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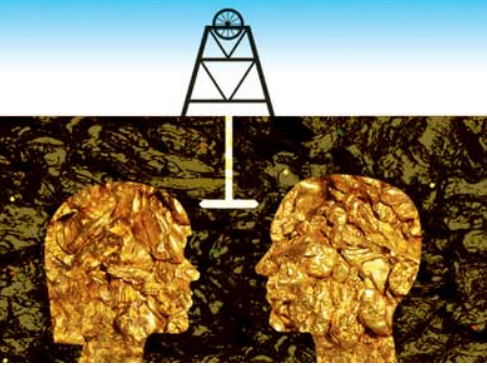

A Simple Way to Reduce Driving Related Harms and Increase Fairness

Colin Priest BEc FIAA

Introduction

- Australians drive greater than is socially optimal
- This is due to much of the cost of driving not being borne by the driver i.e. “negative externalities”
- The problem of excess vehicle usage is accentuated by the problem of fixed insurance costs
- Pay as you drive is a form of insurance that could help to solve this problem

What is “Social Cost”?

Social Cost = Private Cost + External Cost

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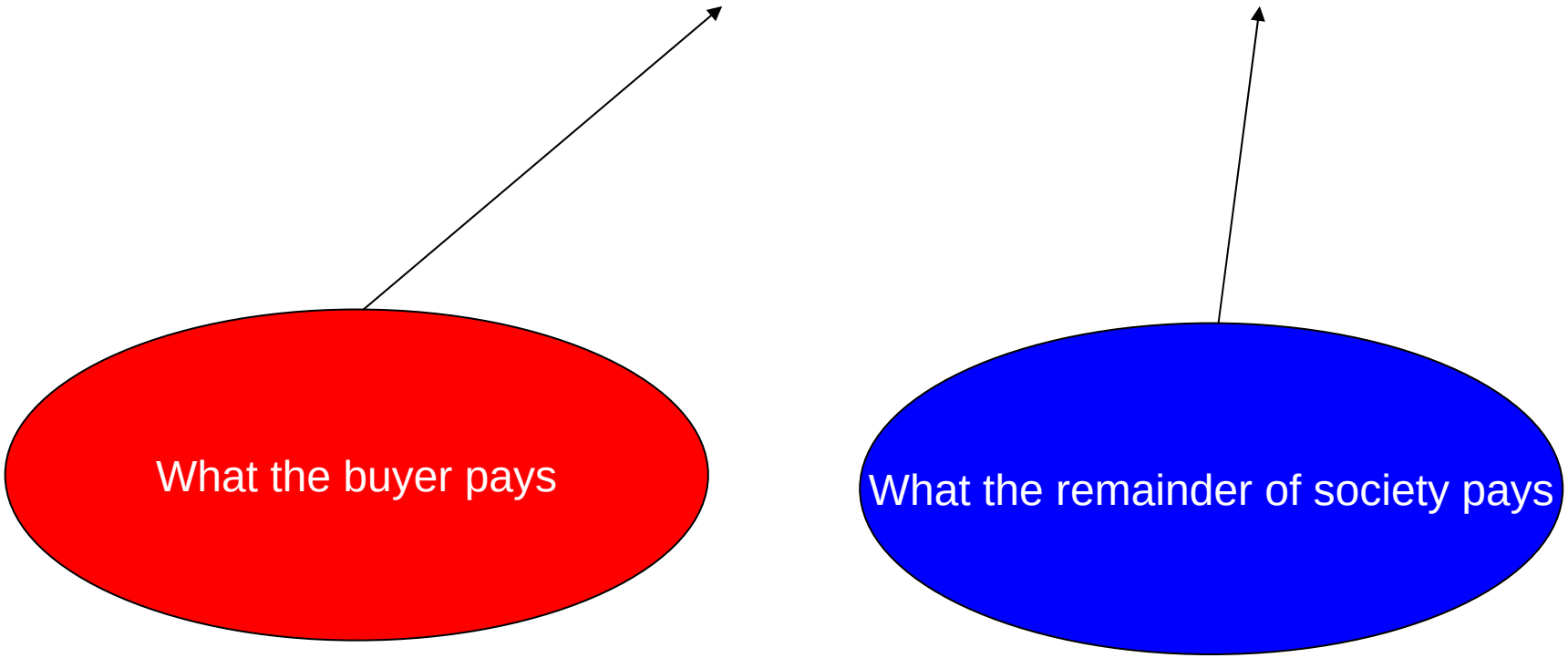
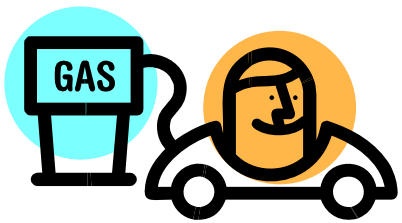
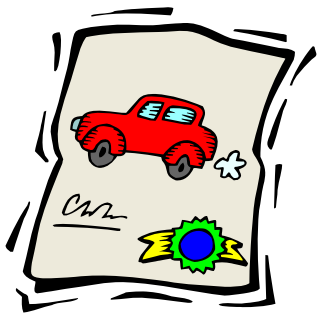
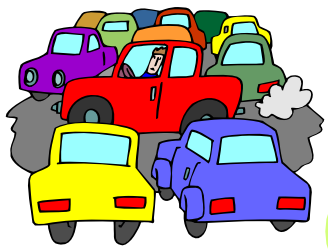


