



The University of Sydney

FACULTY OF  
**ECONOMICS  
AND BUSINESS**



# Victoria @ 9 million

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- Social goals
- A balancing act
- Some key challenges
  - Climate change as a lens
- Institutional changes



## Social goals (to evaluate progress)

- Economic competitiveness (productivity)
- Environmental sustainability (esp. GHG emissions)
- Social sustainability
- (Liveability is a variant)



# Cities as balancing acts

- Cities are about (1) trade-offs between **external benefits and costs** and (2) **social equity**
- External benefits = agglomeration economies in production and consumption
- External costs = focus on traffic congestion and transport GHG emissions
- **Suggestion that the benefits exceed the costs up to the 5-10m range (Cervero)**
- Social equity = focus on housing

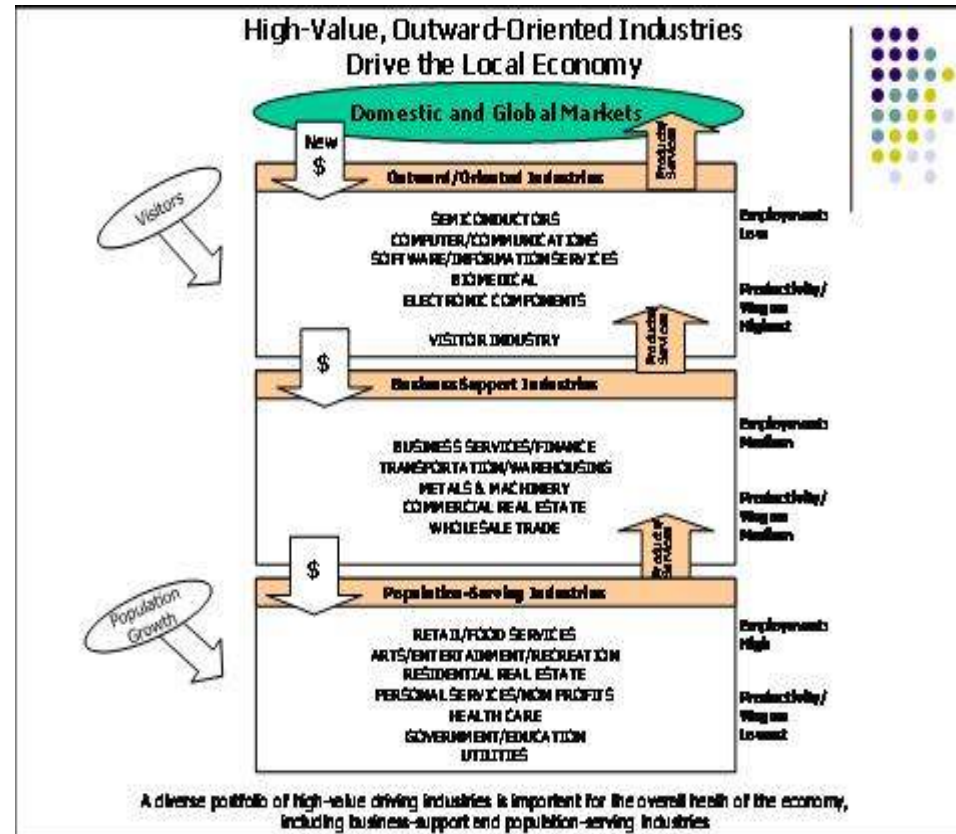


# External benefits

- Agglomeration economies in production
  - 3-8% gains with scale
  - Diminishing returns
  - Can polycentricity help?
- Economies in consumption
  - Examples include cultural activities & restaurants
  - Attractive for knowledge workers

