

# Transport trends & implications for student lifestyles

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Professor of Geography and Director of the GeoHealth Laboratory

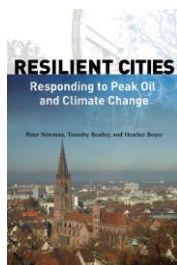
Student Urban Villages: A Teach-in Seminar  
July 5<sup>th</sup> 2014



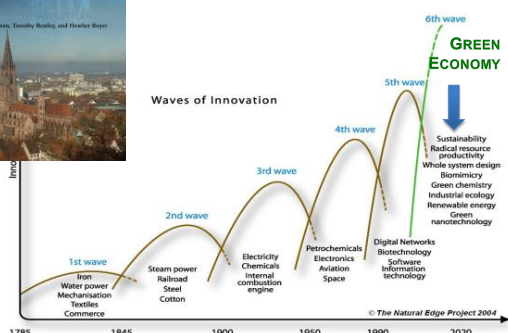
## Trends and assumptions

- Waves of development
- Climate change and peak oil
- Patterns of travel
- Signs of change
- Summary and Conclusions
- Question?

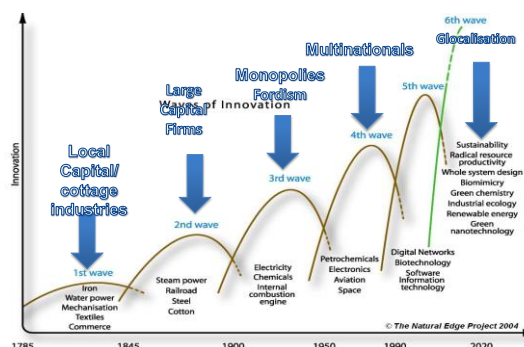
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Economic waves  
The next era of innovation...the Green Economy

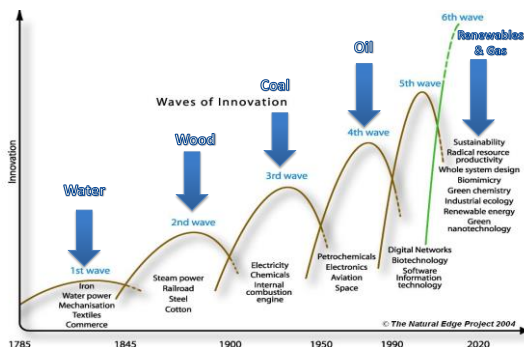


History of innovation and business models....



History of innovation and energy....

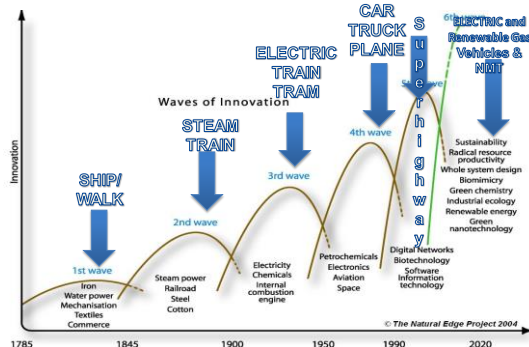
Next era of city building is REDUCED CARBON – green economy.



History of innovation and cities....

Transport shapes

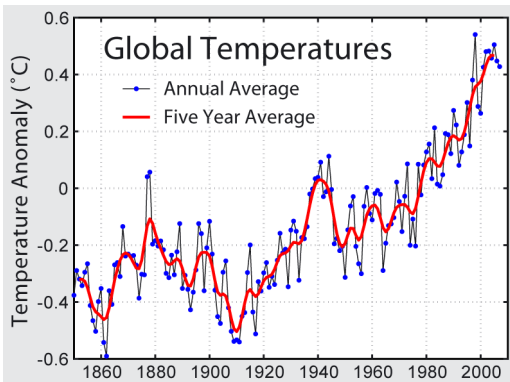
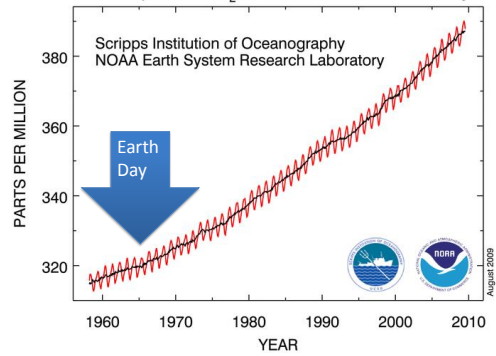
Each era changes the city form. Cities keep the best of that era and move on.  
Next era of city building ....