What is “Social Cost”?

Social Cost = Private Cost + External Cost

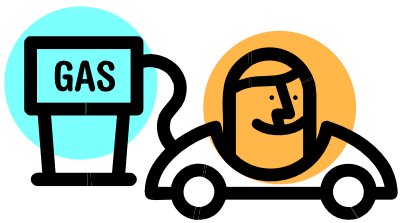


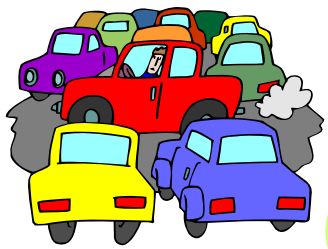




The Social Cost of An Extra Trip

Social Cost = Private Cost + External Cost

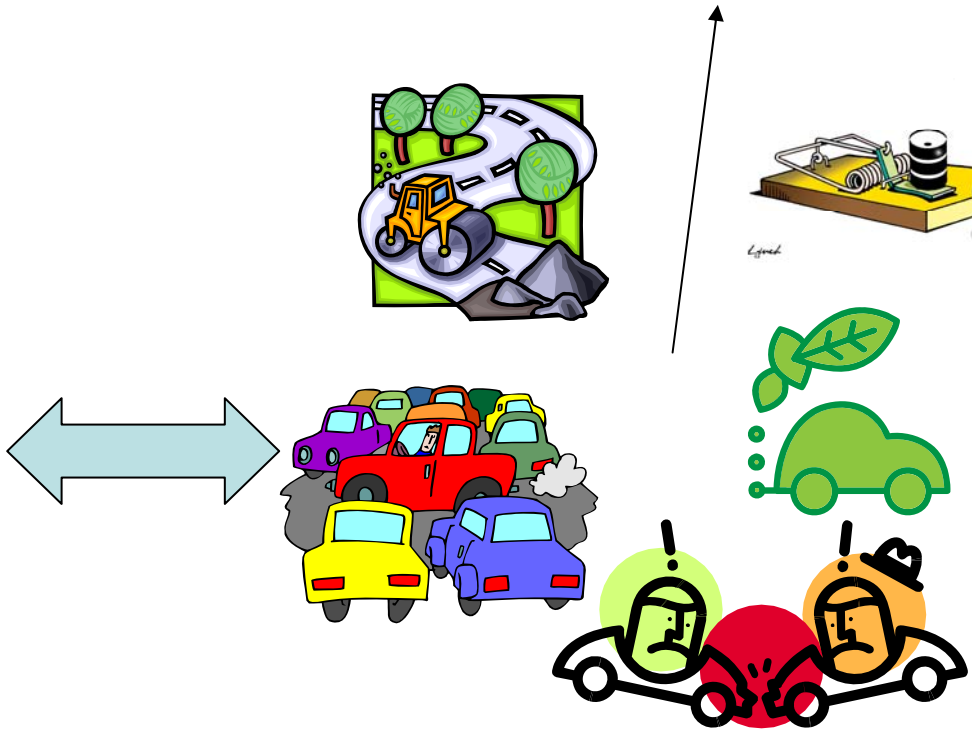




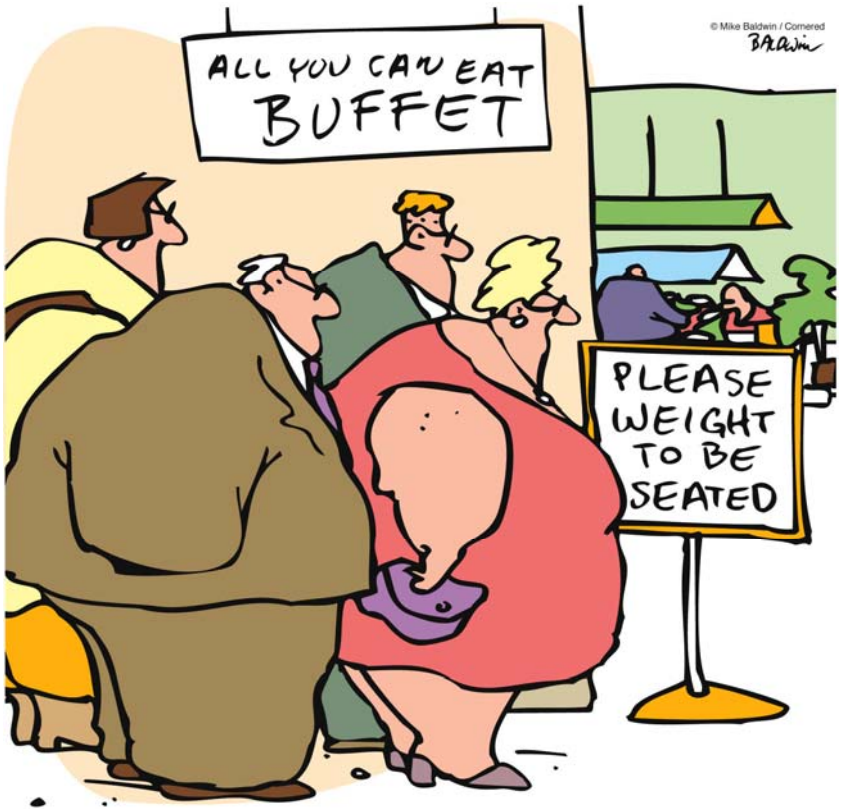
What is a "Negative Externality"?

Social Cost = Private Cost + External Cost

Negative Externality:
When external costs are greater than external benefits then there is a negative externality.

