

# Sustainable personal transport - 4 steps you can take now

## WHY MUST WE CHANGE THE WAY WE GO?

### PEAK OIL HAS ARRIVED.....

- Half of the world's oil resources have been used in 95 years. How long will the second half last?
- Production rate is now trending down for first time in history while demand is at an all time high.
- The remaining oil is difficult and costly to extract – oil price has risen from \$30 - \$140 in 5 years.
- Prices of petroleum products will continue to trend upwards.
- In 60 years there will be little or no oil available for our grand children



### GLOBAL WARMING IS HAPPENING – the ice caps are melting.....

- The fuel we burn in our cars and for air travel accounts for at least 12% of Australia's total greenhouse gas emissions (38% of personal emissions).
- The sustainable level of emissions per head of current world population is less than 2 t CO<sub>2</sub>e\*
- Australians average 28 t CO<sub>2</sub> emissions per head of population – highest in the world.
- If emissions are not cut by more than half, global temperatures will rise by up to 4 deg. C by 2070.

### WE CAN EITHER BE PART OF THE PROBLEM OR PART OF THE SOLUTION.....

- Average car occupancy on Australian roads is 1.3 people in mainly 5 seater vehicles
- Over 80% of fuel used by a driver-only car is wasted.
- The bigger the car and fewer the occupants the more fuel is wasted and the more CO<sub>2</sub> pollution.

**We can cut our fuel use and transport emissions in half NOW by taking 4 easy steps.**

Sponsored by: **Sustainable Transport Coalition of WA** <http://www.stcwa.org.au>

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# FOUR EFFECTIVE STEPS that are EASY FOR ALL and can SAVE YOU over \$6,000 per year

## 1. Drive a light vehicle; drive it less, drive smoothly and maintain it well



Changing from a 3.5 L V6 car to a 1.3 L small car, will save you:

1000 L of fuel / 15,000 km (year)

4400 dollars / year

3.2 t CO<sub>2</sub>e / 15,000 km (year)

- Think 'small is beautiful' when buying a car.
- Keep a log book of fuel consumption – careful driving and maintenance can reduce it by 10-20 %.
- Hire or 'car share' a larger vehicle only when needed.
- Scooters save on parking; energy consumption is 1/3 - 2/3 that of a light car.

## 2. Drive less on your own - go by bus train or car pool

Travelling 5,000 km by public or shared transport instead of a large car on your own:

- Improves health (walk & ride is less stressful)
- **Saves** (including parking and running costs):

Train 120 passenger	Bus 30 passenger	van, 5 people	
500	500	500	L of fuel / yr
2200	2200	2200	Dollars / yr
1.2	1.1	1.1	t CO <sub>2</sub> e / yr

Driver- only car commuting produces 6 - 10 times more emissions per passenger than bus or train



**BUS, (30 PASSENGERS)**  
0.3 t CO<sub>2</sub>e per 5,000 km per passenger



**TRAIN, (120 PASSENGERS)**  
0.2 t CO<sub>2</sub>e per 5,000 km per passenger

## 3. Forego frequent flying



Not flying: 6 short haul flights – total 5,000 km or one long haul flight – 8000 km saves:

320 L of fuel / yr

700 Dollars / yr

2.2 t CO<sub>2</sub> global warming equivalent / yr

- Holiday locally by shared car.
- Fly less often and stay longer.
- Don't fly to conferences and meetings – 'teleconference' instead.

## 4. Walk or cycle or use mobility scooter for short trips

Four 5 km trips each week (or 1000 km per year) by bike or on foot instead of by car on your own saves:

110 L of fuel

>170 dollars

0.3 t CO<sub>2</sub>e

Walking and cycling has many additional benefits:

- Improves your health and fitness.
- Less traffic congestion; no parking problems
- Prolongs your car's engine life (less cold starts)
- You can easily carry 10 kg of shopping on a bike or mobility scooter

