

28th NOVEMBER 2019 CCRTA MEETING

ITEM 6 - METRO PLUS TAXI ELECTRIC VEHICLE STRATEGY UPDATE

REPORT OF CARDIFF CAPITAL REGION DIRECTOR KELLIE BEIRNE

AGENDA ITEM

REASON FOR REPORT

- 1) This report seeks to provide an update on progress with the Taxi Electric Vehicle Strategy that was commissioned and has now been completed to support the Metro Plus programme and offers a way forward for Member consideration.

BACKGROUND

- 2) Research has been undertaken to explore and identify complementary innovative transport led regeneration opportunities and planning across the Region through the development of a Low Emission Vehicle Strategy, Infrastructure Income Modelling and a plan to provide electric charging infrastructure, which will include facilities for taxis.
- 3) Cenex has now completed a piece of work to recommend a way forward for delivering a LEV (Low Emission Vehicle) Taxi Strategy (Appendix 1) to assist in meeting Welsh Government's target for zero emissions from taxis by 2028.
- 4) **LEV (Low Emission Vehicle) Taxi Strategy**

The Taxi Strategy is now complete and a workshop was held in September with officers from Taxi Licensing in all 10 Local Authorities to consider the recommendations in the Draft report, to challenge the report, and offer a workable way forward to recommend to Members. The report shows that the region is in a good starting place in terms of current taxi fleet where the average age is 8 years and younger.

The Report highlights that the Cardiff Capital Region could become an exemplar region for reducing taxi emissions across multiple local authorities covering mixed urban and rural environments. Three options were considered, including moving to Euro 6 fleet, Hybrid and pure Electric. Whilst Euro 6 is easier to achieve and has a more instant effect on emissions, this is short lived and the recommendation is to move towards pure electric immediately as although it takes longer, it has a bigger and more final impact on reducing emissions. The half way hybrid option was ruled out on overall cost grounds. Cenex reviewed publicly available low emission taxi policy documents and drew on previous experience to develop the following vehicle emission policy scenarios:

- **Improved licensing** – ten year maximum age limit enforced for non-ULEVs (Ultra Low Emission Vehicles), newly licensed vehicles must be Euro 6 from 2020.
- **Best practice** for clean air zone compliance – all licensed vehicles must meet minimum CAZ (Clean Air Zone) standards (Euro 6 diesel, Euro 4 petrol) by 2020, newly licensed vehicles must be ULEV (Ultra Low Emission Vehicle) from 2025, all licensed vehicles must be ULEV by 2030.
- **Aspirational** – ten year maximum age limit enforced for non-ULEV, newly licensed vehicles must be ULEV from 2022, all licensed vehicle must be ULEV by 2028. In this scenario, 90% of the ULEVs will be BEVs (Battery Electric Vehicles), which provide a 100% reduction in tailpipe NOx (oxides of nitrogen, especially as atmospheric pollutants) and PM as well as a 64% reduction in WTW (Well to Wheel) CO2 based on the current UK grid energy mix.

Cenex recommends that the 10 Local Authorities adopt and apply the aspirational scenario, however it should be noted that this is a Cardiff Capital Region issue to be determined individually by each Authority and not one delegated to the City Deal Regional Cabinet.

This can be achieved by adopting an aspirational strategy where all newly licensed vehicles must be ULEV from 2022 (conditional on the availability of an adequate number of suitable ULEVs) and all licensed vehicles must be ULEV by 2028 with the rate of vehicle replacement determined by an enforced maximum age limit of ten years for non-ULEVs. This would require approximately 2,500 vehicles to be replaced by ULEVs in 2022 followed by around 270 to 570 every year until 2028. Introducing this policy could reduce the total WTW CO2 emitted by the fleet between now and 2030 from 546,000 tonnes to 339,000 tonnes, a reduction of 207,000 tonnes (38%). These emission reductions can only be guaranteed through the wide scale adoption of BEVs (assumed to be a 90% share, equivalent to the existing diesel proportion). WTW CO2 emission reductions are possible using PHEVs but are reliant on maximising electric only miles travelled which may be challenging given that the average daily mileage is estimated to be 95 miles.