# Knowledge sectors are Victoria's future

Source: Prof. Ed Blakely

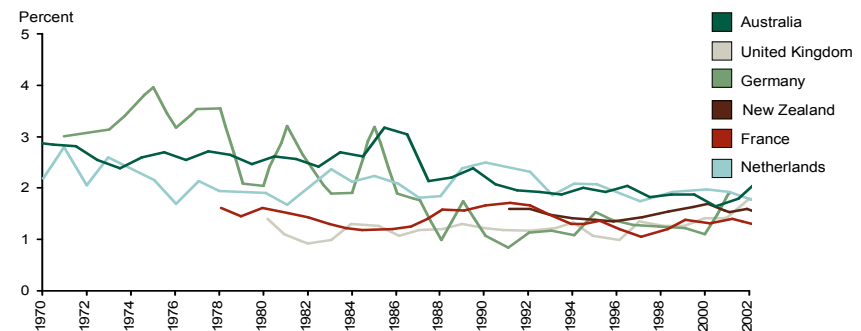


# External costs: congestion



- Our cities are the heart of our national economy
- Melbourne annual congestion cost = >\$3b, ↑ > population
- This reduces competitiveness
- **You cannot build your way out of congestion!**
- Roads and PT systems are both congested at peak
- We are poor at infrastructure planning (long term thinking)

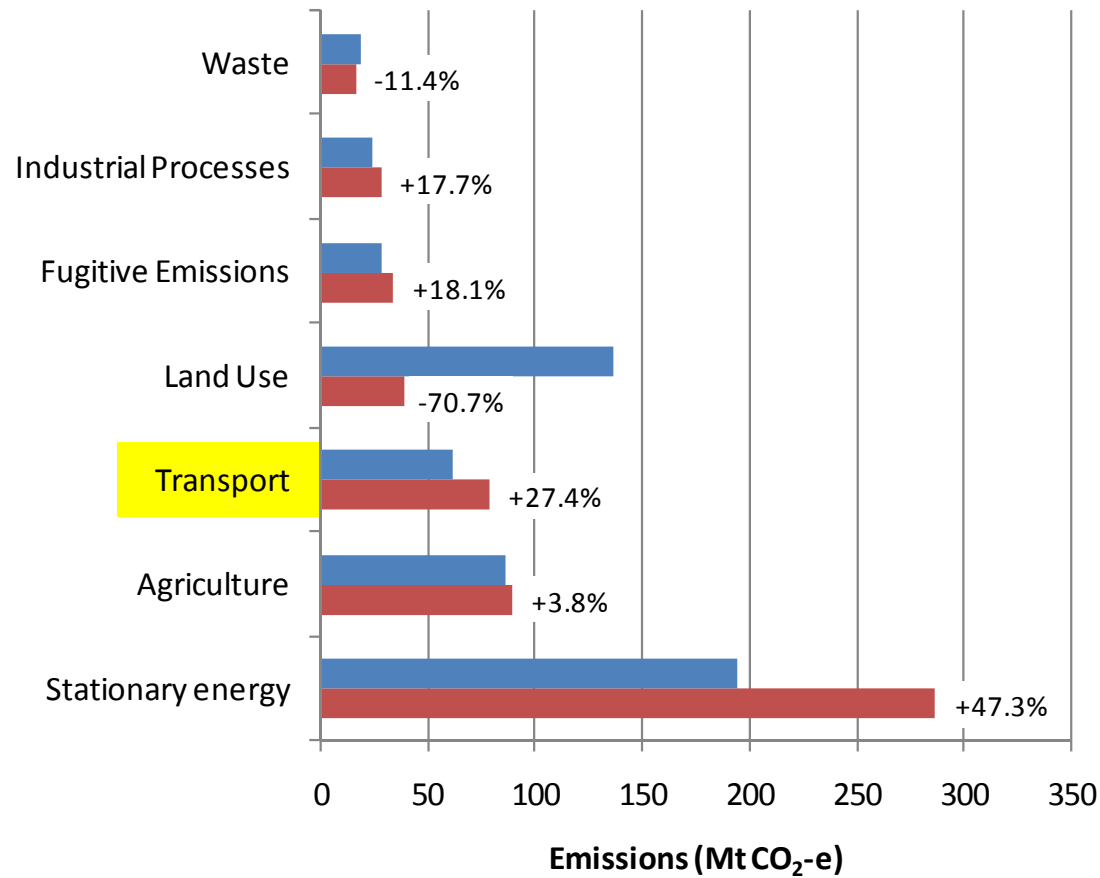
Transport and storage gross fixed capital formation as % GDP