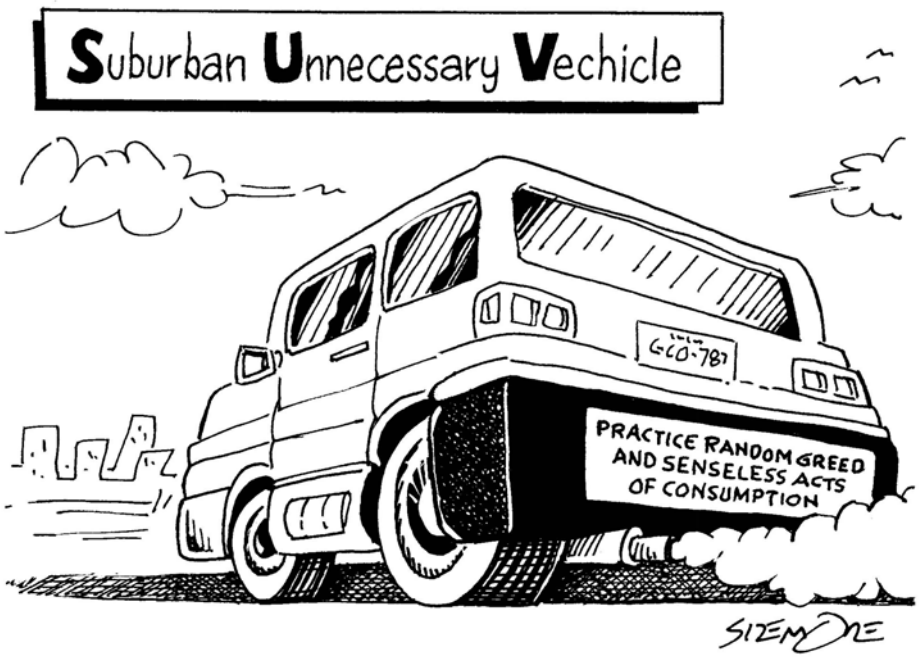


Negative Externalities



- Lead to overproduction / overuse / overconsumption of a particular item

Negative Externalities



- In this particular case it means that **we drive our cars more than the socially optimal amount**

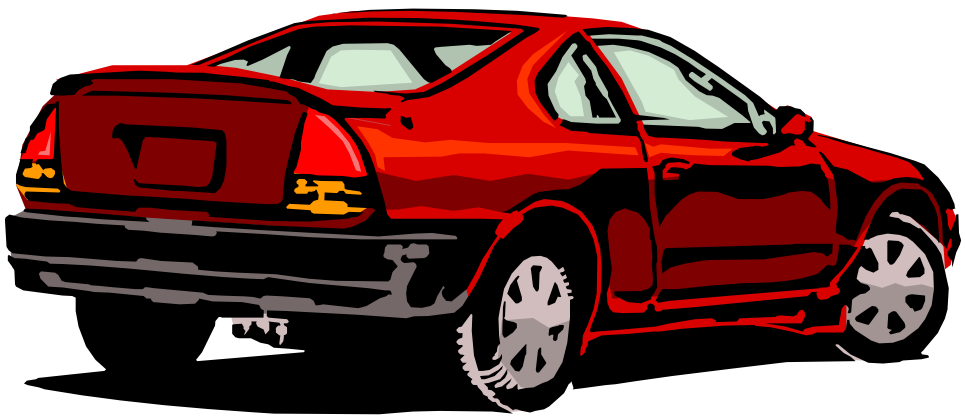
Negative Externalities

- More efficient economic choices are made when external costs become direct costs