By 2022 this policy would provide the lowest air quality pollutant emissions with at least a 93% and 70% reduction in NOx and PM respectively. It is the only scenario studied that actively supports the Welsh Government aim to reduce taxi carbon emissions to zero by 2028 and would be a significant step towards achieving net zero carbon emissions by 2050. Although ambitious, Cenex believes that this is achievable through collaboration between local authorities and standardisation of licensing conditions. Cenex also believes these targets can be achieved for the following reasons:

- The proposed maximum age limit for non-ULEVs of ten years is only three years more than the current average age of the fleet (just under seven years). This, combined with existing age limits for newly licensed vehicles, means that 30% of the fleet meets Euro 6 standards and newly licensed vehicles from September 2019 will most likely also meet this standard;
- Over 60% of the fleet is made up of vehicles from segments that are known to have a wide range of suitable ULEVs available by 2022 (large cars, medium cars and small vans);
- The average annual mileage of just under 25,000 miles and average ownership period of seven years mean that there is already a strong business case for the adoption of BEVs in all segments except for the executive car segment with **savings in total cost of ownership between £3,000 and £14,000**. Currently PHEVs (Plug-In Hybrid Electric Vehicles) are only economically suitable for low mileage users with extended ownership periods;
- Through the establishment of conditional criteria on key metrics such as the electric only range and vehicle availability local authorities can commit to implementing licensing changes when appropriate rather than at an arbitrary date;
- 71% of trade survey respondents have plans to change to a HEV (Hybrid Electric Vehicle), PHEV or BEV in the future and on average most respondents believed the taxi trade would be able to transition to ULEV by 2025 (2027 at the latest);
- This scenario provides the greatest certainty to the trade that their replacement vehicle will have a guaranteed and appropriate lifecycle, thereby improving the economic case to switch to ULEVs.

However, despite these opportunities **several key risks and challenges have been identified** as shown below.

- Initial purchase cost is by far the greatest concern of the trade with 53% of respondents listing this as the largest barrier to adoption and 70% of respondents including financial incentives in their top two preferred incentives. On average ULEVs currently cost £7,000 to £11,000 more to purchase new than their direct diesel equivalent;
- Access to charging infrastructure, both domestic and public, is the next largest concern. 65% of respondents reported having no access to off-street parking compared to only 40% in urban areas from the 2016 National Travel

Survey;

- There are currently only two ULEV wheelchair accessible vehicles available (LEVC TX and Dynamo Nissan e-NV200) both of which meet national hackney carriage specifications. Despite there being numerous battery electric small vans on the market there are currently no examples of ULEV rear access wheelchair accessible vehicles. By focusing solely on ULEVs in the short term (BEVs in particular) instead of improved Euro standards a dedicated support package, shown below, can be developed to address the challenges associated with implementing the proposed strategy:-

- Financial incentives that favour BEVs, support for the used car market and the development of alternatives to outright purchase are all required to overcome the increase in upfront purchase costs of current ULEVs.
- Vehicle trial opportunities and online tools are required to prove the suitability of ULEVs for use as taxis under real-world conditions and to enable vehicle proprietors to make informed procurement decisions (particularly regarding the most suitable ULEV technology for their operations).
- Alternative local authority managed business models, such as leasing, may be required for purpose-built hackney carriages and other WAVs to increase uptake of ULEVs in these otherwise supply constrained vehicle segments.
- A regional programme of ULEV taxi events is required to get buy in from the trade, highlight the benefits of owning and operating ULEVs and to address any remaining barriers to the adoption of ULEVs. Lack of infrastructure is also a major factor preventing the use of ULEVs but infrastructure requirements have not been considered as part of this report. However, by agreeing a joint approach, an effective charging network can be established ensuring that funding is appropriately allocated and offers best value for money. Further work to determine the location, number and power output of chargers required to support the uptake of plug-in vehicles in the aspirational scenario could commence following approval of this report.

5) Cenex offer a number of Quick Wins and Longer term large projects within the report. Any recommendations identifying the CCR City Deal Office, Local Authorities or a Combined Local Authority e.g. RTA, would need to be approved by each individual authority who would need to take a decision to work together on this project. The risk to taking forward the proposals individually and not as a Region would include:-

1. National, regional and local targets for emissions may not be met;
2. Cost savings that could be made through regional procurement would not be achieved;
3. Standards for licensed vehicles may be different throughout the Region;
4. Incentives for the uptake of BEVs may vary and not be fully realised;
5. Inconsistent approach to delivering taxi licensing leading taxi providers to favour being licensed in one authority over another;
6. Postcode lottery for incentives.