## CLIMATE CHANGE AND PEAK OIL

### CO<sub>2</sub> levels...the inexorable climb

Atmospheric CO<sub>2</sub> at Mauna Loa Observatory



### Arctic sea ice extent 1978-2007

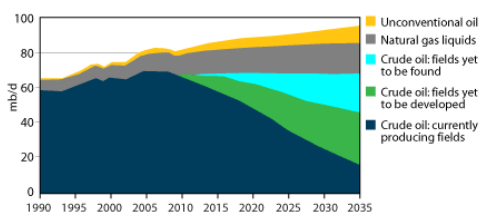
in millions of km<sup>2</sup>

(National Snow and Ice Data Center)



### Peak oil has happened...?

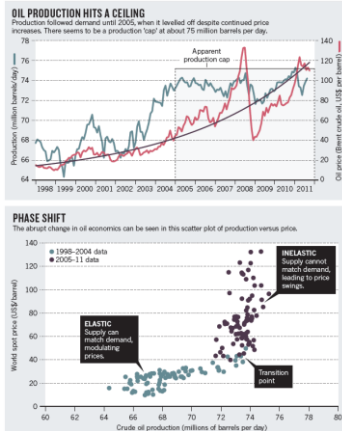
#### Admission of Peak Oil?



Source: IEA, World Energy Outlook 2010

WWW.AGORAFINANCIAL.COM

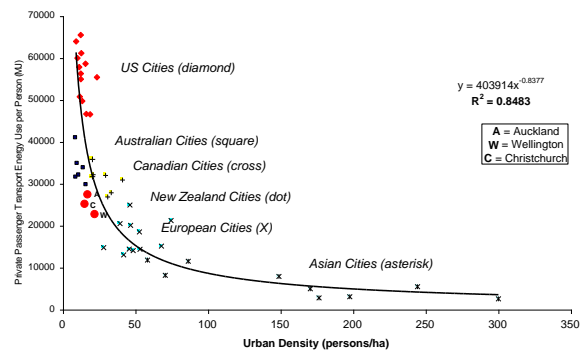
<http://www.businessinsider.com.au/welcome-peak-oil-2011-1>



Climate policy: Oil's  
tipping point has  
passed  
Nature 481, 433-435.  
26 January 2012

PATTERNS OF TRAVEL

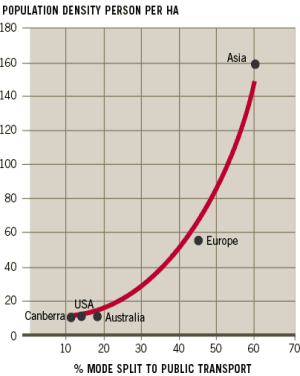
Private Transport Energy Use Decreases as Density Increases



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FIGURE 11 POPULATION DENSITY BY MODE SPLIT TO PUBLIC TRANSPORT

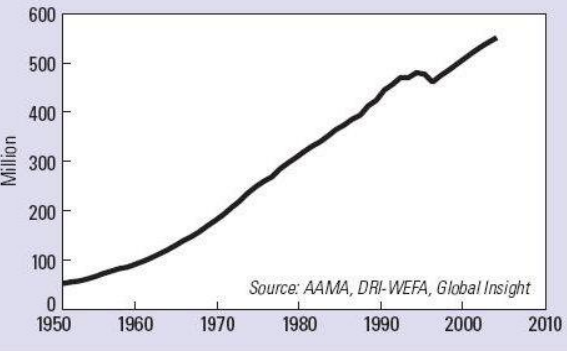
Source John Dedman Parkway Preliminary Assessment 1996