Estimated Social Cost of Driving

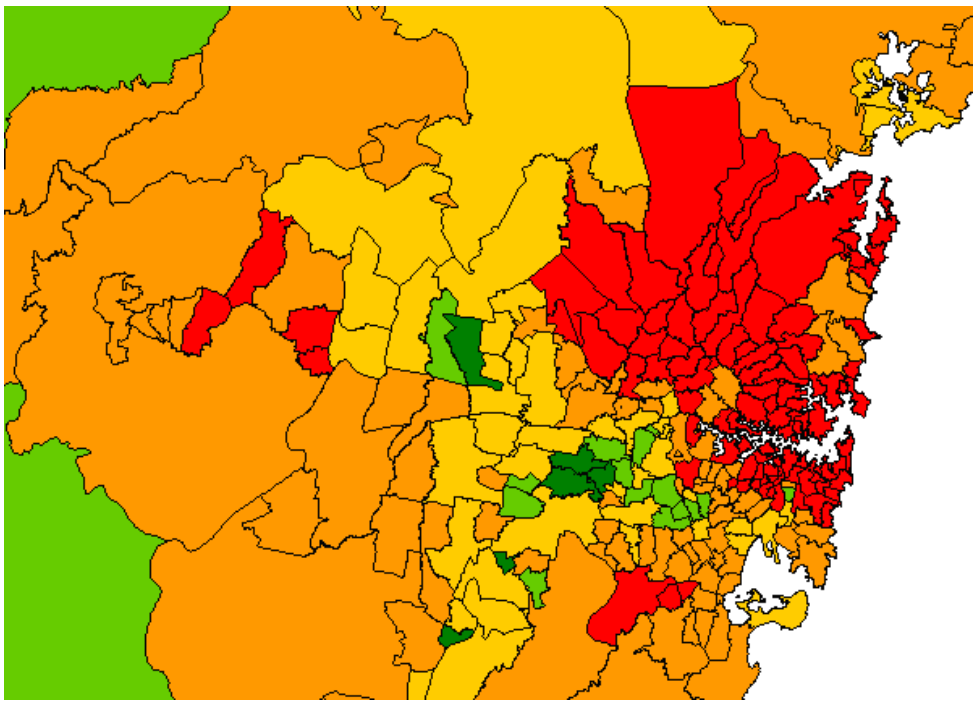
Type of Social Cost	Cost (in $billion)	Cost per Vehicle	Cost per km
Accidents			
private motor	5.6	$ 539	$ 0.04
CTP	3.7	$ 350	$ 0.02
claim excess	0.5	$ 45	$ -
other	2.9	$ 273	$ 0.02
Petrol	10.7	$ 1,024	$ 0.07
Congestion	10.2	$ 971	$ 0.07
Pollution	2.3	$ 217	$ 0.01
Carbon	1.6	$ 152	$ 0.01
Oil Dependence	0.5	$ 43	$ -
Road Infrastructure	7.6	$ 723	$ 0.05
TOTAL	45	$ 4,337	$ 0.29

