all users.

Strategic Ambitions

Transforming economic performance

£118bn more GVA by 2050

Decarbonisation of surface transport

Near zero by 2045

Enhancing social inclusion and health

1 million people fewer at risk of TRSE by 2050

Supporting metrics

Reliability

Access to jobs

Rail Freight

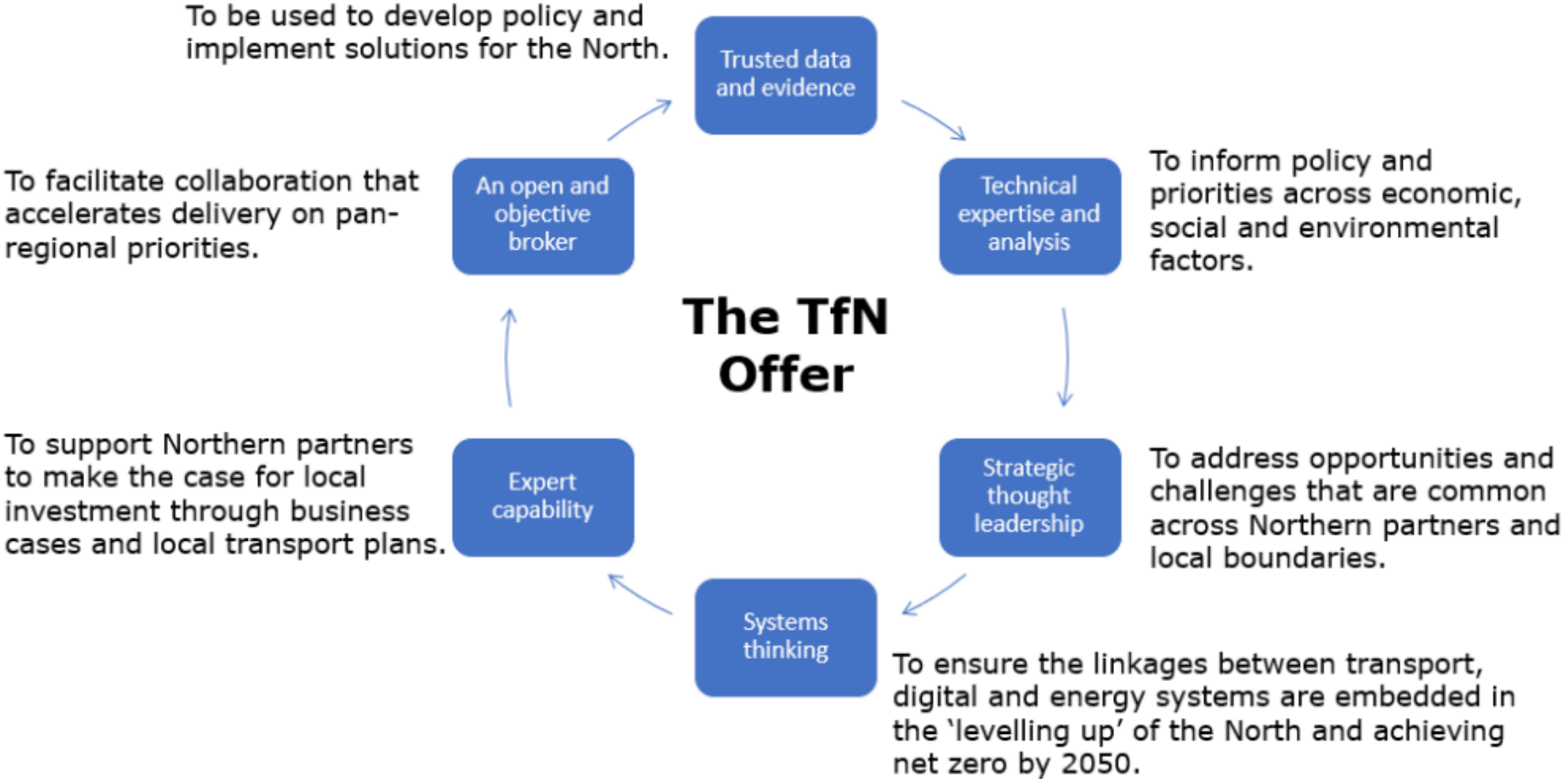
Road Safety

Access to stations

"Right share"

Air quality

TfN's 'Offer' to Local Authority partners



Regional EV Regional Partnership Group

Collaborative partnership which consolidate multi-agency approaches, sharing intelligence and actions to deliver mutual goals.

