

# Electric Vehicle Rapid Charger Network and Engagement Workshops

## North East Taxi and Private Hire Trade

Transport North East, SWARCO and Cenex

Chaired by Carl Christie, Cenex

17<sup>th</sup> June 2021



# Agenda

- Introduction
  - Carl Christie, Technical Specialist – Low Emission Vehicles at Cenex
- Ultra-Low Emission Taxi Infrastructure Scheme
  - Andrew Dorrian, Specialist Transport Planner at Transport North East
- Rapid Charger Network for Taxi and Private Hire Vehicles
  - Paul Swain, Business Development Manager at SWARCO
- Trade Engagement Workshops
  - Carl Christie, Technical Specialist – Low Emission Vehicles at Cenex
- Q&A

# Transport North East

# Ultra Low Emission Vehicle (ULEV) Taxi Infrastructure Scheme



## Moving to a green, healthy, dynamic and thriving North East

## Andrew Dorrian – Transport North East

# Transport **North East**

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## Who is Transport North East

- We provide transport strategy, planning and delivery services on behalf of the North East Joint Transport Committee (NEJTC).
- We cover Tyne and Wear, Durham and Northumberland
- We work on behalf of the region's Combined Authorities to develop strategies and deliver substantial funding for schemes which will change the future of regional transport.
- We work tirelessly to implement our vision of **moving to a green, healthy, dynamic and thriving North East.**

[www.transportnortheast.gov.uk](http://www.transportnortheast.gov.uk)

# Transport North East

## North East Transport Plan

- First-ever region-wide Transport Plan covering Tyne and Wear, Durham and Northumberland.
- Sets out our transport priorities up to 2035.
- Includes an initial £6.1bn worth of transformative projects.
- Live programme of 296 proposed schemes.
- Worked with our local authorities and Nexus to coordinate the programme of schemes.

Want to see improved walking and cycling routes?



Have your say on the North East Transport Plan.

[www.transportnortheast.gov.uk/transportplan](http://www.transportnortheast.gov.uk/transportplan)

Transport North East

#NETransportplan

Whether you walk, cycle, use public transport or drive, however you choose to travel, make sure you have your say!



[www.transportnortheast.gov.uk/transportplan](http://www.transportnortheast.gov.uk/transportplan)

Transport North East

#NETransportplan

Want to improve the region's road network?



Have your say on the North East Transport Plan.

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Transport North East

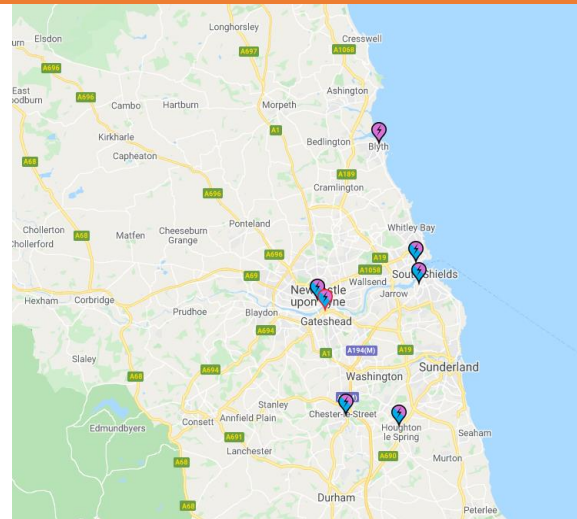
#NETransportplan

# Transport North East

## Why invest in infrastructure for the taxi and private hire trade?

- Source apportionment work has revealed that on some links within the urban core of Tyneside, Nitrogen Dioxide apportionment from Taxis/Private Hire Vehicles (PHVs) is estimated as high as 15% of all vehicles;
- Detailed Automatic Number Plate Recognition analysis has revealed that only around 15% of Taxis/PHVs passing through the urban core of Tyneside are at a Euro 6 standard, Work by the Energy Savings Trust shows that 92% of the fleet is Diesel with the vast majority being Euro 5;
- The scale of change is large and a structured and phased approach to the delivery of a cleaner greener taxi fleet across the region is needed. This is important so as not to undermine the viability of the trade. As such we set out our ambition for the expected uptake in ULEVs at 5% of the fleet by 2025 which is supported by evidence obtained through surveys and modelling