Traditional Motor Insurance



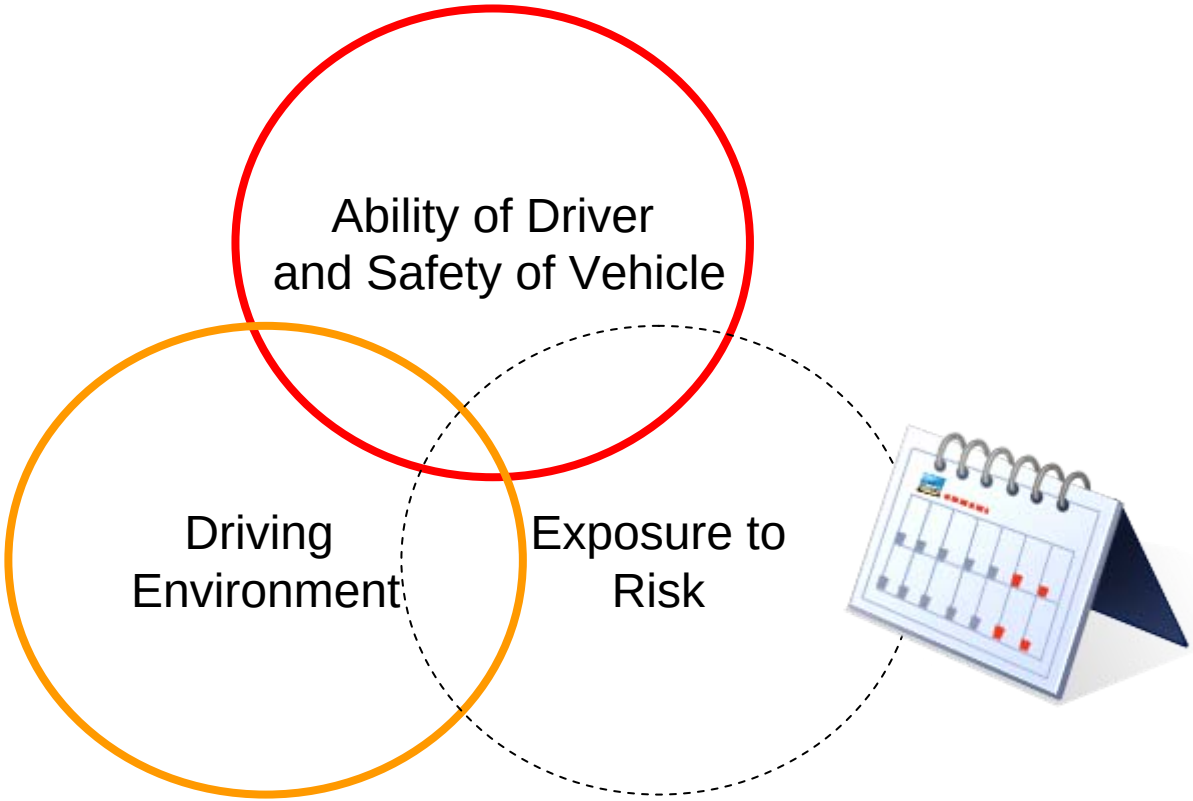
- Premium rating on
  - Driver
  - Vehicle
- This is a proxy for the skills of the driver and the safety of the car

