



Ultra-Low Emission Taxi and Private Hire Fleets Practical Advice for Local Authorities

Cenex, Cardiff Capital Region and Nottingham City Council

Chaired by Steve Carroll, Cenex

5th August 2020



⋈ info@cenex.co.uk



Agenda

Energy Infrastructure

Transport

Introduction

- Steve Carroll, Head of Transport at Cenex
- Ultra-Low Emission Taxi and Private Hire Fleets

Knowledge

- Carl Christie, Technical Specialist – Fleet Support at Cenex

Case Studies

- Roger Waters, Service Director Frontline Services at Rhondda Cynon Taf (RCT) County Borough Council
- Peter Saunders, Transport Planner at Nottingham City Council
- Q&A









Ultra-Low Emission Taxi and Private Hire Fleets

- Introduction to taxi vehicle types and ultra-low emission vehicles (ULEVs)
- Importance of taxi trade engagement

Transport

• Supporting measures used by local authorities



Vehicle Licensing



Transport



Hackney Carriage Vehicle (HCV)

- ✓ Can use taxi ranks
- \checkmark Can 'ply for hire' within licensing authority
- ✓ Can be pre-booked
- Private Hire Vehicle (PHV)
- Must be pre-booked through a licensed operator only (via an app, website or phone)

There are two modes of operation but several potential vehicle types



Vehicle Types – Standard Passenger Vehicles



Large & Medium Cars

Transport

Executive Cars & MPVs / 7-seaters

Suitable ULEVs must be available to fulfil all roles, this could change the future fleet composition

- ✓ Specify as many different types of vehicle as possible (best practice)
- ✓ Reconsider legacy conditions of licensing (e.g. dimensions, window tints)
- ✓ Approve ULEV models for licensing as they are released



Vehicle Types – Wheelchair Accessible Vehicles (WAV)



Purpose-built / Medium Van Conversion

Knowledg

Transport

Small Van Conversion

Supply of type approved WAVs is constrained and WAVs are more expensive than standard vehicles

- Review required number and type of WAV to meet local needs
- Contact suppliers to discuss requirements and prove demand for ULEVs



Vehicle Operations

Low Usage Vehicles

- Economically challenging
- <10,000 miles per year
- Owner driver

Energy

Transport

- Part time / semi retired drivers
- Dense urban based operation





High Usage Vehicles

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







Maximum Age Limits and Emissions Standards

Maximum age limits are common but only for newly licensed vehicles, vehicles are removed from the fleet by the trade or during compliance testing. Age limits only provide an indirect control on fleet emissions

- ✓ Set minimum emissions standards for:
 - Newly licensed vehicles

Knowledge &

Infrastructure

Transport

- Renewal of licences
- Enforce a maximum age limit for vehicles not meeting these standards
- Extend or remove age limits for ULEVs (if safe and fit for purpose)







What is an ULEV? - a car / van with tailpipe CO_2 emissions of <75 g/km





5kg H₂, 1.6 kWh battery

Range and refuelling times similar to ICE** CO₂ emissions savings when using 'green' H₂ Low market maturity, currently uneconomical Battery Electric Vehicle* (BEV)



≥40 kWh battery

Lowest running costs CO₂ emissions savings of >60% with grid electricity Reliance on infrastructure and charging times can impact daily duties Range Extended Electric Vehicle (REEV)



≤31 kWh battery

Higher electric only range and fewer emissions than equivalent PHEV

Can use ICE generator but this can increase running costs and CO₂ emissions Plug-in Hybrid Electric Vehicle (PHEV)



≤14 kWh battery

Less air quality emissions than diesel

Can use ICE only but this can increase running costs and CO_2 emissions No DC 'rapid' charging

Eligible for plug-in grant (<50 gCO₂/km and >70 miles zero tailpipe emissions)





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

Which Models Meet the Plug-in Grant ULEV Definition?

