Electric Cars for NYC?

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Last weekend I went to see "Who Killed the Electric Car?", a 90 minute documentary about the rise and fall of California's zero emissions standards which created and subsequently destroyed the movement toward all electric vehicles around the country. The movie does a good job of examining all the different players involved in fighting the zero-emissions standard, not just placing blame with the US Auto Industry, Oil Industry, the "Hydrogen Lobby", but also blaming Toyota for their opposition and consumers who were mostly unwilling to consider a car with a range under 150 miles.

As Toyota seems like they are close to choosing to move forward on manufacturing plug-in Hybrids that could travel an estimated 50-100 miles on electric before needing much gasoline, it's time to start to if electric plug-in hybrids are something worth considering. This would allow folks to stretch out that one gallon of gas for many more miles than they can now.

What the movie brought to my attention is that the electric car really offered two key advantages:

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1. Electric Motors are pretty efficient with less moving parts and appear easier to maintain and keep running for longer periods. This seems to save energy in running the vehicle as well as the replacement of vehicles and parts over time.

2. Emissions are not only removed from denser areas where they are more likely to cause respiratory issues, but depending on fuel source can be much cleaner than gasoline-only cars.

Modern plug-in set-ups only require a simply conversion device that can pluged into a regular outlet and recharge in 2-4 hours. Anyone with a garage or outlet near their driveway and an extension cord should be able to handle a plug-in hybrid. Here are two areas I could see plug-ins taking off:

Commuter Suburbs
I suspect plug-in hybrids would do very well in park and ride communities in the NY suburbs, where many trips are less than 10 miles from either their house or train station, where their car sits for long periods of time between trips. Many people have what they call a "train car", which is probably older and is at more risk for breaking down on long drives. Once plug-in hybrids are mass produced, many will be able to get by simply on their home garage or driveway plug-in set-up, but eventually, this could be done at parking lots in train stations, shopping areas and other common destinations.

Urban Areas
The next area that makes sense for plug-ins are major urban centers, like New York City. While we still need to do much more to discourage automobile usage in New York City, there will always be a need for some automobiles, especially shared ones like mass transit buses, taxis, rental cars,

Access-a-ride carpool vans, etc. For the vehicles that are still on the road, one of the main problems is the health impacts on people from auto emissions. Plug-in hybrids would help reduce the concentration of this pollution in dense urban areas and perhaps (depending on efficiency and electrical fuel source) overall contribution to global warming. Looking at each vehicle though, some problems arise:

Taxis: These cars are always on the road and get little break between shifts. Even when they are at the airport in a long line, they are not in one place very long. Taxi drivers hate spending any time filling up the gas tank, forget waiting 2-4 hours to charge. Still, the current hybrid technology offers great savings over the gas-only technology because it not only saves gas, but decreases the time wasted during fill-ups.

Buses / Carpool Vans / Access-A-Ride: There are many hybrid buses already on NYC streets right now. And they do spend significant periods of time overnight in bus depots. They may also have more space to put the bulky batteries needed. An even better option, might be to completely convert them to electric buses as San Francisco has done, but that's more long term. For Carpool vans, they often make short trips of less than 30-40 miles each way with significant time between trips.

Rental Cars: Traditional rental cars are used mostly to escape the city and travel long distances, as opposed to short trips around town. However, they do often spend long overnights when they could recharge and offer the next driver a nice long first tank. New rental companies like Zipcar might be more interested since they rent sometimes by the hour for short trips.

Out-of-town visitors or Personal Automobile Owners: All that New York would have to do for the rest is require that all indoor parking garages offer some plug-in capability for whatever they would like to charge per hour.

Aside from requiring parking garages to offer some plug-in capability, there is probably not a lot that NYC or suburban governments would need to do to facilitate the adoption of this technology. It will be interesting to see what happens when the technology becomes mass produced.