Traditional Motor Insurance

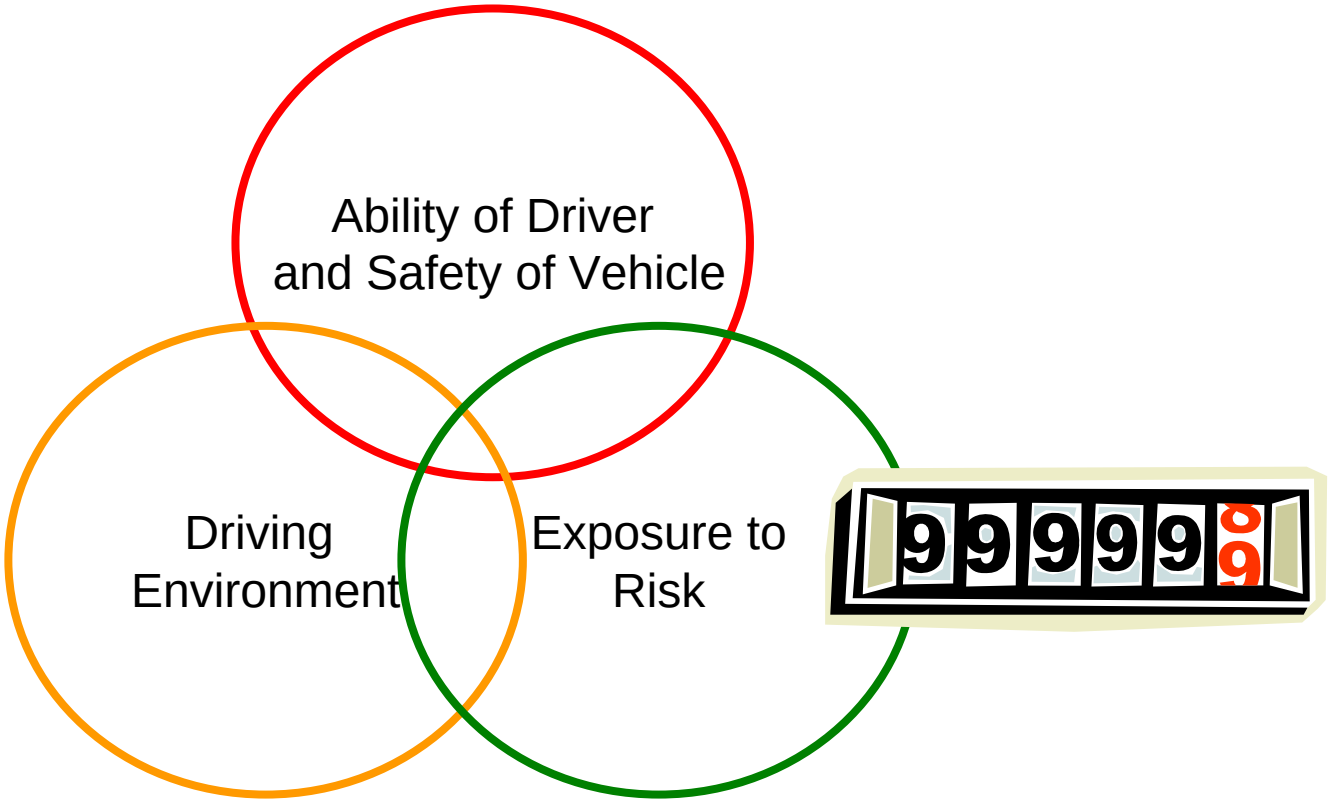


- Premium rating on
  - Location e.g. suburb
- This is a proxy for the driving environment e.g. road quality, traffic

