Charging Roads: The Future of Electric Driving?

Electric vehicles (EVs) are becoming more popular, but charging them is still a *challenge* — especially on long trips. What if roads could charge your car while you drive? This idea, once science fiction, is slowly becoming a reality.

In Sweden, a 2-kilometer stretch of road near Stockholm became the world's first public electric road in 2018. It uses a rail system under the road surface that connects to a vehicle's arm. As the car moves, it charges its *battery* — just like a *tram* or a toy car track.

In Israel, a company called Electreon is testing *wireless charging* roads. Special coils under the *asphalt* send energy to a receiver inside the car, without any cables or physical contact.

This technology can be useful for buses, trucks, and taxis that drive all day. It saves time and reduces the need for big batteries. According to Electreon, 1 km of wireless road can charge a car enough for 20–30 km of driving.

However, building these roads is *expensive* and slow. A pilot project in Detroit, USA, will cost around $5 million for just one mile. Also, most EVs today don't support this type of charging. Experts say it could take 10–15 years before we see smart roads in many cities.

Match the word and its meaning:

a) **Electric vehicle**

b) **Challenge**

c) **Tram**

d) **Wireless charging**

e) **Asphalt**

f) **Expensive**

g) **Battery**

h) **Highway**

1. a black substance, often mixed with small stones or sand, used to make roads.
2. a main road, especially one connecting major towns or cities
3. a problem or difficulty that needs to be solved
4. a car that can be powered by an electric motor that draws electricity from a battery
5. costing a lot of money.
6. a vehicle that transports people using electricity from overhead cables
7. a method of powering electronic devices without a physical cable connection
8. a thing that stores power and gives energy to machines

Read the text again. Fill in the gaps in this summary:

highway **asphalt** **battery** **expensive** **electric** **challenge**

- Some roads can charge _____ vehicles while they are moving.
- The charging coils are hidden under the _____.
- Building this type of road is _____.
- These roads could help drivers with low _____ levels.
- One big _____ is the high cost of building the roads.

Multiple choice questions:

1. **What is special about the roads tested in Sweden?**

A. They clean the cars while driving
B. They charge electric vehicles while driving
C. They use solar energy to power street lights
D. They reduce traffic during rush hour

2. **Why might this technology be more useful for trucks than for small electric cars?**

A. Trucks drive slowly and don't need much power
B. Trucks already have built-in charging systems
C. Trucks travel long distances and need frequent charging
D. Trucks are banned from charging stations

3. **What does the text suggest about the future of wireless charging roads?**

A. They are already replacing gas stations in Europe
B. They are likely to become cheap in the next year
C. They may work well in combination with traditional charging
D. They will probably only be used in cities

4. **What is one possible benefit of these roads?**

A. They help people drive faster
B. They make roads smoother
C. They charge batteries on long trips
D. They help cars fly

5. **Where are the charging coils placed?**

A. On the car roof
B. On the sides of the road
C. Under the asphalt
D. Inside the vehicle