



# Transport and carbon emissions:

## current Australian responses and dilemmas

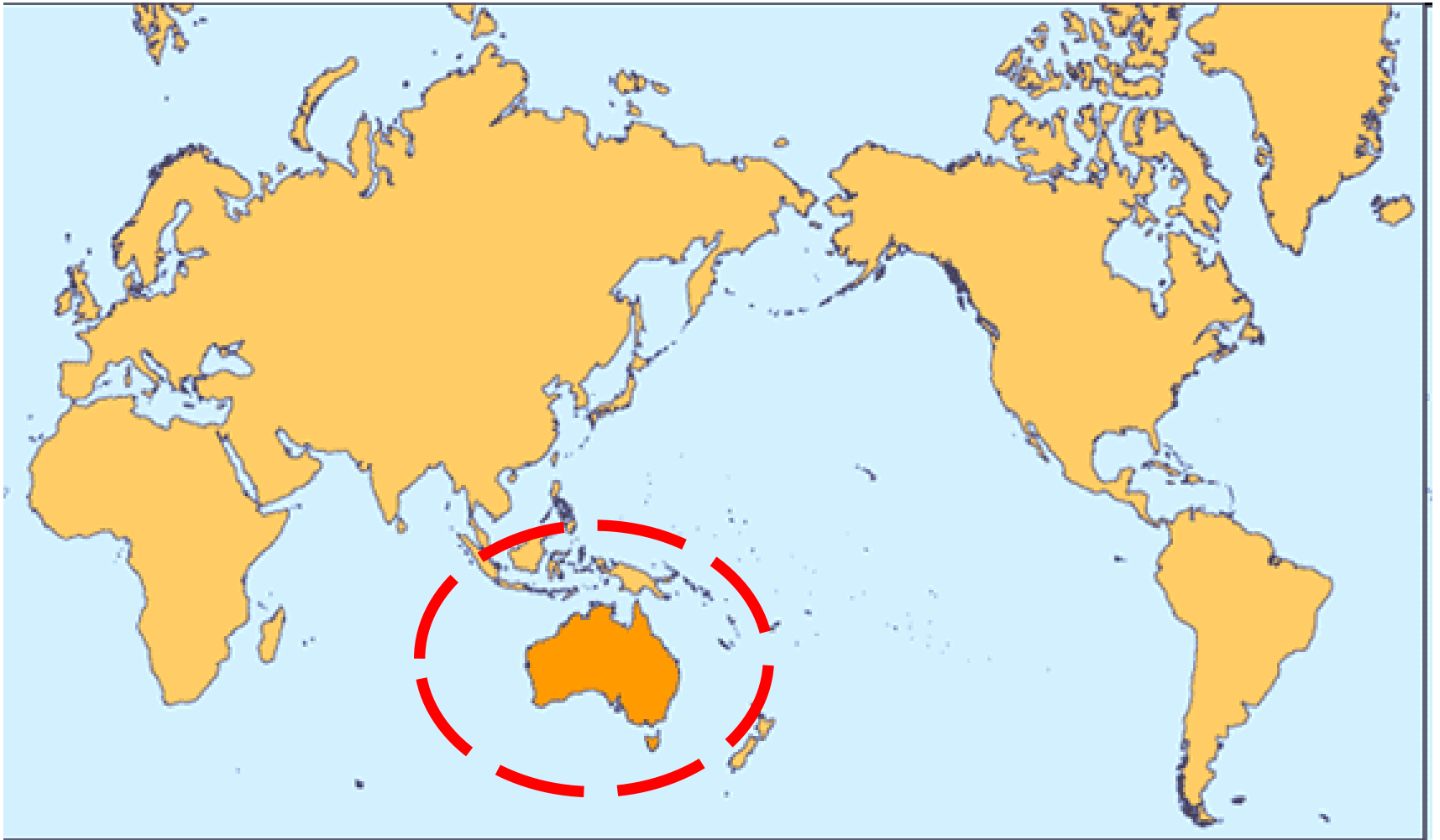
Dr Matthew Burke  
Research Fellow

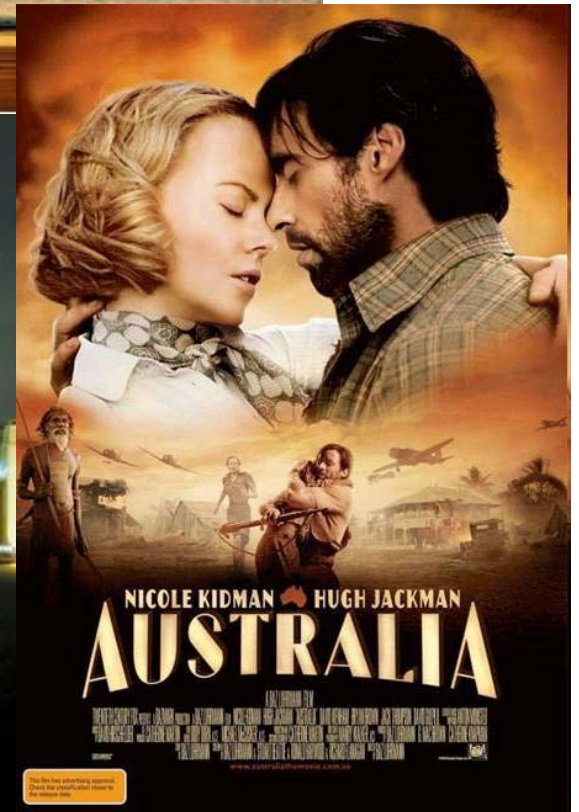
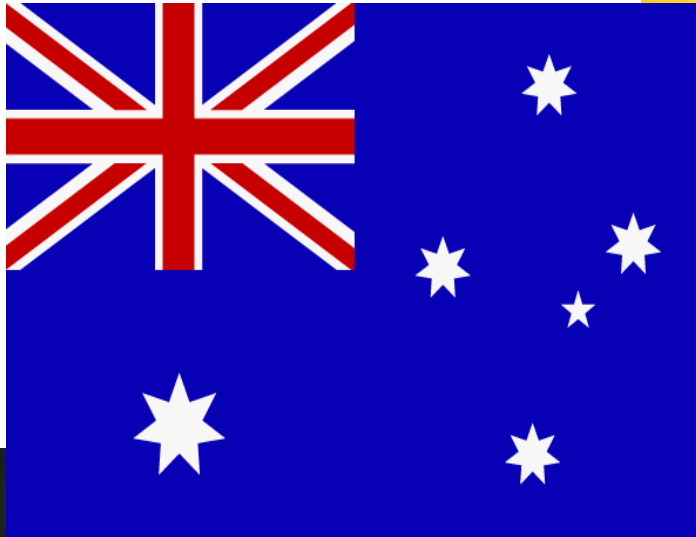
# Transport and carbon emissions:

current Australian responses and dilemmas

- Introduction to the Australian context
- Examine the socio-spatial and political context and the dilemmas it creates
- Review Australia's initiatives
  - Living Greener
  - Carbon Tax
  - Parking restraint
  - Intelligent transport systems
  - Behaviour change programs.

# Where is Australia?





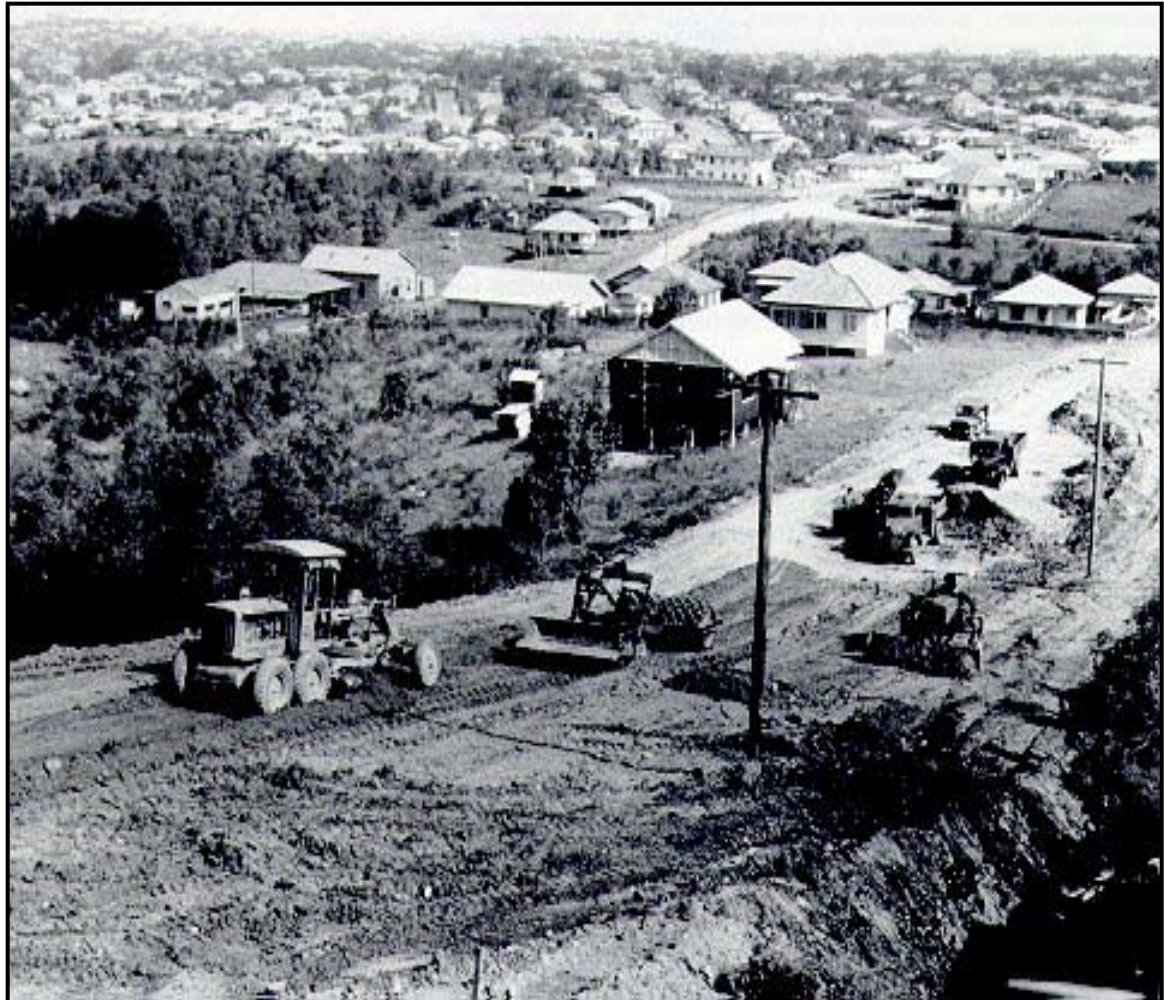


Urban transport is responsible for  
~15% of Australia's Greenhouse  
Gas Emissions, and growing



- **Car-based suburbia has been the dominant Australian urban development model for more than five decades**

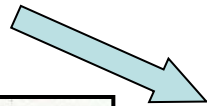
**Suburb  
construction,  
Brisbane 1952**



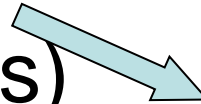


# Brisbane's Transport History (a very brief summary)

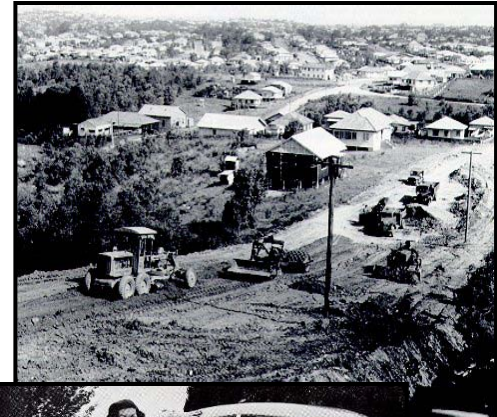
Walking  
city



Rail city  
(~1900  
to 1960s)