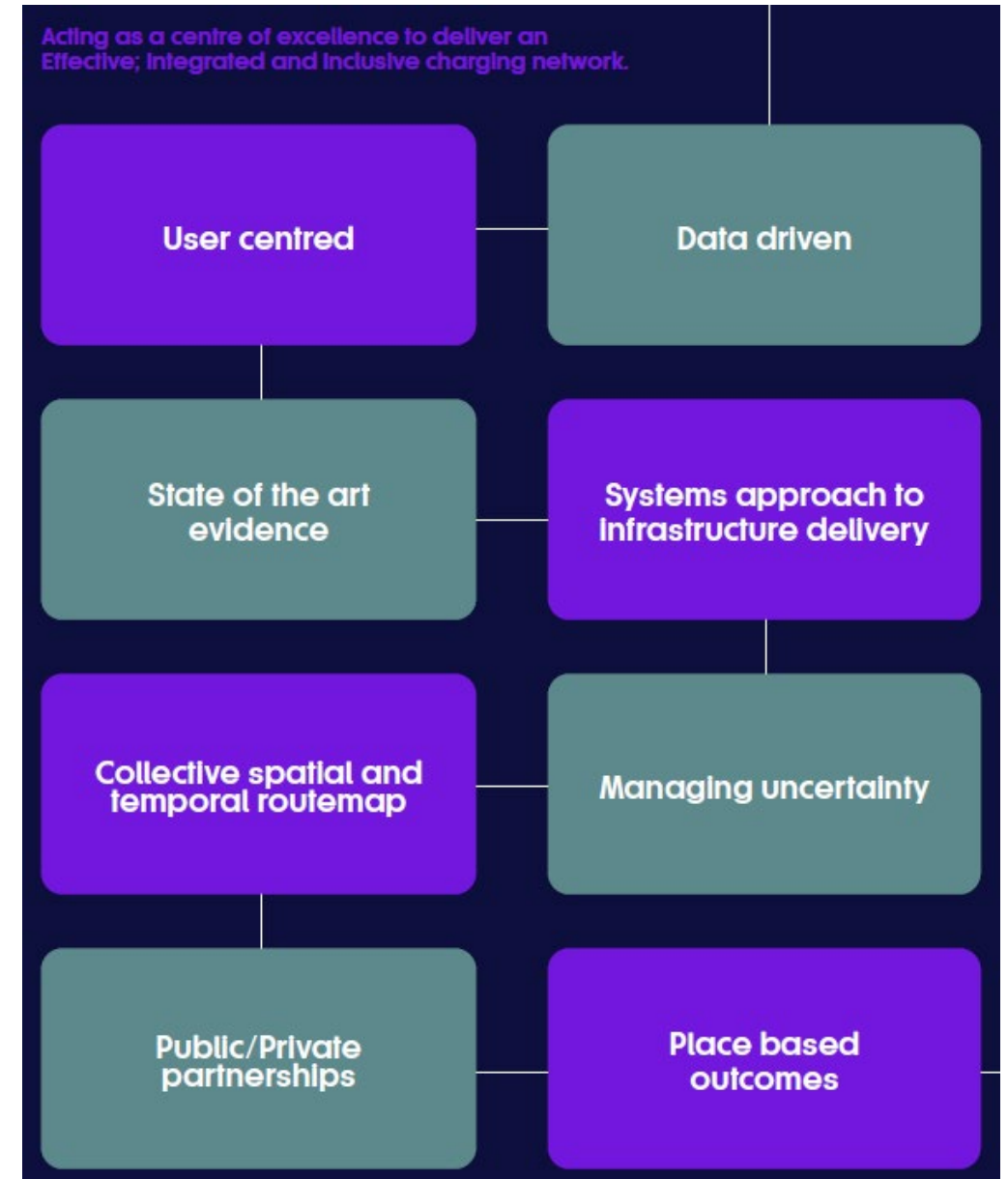
- Transport for the North
- TfNs member organisations (Northern Local Transport Authorities or LEP representatives).
- National Highways
- Network Rail
- Department for Transport / OZEV
- Scottish Power Energy Networks
- Electricity North West
- Northern Powergrid
- Energy Saving Trust
- Ordnance Survey



TfN's 'Whole Network', 'Whole systems' strategy - objectives

- Improve integrated whole network and place based outcomes for Electric Vehicles based on robust and data driven evidence of requirements - *'the right infrastructure in the right place, at the right time'*.
- Provide a collective routemap towards an effective, attractive and inclusive network - *'Supporting action at scale and pace, right across the region'*.
- Create an attractive landscape for public and private partnerships – *'Scaling investments', 'Capacity & Capability'*.
- Shaping whole system EV infrastructure decision making, and negotiating uncertainty - *'Ensuring resilience and grasping opportunity'*.

[Go to TfN EVCI Framework webpage](#)



TfN analytics enabling place based, user focused and outcome focused strategy

What goes in?

- Demand & network data
- Regional network data
- Dynamic vehicle fleet projections
- All modes (car, van & HGV)
- Seasonal impacts
- Land Use data
- Social data
- Latest intel on charging technology and behaviours

What comes out?