Standard Passenger Vehicles







WAVs

Large and Medium Cars

- ~£25k to £40k*
- 163 miles to 282 miles^{**}
 WAVs
- ~£45k to £60k*
- 58 miles to 125 miles**
- Currently limited availability of financially viable 7-seaters and executive cars











* Prices include VAT and plug in grant where applicable, ** Official electric only range based on the Worldwide Harmonised Light Vehicle Test Procedure (WLTP) combined cycle



Importance of Taxi Trade Engagement

Energy Infrastructure

Transport

Knowledge



Importance of Trade Engagement

Getting buy in from the trade is essential to increase the uptake of ULEVs whilst avoiding protests, legal challenges and protecting jobs

- Engage with the trade as a key partner by identifying genuine potential early adopters and 'driver champions'
- ✓ Address top three main concerns (at least):
 - Initial purchase cost
 - Real-world vehicle range and reliability
 - Access to charging infrastructure







Methods of Trade Engagement

The taxi trade require fact-based information from trusted sources, for example from:

- ULEV Workshops *
- Supplier days / EV roadshows ★
- Surveys

Transport

- Newsletters
- Encourage informal positive discussion
 Provide opportunities for drivers to get 'hands on'
 Provide confirmation from within the trade

Another hackney cab driver tells us why he went ULEV





ULEV Taxi Strategy

Infrastructure

Transport

Knowledge

Clear and consistent messaging is essential to gain buy in from the trade and a coordinated approach is more likely to be successful

- Ensure strategy is comprehensive and includes licensing policy, infrastructure and supporting measures
- ✓ Set aspirational target dates and standards which allows for negotiation with the trade
- Begin informal trade engagement to get early feedback on proposed measures





Supporting Measures Used by Local Authorities

Energy

Transport

Knowledge



Financial Incentives

Knowledge

Energy Infrastructure

Transport

ULEVs are more expensive to buy but several can offer total cost of ownership savings compared to a new diesel vehicle. Owners typically don't have access to the capital / finance to buy a new vehicle (>£30k)

- Provide incentives to spread / reduce the purchase cost until parity is achieved (~2024)
 - Interest free loans (>£10k)
 - Grants for running costs (~£3k)
 - Alternative financing products
- ✓ Support growth of used car market





Vehicle Demonstration and Trials

ULEVs are operationally suitable for typical daily mileages (e.g. ~100 miles*) but owners are concerned about high mileage journeys and require evidence of real-world vehicle capabilities

 Facilitate ride and drive / extended test drives

Knowledge Enterprise

Energy

Transport

- Consider large scale, council managed, EV trial / try before you buy schemes
- Provide personalised advice on suitability



* BEVs up to 40 kWh typically have real-world ranges of 120 to 150 miles and can be charged in <1h using high power (50+ kW) DC chargepoints



Dedicated Charging Infrastructure

Transpor

Drivers require ample charging infrastructure at convenient locations and competitive prices

- Determine number of chargepoints to support revised licensing policy (and early adopters)
 - Pricing (free / discounted vs. market rates)
 - 'Work' / destination charging vs hubs
- \checkmark Hold trade workshops to agree best locations
 - Map vehicle usage, parking times and locations against existing infrastructure





Licensing Policy & Additional Measures - Best Practice

Before introducing a new vehicle emissions policy a range of appropriate regulatory, financial and supporting measures are required



Energy Infrastructure

Transport

Knowledge 8 Enterprise

- ✓ 'Go Electric Taxi' scheme
- ✓ £2.5k financial incentives
- ✓ Chargepoints
- ✓ 2-week test drives
 2020 2024



- ✓ Licence fee exemptions
- ✓ Raised age limits
- ✓ 50 fewer WAVs
- ✓ Access restrictions by 2029
 2020 – 2028





- ✓ Up to £5k financial incentives
- ✓ £2.75m funding -EV taxi rental fleet
- ✓ Clean Air Zone
- ✓ Policy review: 2025
 2021 2030^(ZEV)