To encourage uptake, we must plan infrastructure in locations that are accessible and convenient for all aspects of the taxi trade



©Zapmap  
(<https://www.zap-map.com/live/>)

\*Chargers  
expected later  
this year

Location	Authority	No of Chargers
One Point Hub	Durham	1
Back Walker Terrace	Gateshead	1
Clayton Street	Newcastle	1
Blandford Square*	Newcastle	1
Norfolk Street	North Tyneside	1
Coronation Street*	North Tyneside	1
Keel Row	Northumberland	1
New George Street	South Tyneside	2
Station Road	Sunderland	1

Transport North East secured circa £500k to deliver 10 rapid chargers across 9 locations around the region

# What is being delivered

- 10x Rapid Chargers (50kW) capable of charging a vehicle from 0-80% in 30mins
- Match funding provided by Swarco procured on a installation and maintenance contract for 24 months;
- Infrastructure remains the property of the seven local authorities;
- Dedicated spaces within car parks or on street locations;
- Most dedicated to Taxi or Private Hire vehicles; and
- Membership or PAYG options available.



# Maintaining Effectiveness

- Infrastructure provision is one part of the story, this commission includes detailed engagement with the trade around the capability for the trade and aims to increase uptake;
- Detailed maintenance contacts in place for the infrastructure to maintain quality and steps in place for post contract handover and retendering.
- The region continues to look at opportunities for further investments in Electric Vehicle charging infrastructure for the trade.



The Better Way. Every Day.



## ELECTRIC VEHICLE CHARGING SOLUTIONS



# SWARCO – OVER 50Y OF EXPERIENCE

**SWARCO**  
founded in 1969

headquartered in Wattens  
/ Austria



One of the world's  
biggest  
traffic management  
companies



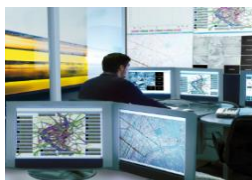
One of the world's  
biggest  
traffic safety companies

The first company of the SWARCO  
Group was founded in 1969 by Manfred  
Swarovski.

over 50 years of  
experience

a group with  
80+ companies  
worldwide

Talk to  
us first.



SWARCO today is a growing international  
group providing a comprehensive  
performance range of products, services  
and solutions for airports, traffic  
management and road safety.



SWARCO has been  
committed to road  
safety with  
innovative solutions for  
four decades.

Talk to us first.

Your one-stop shop for traffic solutions.

SOLUTIONS FOR:

TRAFFIC MANAGEMENT

ACCESS AND PARKING

STREET LIGHTING

SIGNAGE

SIGNALING

ROAD MARKING

ELECTRIC VEHICLE CHARGING

# SWARCO | First in Traffic Solutions.

shareholder

MANFRED SWAROVSKI  
Founder and Owner of SWARCO

owner

D. SWAROVSKI & CO.  
founded in 1895

Crystal

Optics

Abrasives

SWAROVSKI

SWAREFLEX



TYROLIT

30,000 employees  
€ 3.3 bn turnover

SWARCO AG  
founded in 1969

80+ companies world wide  
3500 employees  
€ 0.7 bn turnover

SWARCO UK Organisations

Traffic Systems



Parking

APT SKIDATA  
access unlimited

Parking ANPR



EVC



*Committed to the reduction of transport related emissions through supporting the transition to ultra-low emission vehicles*

Eliminating range anxiety through reliable home, workplace and public charging infrastructure

Sector leading portfolio from AC domestic and workplace to public DC rapid and ultra-rapid charging solutions.

***Our average EV charging network performance uptime is 99.6%***

# ULEV TAXI PROJECT – TRANSPORT NORTH EAST

ULEV funded project across 10 sites in the NE region, 9 chargers  
(New George Street has x 2 - South Tyneside)

50kW DC Rapid Chargers – Simultaneous charging AC/DC

SWARCO E.connect back office billing and management solution

Access by RFID and APP (Membership or PAYG)

Tariff: 30 pence pkWh (ex VAT)

Installation started August 2020 and Finished April 2021

Some locations experienced slight delays due to grid connection





Transport



Energy  
Infrastructure



Knowledge &  
Enterprise



**cenex**

# Trade Engagement Workshops

Carl Christie, Technical Specialist – Low Emission Vehicles at Cenex

# Cenex

Not-for-profit consultancy that provides independent advice on low emission transport, energy systems and infrastructure.