Public Transport Use Increases as Population Density Increases

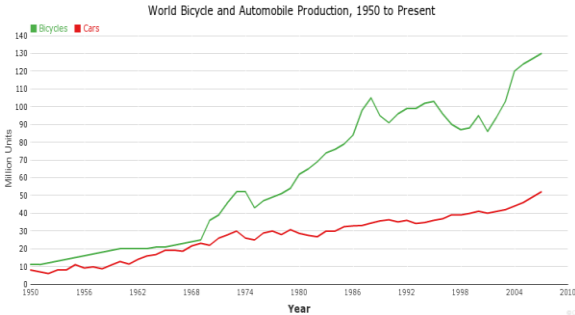
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Figure 2. World Passenger Car Fleet, 1950–2004



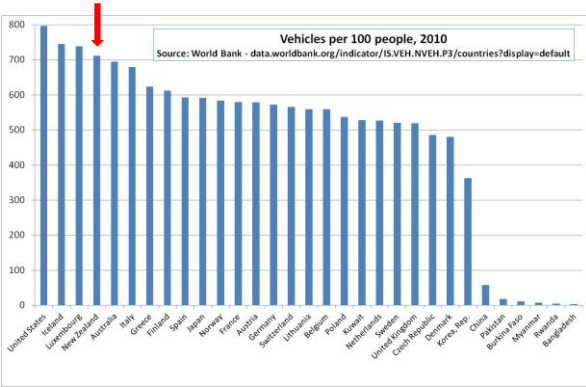
Source: Worldwatch Institute, 2006

16



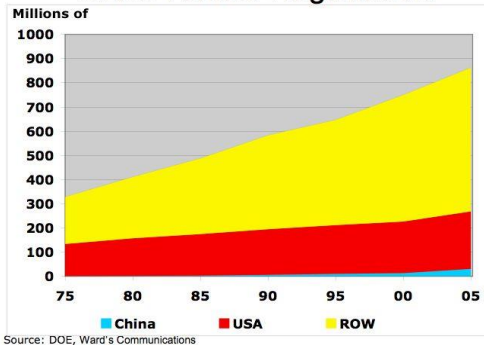
Source: Worldwatch Institute

17



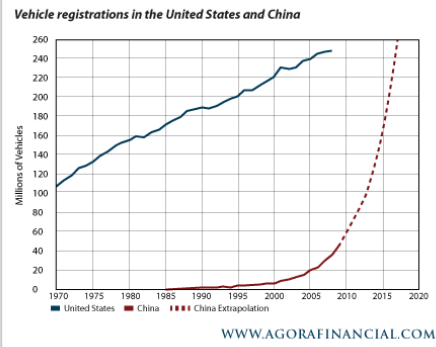
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## World Vehicle Registration



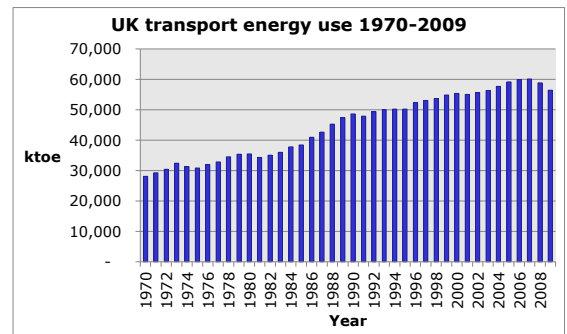
[http://greenecon.net/with-choices-like-biodiesel-and-ethanol-what%E2%80%99s-the-best-fuel-for-your-vehicle/energy\\_economics.html](http://greenecon.net/with-choices-like-biodiesel-and-ethanol-what%E2%80%99s-the-best-fuel-for-your-vehicle/energy_economics.html)

## Playing Catch-up... And Quickly



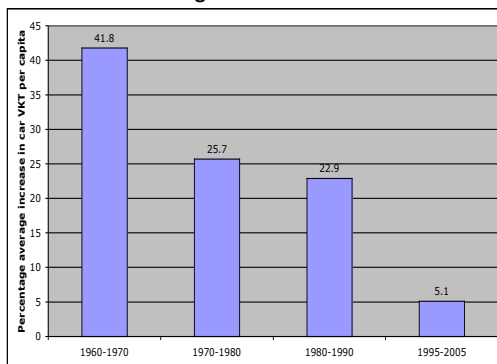
<http://howestreet.com/2012/02/the-daily-reckoning-february-28th/>