- ✓ ~£3.5k financial incentives
- ✓ Dedicated chargepoints
- ✓ 30-day EV trials
- ✓ Bus lane access
 2025 2030

'Zero Emission Capable'

ULEV (currently <75 gCO₂/km)

<50 gCO₂/km, >70miles electric (OLEV Grant)



https://www.cenex.co.uk/projects-case-studies/



Case Studies

Knowledge Enterprise

Energy Infrastructure

Transport

- Roger Waters Transport Officer Group Chair for the Cardiff Capital Region Transport Authority
- Peter Saunders Transport Planner, Nottingham City Council



Regional Transport Authority

August 2020





- RTA written into City Deal Heads of Terms as mandatory partnership
- Strategic transport development remit: policy & thought leadership and advisory role in assessment of WIF investment proposals
- Competitively appointed Chair Cllr Huw David key Leader of Bridgend CBC and ambassador for CCRCD
- 3 targets GVA increase 5%; Job creation 25,000; Private investment £4bn
- £1.2bn Investment, including £734m SE Wales Metro Programme



WHY WE NEED TO ACT

- Poor Air Quality
 - Contributes to 40,000 premature deaths per year in the UK
 - LAs within the CCR are in breach of EU limits
 - Diesel fuel is the largest contributor to CCR's problem
 - Even with Modal Shift there will still be a residual need for motorised transport

Carbon Reduction

- National and city region wide targets
- Transport accounts for 24% of Emissions nationally
- WG drive for Carbon Neutral Public Sector by 2030

• Cost

• Fossil fuels are an ever increasing cost to the CCR and Citizens

• Demand/Supply standoff

- Market confidence needs to grow
- High consumer cost and uncertainty/slow and emerging supplier market
- Strategic leadership and "intelligent customer" actions needed.
- Underlines the CCR role as an "early adopter" and strategic player.
- CCR's Competitive Position
 - World Class City Offer
 - A city region at the forefront of technology
 - A city region that facilitates a cleaner smarter quality of life



ULEV: What has been achieved?

- ULEV strategy and programme; a regional approach to delivery
- Leading Wales in approach to Clean Transport Growth including •
- Regional Strategy for delivery of ULEV for all modes 1.
- Taxi Strategy to deliver infrastructure and incentives 2.
- Infrastructure and incentives for buses 3.
- On-street and workplace parking 4.
- 5. HGV (next step)
- Publicity, campaigns, evidence submissions & participation; 6. committees, groups and partnerships
- Advisory support to other bodies WG / TfW •
- Post-Covid reform and reimagination work ٠
- Influential with Welsh Govt



nmentally sustainable future



Funding - Investment & Intervention Fund / WG LTF

2 projects with 'status' in the CCR Investment Fund*

Total Investment request of c.£55M

Investment Leverage of more than 30,000 jobs over the next 10 – 15 years, leveraging in excess of £2bn of Gross Development Value, and over £1bn of GVA.

LTF Ultra Low Emission Vehicles (ULEV) Fund - £1.296m 20/21

OLEV Funding c.£550k with c.£155k match funding to deliver on-street and workplace parking 2019/20

*Metro Plus

*Metro Central



Conclusions

- RTA has done much to enliven, enrich and elevate the CCRCD
- The ground covered in a relatively short space of time has been significant
- The individuals are committed and share a strong sense of purpose and values – *in it to make a difference to a place they passionately care about*
- Need to create the conditions to support their evolution which will best serve the future ambitions of the RTA, in their quest to move the dial on the SEW economy through providing a sustainable transport network, whilst also addressing the issues around air quality and Carbon footprint

NOTTINGHAM ELECTRIC VEHICLE SERVICES

TAXE

SERVICE I REPAIR I CHARGE

all a

Supporting Nottingham's Hackney Taxi Drivers

Peter Saunders, Transport Planner, Nottingham City Council

BX20 GH

The Challenge

- 411 Hackney Cabs
 - Diesel
 - Average Age 14yrs / Euro 3
- 1,612 Private Hire Vehicles
 - Diesel, Petrol, Hybrid, EV
 - Average Age 6yrs / Euro 4/5



The Policy Driver

Taxi and Private Hire Vehicle Strategy – February 2017

- Modernise the offer
- Ambition: 40% ULEV by 2020.

