Department for Transport

From the Parliamentary
Under Secretary of State
Rachel Maclean MP

Great Minster House
33 Horseferry Road
London
SW1P 4DR

Tel: 0300 330 3000
E-Mail: rachel.maclean@dft.gov.uk

Web site: www.gov.uk/dft

Huw Merriman MP
Chair of the
Transport Select
Committee
House of Commons
London
SW1A 0AA

6 July 2021

Dear Huw,

At the Transport Select Committee hearing on the 23 June 2021, I promised to write to you with further details regarding electric vehicle (EV) break downs and recovery.

Firstly, it is important to note, from an engineering perspective, EVs are easier to maintain with far fewer moving parts which means there is a lot less to go wrong than in an internal combustion engine (ICE) vehicle. Most fully electric vehicles have less than 20 moving parts whereas an ICE vehicle has almost 2,000. Wherever you get moving parts you get wear through friction. This usually means maintenance or failure, so the fewer moving parts the better. EV's also use regenerative braking which minimises brake pad wear. In addition, there is of course no exhaust to replace and no oil to change.

When an EV breaks down, it is often not possible for it to be towed with the wheels on the ground. This means that the recovery process can take longer than for a manual ICE vehicle, as it may not be possible to use a standard patrol recovery van. This is also the case for automatic petrol and diesel vehicles, so not a new challenge for vehicle recovery companies. Nevertheless, it is my understanding that when an EV breaks down in a dangerous situation (such as in a live lane of traffic), it is always possible to move it slowly out of immediate danger to await further assistance, in the same way as for any other vehicle.

Furthermore, many stakeholders and agencies involved in vehicle recovery have taken steps to anticipate the switch from internal combustion engine vehicles to EVs. Highways England has now trained around 85% of its officers in EV awareness and issued new equipment and work instructions for moving EVs. Meanwhile, larger vehicle recovery operators, such as the

AA, Greenflag and RAC have developed bespoke solutions for dealing with and towing electric vehicles and providing roadside emergency charging. The Department itself has engaged with many different stakeholders on this issue and has developed guidance that will help recovery operators working with EVs.

You also raised an issue about the operation of the air conditioning system or heating, when an EV is stuck in a traffic jam for an extended period. As the largest ancillary load on an EV is in heating or cooling the battery and cabin, this concern is understandable. In general, the air conditioning system of an electric vehicle travelling at very low speeds may draw between 1kW and 3kW, depending on temperature. This would result in a loss of around three to eight miles of range for every hour the vehicle was in the traffic. As such, this would have a relatively minor effect on most EVs, especially the latest models which are available which have long ranges of more than 200 miles.

Running out of fuel, whether that be petrol, diesel or electric charge, accounts for a very small proportion of breakdowns, particularly on the strategic road network. EVs have sophisticated guidance systems built in which help inform the driver of the battery's state of charge to help avoid a low battery situation.

The Department will continue to monitor the uptake of EVs and the availability of the associated services needed to accompany their use. Should a market failure be identified, government will intervene to address the gaps between the current market status and our decarbonised road transport vision.

I trust you will find this information useful and that it helps alleviate your concerns regarding EV breakdowns. I'd like to thank you and your fellow committee members for your questions at the hearing, and I look forward to engaging with you further on the important subject of the decarbonisation of transport.

RACHEL MACLEAN

PARLIAMENTARY UNDER SECRETARY OF STATE FOR TRANSPORT