7. Different Technologies used in the 10 local authority areas resulting in inconsistencies and an inability to offer an integrated network of EV infrastructure for the end user.

6) Quick wins include:-

1. establishing a **regional ULEV taxi steering group** made up of licensing officers from each local authority, procurement officials and representatives of other key stakeholders such as the Welsh Government with the aim of encouraging collaboration, standardisation of licensing conditions and highlighting key challenges.
2. **review and revise conditions of licensing** to ensure that they maximise ULEV availability in all vehicle segments (including wheelchair accessible vehicles), approve new ULEV models for licensing upon release and share list of approved ULEVs with the trade.
3. introduce **interim measures to incentivise ULEVs** such as subsidised vehicle licence fees for a limited number of early adopters and opportunities for short term test drive and 'try before you buy' schemes. Investigate the feasibility of procuring a small demonstration fleet of ULEVs to be licensed for region wide trials.
4. establish an initial **programme of regional ULEV taxi events** aimed at local trade representatives initially focusing on a high-level introduction to the topic of ULEV taxis, rather than specific licensing proposals. Events should encourage positive discussion and include attendance from vehicle manufacturers, chargepoint providers and trade representatives that have successfully deployed ULEV taxis.
5. develop a simple **online ULEV taxi and private hire assessment tool** to be used by the trade in the vehicle licence application process.

Longer term 'Large Projects' include:-

6. adopt the principles of the aspirational scenario, preferably through a formal agreement. It should develop a detailed shared **delivery plan for the phased introduction of ULEVs** that is conditional on the availability and supply of an adequate number of suitable ULEVs. It is suggested that this could commence with newly licensed vehicles from 2022 and result in all licensed vehicles being ULEV before 2028 in line with the target set by the Welsh Government.
7. undertake an infrastructure requirement review to develop a **proposed chargepoint network for CCR**, supporting the predicted uptake of plug-in vehicles resulting from the revised licensing policy proposal as detailed in recommendation 6 of the Report.
8. work with local authority licensing officers or a combined transport authority to develop a detailed **regional package of supporting measures** to be introduced alongside the revised licensing policy proposed in recommendation 6 of the Report. Examples could include:
 - Financial incentives, costing up to around £10.5m, to support the uptake of 3,500 ULEVs between 2022 and 2024;
 - Supporting the growth of the used car market for ULEVs by contacting fleets/leasing companies operating ULEVs and creating mechanisms to retain ULEVs on the fleet; and
 - Undertaking market research into ULEV wheelchair accessible vehicles and investigating whether to establish alternative local authority managed

business models, such as leasing, for purpose-built hackney carriages and other WAVs (Wheelchair Accessible Vehicles).

Overall, the principles of the aspirational scenario should be adopted before developing a detailed shared delivery plan for the phased introduction of ULEVs that results in all licensed vehicles being ULEV before 2028 in line with the target set by the Welsh Government. The specifics of the strategy, such as the maximum age limit for non-ULEVs, should be formally agreed.

Next Steps

RTA Officers will further investigate the options being proposed to ensure momentum continues to provide a way forward. This will enable Members to consider a way forward to implement a Regional EV Taxi Strategy. Any proposals for implementation will be presented to a future meeting of the RTA.

7) Trade Survey

A trade survey was carried out as part of the study to gauge the trade willingness and ability to convert. Whilst the sample is small (87 responses) the results were as follows:-

- 71% of respondents stated that they had plans to change to a more environmentally friendly vehicle in the future. On average most respondents believed that the taxi trade would be able to be ULEV compliant by 2025.
- Initial purchase cost is by far the greatest concern with 53% of respondents listing this as the largest barrier to adoption. Factors relating to charging (access to domestic and public infrastructure) and driving range are collectively the next largest concerns.
- Financial incentives, to offset the increased purchase cost, are the highest ranked potential incentive. Try before you buy schemes achieved the second highest ranking followed by installation of adequate charging infrastructure.
- CCR City Deal Office should establish a regional ULEV taxi steering group comprising licensing officers from each local authority, procurement officials and representatives of other key stakeholders such as the Welsh Government, and develop a programme of regional ULEV taxi events aimed at local trade representatives.
- 65% of respondents reported having no access to off-street parking compared to only 40% in urban areas from the 2016 National Travel Survey. 89% reported that their vehicles are inactive for between six and ten hours, providing ample time for charging of most modern electric vehicles. Frequently reported downtime locations include taxi ranks, operator's office and transport hubs. These locations have some of the highest dwell times with at least 15 to 30 minutes reported in each location.
- CCR City Deal Office should develop an online tool to provide drivers and vehicle proprietors with a daily charging requirement and should include questions relating to access to domestic or depot-based

charging infrastructure within the tool and, via licensing officers, on vehicle licence application forms