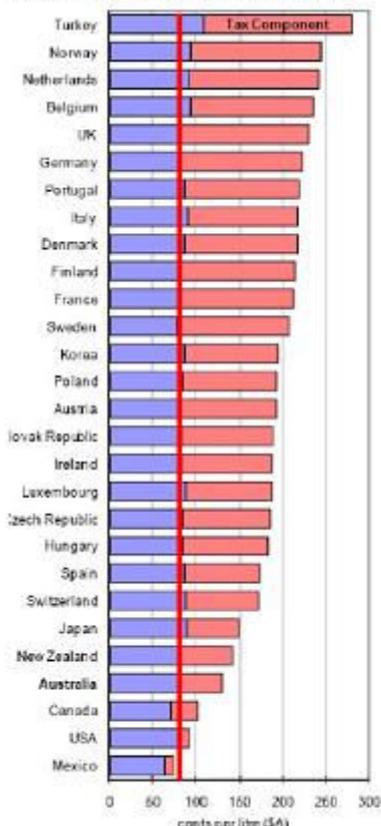


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Myth	Facts
If we all drove small cars there would be more deaths on the roads	<ul style="list-style-type: none"> <li>If you want to stay alive on the road, safe driving or going by public transport is 100's of times more effective than driving a large vehicle. Alcohol was a cause of 39% of US fatal crashes, speed 30% and no seatbelt 55% (<a href="http://www.nhtsa.gov">www.nhtsa.gov</a>) 'Traffic Safety Facts Overview', 2005). Fatigue, a factor in 25-35% of fatal crashes and inattention are major causes of crashes in Australia (<a href="http://www.monash.edu.au/muarc/reports/atsb072.html">http://www.monash.edu.au/muarc/reports/atsb072.html</a>)</li> <li>Most light cars (1 - 1.5L) less than 4 years old have average (4 star) or better crashworthiness ratings. For crash test results: <a href="http://www.ancap.com.au/results/search/">http://www.ancap.com.au/results/search/</a></li> <li>Heavy 4wd's and vans are at least as likely as light cars to be linked to death or serious injury in crashes. While the chance of being killed in a crash as an occupant of a large 4WD is lower, this is more than outweighed by the chance of killing another person (Table 1); <a href="http://www.monash.edu.au/muarc/">www.monash.edu.au/muarc/</a></li> </ul>
Fuel is too expensive in Australia	Our fuel taxes of \$0.42c/L incl. GST are well below the OECD average of \$1.04 (Fig. 2, ATO, 2006). The June 08 petrol price in Germany and France was \$2.40/L. If Australia counted the true cost of motoring, including road and pollution deaths and injuries, land used for roads and climate change (\$180/ tCO <sub>2</sub> e (Stern, 2006)) petrol prices would be > \$1/L higher.
Australians need big cars for country driving	Over 75 % of Australia's population is in cities (ABS, 2006. <i>Year Book</i> ) and 94% of kilometres driven are on paved roads or highways. Today's light cars cruise easily at 110 kph and can tow a small trailer. <a href="http://www.piarc.org/exec/link/library/download.htm?site=fr&amp;objectid=22">www.piarc.org/exec/link/library/download.htm?site=fr&amp;objectid=22</a>
Today's large cars are fuel efficient and 'clean'	<ul style="list-style-type: none"> <li>Extra weight and higher power have negated engine efficiency gains and large cars today are no more fuel efficient than in 1990. Generally, large cars and med-large 4WD's use at least 2 – 2.5 times as much fuel per km as light cars.</li> <li>Clean exhaust may not mean low emissions - CO<sub>2</sub> is invisible and emissions are proportional to fuel consumption.</li> </ul>
I can't ride a bike – it's too dangerous and I'm too unfit	You can cycle safely most places in Perth by using dual use paths or safe streets and wearing bright coloured clothing. For the unfit or aged, electric bikes and mobility scooters can be used on the paths. <a href="http://www.shoprider.com.au">http://www.shoprider.com.au</a>
Personal travel by car and aircraft is not a major source of greenhouse emissions.	Actual GHG emissions attributable to transport are much higher than the AGO's GHG inventory 'tailpipe CO <sub>2</sub> only' figure of 14.3 % of Australia's total (ABS, 2003. <i>Environmental Impacts of Australia's Transport System</i> . <a href="http://www.abs.gov.au/ausstats/">http://www.abs.gov.au/ausstats/</a> ). Add embodied emissions of vehicles (20%), upstream fuel emissions (10%), a 6-fold increase in aircraft emissions to account for overseas flights and additional global warming caused by ozone-forming nitrogen oxides and the total road and air transport figure is over 20%, about 60% of which is travel for personal purposes. (Rose, 2007. <i>GHG-Energy Calc Background Paper</i> )