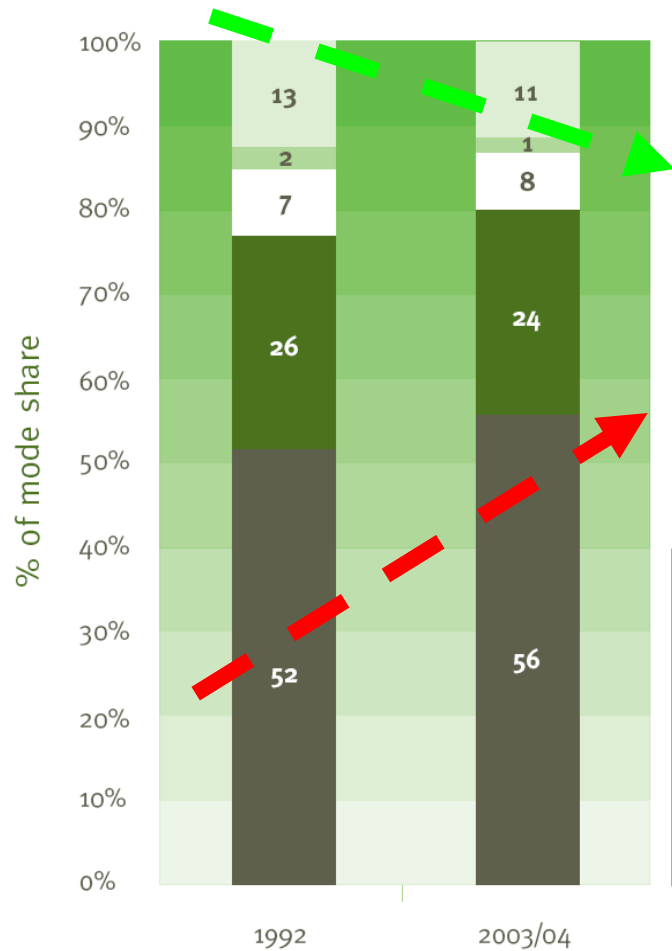


Freeway city  
(1960s-  
2000s)