## Taxi and Private Hire Trade

- Trade engagement workshops
- Personalised suitability advice
- Vehicle data logging
- Paper and online surveys

## Local Authorities

- Licensing policy review
- Ultra-low emission vehicle strategy
- Infrastructure requirements
- Business case for financial incentives and try before you buy



# Types of Plug-in Electric Vehicle

## Battery Electric Vehicle (BEV)



**≥40 kWh battery**

Lowest running costs

Zero tailpipe emissions

CO<sub>2</sub> emissions savings of >60% with grid electricity

Reliant on home or public charging infrastructure

## Range Extended Electric Vehicle (REEV)



**≤31 kWh battery**

Higher electric only range and lower emissions than an equivalent PHEV

Can use ICE<sup>1</sup> generator but this can increase running costs and CO<sub>2</sub> emissions

## Plug-in Hybrid Electric Vehicle (PHEV)



**≤14 kWh battery**

Lower air quality emissions than diesel

Can use ICE only but this can increase running costs and CO<sub>2</sub> emissions

No DC 'rapid' charging

▶ Meets plug-in grant emissions criteria<sup>2</sup>

Image sources: <https://ev-database.uk/>, <https://www.levc.com/>, <https://www.dynamotaxi.com/>, <https://www.vicyoung.co.uk/>

# What Vehicle Models Are Available?

## Standard Passenger Vehicles



## WAVs



**535,000 plug-in vehicles registered in the UK with a 13% market share (as of May 2021).**

## Large and Medium Cars

- ~£25k to £40k\*
- 143 miles to 282 miles\*\*

## Wheelchair Accessible

- ~£45k to £60k\*
- 62 miles to 124 miles\*\*

# Why Are Taxi Vehicle Operations Challenging?

## Low Usage Vehicles



## High Usage Vehicles

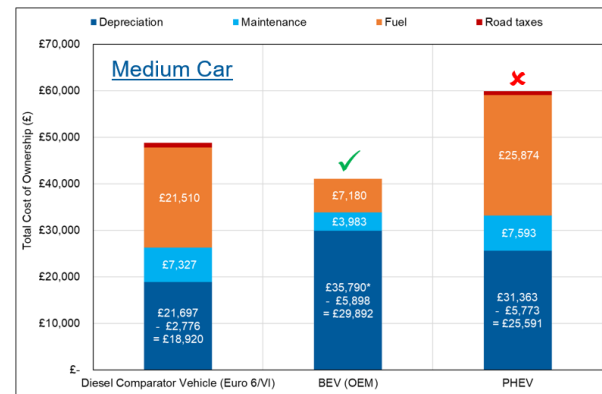
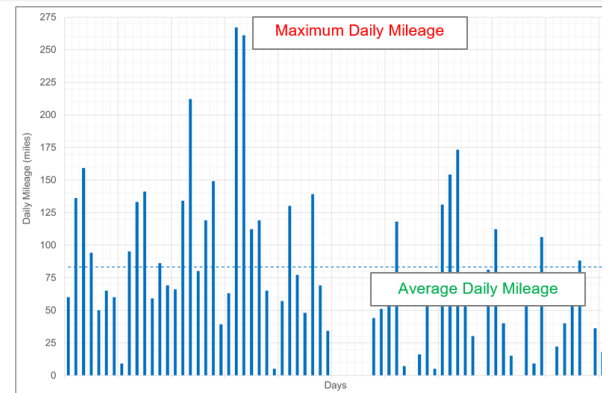
- **Economically challenging**
- <10,000 miles per year
- Owner driver
- Part time / semi retired drivers
- Dense urban based operation

- **Operationally challenging**
- >40,000 miles per year
- Operator owned vehicles
- Full time drivers
- Regional / motorway operation