8) Some Local Authority examples include:-

Southampton Council – Clean Air Zone (CAZ) compliant fleet – no charge for CAZ

Proposed to ensure that fleet is ‘Clean Air Compliant’ by 2023 – consultation closed 23rd June 2019

- 2020 – New vehicles must meet Euro 6
- 2022 – All vehicles must meet Euro 6
- Low Emissions Taxi Incentive Scheme until May 2021 (cashback on licensing fees of £3,000 for BEV, £2,000 for PHEV, £1,500 for HEV and £1,500 for Euro 6 minibus/WAV)
- Planning to offer an EV ‘assessment service’ and free EV trial opportunities

Leeds City Council – Charging CAZ

- 2020 - £12.50 charge per day for hackney carriage and private hire vehicles that do not meet Euro 4 petrol or Euro 6 diesel standards
- Interest free loans of up to £10,000 or grants of up to £1,500, 6-month temporary extension to apply for loan or grant for a ULEV
- Working with Highways England to offer free vehicle trials for up to two months.
- ULEVs may be licensed up to 12 years

Nottingham City Council & Derby City Council – (Phased ULEV Introduction)

- CAZ compliant fleet followed by phased ULEZ adoption
- 2020 – All hackney carriage vehicles must be at least Euro 6
- 2025 – New vehicles must be ULEV
- 2030 – All vehicles must be ULEV
- Nottingham – LEVC TX ‘try before you buy scheme’, free rental for 30 days. Council owned vehicles acquired through the Early Measures Fund.
- Nottingham – Council run electric vehicle service centre (Nottingham Electric Vehicle Services) that caters for a range of vehicles including taxis.

More examples can be found within the Report.

9) WG & TfW Update

WG has commissioned TfW to undertake two pieces of work with the intention of delivering EV infrastructure in 2020/2021. The first commission is to seek locations on the strategic highway network for fast chargers. It is intended that approximately 8 locations will be identified to deliver rapid chargers. The second part of the commission includes considering all rail station car parks to consider EV chargers which may include longer stay charging points. TfW has agreed to incorporate the locations identified from the City Region’s previous studies

undertaken by Urban Foresight within this work with the intention of seeking a partnership with a private investor to deliver the infrastructure, and seek a shared return on investment. A further update on this commission will be reported to Members on completion of the work.

10) As previously advised in my report to Members on 1st August 2019, Zouk Capital is an infrastructure and private equity fund manager, appointed to manage the UK Government's Charging Infrastructure Investment Fund (CIIF). The CIIF is a £400m investment fund – £200m raised from the private sector matched by the £200m from the UK Government. The fund was announced in the Autumn Budget 2017 amongst a package of measures aimed at helping to increase the uptake of electric vehicles (EVs) in the UK. Increased adoption of EVs will play a pivotal role in both the decarbonisation of the UK's transport sector and much needed improvement in air quality as well as ensuring the UK continues as a global leader in the EV revolution. The fund will be invested in UK companies and platforms that comprise all elements of public EV charging infrastructure in order to make a commercial return for the UK Government and private sector investors. It is envisaged that TfW will seek opportunities for this funding through the commission.

11) Financial Transaction Funding – Loan Purchase

Transport for Scotland utilised Financial Transaction Funding to encourage the uptake of EVs. This is currently being investigated and will be brought back to a future meeting, but could be a way of incentivising the taxi trade to enable them to convert sooner than they would have been willing to, or were able to.

Local Member consultation (where appropriate)

12) This report is one of a series of updates on programme activity, whereby regional engagement will take place.

Reason for Recommendations

13) To acknowledge the completion of the Cenex commission on LEV for Taxis.

14) To allow further consideration of the options within the report and to consider incentives that could potentially have a positive result within a short timescale.

15) To enable consideration of policy / legislation changes if the targets cannot be met purely by providing incentives.

Financial Implications

This report seeks for the Regional Transport Authority to acknowledge the work undertaken by Cenex in their report and to further consider the proposals made.