## UK Energy demand trends

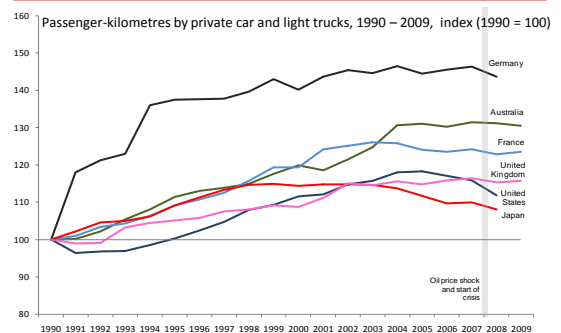


## SIGNS OF CHANGE

### Car use growth trends in developed cities from 1960 to 2005 using Global Cities Database.



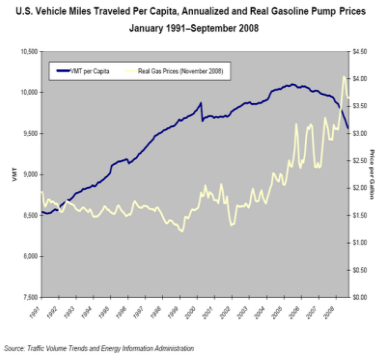
## Peak car



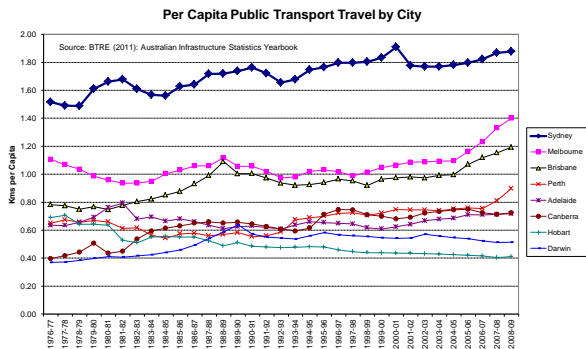
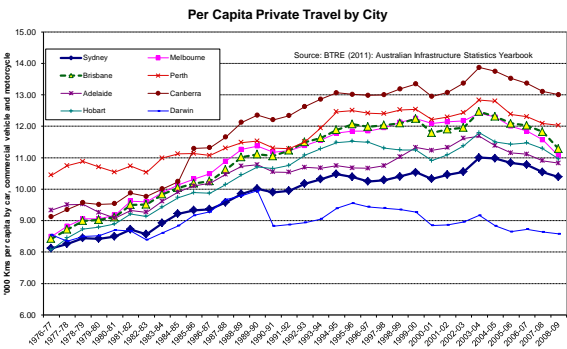
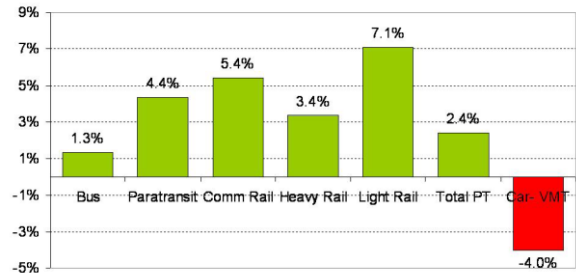
Peak Car Use - US cities...

Decline in car use – 4.3% in past year, plateau over the past 5 years.

Increasing transit use – 6.5% in past year.



Public Transit Boardings and Vehicle Miles Travelled in US: March Quarter 2008 vs March Quarter 2007



SYDNEY: Sustainable modes are growing, car use is plateauing....

Table 2: Weekday Trips in Sydney, 2006/7 to 2010/11 by mode

Trips	2006/7	2010/11	% Change
Car Driver	7,992	8062	1%
Car Passenger	3,550	3653	3%
Car (Total)	11,542	11715	1%
Train	815	920	13%
Bus	923	1007	9%
Walk Only	2,964	3153	6%
Other Modes	384	407	6%
TOTAL	16,628	17,202	3%

Peak car



The New Zealand Herald

Search keywords ...

National World Business Sport Technology Entertainment Life & Style



Brian Rudman's Opinion

Brian Rudman is a NZ Herald feature writer and columnist.

