ITEM No …3(b)…….

Report No 295-2025

Briefing Note on Hybrid Wheel Chair Assessible Taxis

Subject:	Feasibility of introduction of Hybrid WAV Taxis
Briefing note:	Recommendations of hybrid technologies
Officer	Fraser Crichton, Corporate Fleet Manager

Policy

The UK government's policy on Wheelchair Accessible Vehicles (WAVs), both electric and hybrid, focuses on transitioning to zero-emission vehicles by 2035, with some flexibility for hybrid models until that date. The policy includes a Zero-Emission Vehicle (ZEV) mandate requiring manufacturers to sell a certain percentage of electric vehicles, with targets increasing over time. This mandate aims to reduce emissions and support the shift towards electric mobility.

The Scottish Government's policy on hybrid vehicles is aligned with its broader plan to phase out new petrol and diesel cars and vans by 2030. While the UK government has confirmed new hybrid vehicles with a "significant electric range" can be sold until 2035, Scotland aims to be ahead of the UK target by phasing out new petrol and diesel vehicles by 2032. This policy is part of a larger strategy to increase the use of electric vehicles and reduce transport emissions, supporting Scotland's goal of achieving net zero by 2045.

Background

Dundee City Council as part of its commitment to the Scottish government's "Switched on Scotland Policy" has transitioned over 35% of its vehicle fleet to electric mobility. The local authority has also installed a comprehensive EV charging infrastructure across the city to enable the public and business sectors to replace their combustible vehicles to electric. During this period the council's licensing committee has introduced progressive electric vehicle policies to encourage the city's taxi and private hire car industry to adopt this new technology. The policies have proven to be very successful with both taxi and private hire operators with 37% of Dundee's taxis now fully electric.

One of the council's licensing policies presently restricts all new licensed wheelchair adapted (WAV) taxis to electric vehicles only.

Electric vehicle manufactures have continued to develop the next generation of vehicles which has seen greater battery range and reducing capital costs. Electric wheelchair adapted vehicles however, due to their specialised nature have provided only limited number of vehicle options for the taxi trade to switch to electric. The WAV situation has prompted the licencing department to look into **hybrid vehicle options** within government policies.

Hybrid Vehicles

The term Hybrid vehicle is a very broad description of a system which provides to a greater or lesser degree improved fuel efficiency and reduced emissions compared to traditional gasoline engines.

There are four main types of hybrid vehicles

Mild Hybrids (MHEVs)

These vehicles use an electric motor and a battery to assist the internal combustion engine, primarily for functions like regenerative braking and start/stop technology, resulting in improved fuel efficiency. They don't have the capacity to run on electric power alone for any significant distance.

Limited benefits for air quality would not recommend

Full Hybrid (HEVs)

Also, known as self -charging hybrids, these cars have a larger electric motor and battery than mild hybrids, allowing them to run on electric power for short distances, especially at low speeds. They recharge their batteries through regenerative braking and can also be charged by the combustion engine.

Slight improvement on mild hybrids but still limited air quality benefits, driving habits also determine effectiveness. Would not recommend

Plug-in Hybrids (PHEVs)

These vehicles have a larger battery and a charging port, allowing them to be plugged into an external source to charge the battery, similar to an electric car. They offer a significant electric -only range, which can be extended by the combustion engine.

Best hybrid for air quality with a guaranteed electric range., Government grants of £4000 available for WAV plug in vehicles but must have a minimum 70 miles electric range. Considered best option for air quality.

Range-extended Electric Vehicles (REEVs)

These are essentially electric vehicles with a combustion engine or generator that acts as a range extender to recharge the battery. They are primarily driven by electricity, with the combustion engine used to provide power when the battery is depleted.

In principle this technology could have good benefits for air quality but typically these vehicles are supported by large combustion engine that dilute the benefits. Would not recommend

Recommendations

Presently the best hybrid vehicle technology that meets the councils air quality improvement ambitions is plug-in hybrids. This technology is also recommended by government policy with grants to reduce capital purchase being available. for WAV plug-in vehicles with over 70 miles in battery range. I would therefore recommend adding plug-in hybrid vehicles with 70 battery range criteria to the eligible new WAV licence list.

Examples of Eligible Vehicles

LEVC TX Taxi
VW Caddie Taxi