## SEQ Travel 1992-2004

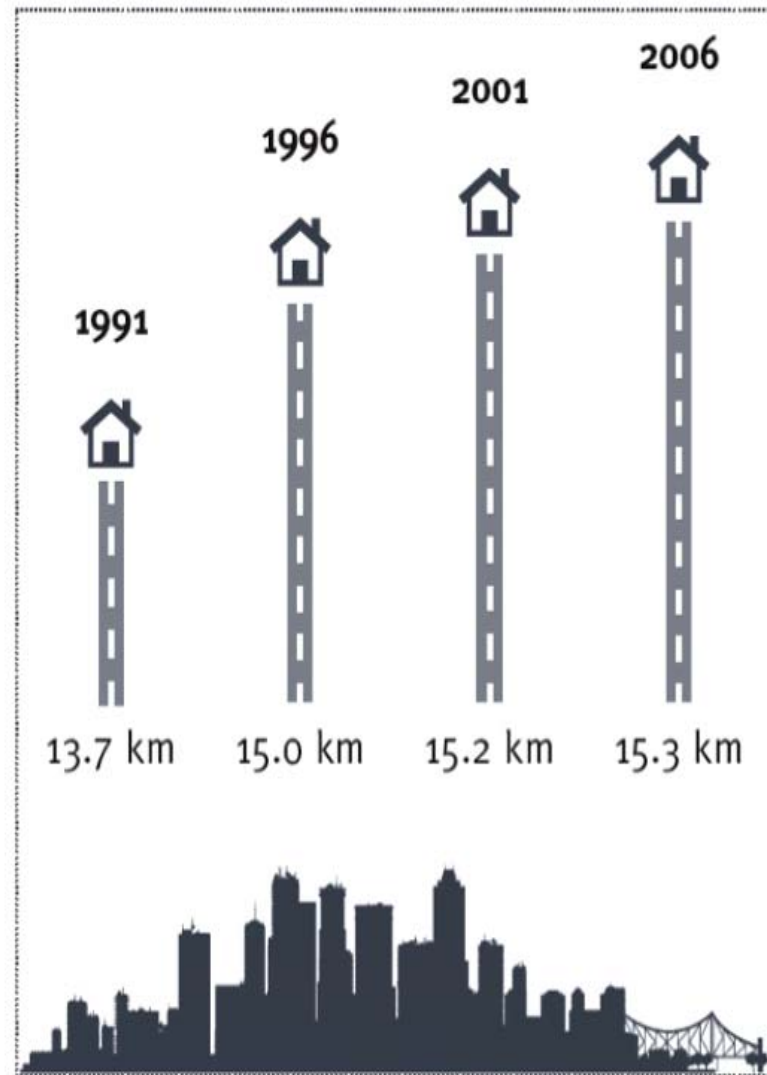
Walking, cycling: declining

Public transport: marginally improving

Car use: increasing

QLD Government 'Smart Travel Choices' 2005

# SEQ journey to work distance



Source: Journey to work – ABS Census

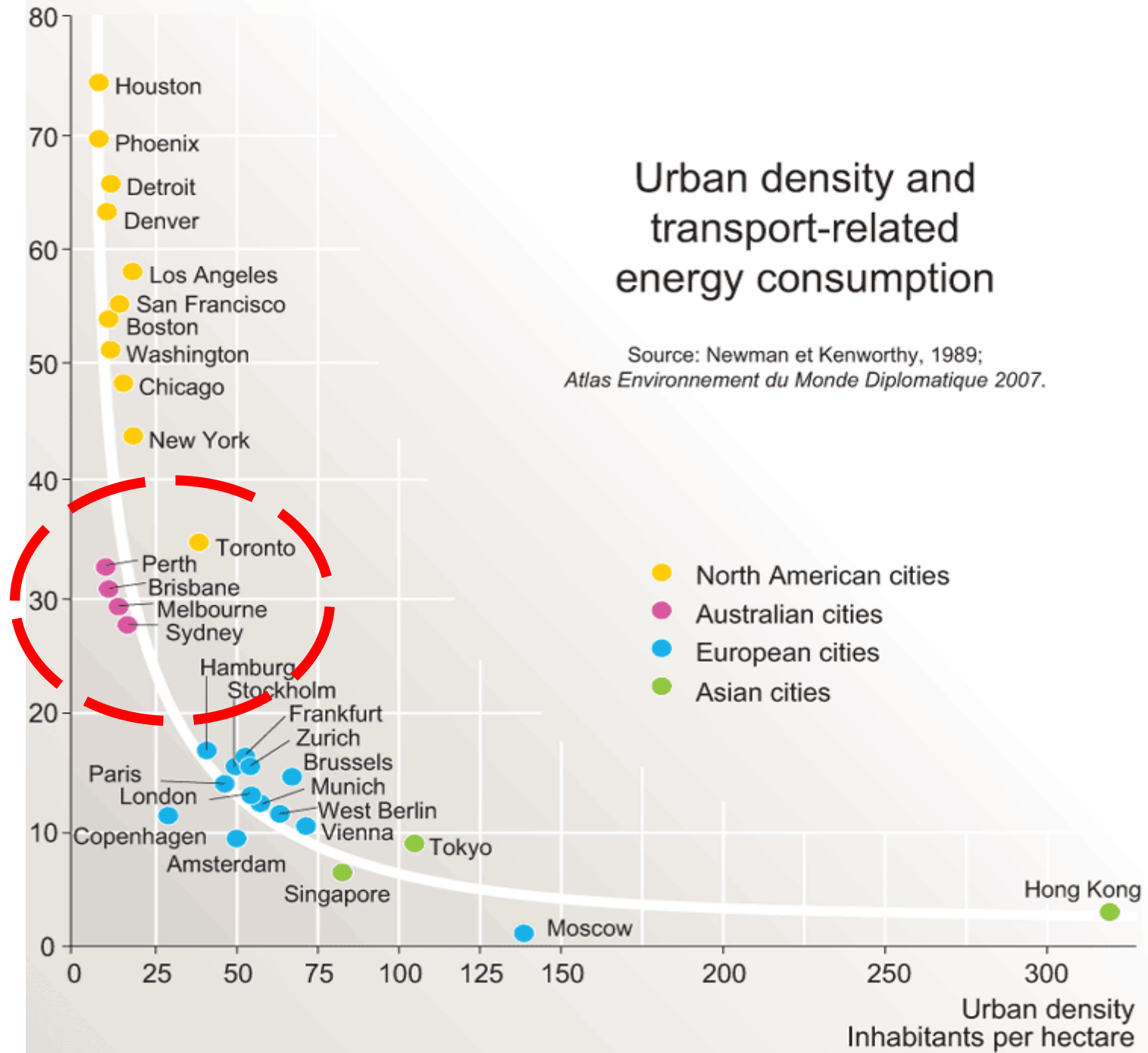
Source: Transport  
and Main Roads,  
2010

# Australian housing and streets is mostly designed for cars





Transport-related energy consumption  
Gigajoules per capita per year



## Transport-related emissions could rise to 30.5 million tonnes by 2050

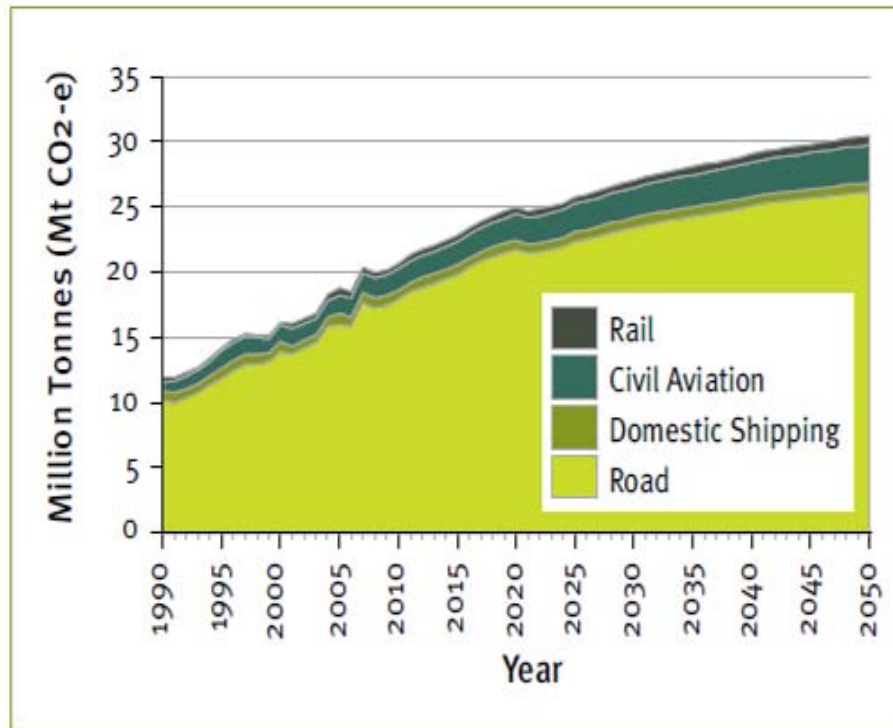


Figure 15.3: Queensland's transport emissions projections to 2050

Source: The Nous Group & SKM, 2008

# What are Australians doing about it?

- Australia is the Federal system with three tiers of government. As such we need to consider initiatives at three levels:
  - Commonwealth (Federal) Government
  - State Government
  - Local Government



# Federal Government Initiatives

- **Living Greener**
  - Education campaigns targeting households
  - Green vehicle guides
  - Fuel consumption labels
- **Carbon Tax**
  - Putting a price on carbon
- **Green Car Fund**
  - Supported Toyota to produce local Camry hybrid



Australian Government

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# LivingGreener

Information, how-to's & rebates for sustainable living.

.GOV.AU

  
Search[Save energy](#)[Save water](#)[Reduce waste](#)[Travel smarter](#)[Take action](#)[Guides](#)[Real stories](#)

Rebates & assistance

## Travel smarter

[Motor transport](#)[Public transport](#)[Cycling](#)[Walking](#)

Most Australians rely on motor transport to travel to work or study or to go on holidays. This is convenient but relying on motor transport can have a dramatic effect on the environment.

