

# Wireless Electric Vehicle Charging while Driving

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**Abstract:** *Static wireless charging is becoming popular all over the world to charge the electric vehicle (EV). But an EV cannot go too far with a full charge. It will need more batteries to increase its range. Dynamic wireless charging is introduced to EVs to capitally increase their driving range and get rid of heavy batteries. Some modern EVs are getting off this situation. But with Dynamic WPT the need of plug-in charge and static WPT will be removed gradually and the total run of an EV can be limitless. If we charge an EV while it is driven, we do not need to stop or think for charging it again. Eventually, in the future the batteries can be also removed from EVs by applying this method in everywhere. Wireless charging needs two kinds of coils named the transmitter coil and the receiver coil. The receiver coil will collect power from the transmitter coil while going over it in the means of mutual induction. But the variation of distance between two adjacent coils affects the wireless power transfer (WPT). The idea is to build special charging systems into the road itself. These systems use magnetic fields to send power to vehicles as they drive over them—similar to how wireless phone chargers work, but on a much larger scale. Cars equipped with the right technology can receive this power without having to stop or plug in, Our work focuses on how to make this system efficient, safe, and affordable. We look at how well it works at different speeds, how the vehicle needs to be aligned over the charging coils, and how the system can be integrated into existing roads. We also explore what it would take to bring this to cities and highways around the world..*

**Keywords:** Electric Vehicle, Wireless Power Transfer, Transmitter- Receiver Coils, Charging Lane