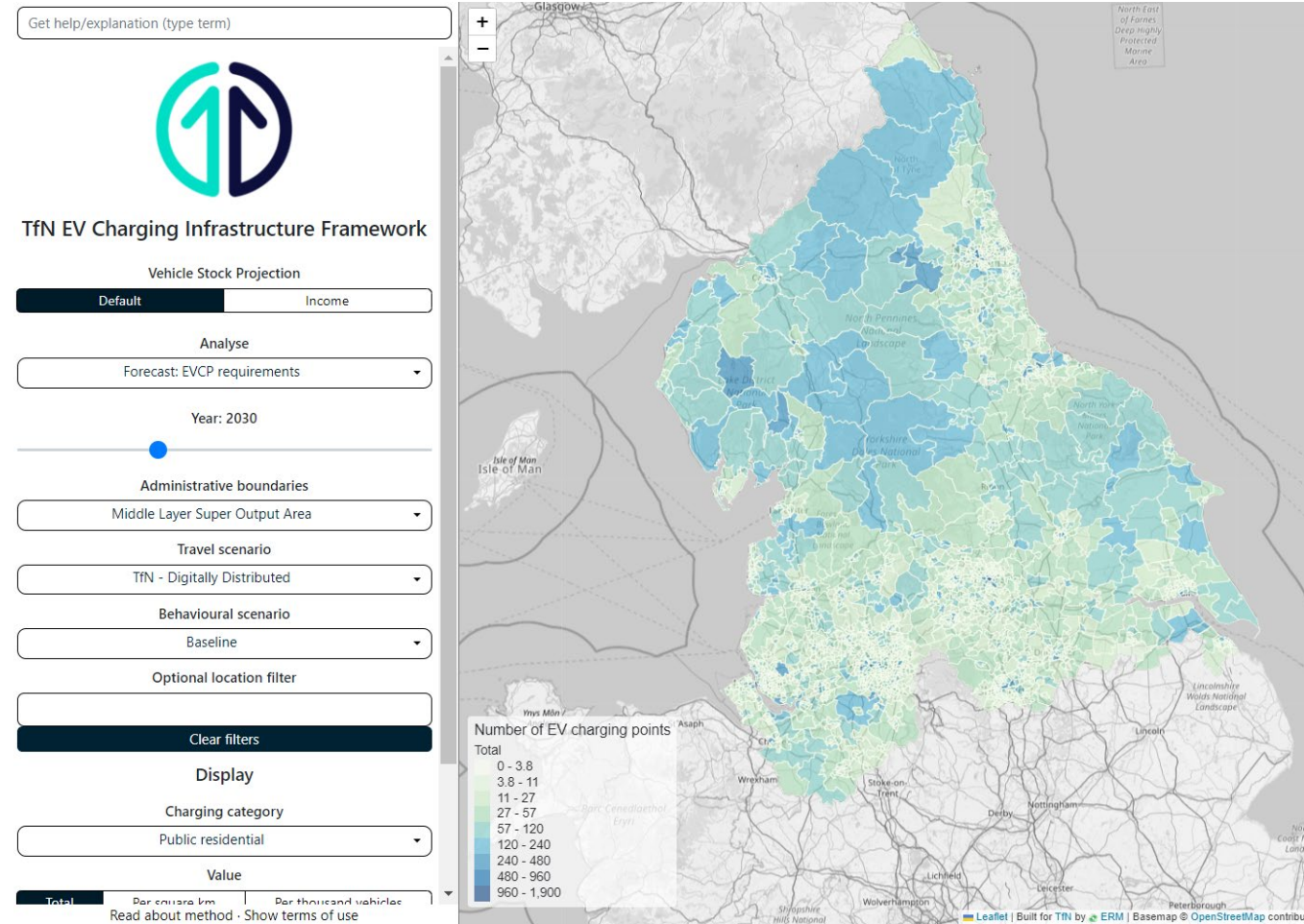
- Rate of EV transition (BEV & PHEV)
- Deployed charging data
- Forecast charging requirement (type and number)
- Electricity grid requirement
- Potential sites for rapid charging
- Co2 emission reductions from fleet change
- Regional infrastructure investment requirement

How can it be viewed?

- 5-year increments to 2050
- Geographic options - Regional, Local Authority and MSOA levels.
- Charging data by point, zone or route depending on selections.
- Various travel demand scenarios.
- Different user behavioural scenarios.
- Total, by density or per thousand vehicle registered in an area.

**Model IP with TfN, providing control on future iterations, enhancements and applications.*

- <https://evcivisualiser.z33.web.core.windows.net/>



What does charging demand across the North look like?

Current

- ~8000 total chargers deployed (Zap Map)

By 2025

- **Total public chargepoints required: 51,200 – 90,900**
 - Non-rapid: 39,200 – 64,900
 - En-route rapid chargers: 12,000 - 26,000