Note: Australian data is sourced from the ABS while international data is sourced from the OECD



# External costs: greenhouse gas emissions

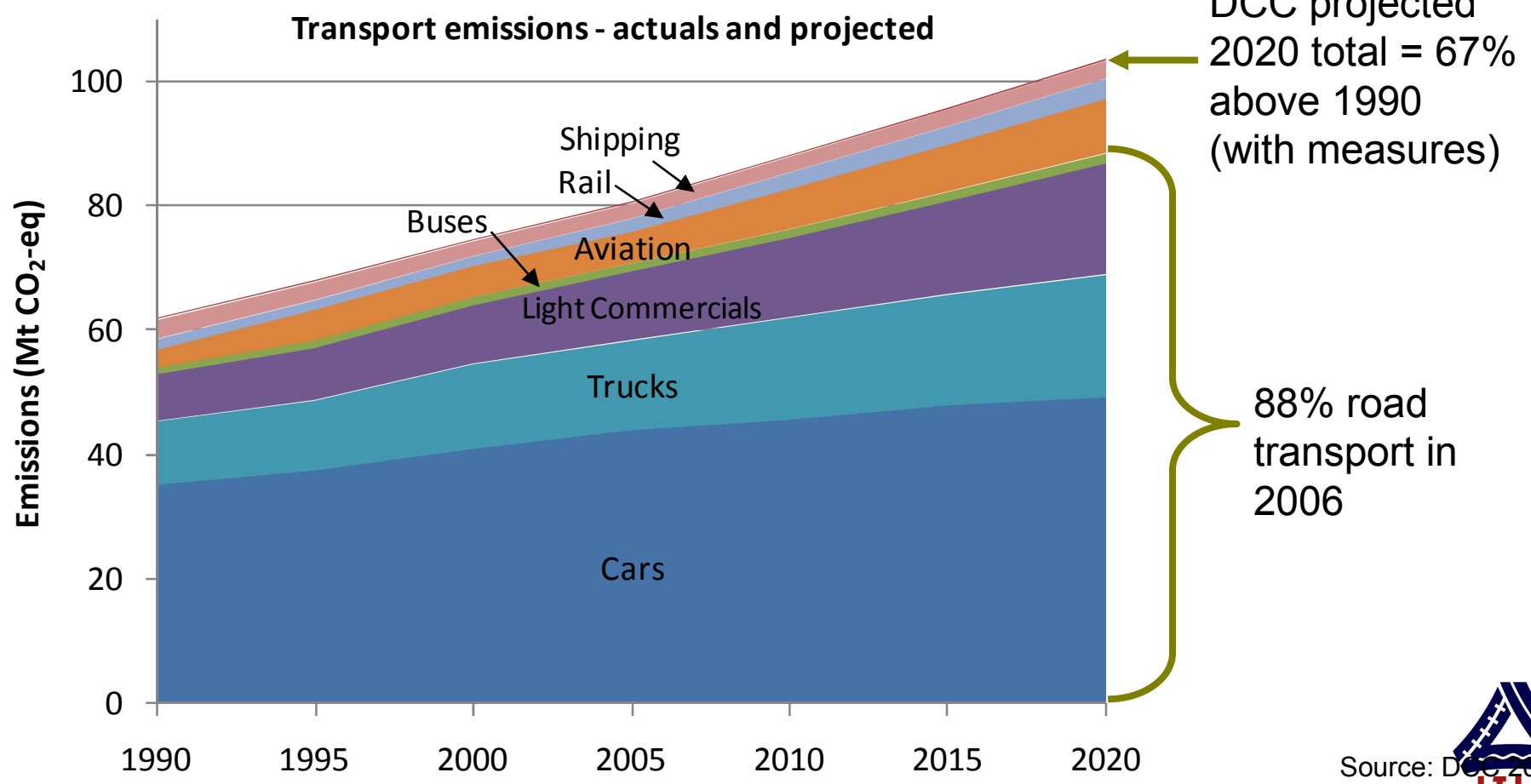


Transport is Australia's third largest source of GHG emissions

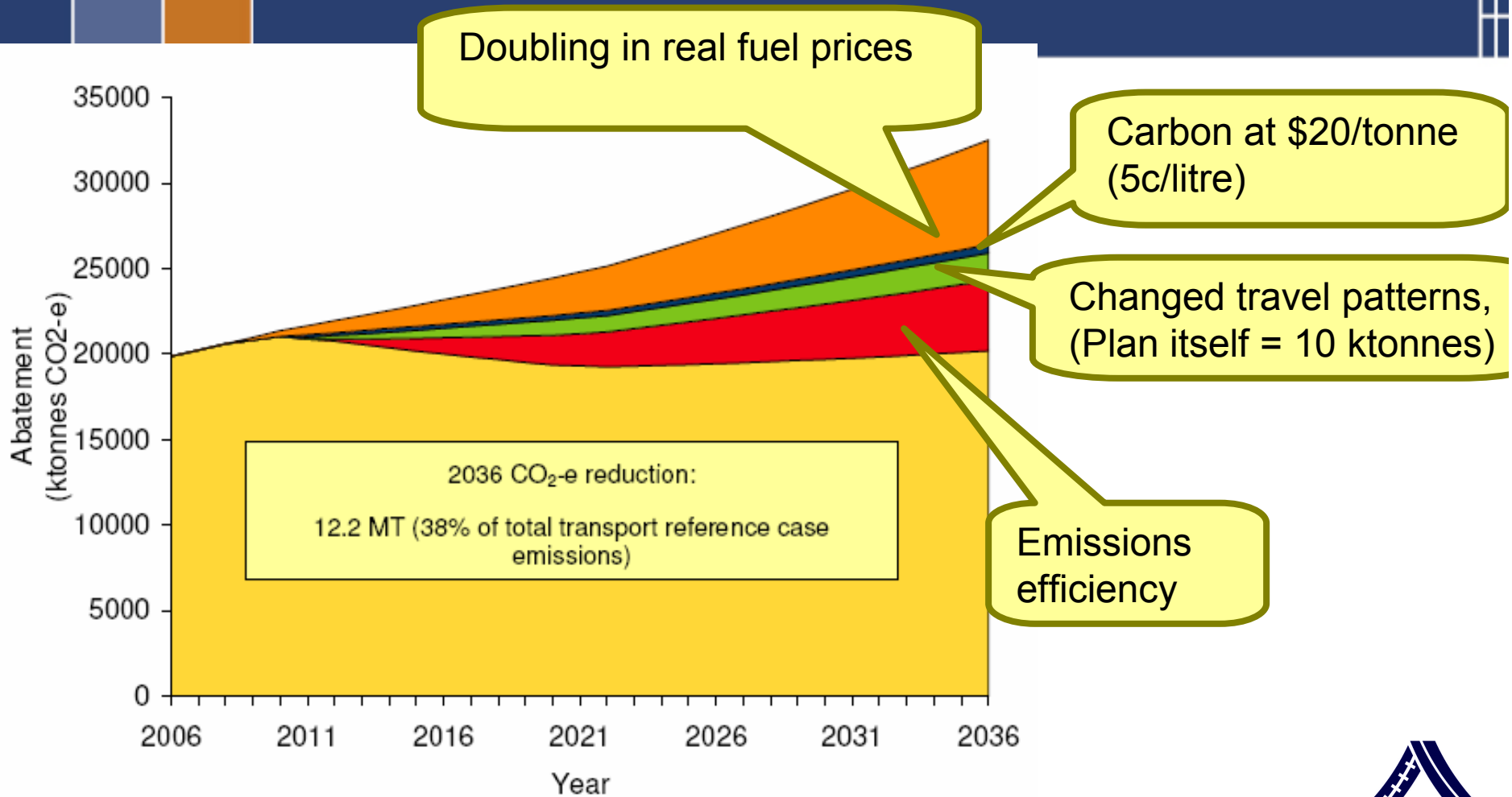
Source: AGO 2008



# Road transport is the key to Australia's transport emissions



# Victorian Transport Plan: no joy on GHG emissions



# Climate change: the adaptation approach!




## 2050 Melbourne road transport target = 80% below 2000 (from ~12Mt to 2 Mt)


Measure	Target	2007	2050 Extreme efficiency	2050 Very high efficiency	2050 High efficiency
1. Fewer/short car trips (kms)	Less urban car kms	-	10%	25%	30%
2. Shift car to walking/cycling	Active urban trans. mode share	16%	30%	40%	50%
3. Increase public transport mode share	Urban PT mode share (all trips)	9%	16%	25%	35%
4. Increase car occupancy	Urban passengers/car	1.4	1.7	2.6	2.6
5. Freight efficiency	Less fuel	-	30%	40%	60%