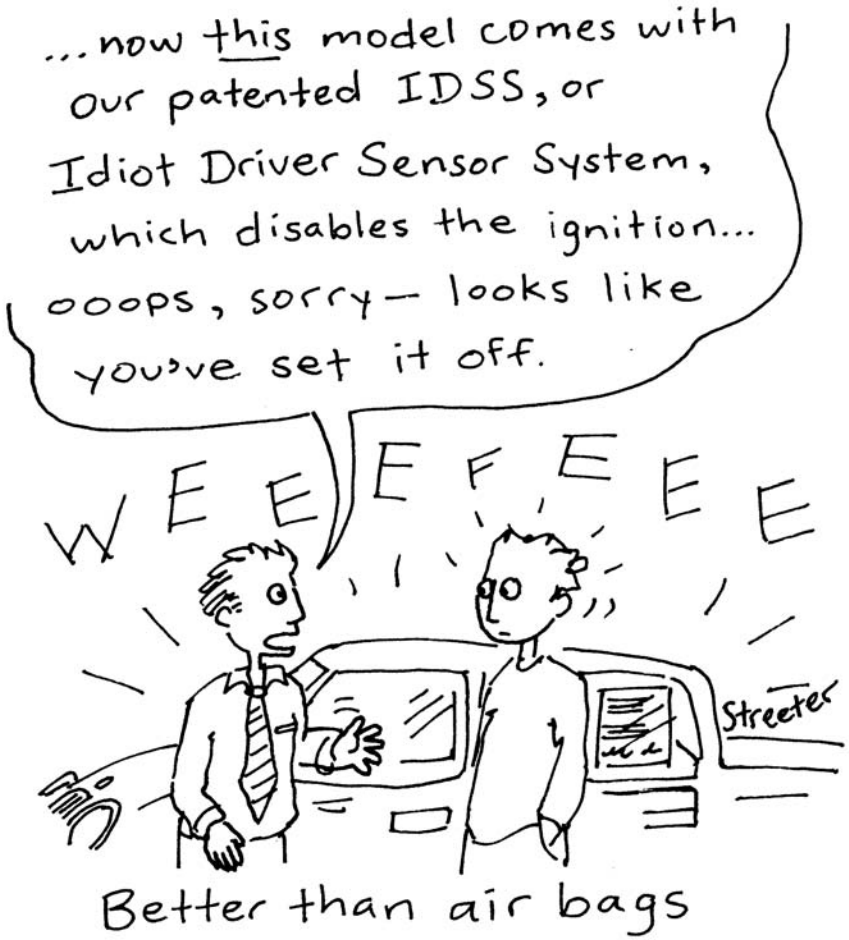
Traditional Motor Insurance



Pay As You Drive Insurance



Extensions: Pay How and Where You Drive



Expected Impact on Behaviour

- Cost of each trip is higher, so:
  - fewer trips
  - combining trips
  - substitute other forms of transport e.g. trains
- Some bias because of who chooses to use PAYD

Estimating Price Elasticity

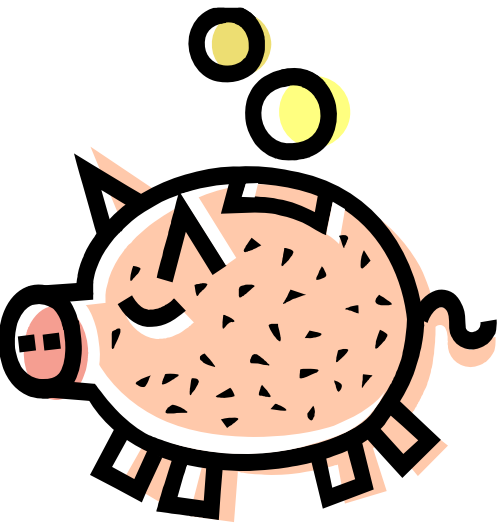
- Linked to price elasticity of petrol
- "In the short run, car fuel use declines about 1.5 per cent with a 10 per cent increase in the petrol price" Gargett and Hossain (2007)

Fuel cost per km	$	0.11
Insurance cost per km	$	0.06
Increase in per km cost		56%
elasticity per 10% price rise		-1.50%
Change in km driven		-7.0%

Overseas Experience

Source	Type	Reduction
Cambridge Systematics (2006)	Trial	-8%
Progressive (2007)	Trial	-10%
Bordoff and Noel (2008)	Forecast	-8%