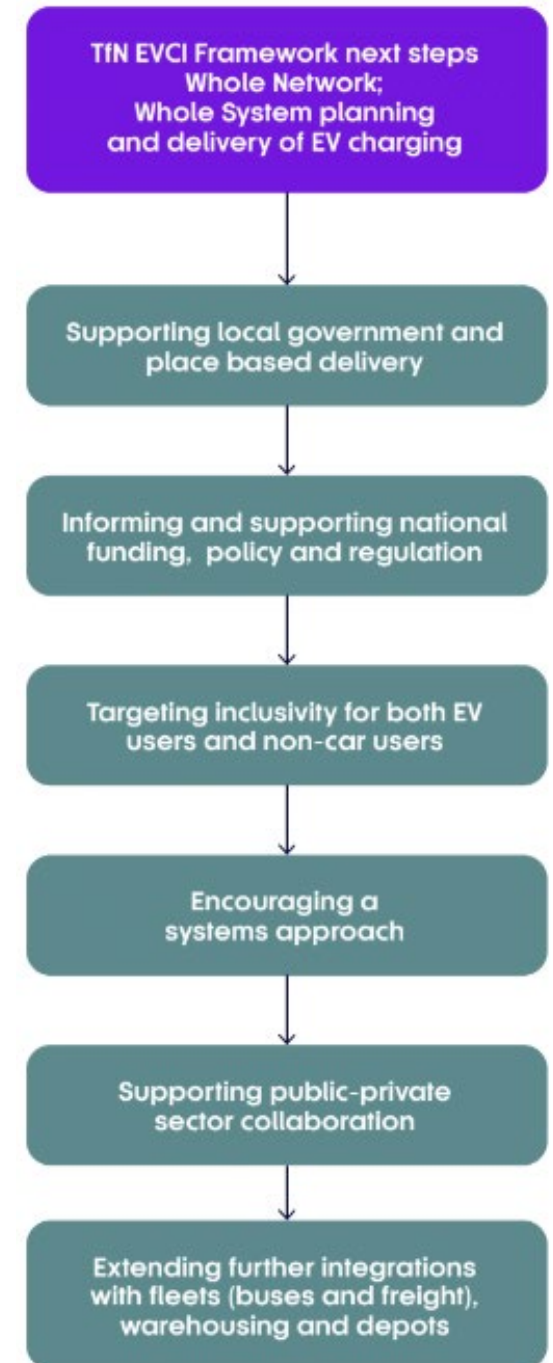
By 2030

- **Total public chargepoints required: 143,000 – 220,200**
 - Public non-rapid: 110,000 - 159,000
 - Public en-route rapid chargers: 33,000 - 61,200