6. Car Emissions intensity	Less than 2007	-	90%	84%	75%
Truck emissions intensity	Less than 2007	-	86%	83%	75%
<i>Car emissions intensity</i>	<i>g/km</i>	<i>220</i>	<i>22</i>	<i>35</i>	<i>55</i>

Note: model probably underestimating emissions for 2050 – higher cuts may be required





# Transport objectives to tackle climate change (and other externalities)



## 1. Reduce demand for motorised travel

- Land use planning (density, co-location)
- Maximise walking and cycling

## 2. Mode shift to low carbon modes

- Cars > Public Transport
- Trucks > Rail

## 3. Improve vehicle utilisation

- Higher car occupancy
- More efficient freight movements

## 4. Reduce vehicle emissions intensity

- More efficient vehicles (the largest single contributor)
- Smaller vehicles
- Alternative fuels (problematic at present)
- Intelligent transport systems
- Better driving practices



# An action plan: multiple benefits

1. Significantly improve fuel efficiency (mandatory targets)
2. **Comprehensive road pricing (replacing existing charges with full externality pricing)**
3. **More compact, walking and cycling friendly urban settlements**
4. Increased investment in public transport
5. Invest in rail freight and inter-modal hubs
6. Freight efficiency incentives
7. Reallocate road space to prioritise low emission modes
8. Behaviour change programs

**IT'S JUST NOT HAPPENING!**



# Transport policy logic



## Critical policy/program problems

- Congestion
- GHG emissions
- Social exclusion
- Energy security/price
- Safety/health

## Transport pricing reform: road/PT

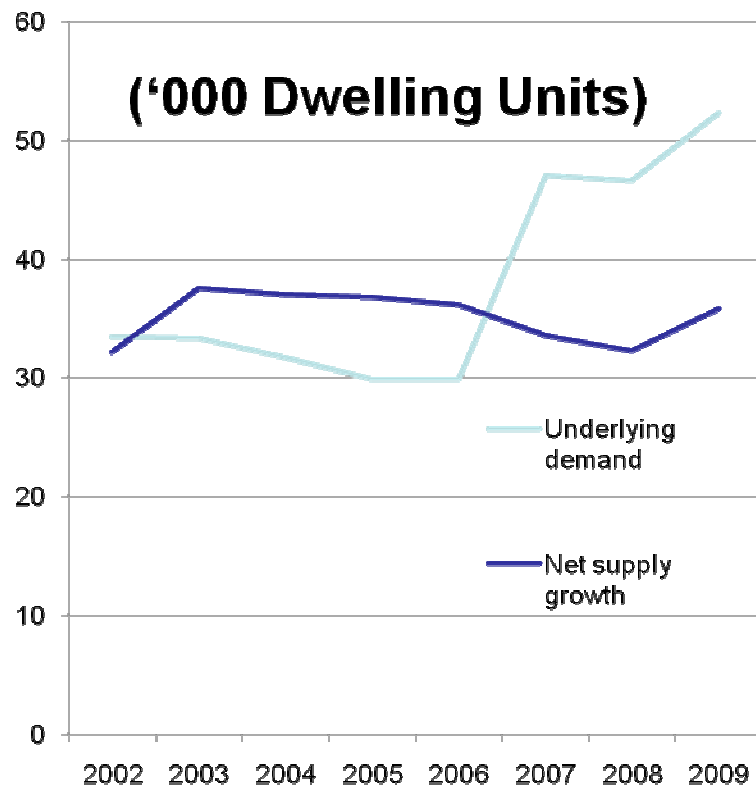
- Variable usage charge (inc. carbon price, air pollution, accidents, road damage costs)
- Tonne-kilometre (mass-distance) charging for additional road damage costs of heavy vehicles
- Congestion pricing by time and place
- Abolish existing excise and registration charges
- PT - lift fares to improve cost-recovery
- Protecting against adding to social exclusion