Estimated Savings in Social Cost

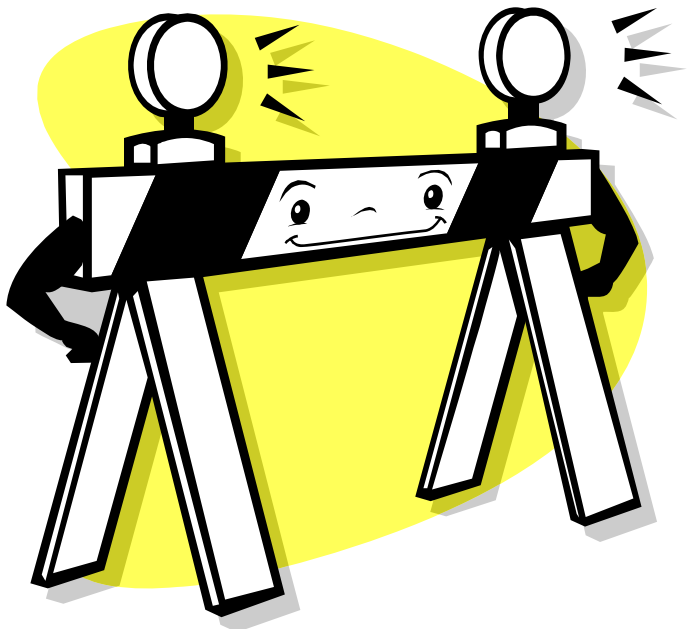


Type of Social Cost	Change in social cost (in $billion)	Change in social cost per Vehicle
Accidents		
private motor	-0.40	-$ 38
CTP	-0.26	-$ 24
claim excess	-0.03	-$ 3
other	-0.20	-$ 19
Petrol	-0.75	-$ 72
Congestion	-0.71	-$ 68
Pollution	-0.16	-$ 15
Carbon	-0.11	-$ 11
Oil Dependence	-0.03	-$ 3
Road Infrastructure	-0.53	-$ 51
TOTAL	-3.2	-$ 304

How Can Government Policy Help?

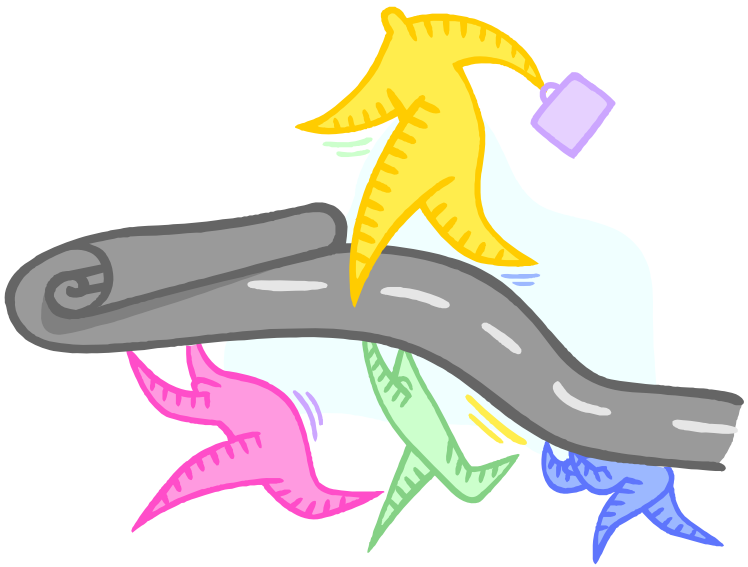
"Isn't that the real genius of democracy?...The VOTERS are ultimately to blame."

Remove Unnecessary Barriers



- Change CTP scheme designs to allow PAYD
- Give insurers access to information on vehicle use

Actively Support PAYD



Until PAYD is widely accepted:

- Waive stamp duty and or GST
- Rebates to insurers for set up costs

Remove Negative Externalities

- Link registration fees to kilometres driven
- Remove fringe benefit tax incentives for driving further

Conclusion

- Australians drive too much because much of the costs of driving are not paid directly by the driver or owner
- PAYD can help reduce this economic bias
- We estimate Australians will drive 7% fewer kilometres if Australia switched to PAYD

Conclusion

- We estimate savings in social cost from a switch to PAYD of $3.2 billion per annum
- Governments can help by
  - Removing unnecessary barriers
  - Supporting introduction of PAYD
  - Removing other negative externalities