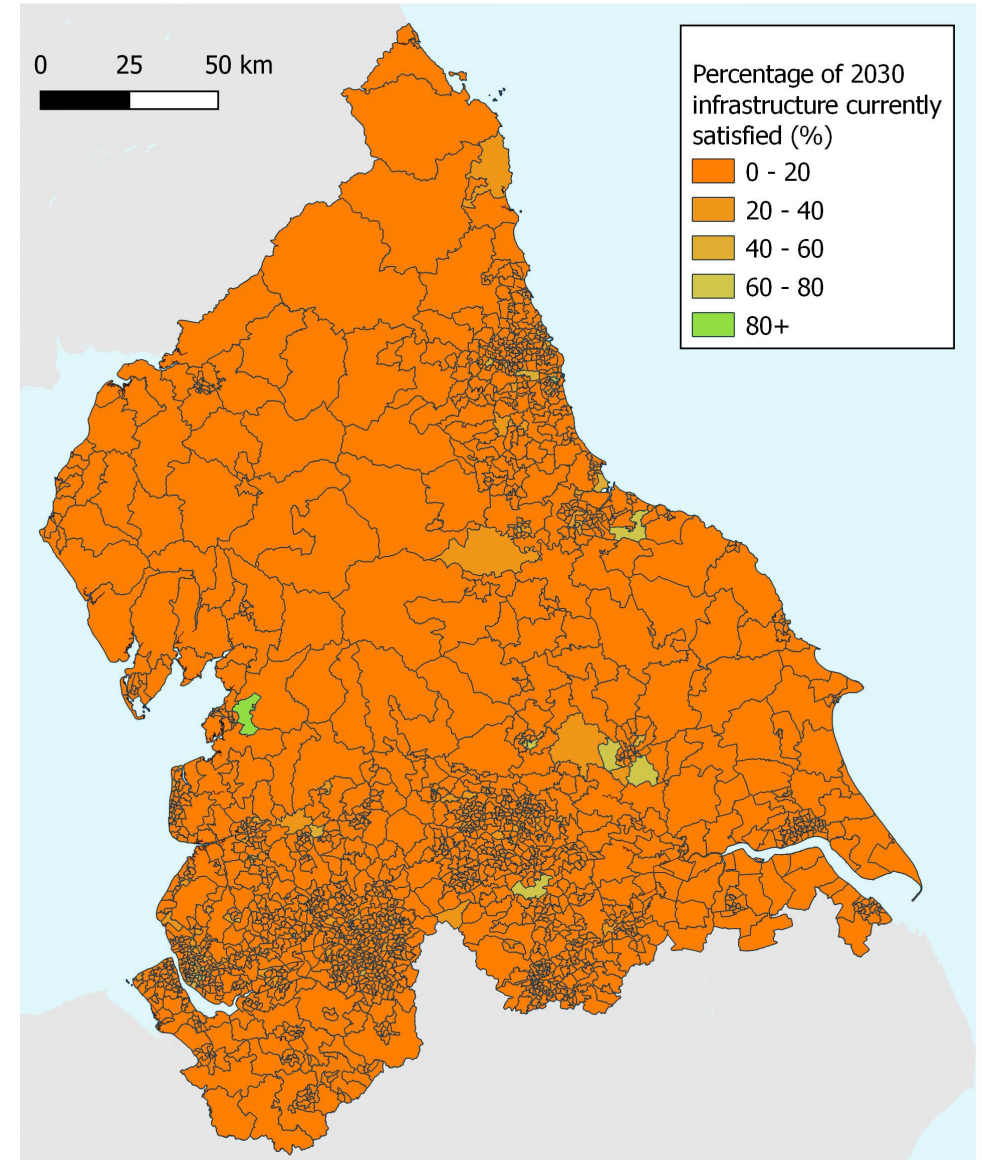
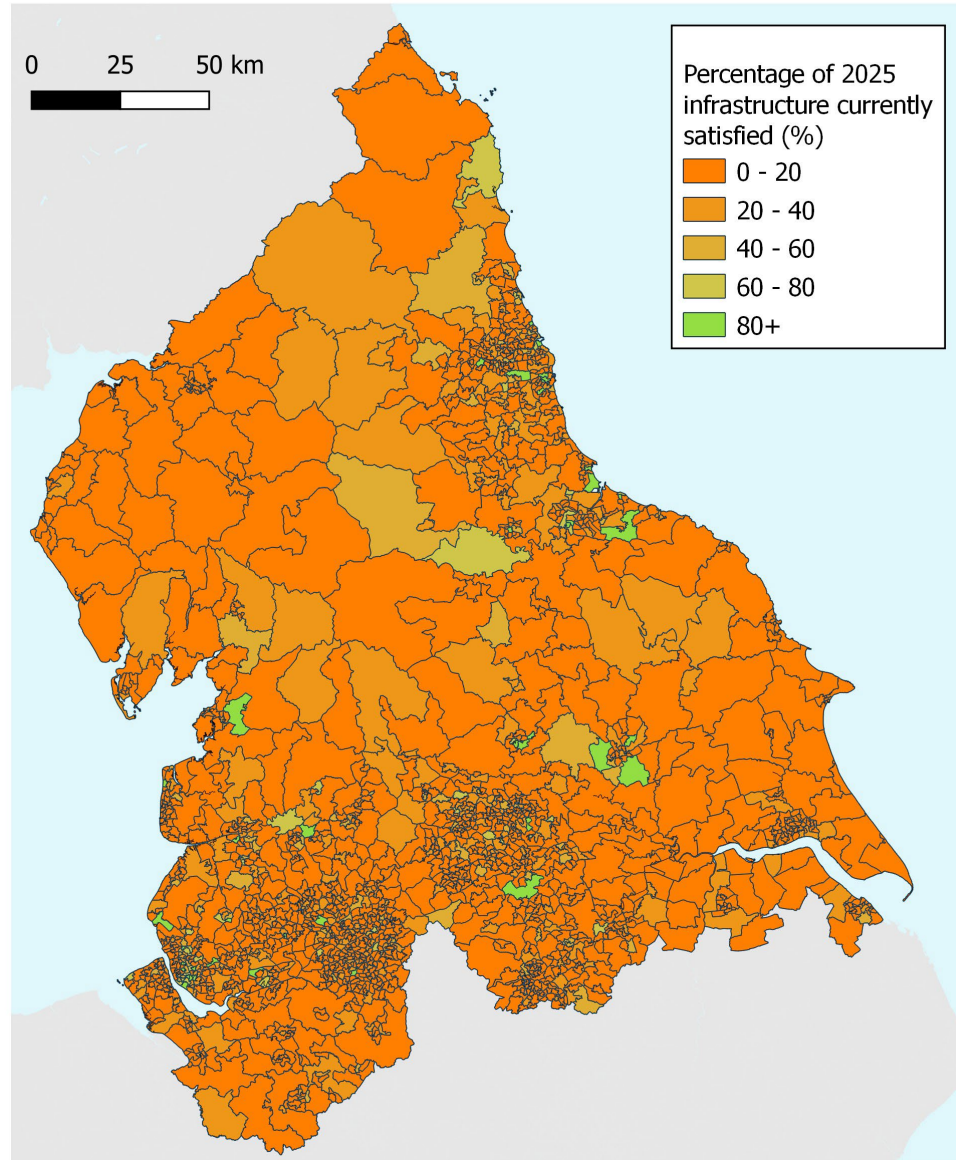
Total power
need 2030:
11,000 Gwh per
year
(equivalent of
3m household
usage)

TfN EVCI Framework – what is our evidence is used towards?

1. Whole network view which informs Local Authority plans, strategies and delivery.
 - Evidencing and supporting public spend – LEVI & ORCS
 - EV strategies, Local Transport Plans, Local Area Energy Plans
 - Supported by TfN's EV regional partner group
2. Advice to central Government and evidence charging requirements nationally. Strategy published Dec 2022. Developing a TfN 'state of play' report for 2024.
3. Informing delivery partner activities (i.e.):
 - National Government policy and legislation decisions
 - National Funding activities (LEVI strategy and RCF)
 - Rail North / Trans-Pennine Rail Upgrade
 - Electricity DNOs
4. Drawing in private sector interest and investment.
5. Shaping systems approach to facilitate accelerated delivery on pan-regional priorities. Data collaborations with DNOs, National Grid and Ofgem (new Regional Systems Planner strengthens the role of regional strategic planning).