## New land transport policies and programs that will

- Reduce the need to travel
- Encourage travel by lower impact means
- Improve the environmental performance of travel
- Provide travel opportunities for all

# Housing issues: emerging supply shortages (Vic)

Source: National Housing Supply Council, Second State of Supply Report, 2010.



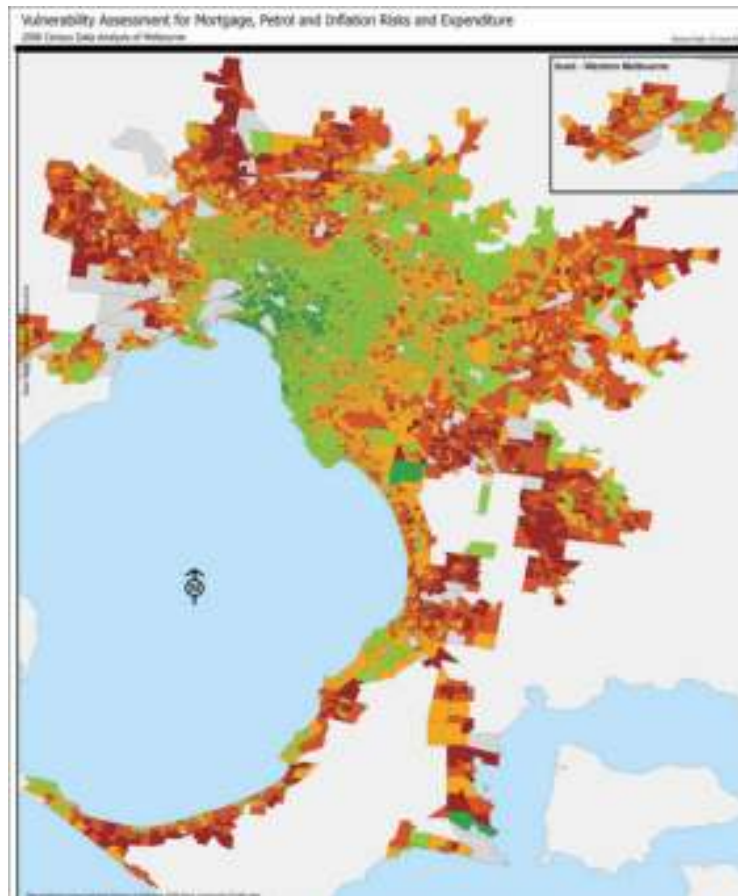
- The surge in Victorian population has seen housing supply considerably lag demand
- The current national shortfall is 178,000 dwelling units
  - Projected to be 640,000 by 2029
- Nationally we are 500,000 units short on affordable housing



# VAMPIRE: The risks on the edge

Source: Dodson and Sipe

More affordable housing on fringe = higher travel times and costs and greater risks from peak oil





# Liveability: The Economist 2010 Top 10



City	The Economist Ranking	Population*	Density (people/km2)*
Vancouver	1	1830000	1650
Melbourne	2	3162000	1500
Vienna	3	1550000	3400
Toronto	4	4367000	2650
Calgary	5	879000	1250
Helsinki	6	1000000	2100
Perth	7	1177000	1200
Adelaide	=8	1002000	1350
Auckland	=8	1050000	2000
Glasgow	10	1200000	3250



# Liveability: Mercer 2009 Rankings



City	Ranking	Population*
Vienna	1	1550000
Zurich	2	(1000000)**
Geneva	3	(>400000)**
Vancouver	=4	1830000
Auckland	=4	1050000
Dusseldorf	6	(~600000)**
Munich	7	1600000
Frankfurt	8	2260000
Bern	9	(~300000)**
Sydney	10	3502000



## Liveability points to note

- Only one city in either top 10 has 5million population
- Only three exceed 2 million
- Australian cities are amongst the lowest on density
- Does this data suggest liveability risks of exceeding 5m?
- Higher densities are consistent with high quality liveability
- All Australian cities declined in Mercer's rankings from 2004-09.



