


TRIZ and HOV lanes



Starting in California, but now propagating all over the country (see the Wall Street Journal, 11/8/13), variable toll lanes are cropping up all over the country including not only CA, but Texas, Virginia, and Georgia. The primary driving force here is state governments, faced with increased costs for highway maintenance, see a decline in state revenues, primarily from less gas taxes collected from more fuel efficient cars.

It was once one fare to drive in the "fast" lane and no fare to drive in the normal road. Then CA adjusted the fee based on time of day and traffic volume. Newer states are finding that they need to adjust the fares or drivers simply find other routes or begin to carpool when they really have no desire to do so.

What TRIZ principles are in play here? Many TRIZ separation principles. First, in time. The HOV lane fees are adjusted based on time of day (rush hour vs. normal) and/or number of occupants in the car. Second, in space and between parts and whole. The lanes are physically separated from the normal lanes. Third, upon condition. The electronically signed fee boards are adjusted as traffic volume increases. Many of you have seen or heard of clever ways people try to avoid these fees by using "dummies" to simulate additional passengers in the car (the TRIZ principle of "copying").

Let's think about where this could go in the future, though recognizing that politics will always come into play in such situations. The toll could be adjusted based on how much of the fee is paid in advance (TRIZ principles of "do it in advance") or sensors in the road could automatically change the fee by the second as traffic volume or weather conditions vary. The fee could also be adjusted by the price of gasoline or the Consumer Price Index.

Since drivers in these lanes are going faster, their driving records could affect their toll rates. The condition of the road itself could impact the fee as additional traffic means additional repairs sooner. This situation that we are seeing more and more of illustrates both TRIZ separation principles as well as the line of evolution we know as "dynamism". Some drivers who dislike these special fee lanes have nicknamed them "Lexus" lanes, referring to wealthier people, driving more expensive cars, being able to afford the toll. Why couldn't the fee be adjusted based on the cost of the car you drive? (Not likely!)

How would you apply these principles to your business or products? How could they positively impact your customers? Increase their loyalty? Provide additional business opportunities? There is NO business or product situation where separation principles and the concept of dynamism cannot be applied!

Next public TRIZ workshop for ASME and AIChE is in San Diego, CA November 3-5 at the Hilton San Diego Bayfront. This 3 day course included coverage of all the basic TRIZ principles as well as its applications in business and organizational problem solving and lines of evolution applied to new product development. It also covers TRIZ in reverse for failure analysis and prediction. The course includes a copy of "The Ideal Result: What It Is and How to Achieve It".

www.aiche.org/resources/education/courses/pd513/triz-theory-inventive-problem-solving