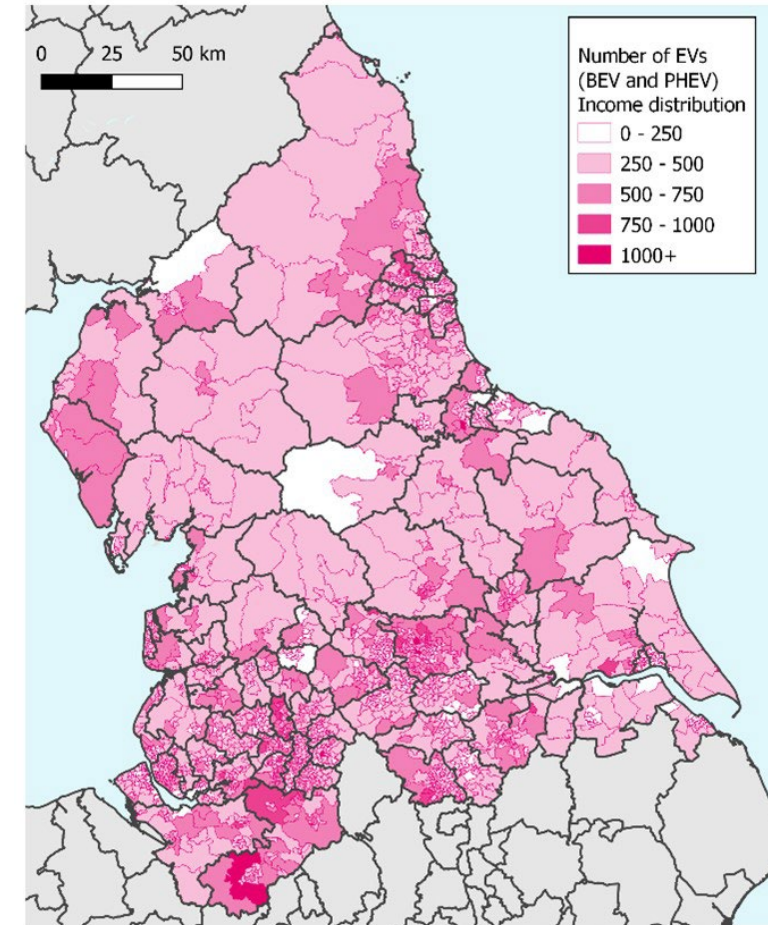
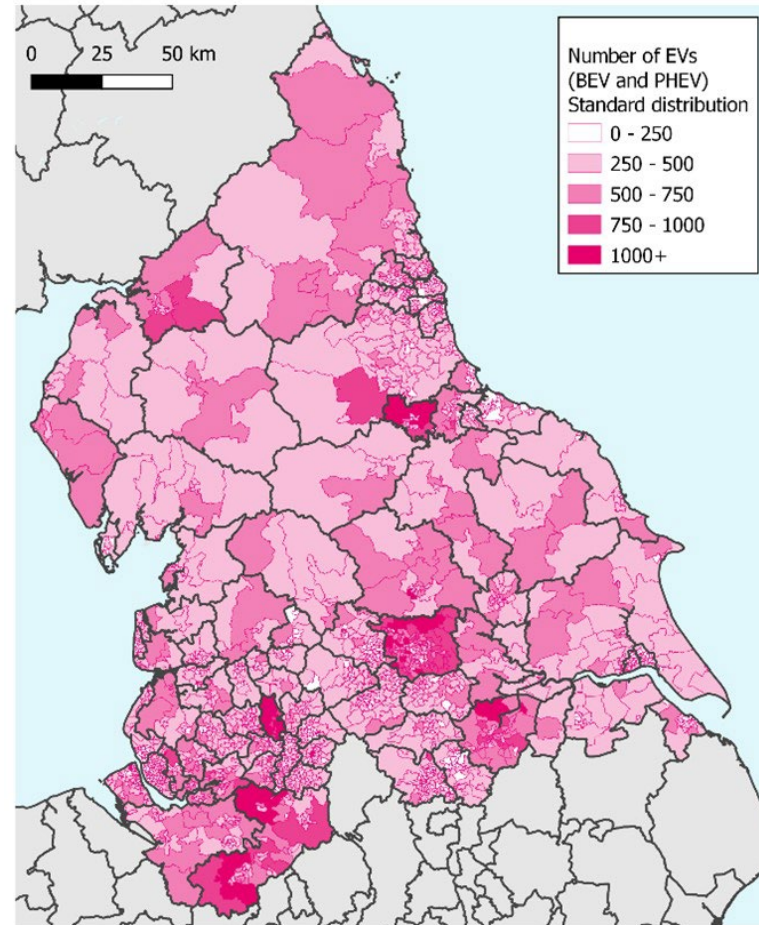


New from Feb 2024 - Monitoring deployment of charging infrastructure against identified requirements



New from Feb 2024 - Combining EV ownership, travel patterns and household income impacts

