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29: Pay-As-You-Drive Car Insurance

This measure reduces GHG emissions from passenger vehicles by increasing the market penetration of mileage-based car insurance, sometimes called "pay-as-you-drive" car insurance. Increased market penetration would result by requiring all insurance carriers to offer customers the choice of a mileage-based insurance policy.

Background

"Pay as you drive" insurance pricing (PAYD) is a model that ties insurance rates to the number of miles a driver travels each year -- instead of a standard six- or twelve-month term. The less you drive, the less you pay. PAYD auto insurance is one of the most important tools available to policy makers quickly to cut global warming pollution from driving. Texas recently became the first in the nation to have a "by the mile" choice of auto insurance, offered by MileMeter. http://milemeter.com. However, this is the only such product available to Texans today.

A recent Brooking Institution report estimates that if all motorists bought accident insurance per mile, rather than conventional, lump-sum insurance:[1]

- **Driving would decline by 8 percent nationwide**, translating into a savings of about $50 billion to $60 billion a year in driving accidents and other car-related damage.
- **Total U.S. carbon dioxide emissions would go down by 2 percent** and oil consumption by about 4 percent, helping to stabilize our climate and reducing America's dependence on foreign oil.
- **Two out of three households would pay less for auto insurance**, with each of those households saving an average of $270 per car.

The North Central Texas of Governments sponsored a two-phase PAYD pilot program. http://www.nctcog.org/trans/air/programs/payd/index.asp This project found that participants reduced miles driven by 5% and saved money in the process.

Greenhouse Gas Emissions

The Federal Highway Administration estimates that Vehicle Miles Traveled in Texas in 2007 were 243 billion. http://www.fhwa.dot.gov/policyinformation/statistics/2007/vm2.cfm For purposes of

[1] Bordoff and Noel, "Pay-As-You-Drive Auto Insurance: A Simple Way to Reduce Driving-Related Harms and Increase Equity," July 2008, available at: http://www.brookings.edu/papers/2008/07_payd_bordoffnoel.aspx

calculating emissions that could be reduced by PAYD insurance pricing, we conservatively estimate that 50% of the total VMT comes from light-duty personal vehicles that are registered in Texas (we thereby exclude heavy-duty and commercial vehicles and through traffic). Assuming an average fuel economy of 20.4 mpg and CO_2 emissions of 8.9×10^{-3} metric tons per gallon, the light duty vehicle emissions that could be reduced by PAYD insurance pricing are equal to 53 $MMTCO_2$.[2] Based on the NCTCOG and Brookings studies, these emissions could be reduced by 5% to 8%, and fuel consumption reduced by at least 300 million gallons a year.

Lifetime Costs & Savings

A detailed analysis by the Brookings Institution of the benefits of PAYD to California concluded that it would result in an 8 percent driving reduction from light-duty vehicles, translating into estimated gross annual social benefits of $11 billion based on 2006 driving levels ($414 per on road vehicle).[3] Based on our conservative VMT assumptions for Texas, we estimate that at least one-third of the projected California savings, or $3.5 billion, could be achieved in Texas.

Co-benefits

Reducing the amount of traffic on the road also lowers criteria and toxic pollutant emissions, reducing harms to Texans' health.

Industry Impacts

Research shows that the greater the market penetration of PAYD, the more accident externalities associated with driving are reduced, increasing monetary savings for insurance companies. Each driver that reduces their driving saves themselves the potential costs of getting in an accident and also reduces risk that the drivers around them will get into an accident.[4] Drivers who choose not to reduce their driving benefit from the other driver's conscious decisions to drive less. On a larger scale, insurance companies that encourage reductions in driving by offering a PAYD product provide an uncompensated benefit to other insurance companies. Conversely, when all insurance companies provide PAYD insurance, all insurance companies mutually benefit.

If PAYD pricing is voluntary, the first several insurance companies to offer PAYD programs will take more risks that their costs will not be weighed by their gains. Insurance companies incur some monetary costs associated with PAYD insurance, but studies show these costs are far outweighed by gains from reduced accident payouts when PAYD is adopted on a large scale. While an individual insurance company will save money by implementing a PAYD program, it also bears the costs of monitoring, when many of the gains are external.[5] When PAYD is implemented on a larger scale,

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2 http://www.epa.gov/RDEE/energy-resources/refs.html#vehicles

3 Bordoff and Noel, "The Impact of Pay-As-You-Drive Auto Insurance in California," July 2008, available at: www.brookings.edu/~/media/Files/rc/papers/2008/07_payd_california_bordoffnoel/07_payd_california_bordoffnoel.pdf

4 Aaron Edlin and Pinar Karaca Mandic, *The Accident Externality from Driving*, 2006, available online at http://works.bepress.com/aaron_edlin/21.

5 *Ibid.*

that insurance company also benefits from the other insurers' programs, and saves substantially more money in reduced accident payouts. Requiring PAYD insurance pricing is the least cost way to obtain these benefits.