# Urban structure

- Increasing urban density + better PT are vital to cater for a growing (and ageing) population
  - Mainly low rise, mixed use, compact for lifting density
  - Most existing areas unaffected
- **Reconciling strategic directions and village/precinct aspirations is our biggest challenge**
  - The precinct as the basis of future strategic advantage (networks)
- Lack of confidence in governments to deliver what our cities need
- This needs a community debate and support for “villages/precincts”
- **We lack the means of having the necessary debate about national population size/settlement policy and the language/forums to debate density of our cities**



# Some examples of higher density



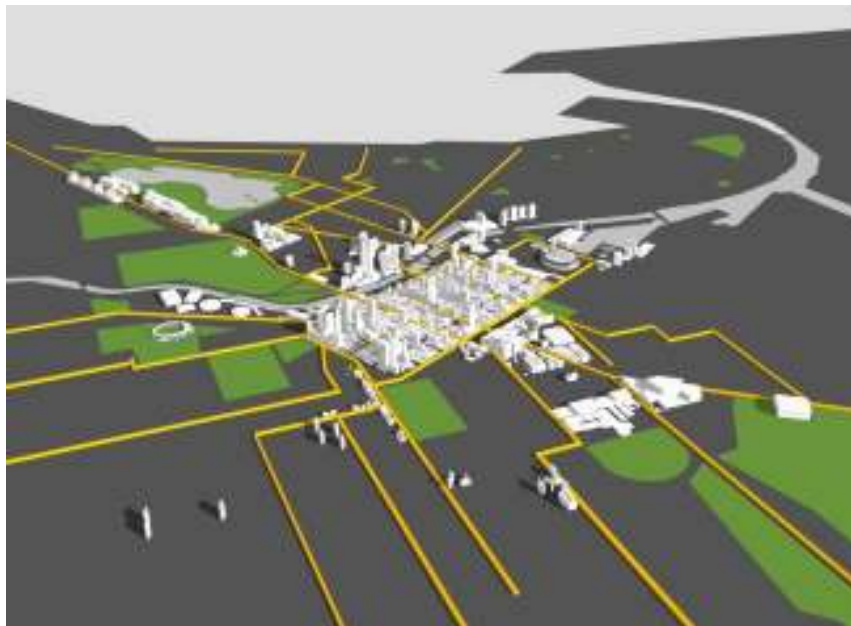
Curitiba Brazil; Melbourne; and  
Malmo Sweden.





# Rob Adams' linear Melbourne (part of the answer)

Scope to cater for 2m extra people





# Institutional reform



- Don't set up a Melbourne Planning Authority!!!
  - Lacks democratic accountability
- Support existing institutions to be more accountable and politicians/bureaucrats to think longer term
- Establish a **National Population Council** to sponsor on-going debate about population/settlement options
- A **National Centre for Cities** should gather/ disseminate information on city performance and future options
- An **Australian Centre for Urban Design and the Built Environment** should raise the bar on design thinking (same body as NCC?)





# Whose decision?

- Community engagement around future city/State population and its distribution is vital
- The State and regional groups of councils should consult widely and sign-off on targets for individual municipalities, with supporting infrastructure etc needs
- Those municipalities and their communities should individually decide where their increased numbers best fit and what is needed to deliver the best outcomes
- COAG capital city strategies and Federal infrastructure funding support should depend on these steps



# Concluding remarks

- Australia could have 27-40+ million by 2050
  - We need the information to choose
- Victoria/Melbourne faces similar growth issues
- Our liveability advantages will be at serious risk if Melbourne goes much past 5m
- Future Melbourne growth should be at significantly higher densities, with ~ 30% on fringe (low footprint)
- If Victoria ever gets to 9m we will need a Very Fast Train to attract growth away from Melbourne
- Governance arrangements are our biggest challenge in reshaping the city and state for the future