New Age and Emissions Policy – January 2018

- Vehicle changes from January 2020:
 - Euro 6 Diesel
 - Zero Emission Capable / ULEV
- ULEV only from 2025

Hackney Carriage and Private Hire Vehicle Strategy 2017-2020



Drivers attitudes to ULEVs

Top three Driver concerns:

- 1. Purchase price too high
- 2. Range / Battery reliability
- 3. Charging lack of charge points / time taken to charge

	Major Concern	Minor Concern	Not a Concern	Responses
Purchase price too high	100.0	0.0	0.0	92.9 (13/14)
Maintenance costs	46.2	46.2	7.7	92.9 (13/14)
Fuel costs	18.2	36.4	45.5	78.6 (11/14)
Customers won't like them	0.0	20.0	80.0	71.4 (10/14)
Vehicle will be charging too long during shifts	83.3	16.7	0.0	85.7 (12/14)
Knowledge of how they work and drive	50.0	25.0	25.0	85.7 (12/14)
Range	9 <mark>0.0</mark>	0.0	10.0	71.4 (10/14)
Battery reliability	92.3	0.0	7.7	92.9 (13/14)
Vehicle reliability	75.0	16.7	8.3	85.7 (12/14)
Lack of charging points	53.9	30.8	15.4	92.9 (13/14)

Communications & Engagement

1) Monthly Taxi Trade meetings

2) Web pages







Try before you → buy Financial support \rightarrow

Public charge point network

3) Taxi News



4) ULEV Hackney Taxi Events



5) Case Studies



ULEV Support

Electric Taxi Trial

- Council owns 6 LEVC taxis
- Up to 1 month free loan (initially 12 days)
- Refundable £100 deposit
- Hire & Reward insurance included
- Free D2N2 charge card
- Marshall Volvo provide handover, driver support and sales

Over 100 drivers participated



Financial Support

Up to £3,464 per proprietor

- Free Smart Charge Point
- Or Charge Point Allowance
- Vehicle Licence Fees x 3years
- Insurance contribution first year
- Vehicle Livery
- New meter installation
- Considering ULEV driver training



Dedicated Hackney Taxi charge points - close to ranks

• Phase I 4 rapids installed





• Phase II 10 more rapid locations – Energy Assessed, TRO's, Consult, Construct. Issues to consider installing charging points.



Taxi drivers refusing to buy low emission vehicles after making as little as £15 a day

More than 120 taxi drivers are refusing to buy new low emission cabs after making as little as £15 a day during the coronavirus pandemic.

Nottingham City Council wants around 400 hackney cabs to be upgraded to low emission vehicles to improve air quality.

Taxi drivers said they have been told the vehicles must be in place by June 30.



Taxi driver Chander Sood pictured inside his vehicle

In conclusion

- Match policies with incentives
- Cant force change, bring drivers along with you
- Engagement is key provide positive Council support
- Drivers make good suggestions and respect this is their livelihood
- Find your Champions
- Be consistent and stick with it!
- Accept Transport Team can't solve all hackney taxi issues flying!





Thank you for listening

carl.christie@cenex.co.uk Roger.J.Waters@rctcbc.gov.uk Peter.Saunders@nottinghamcity.gov.uk

Please contact Cenex if you wish to listen to a recording of this webinar.

www.cenex.co.uk

✓ @CenexLCFC

🖾 info@cenex.co.uk