Did you know?

Please take our 20 question survey to help us improve this site.

<http://www.livinggreener.gov.au/travel>



### Top Performers

### Top Sellers

- |                          |       |
|--------------------------|-------|
| 1 . Mitsubishi i MIEV    | ★★★★★ |
| 2 . Tesla Roadster       | ★★★★★ |
| 3 . Toyota Prius Hybrid  | ★★★★★ |
| 4 . Lexus CT200h         | ★★★★★ |
| 5 . smart fortwo         | ★★★★★ |
| 6 . Honda Insight        | ★★★★★ |
| 7 . Suzuki Alto          | ★★★★★ |
| 8 . Alfa Romeo MiTo      | ★★★★★ |
| 9 . Mini One             | ★★★★★ |
| 10 . Holden Barina Spark | ★★★★★ |
| 11 . Volkswagen Polo     | ★★★★★ |
| 12 . Suzuki Swift        | ★★★★★ |
| 13 . Kia Rio             | ★★★★★ |
| 14 . Honda Jazz          | ★★★★★ |
| 15 . Nissan Micra        | ★★★★★ |
| 16 . Hyundai Accent      | ★★★★★ |
| 17 . Toyota Yaris        | ★★★★★ |
| 18 . Hyundai i20         | ★★★★★ |
| 19 . Toyota Camry Hybrid | ★★★★★ |
| 20 . Volkswagen Golf     | ★★★★★ |

## Make a smarter choice



By choosing a greener vehicle, you can make a real difference.



The Green Vehicle Guide helps you by rating new Australian vehicles based on greenhouse and air pollution emissions.

The rating is calculated using data provided by manufacturers from testing the vehicle against Australian standards.



Safety Features Information Now Available



Search Older Models (1986-2003)



Electric Vehicle Information



Download Green Vehicle Guide Factsheets



Truck Buyers Guide

### QUICK COMPARE

#### Vehicle 1

[Clear](#)

- All makes
- All models
- All variants

#### Vehicle 2

[Clear](#)

- All makes
- All models
- All variants

#### Vehicle 3

[Clear](#)

- All makes
- All models
- All variants

COMPARE

ADVANCED SEARCH





## Search Results (1-5 of 5 results)

Sort By: Overall Rating [New Search](#)[Refine Search](#)[Download PDF](#)[Download Excel](#)[Print](#)[Email](#)

Show more detail

☐ Release Year☐ Current Model☒ Fuel Con. Urban/Extra Urban☐ CO2 Urban/Extra Urban☐ Safety☐ Stationary Noise[View Short List](#)

Overall Rating	Vehicle Details	Fuel Type	Fuel Consumption L/100km			CO <sub>2</sub> g/km Comb	Greenhouse Rating (10 = Best)	Air Pollution Rating (10 = Best)	<input type="checkbox"/> Select All
			Comb	Urban	Extra				
★★★★★	<b>Skoda Fabia Monte Carlo 77TSI</b> 1.2L 4cyl (T), Man 5 speed Hatch, 5 seats, 2WD	Petrol 95RON	5.5	7.0	4.7	128	8	7.5	<input type="checkbox"/>
★★★★★	<b>Volkswagen Polo GTI</b> 1.4L 4cyl (S), Auto 7 speed Hatch, 5 seats, 2WD	Petrol 98RON	6.1	7.7	5.3	142	7.5	7.5	<input type="checkbox"/>
★★★★★	<b>Volkswagen Polo GTI</b> 1.4L 4cyl (S), Auto 7 speed Hatch, 5 seats, 2WD	Petrol 98RON	6.1	7.7	5.3	142	7.5	7.5	<input type="checkbox"/>
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CLEAN ENERGY FUTURE

HELPING HOUSEHOLDS ▾

HELPING BUSINESS ▾

WHY WE NEED TO ACT ▾

NEWS



## Carbon price

Home / Clean Energy Future / Carbon price

*A price on carbon is the most environmentally effective and economically efficient way to reduce pollution. This means our economy can continue to prosper – without our pollution continuing to grow.*



[Transcript](#)

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### Questions Answered

[View All Questions »](#)

**Q. Where will the money raised from the carbon price go?**

A. More than half of the money raised will be used to assist households. The majority of households will receive tax cuts, increased assistance payments or both. With the rest of the money, the Government will be [supporting jobs in the most affected industries](#) and investing in our clean energy future.

Stay connected



### News

› [Carbon Expo 2011](#)

04/11/2011 13:04

Australian business leaders, government representatives, community groups and international counterparts ...

› [Solar Cities: A catalyst for change](#)

26/10/2011 16:31

The Australian Government is partnering with the community and industry to ...

# What's missing in this graphic?



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***Creating a prosperous and sustainable Australia***



***Carbon price***

+



***Renewable energy***

+



***Energy efficiency***

+



***Land use***

=



***View the plan***





20 May 2011, 6.58am AEST

## Driving off a cliff? The politics of petrol and carbon-pricing

### AUTHOR



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*Our goal is to ensure the content is not compromised in any way. We therefore ask all authors to disclose any potential conflicts of interest before publication.*