# Electric Vehicle Considerations

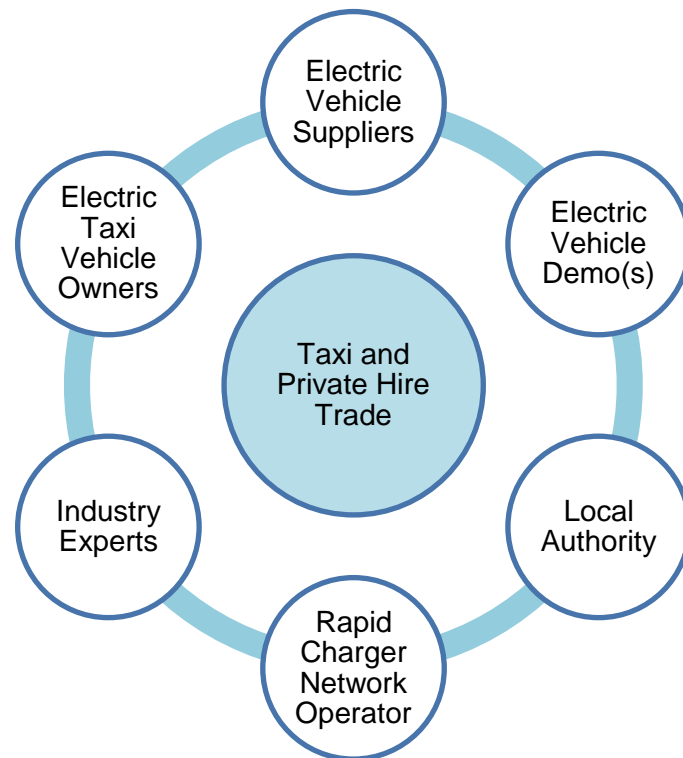
- Operational considerations
  - Adequate range for typical daily mileages but additional planning required for high mileage journeys. Need reliable access to charging infrastructure.
- Financial considerations
  - More expensive to buy but can offer running cost and total cost of ownership savings compared to a new diesel vehicle.
- Environmental considerations
  - Zero tailpipe emissions in electric only mode, CO<sub>2</sub> emissions savings of up to 70% including electricity generation.





# Trade Engagement Workshops

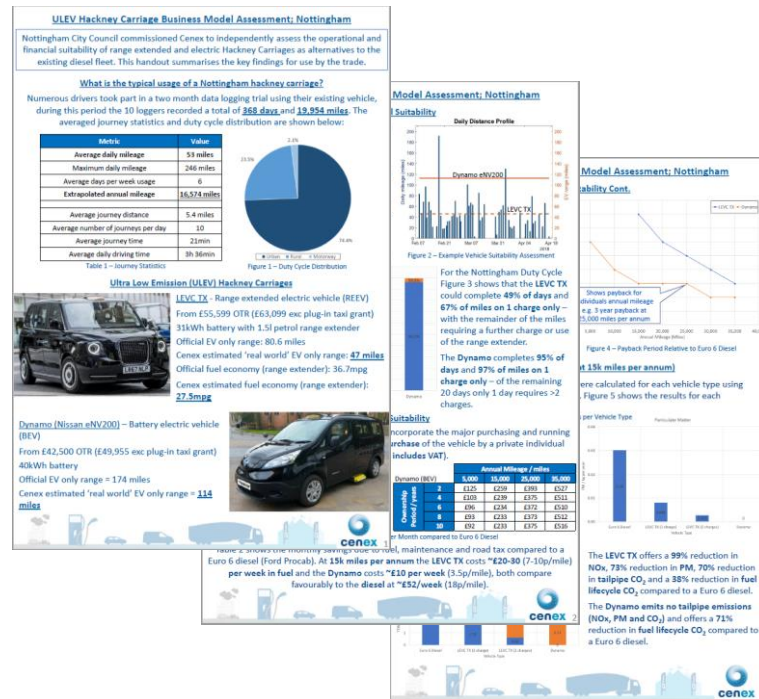
- **Trade engagement workshops** to be held at convenient locations and times across the region\*.
- Free to attend for all licence holders.
- Open forum to discuss electric vehicles and raise any concerns.
- Vehicle suppliers and local operators will be invited to talk about and demonstrate the latest electric vehicles.
- Details of first workshop to be announced soon.



\* County Durham, Gateshead, Newcastle, North Tyneside, Northumberland, South Tyneside, Sunderland.