Petrol Prices and Taxes in OECD Countries



Source: AIP 2008

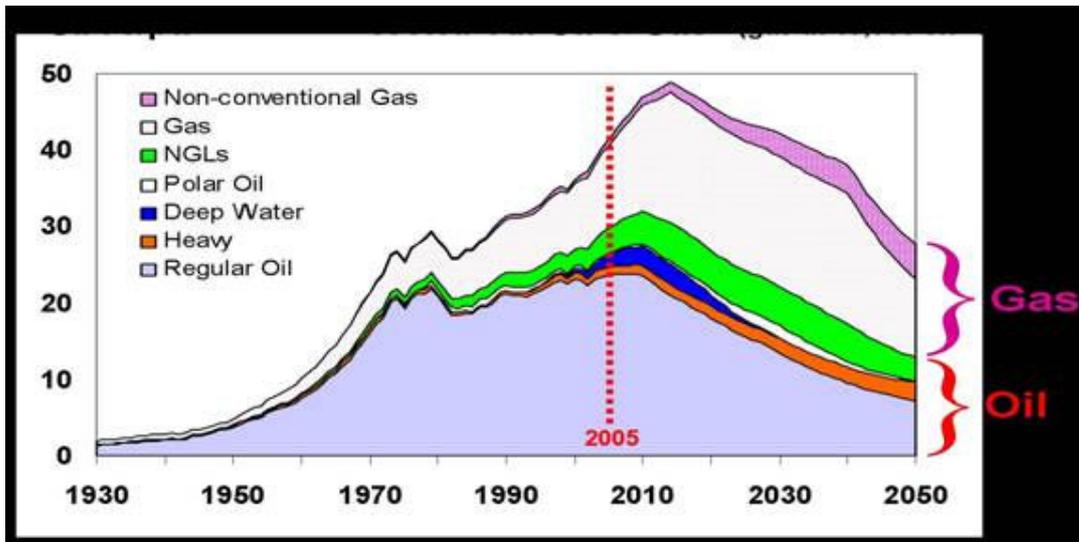
Table 1: Deaths or serious injury (D/SI) per 100 people in crashes by vehicle class (1988-2006 models). (Monash University Crash Research Centre, 2007).

Car type	Crashworthiness- D/SI to vehicle occupants (1)	Aggressivity – D/SI caused by vehicle (2)	TOTAL deaths or serious injury per 100 crashes (1+2)
Light car	5.05	2.58	7.63
Small car	4.12	2.77	6.89
Medium car	3.72	3.18	6.9
Large car	3.28	3.64	6.92
People movers	4.35	4.27	8.62
Med 4WD	2.89	4.33	7.22
Large 4WD	2.75	5.89	8.64

**STCWA suggests these changes to transport policy:**

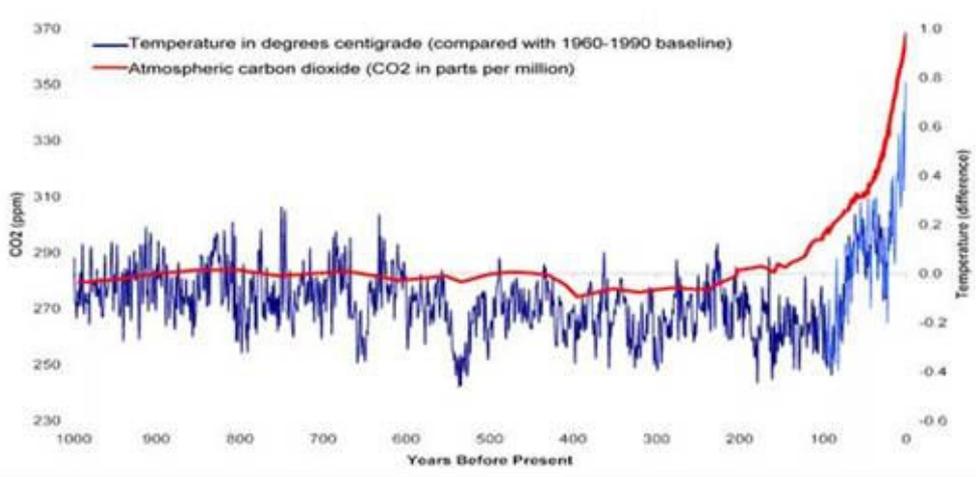
1. Phased increases in fuel taxes:
  - o Higher taxes on fuel and large cars to par with UK in 5 years.
  - o Phased increase aviation fuel tax from < 3% to equivalent of road fuel tax.
  - o Fuel tax increases revenue neutral; offset fuel taxes by lower income taxes.
2. Fuel tax revenue to fund:
  - Improved public transport – better services to outer suburbs.
  - More electrified passenger rail routes and extend freight rail network.
  - 'Cash for clunkers' rebate to scrap old inefficient vehicles traded on small efficient new models.
  - Extended dual use cycle paths and cycle friendly roads.
3. Prepare for a system of tradeable petroleum and CO<sub>2</sub> pollution allocations to individuals according to a permit system.

Peak oil peak is here.....



Ref: ASPO, 2005

And the world is heating up .....



Ref: Mann et al <http://www.ngdc.noaa.gov/paleo/icecore/antarctica/law/law.html>

Our atmosphere  
is like a big  
closed room  
and we are  
smoking in it.....



Do we want to  
leave our  
children an  
overheated world  
with no oil?

**For more information:**

To calculate your emissions <http://www.qhenergycalc.com.au>

Peak oil <http://www.aspo-australia.org.au/>

cut here

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