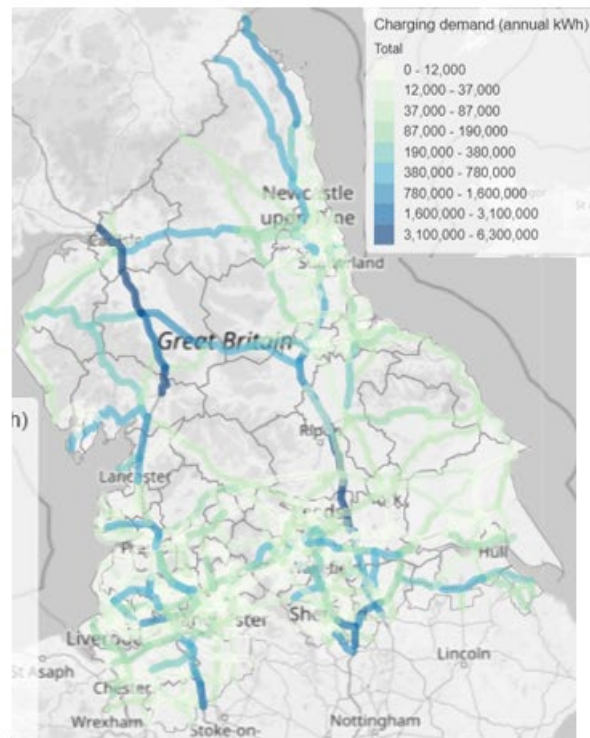
- Forecasts EV car sales based on socioeconomic factors and ultra-low emission vehicle (ULEV) price accessibility, and the resulting EV charging requirements.
- Highlights areas which could 'electrify' faster; or which are vulnerable to transport related social exclusion associated with decarbonisation of the vehicle fleet.



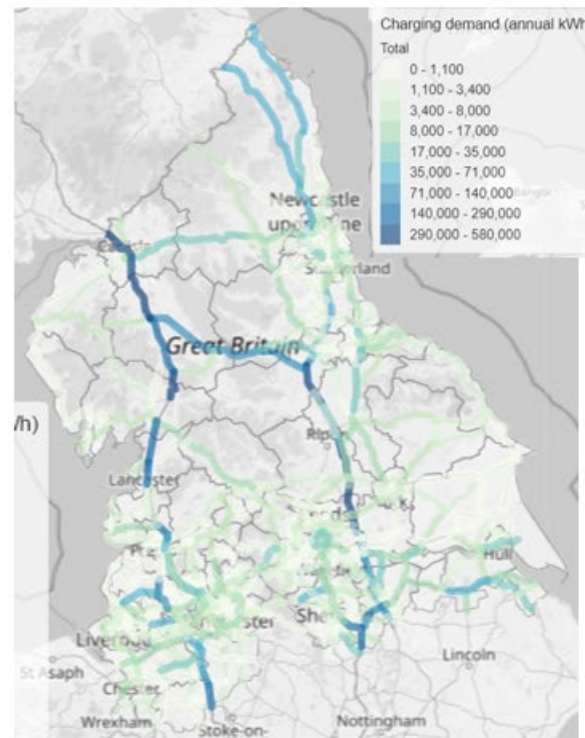
New from Feb 2024 - Enhanced rapid charging demand mapping for the Strategic Roads Network and major A-roads

- Applies TfN's regional traffic modelling, to assess the likelihood of vehicles stopping across the North's road network based on trip patterns across our region's roads, journey length, vehicle range and battery size.
- Highlights the annual number of projected charging events and the resulting power required from our electricity networks to support demand.

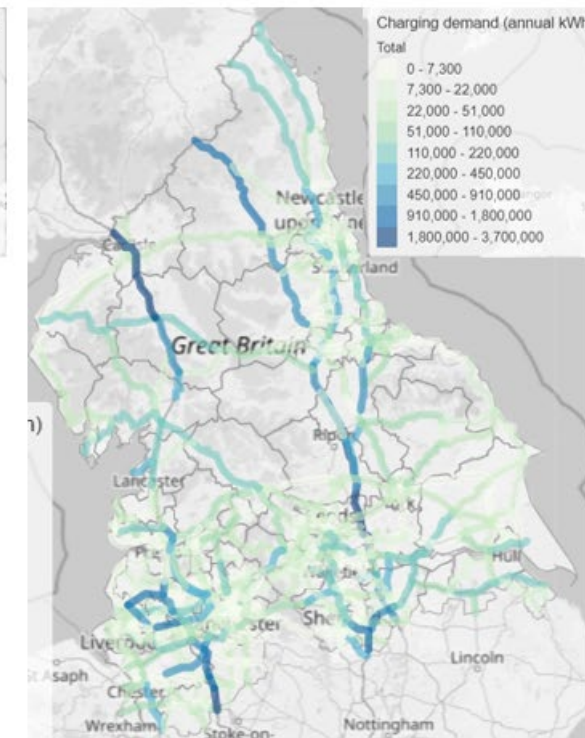
En-route Car Charging Demand 2030
(25% stock BEV)