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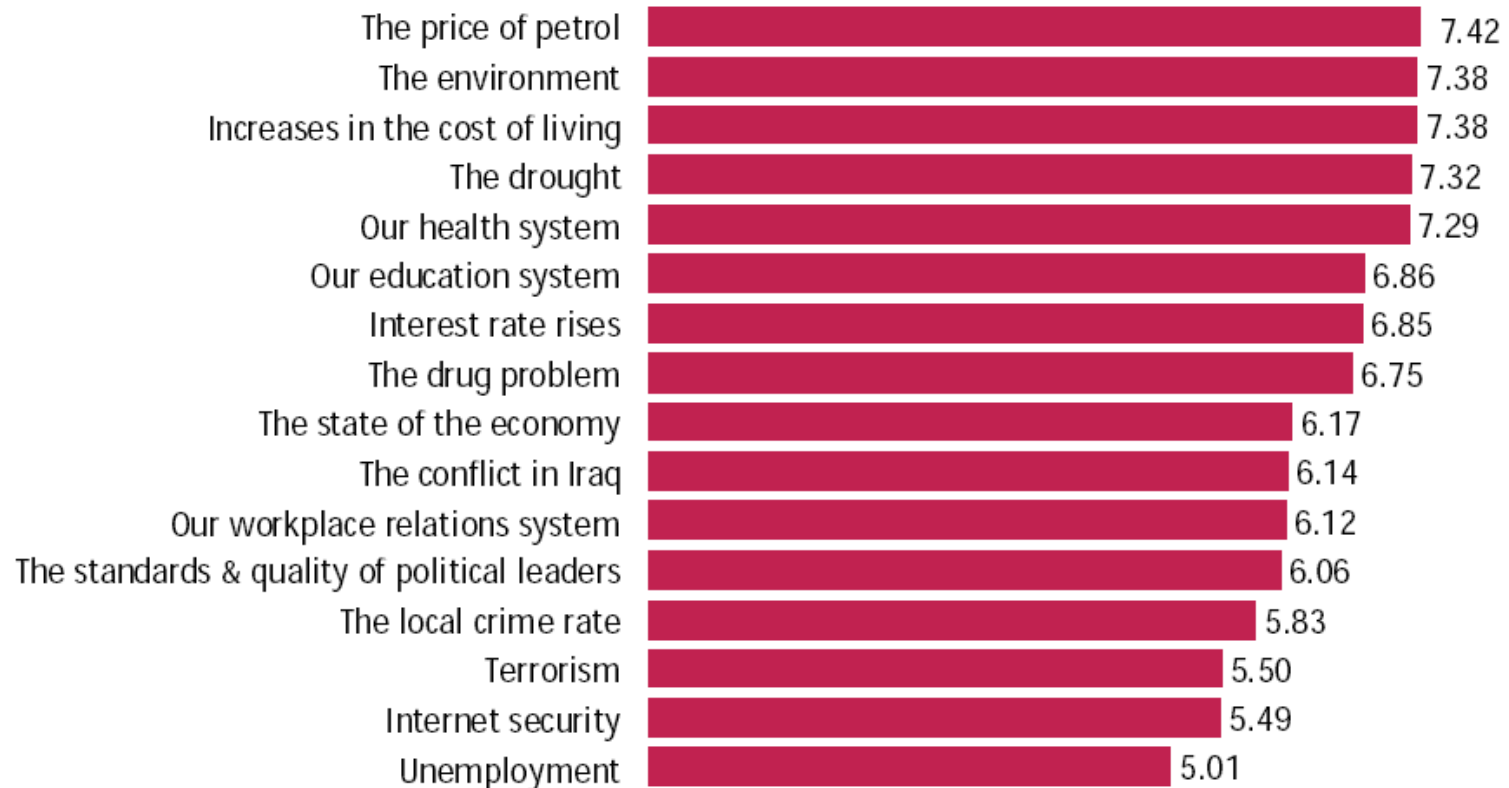
[Don't be Shanghaied! China has started down the carbon cutting highway](#)

### TAGS

[Fossil fuels](#), [Transport](#), [Carbon tax](#)



## Concerns February 2008



*Q. On a scale of one to 10 - where '1' means you are not concerned at all and '10' means you are very concerned - how concerned are you about...*

SOURCE: Sensis® *Consumer Report*. Sweeney Research - February 2008

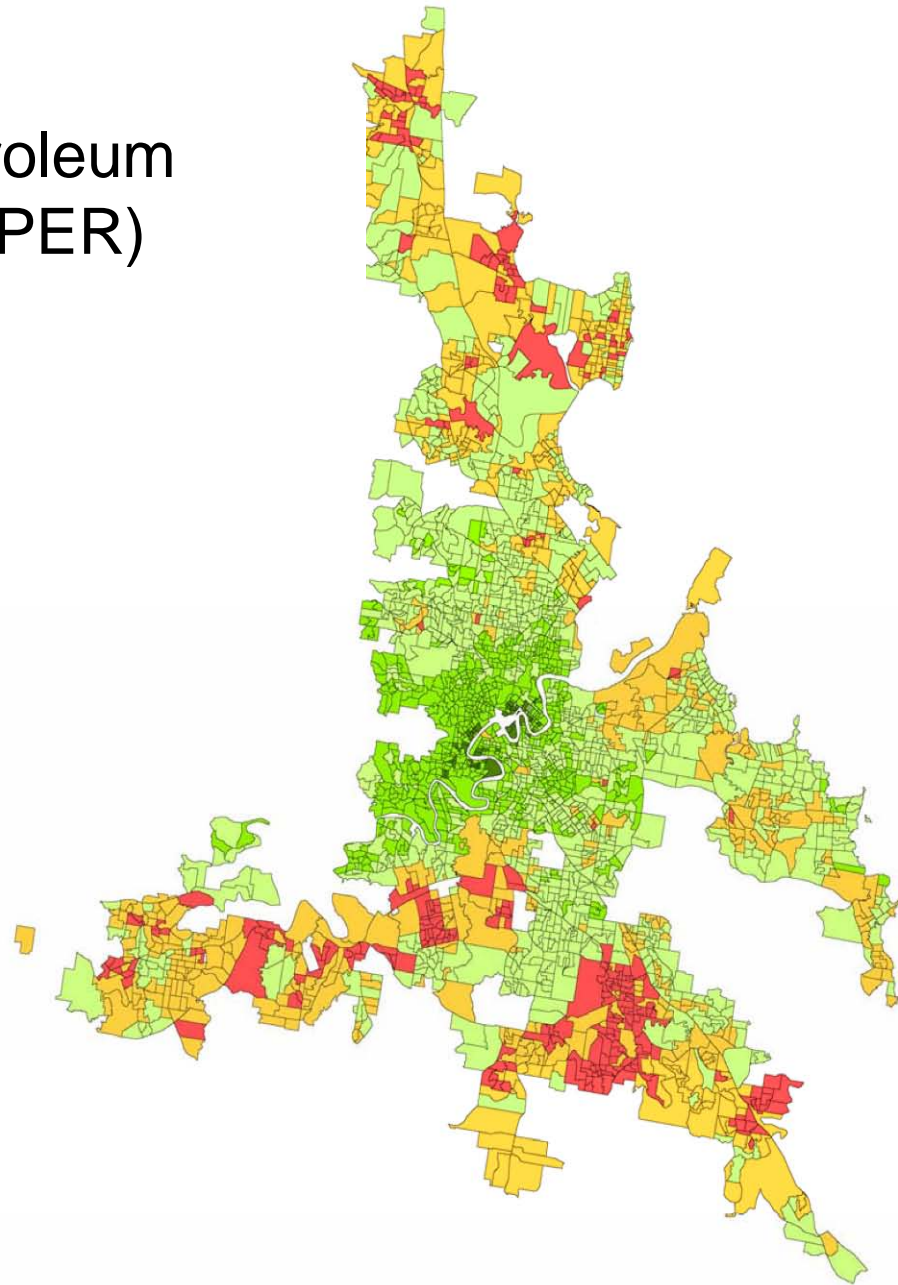
# Vulnerability Index for Petroleum Risks and Expenditure (VIPER)

