

Improving Plug-In Electric Cars

June 4 2009, by Miranda Marquit



Working toward better charging techniques for car batteries. Image credit: Eduloqui

One of the issues that comes with [plug-in autos](#), whether they are hybrid or straight-up electric, is the ability to charge the battery. It can be difficult to charge batteries on the go, and it can take hours recharge a car battery to useful capacity. However, with increased emphasis placed on the development of cars that rely less on gasoline, it is little surprise that researchers and inventors are working on the problem of charging. Two of the more interesting efforts include roads that can recharge batteries and batteries designed to charge up faster.

In Daejeon, [South Korea](#), the idea of a "[recharging road](#)" is being tested at the Korea Advanced Institute of Science and Technology. If the tests show that the idea is feasible (right now it's being tested on golf carts), charging strips would be placed in strategic places around town, embedded into the road surface. Electromagnetic induction would be used to charge the batteries of cars that contain a special magnetic, sensor-driven device. Powering the strips themselves would simply

require a hook up to a standard [electric grid](#). But if renewable power is the goal, it would also be possible to use [solar power](#) to provide the electricity needed for the charging strips.

To solve the problem of lengthy [battery](#) charging, MIT is working on [improved batteries](#) that could be charged in a matter of minutes -- rather than over the course of hours. The key is in speeding up the way that lithium ions are exchanged in the batteries used in cars that use electricity for some of their power. MIT researchers claim that they can use a coating of lithium phosphate, similar to glass, to speed things up a hundredfold. Within three years, with the new production process, the researchers claim that the batteries could be ready for the market, allowing commuters the ability to charge up their cars in the amount of time it takes to use the bathroom at a rest stop. Unfortunately, a standard household plug is not an option for these types of batteries. Additionally, the charging stations in use right now would be inadequate -- they would have to be upgraded.

As technology advances, it will be interesting to see what researchers come up with next in terms of powering our cars.

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