En-route Van Charging Demand 2030
(12% stock BEV)



En-route HGV Charging Demand 2030
(7% stock BEV)

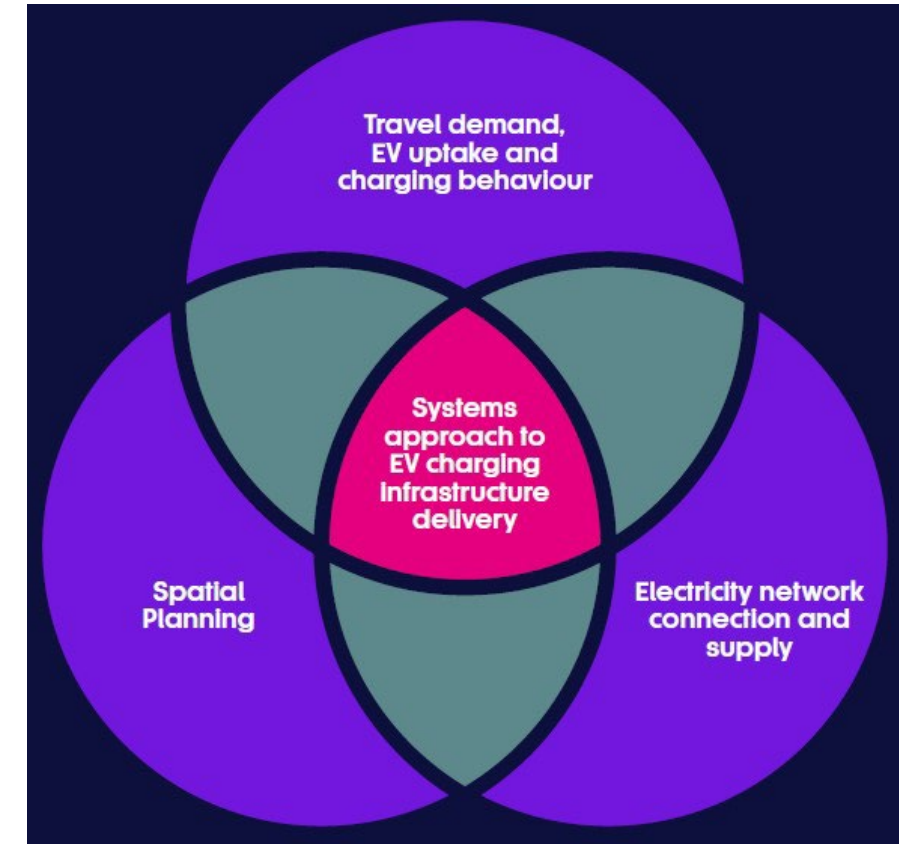


New from Feb 2024 - Other recent enhancements to support planning & deployment

- **Addition of the Department for Transport - common analytical scenario EV rates** - Whilst use of TfN's [Future Travel Scenarios](#) are key to our strategic planning, we are providing the ability to view consistent EVCI Framework outputs using the DfT's EV uptake projections to provide clarity during local, regional and national planning.
- **CO2 emissions reductions** - To support local transport planning, this captures data from TfN's decarbonisation modelling framework and calculates the likely transition of vehicles to EVs and the resulting reduction of emissions.
- **Modelling and functionality upgrades** - To improve processes behind the scenes, usability and quality of outputs, including a wider ability to download results and added glossary definitions and explanations.

2024 EVCI Framework enhancements to support planning & deployment

- **National roll out across England via other STBs**
- **Monitoring data** – addition of Zap Map data
- **Updated car registration baseline** – new Feb 2024 data from DVLA
- **Energy collaborations** - digital representation of grid capacity and headroom.
- **Spatial collaborations** – Partnership with Ordnance Survey. Exploring geospatial data mapping for driveway access, public parking, on-street needs.
- **Commercial viability** - whole network outcome to avoid social impacts of EV transition
- **Better defining 'adequate' charging network and utilisation** to understand queueing, dwell time, diversification of charging times and place-based delivery models. Updating our baseline
- **Exploring improvements and new data** avenues - buses and depots; freight and warehousing; fleets; co-charging; land identification crowdsourcing and more.....



Northern Transport Voices research community - Consumers show appetite for switching, but also uncertainty

- 54% of current ICE drivers plan to replace current vehicle in the next 4 years (while 34% have no clear plans for replacing)
- 32% of current ICE drivers interested in replacing vehicle with hybrid, PHEV or BEV at some stage in the future
- 36% of current ICE drivers who intend to replace vehicle in next 2 years may switch to hybrid, PHEV or BEV
- However, the majority of ICE drivers do not intend to switch in the near future



Northern Transport Voices - Cost, charging options, information, and confidence are things to focus on

- ↘ 37% of ICE drivers considering switch to hybrid, PHEV or BEV had plans delayed by cost-of-living crisis
- ↘ Lack of convenient charging options is as much of a barrier to going electric as purchase costs
- ↘ Information gaps and market-based factors also identified as barriers
- ↘ EV roll out and charging is moving apace, but now is the time to tackle remaining barriers



Thank you

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