## High vulnerability in:

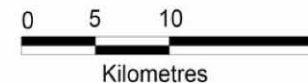
- Outer areas
- Low socio-economic status areas
- Areas with poor PT

## Low vulnerability in:

- Inner areas
- Higher socio-economic status areas
- Better PT services



Oil Vulnerability Index for Brisbane



# House, land and fuel package, Brisbane

## FREE FUEL FOR 2 YEARS\*



**\$317,000\*** on 677m<sup>2</sup> Homesite

### \$10,000 free fuel\*\*



**COTTAGE GARDEN**  
at Cashmere

- Limited to 12 packages only
- Turnkey packages - no more to do but move in
- Offer ends Dec 1st 2005
- Homesites ranging from 608m<sup>2</sup> - 965m<sup>2</sup>

\*Price subject to site costs.  
\*\*\$10,000 limit. Free fuel will be a fuel debit card upon settlement of land.  
Images are indicative only and to be used as a guide. Homes are yet to be constructed.

[www.cottagegardenestate.com.au](http://www.cottagegardenestate.com.au)  
Cnr Ira Buckley & Hayward Av, Cashmere (UBD: 97.L15)



**\$323,000\*** on 637m<sup>2</sup> Homesite



**OLIVER HUME**  
REAL ESTATE GROUP  
Unit 4E, Cnr James & Robertson St  
Fortitude Valley  
Ph: 3882 1378 [www.oliverhume.com.au](http://www.oliverhume.com.au)

Call Bob Mason on 3882 1378

Courier Mail (2005)

# Green Car Innovation Fund

- Ran from 2009-2011
- Provided assistance to companies for research & development, and commercialisation
- Targeted technologies that reduce fuel consumption and/or greenhouse gas emissions of passenger cars
- \$1 of government funding for every \$3 contributed by the company



## Toyota Hybrid: Australia's First Green Car

Motoring Channel Staff - 10/June/2008

**Melbourne, Australia** — Toyota will today announce a new plan to build Australia's first home-grown hybrid car.

**Update:** *It's official, Toyota will build Australia's first hybrid car, the Camry sedan, in early 2010.*

*It's Altona plant in Victoria will be the place of manufacture, and 10,000 vehicles will be built annually to be sold in Australia.*

*Toyota's President Mr Katsuaki Watanabe conveyed his company's decision to start building hybrid cars in Australia directly to the Australian Prime Minister, Kevin Rudd, at a meeting in Nagoya Japan today.*

*"We decided to build the Camry Hybrid in Australia because Australians are keenly aware of environmental issues including global warming, and we are confident that the Camry Hybrid will be well received," said Toyota President Mr Katsuaki Watanabe, one of the global car industry's most powerful men.*

*"Toyota intends to make further efforts toward popularizing hybrid vehicles," added Mr Watanabe at the press conference in Japan, which was attended by the Australian PM and the Minister for Innovation, Industry, Science and Research, Kim Carr.*

**Update:** *The Australian government has pledged to subsidise Toyota, who will build the new hybrid Camry, to the tune of \$35 million.*

*The money will come from the Rudd Government's Green Car Fund.*

*Australia will join Japan and the United States as the only countries building the hybrid Camry.*

*At home, Toyota Australia's President and CEO Max Yasuda was very pleased with the news. His company released a document stating the decision was "the culmination of an intensive study conducted during the past year which included discussions with the Federal and Victorian governments".*



Toyota Camry Hybrid



Expected by 2010, the Toyota Camry Hybrid could provide fuel savings of up to 40 percent



# State Government Initiatives

- Lots of investments:
  - Electric vehicle policies
  - ITS for improved traffic flow
  - ITS freight initiatives
  - Vehicle Offsets Contribution Scheme.
  - TravelSmart behaviour change interventions
  - Walking/cycling investments
  - Public transport investments
  - Low emission bus trials
  - Taxi vehicle improvements
- But no meaningful car restraint

# ‘Balanced’ transport infrastructure investment



# Vehicle Offsets Contribution Scheme

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## About this scheme

In 2007, the transport sector was the fourth largest source of greenhouse gas emissions in Queensland, generating approximately 10.4 per cent of statewide emissions

In a large decentralised state like Queensland, sustainable transport (such as public transport, walking, cycling or car pooling) is not always feasible.

In recognising this, Queenslanders are being given an opportunity to minimise the environmental impact of their vehicles.

## Rationale

The implementation of this initiative aims to give Queenslanders the opportunity to effectively 'cancel out' the greenhouse gas emissions related to their vehicle use.

The Queensland Government's dollar-for-dollar matching contribution, up to a funding limit of \$4.5 million, provides an incentive for people to offset their vehicles' emissions by halving the offset cost to motorists.



