

Dr. Dave. My state (Virginia) allows drivers of hybrid vehicles the right to use HOV lanes even if the car has only one occupant. Is that good policy?

A. No. Hybrid cars are an essential component of a sustainable transportation strategy.¹ But allowing them in HOV lanes is, at best, unnecessary, and at worst, counterproductive.

HOV stands for High Occupancy Vehicles. In the good old days (pre-1990), that meant three people per car. Let's call that HOV3. Then states discovered that Americans would not ride three to a car except on the way to prison, or perhaps during a forced family outing. So HOV2 became the rule. Not as good, but better than nothing. Indeed, at the incoming lanes into San Francisco Bay Bridge during rush hour one will find many people lined up knowing that a single occupant vehicle will pick them in order to bypass the congested regular traffic lanes.

Those who recommend that single occupancy hybrids be given access to HOV lanes argue that this will increase the purchase of hybrids, and thus save gasoline and reduce pollution.

But HOV incentives are not needed to convince people to buy hybrids. Prospective purchasers already must wait six to nine months for delivery. Indeed, the average hybrid purchaser currently seems willing to pay several thousand dollars more per vehicle simply to reduce the waiting time.

Another problem with giving hybrids access to HOV lanes is that most states lack an efficiency component to their definition of a hybrid vehicle.² Any vehicle with an oversized motor and a gasoline engine qualifies. This includes the new muscle hybrids, like GM's Chevy Silverado, which boasts only a 10-13 percent improvement in efficiency in its hybrid version.

A regular Silverado with two people in it will get 36 passenger miles per gallon. A hybrid Silverado with one person in it will get 18. The average efficiency of all new cars sold this year will be 26 miles per gallon. Why would we give an 18-mile per gallon gas-guzzler the opportunity to use the fast lane when it is far more polluting than the average vehicle in the regular lane?

¹ See David Morris, [A Better Way](#) 2004 for a deeper discussion of a high efficiency, renewable energy transportation strategy.

² Some states do impose efficiency criteria. These vary dramatically. California requires hybrids to achieve 45 mpg to use its HOV lanes. Florida, Georgia, Massachusetts, and Arizona have developed their own efficiency definitions. For example, instead of California's absolute fuel efficiency, regardless of the vehicle model or class, hybrids in Georgia's HOV lanes "must have a fuel economy that is 1.5 times the Model Year 2002 EPA composite class average for the same vehicle class."

Depending on the type of hybrid configuration, one could even argue that their use in HOV lanes is counterproductive. Hybrids like the Toyota Prius save energy by cutting off the engine while idling and using the electric motor to accelerate. The Prius doesn't get significantly better highway mileage than a comparable Toyota non-hybrid model. The efficiency improvement occurs in stop and go city driving.

Thus the Prius saves the most gasoline and reduces pollution the most when it is stuck in traffic. When it travels at highway speeds its overall efficiency declines and emissions go up.

Not that traveling at highway speeds is the order of the day in HOV lanes anymore. Which raises another point. Those states that allow hybrids into HOV lanes are finding that they undermine the very rationale of HOV lanes, which is to reduce congestion.

Virginia's experience is an excellent case in point. In 1994, Virginia allowed low-emission vehicles with one occupant to use its HOV lanes. Few drivers took advantage of the incentive. In 2000 only 32 cars in all of Virginia sported "clean fuel" tags, a designation necessary for solo commuters to use HOV lanes. By the end of 2004, however, 6800 hybrid vehicles were registered. Hybrids now account for almost 20 percent of all HOV traffic. Traffic in these lanes is now 10-20 percent over their uncongested capacity.

A task force of Virginia transportation officials and experts has twice issued reports on HOVs and hybrids. The first, issued in late 2003, recommended major changes and advised Virginia not to extend the program after its expiration in July 2006.³ A second report issued in early January 2005 reaffirmed that advice.

Federal transportation bills currently do not allow single occupancy vehicles on HOV lanes on federally funded highways. Virginia has an exemption from the federal government to allow single occupancy vehicles on its HOV lane, an exemption that expires in 2006. Several bills have been introduced in Congress that would give states the ability to allow single occupancy vehicles in HOV lanes through 2009. One of them, with the greatest chance of passing, is part of the overall transportation bill.⁴

Congress may grant states permission to allow single occupancy vehicles in HOV lanes. But the state legislature still must vote to do so. Hybrid vehicles need our support. That support should be considered and appropriate.

³ [HOV Report](#). October 1993. First report.

⁴ H.R. 3, Section 1208 passed the House of Representatives on March 11, 2005 by a vote of 416-9. It is part of the Transportation Equity Act.