

CALEDONIAN TRAINING ACADEMY LTD

MANAGING TRANSPORT COMPLIANCE



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SUMMARY: Driving Range & Charging - In real life many factors such as your driving style, the type of journey, your speed and the climate affect how far your Electric Vehicle range of the battery will travel.

YOUR ACTUAL DRIVING RANGE DEPENDS ON A COMBINATION OF FACTORS:

- **Speed & Journeys** -The faster you drive, the more energy you need to maintain your speed.
- **Transported load** - Differences in load will affect your driving range.
- **Weather conditions** - Cold temperatures can sap electric car batteries, temporarily reducing their range by more than 40 percent.
- **Driving style** - Use technologies such as deceleration or regenerative braking to optimise your driving range.

REGENERATIVE BRAKING:

- In a battery-powered electric vehicle, regenerative braking (also called regen) is the conversion of the vehicle's kinetic energy into chemical energy stored in the battery, where it can be used later to drive the vehicle.
- Every time you step on your car's brakes, you're wasting energy. Physics tells us that energy cannot be destroyed. So, when your car slows down, the kinetic energy that was propelling it forward has to go somewhere. That energy, which could have been used to do work, is essentially wasted.
- Automotive engineers have given this problem a lot of thought and have come up with the Kinetic braking system that can recapture much of the car's kinetic energy and convert it into electricity, so that it can be used to recharge the car's batteries.

CHARGE POINT TYPES:



Slow charging - an EV uses a standard single-phase 13 Amp three-pin plug (BS 1363) and draws 3 kW of power – with a full charge typically taking 6 to 8 hours. Although a standard 13A domestic socket can be used.



Fast charging - reduces charge times to around half that of a slow charge by at least doubling the current to around 32 amps (7 kW) – so that the time for a full charge is typically 3 to 4 hours. Most commercial and many public on-street chargers use this technology.



Rapid chargers - supply an electric vehicle directly with either direct current (DC) or alternating current (AC) from a dedicated charging unit using a tethered cable equipped with a non-removable connector, usually a JEVS (CHAdeMO), 9-pin CCS (Combo) connector or a Type 2. Often rated at around 50 kW, charging an electric vehicle to 80% typically takes less than half an hour.

Awarding Body: DVSA (Driver & Vehicle Standard Agency).

Course Duration: 1 Candidate per trainer over 1.5 Hours.

Costings: Training course costs per candidate £75.00+Vat.