# Intelligent Transport Systems

- The Queensland Government is investing ~US\$40M in state-of-the-art Intelligent Transport Systems on roads
  - Managed motorways
  - Ramp metering
  - Dynamic real-time information

# Smart Transport Research Centre



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## Smart Transport Research Centre

*A centre for the research and development of innovative smart transport solutions*

The Smart Transport Research Centre is a world-class collaborative research centre focusing on smart transport systems which will reduce traffic congestion and deliver multi-modal network optimisation for Australian and international cities.



### *Delivering National Transport Solutions*

The Smart Transport Research Centre (STRC) is undertaking collaborative research to develop innovative technologies, services, products and policy solutions to combat congestion and improve multimodal network operations. It combines academic expertise from leading Australian universities with international private and government sector innovation, resources and experience.

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## Latest Events

[2nd International Workshop on Traffic Data Collection & its Standardisation](#)  
[Australian French Symposium On Transportation Research](#)

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## Centre News

[ABC Radio 612-Brisbane Coverage of STRC Launch \[Audio\]](#)  
[Network News Coverage of QUT's Smart Travel \[Video\]](#)

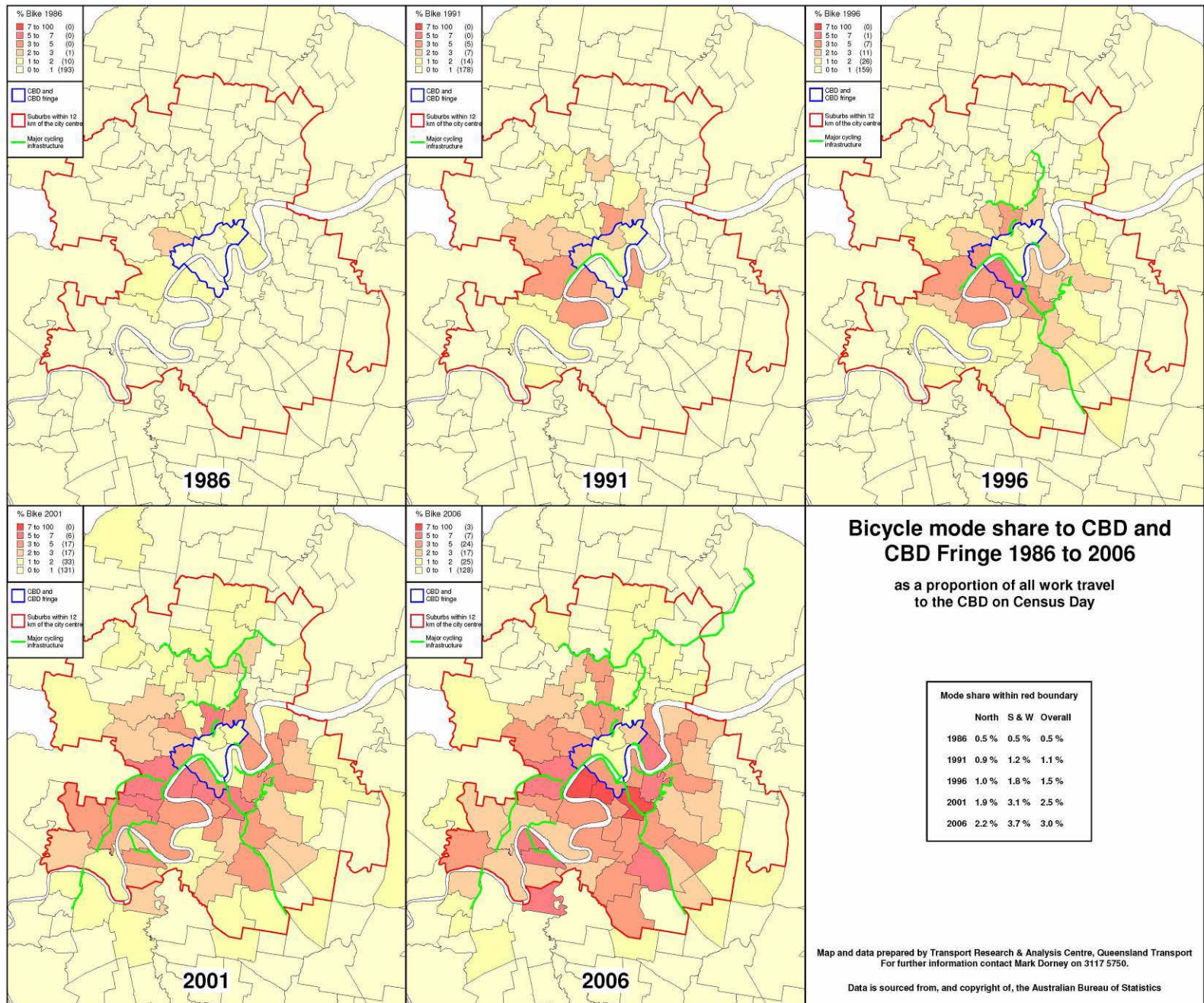
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## ITS News

[Congress on Intelligent Transport Systems Features Live Demos - Environment News Service](#)  
Fri, 14 Oct 2011 01:46:27 GMT  
[The net gain if Ireland deploys smarter infrastructure - Siliconrepublic.com](#)  
Thu, 03 Nov 2011 06:02:49 GMT  
[Consultants to draw up master plan for transport - Gulf Times](#)  
Tue, 25 Oct 2011 22:14:39 GMT  
[ARS Soft talking to States on intelligent transport tech use - Hindu Business Line](#)  
Thu, 13 Oct 2011 13:49:10 GMT  
[Road safety precautions and intelligent transport systems top priority says IEEE - Rush Lane](#)  
Wed, 19 Oct 2011 11:14:25 GMT  
[more >>](#)

# Local Government Initiatives

- Most are small scale 'grass-roots' attempts
- Walking/cycling investments
- Co-operative agreements





# Parking in city centres has been limited & priced heavily



and some people aren't happy...



# Some projections...

- Australians remain 'locked-in' to private vehicle motoring
- Some limited signs of hope
- Many signs of failure; relying on 'fixes' from elsewhere
- Current strategies will not realise meaningful gains in greenhouse gas reduction from urban transport

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