It should be noted that there are no direct financial implications to the Regional Transport Authority or Cardiff Capital Region City Deal Regional Cabinet at this

time and that any decisions to work collaboratively on this will be a matter for each Local Authority. Each Authority would need to consider the capital and revenue expenditure implications for their own budget frameworks for any projects taken forward.

To be considered for RTA Board Meeting

Legal Implications (including Equality Impact Assessment where appropriate)

The report asks Members to note the Taxi Electric Vehicle Strategy (the Strategy) and recommendations made by Cenex in their report. The Strategy along with the recommendations suggested to deliver the strategy is not a matter delegated to the Cardiff Capital Region Cabinet in the approved Joint Working Agreement in relation to the delivery of the Cardiff Capital Region City Deal. The decision on whether to approve the Strategy and whether to support the recommendations is a matter for each Council, as is the content of any supporting report. As such the Accountable Body is not providing legal advice to the ten authorities on this matter and each authority will need to satisfy itself as to the legal position in its respective report.

Wellbeing of Future Generations (Wales) Act 2015

- 16) The Well-Being of Future Generations (Wales) Act 2015 ('the Act') is about improving the social, economic, environmental and cultural well-being of Wales. The Act places a 'well-being duty' on public bodies aimed at achieving 7 national well-being goals for Wales - a Wales that is prosperous, resilient, healthier, more equal, has cohesive communities, a vibrant culture and thriving Welsh language, and is globally responsible. In discharging their respective duties under the Act, each public body listed in the Act (which includes the Councils comprising the CCRC) must set and published well-being objectives. These objectives will show how each public body will work to achieve the vision for Wales set out in the national well-being goals. When exercising its functions, the Regional Transport Authority should consider how the proposed decision will contribute towards meeting the 'well-being duty' and in so doing assist to achieve the national well-being goals.
- 15) The well-being duty also requires Councils to act in accordance with a 'sustainable development principle'. This principle requires Councils to act in a way which seeks to ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs. Put simply, this means that the Regional Transport Authority must take account of the impact of their decisions on people living their lives in Wales in the future. In doing so, the Regional Transport Authority must:
 - Look to the long term
 - Focus on prevention by understanding the root causes of problems
 - Deliver an integrated approach to achieving the 7 national well-being goals
 - Work in collaboration with others to find shared sustainable solutions
 - Involve people from all sections of the community in the decisions which affect them.

- 16) The Regional Transport Authority must be satisfied that the proposed decision accords with the principles above.
- 17) To assist the Regional Transport Authority Cabinet to consider the duties under the Act in respect of the decision sought an assessment has been undertaken, which is attached as an Appendix to this report (Well-being of future generations assessment) for Member's consideration.
- 18) In preparing reports due regard must be given to the Statutory Guidance on the Act issued by the Welsh Ministers, which is accessible using the link below:

<http://gov.wales/topics/people-and-communities/people/future-generations-act/statutory-guidance/?lang=en>

Equality Act 2010

- 19) In considering this matter, regard should be had, amongst other matters, to the Councils' duties under the Equality Act 2010. Pursuant to these legal duties the Regional Transport Authority must in making decisions have due regard to the need to (1) eliminate unlawful discrimination (2) advance equality of opportunity and (3) foster good relations on the basis of protected characteristics. Protected characteristics are:

- Age
- Gender reassignment
- Sex
- Race – including ethnic or national origin, colour or nationality
- Disability
- Pregnancy and maternity
- Marriage and civil partnership
- Sexual orientation
- Religion or belief – including lack of belief

RECOMMENDATIONS

1. That Members note the Taxi Electric Vehicle Strategy (Appendix 1) and the recommendations made within the Cenex Report.
2. That Members approve further work be undertaken to consider the recommendations within the Cenex report and explore incentivised options, such as the use of Welsh Government Financial Transaction Funding, to deliver the recommendations made within the report.
3. Note any proposals that may come forward to Regional Cabinet requesting WIF funding will need to be fully costed and accompanied by appropriate documentation in line with the requirements of the Investment & Intervention Framework.
4. To continue to evaluate the impact of the Taxi Licence policy to ensure WG targets can be achieved by 2028. This will need to be undertaken in collaboration with WG, local; regional and other stakeholders.

KELLIE BEIRNE
CARDIFF CAPITAL REGION DIRECTOR
30th October 2019

The following Appendix is attached:-

Appendix 1 – Cenex Taxi Strategy Report

Appendix 2 – Well-being and Future Generations Assessment