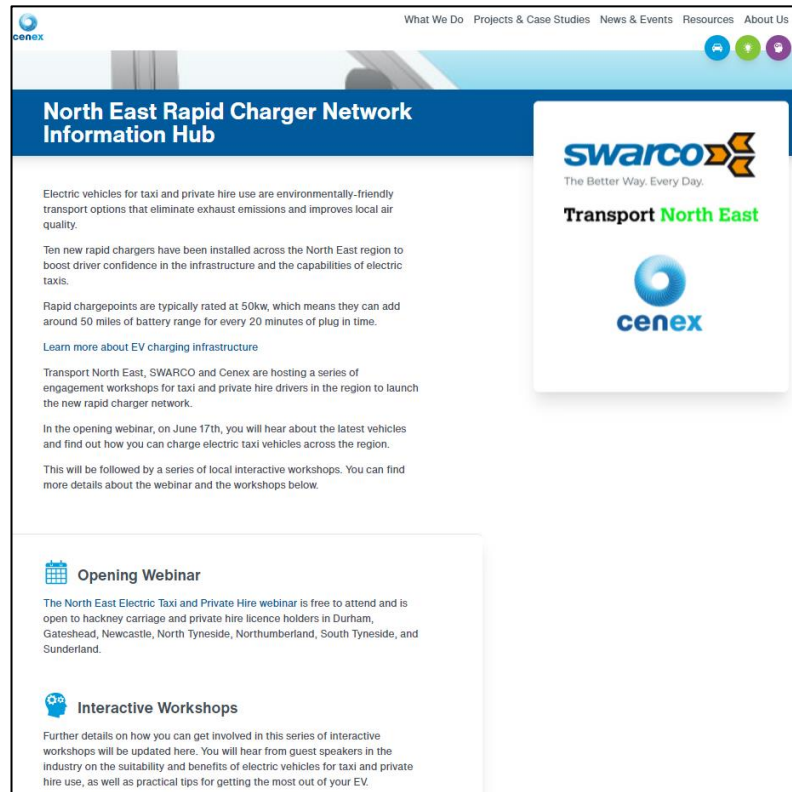
# Personalised Electric Vehicle Suitability Advice

- Ten personalised reports showing the operating range, costs and emissions of electric vehicles based on your journey patterns and daily mileages.
  - Based on real-world testing of electric vehicles.
  - Easy to use data logger fitted to vehicle for two months.
- Data will be anonymised and combined to produce a summary report for all licence holders.



# Regular Updates

- Keep up to date about future events.
- Register your interest to receive personalised advice about the suitability of electric vehicles in the real-world.
- Have your say on electric vehicles and what speakers you would like to hear from at workshops.
- Reports and case studies.
- Newsletters.
- And much more!



The screenshot shows the 'North East Rapid Charger Network Information Hub' website. The header includes the cenex logo and navigation links: 'What We Do', 'Projects & Case Studies', 'News & Events', 'Resources', and 'About Us'. The main content area is titled 'North East Rapid Charger Network Information Hub' and contains several paragraphs of text about electric vehicles for taxi and private hire use, rapid chargers, and upcoming workshops. On the right side, there is a sidebar with the 'swarco' logo and the text 'The Better Way. Every Day.' and 'Transport North East', along with the cenex logo.

cenex

What We Do Projects & Case Studies News & Events Resources About Us

## North East Rapid Charger Network Information Hub

Electric vehicles for taxi and private hire use are environmentally-friendly transport options that eliminate exhaust emissions and improves local air quality.

Ten new rapid chargers have been installed across the North East region to boost driver confidence in the infrastructure and the capabilities of electric taxis.

Rapid chargepoints are typically rated at 50kw, which means they can add around 50 miles of battery range for every 20 minutes of plug in time.

Learn more about EV charging infrastructure

Transport North East, SWARCO and Cenex are hosting a series of engagement workshops for taxi and private hire drivers in the region to launch the new rapid charger network.

In the opening webinar, on June 17th, you will hear about the latest vehicles and find out how you can charge electric taxi vehicles across the region.

This will be followed by a series of local interactive workshops. You can find more details about the webinar and the workshops below.

### Opening Webinar

The North East Electric Taxi and Private Hire webinar is free to attend and is open to hackney carriage and private hire licence holders in Durham, Gateshead, Newcastle, North Tyneside, Northumberland, South Tyneside, and Sunderland.

### Interactive Workshops

Further details on how you can get involved in this series of interactive workshops will be updated here. You will hear from guest speakers in the industry on the suitability and benefits of electric vehicles for taxi and private hire use, as well as practical tips for getting the most out of your EV.

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# Q&A

To get involved, sign up at

[www.cenex.co.uk/ev-taxi-hub](http://www.cenex.co.uk/ev-taxi-hub)