Email Brian

Brian Rudman: End of the road for the sacred car?

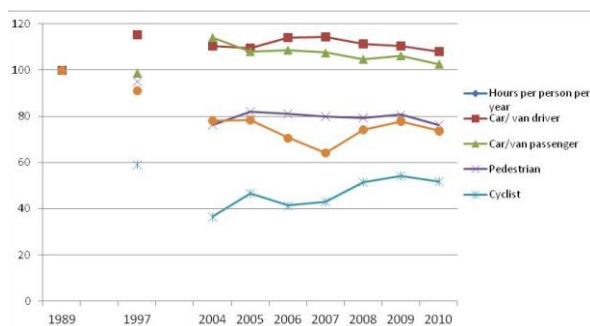
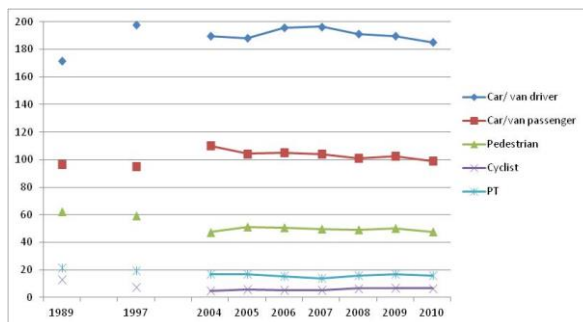
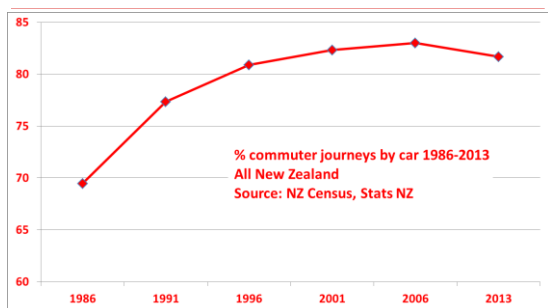
9:30 AM Friday Jun 6, 2014

89 comments

Auckland Region Brian Rudman on Auckland Motoring

As New Zealand's largest roading project roars ahead, people are using their vehicles less and their legs more

## Context



So what is happening?

Is this real or an artifact?

If real, why are people moving away from cars?

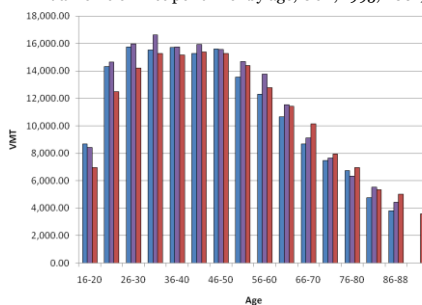
## Reasons

- Rising travel costs (fuel, parking, insurance)
- Improved alternatives
  - Public Transport
  - Bike
- Growth e-shopping/working
- Cultural shifts among young

## Peak car and age



Annual vehicle miles per driver by age, USA, 1995, 2001, 2009







Young people are connected without cars...



**'Cars are so yesterday: young and rich leave guzzlers behind'**



From 2001 to 2009, car use by 16 to 34 year olds decreased from 10,300 miles to 7900 miles per capita – a drop of 23 *per cent*.

And increased:  
**Public transit 100%**  
**Biking 122%, and**  
**Walking by 37%**

**In Central London, traffic fell by 19 per cent between 2000 and 2009.**

The Times Nov 6, 2012

'Supporters of "Peak-Car" theory see a future in which the inner cities are given over to pedestrians, cyclists and public transport, and café culture replaces car culture ....'



## Peak car and age



Generation Zero

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Not like this.

Like this.

**BUILD SEPARATED CYCLEWAYS**

**Separated Cycleways** Follow

Cycling can be fun, healthy, affordable, reduces carbon pollution and traffic congestion. More and more New Zealanders want to cycle, be it for work, sport or just to explore our great cities. But simply painting cycleways is not good enough. It feels unsafe and it's not safe.

## Conclusions

- Decline in motor vehicle use especially among youth

### **Buzz Question**

- Can we create Student Urban Villages without the need for student parking?
  - Designed for walking, bikes and PT
  - Integrated car share schemes