January 2014

Submission Public Transport Inquiry

This submission relates to following website:

http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Rural_and_Regional_Affairs_and_Transport/Public_transport

Summary

US shale oil has given us a couple of additional years to get away from oil dependent infrastructure but this chance is not being used because governments still have not understood that high oil prices in the 1st decade of the 21st century triggered the financial crisis, a crisis which has impacted on budgets, thus reducing the paying capacity of governments for infrastructure. The debt problem has not been solved which means the financial crisis can go into its next, more damaging phase anytime. Moreover, US shale oil will peak – like all other fields or accumulation of fields – quite likely before 2020. So we are running out of time to **replace** car traffic by public transport and truck traffic by rail freight.

About Crude Oil Peak

The website http://crudeoilpeak.info/ uses government data to display graphs showing the evolving peaking of crude oil production. The global peaking is to be considered as a complex process which started in 2005, not just an event in the year of maximum production yet to be seen in the rear view mirror 5 years after the global peak. Peak oil has already happened in many countries (e.g. UK, Egypt, Yemen, Syria) and has affected many companies. Latest examples in Australia are refineries (Clyde, Kurnell), mining (Olympic Dam, Gove), aviation (Qantas) and car manufacturing (Holden).

Addressing the Terms of Reference

e. the decision of the Federal Government to refuse to fund public transport projects

This is the crux of the matter. Let's see whether the new Australian Prime Minister has understood peak oil. We have to go back more than 3 years to find Tony Abbott's following answer during the 2010 election campaign:

Q: Do you acknowledge that the world is facing a future of oil depletion and if so, how would you begin to prepare Australia for the major threat this poses to the way we live our lives?

TONY ABBOTT: *….So, look, I know about the concept of peak oil* [at the 2008 Sydney Writers Festival he hadn't heard of it so this is a pat on his own back]. *I don't claim to be the world's greatest expert in it, but I'm sceptical as to its value as a tool for policy makers because at the right price, we've got a lot more reserves than we currently think. With better technology, we've got a lot more reserves than we currently think.*

http://australianconservative.com/2010/08/tony-abbott-at-the-brisbane-peoples-forum/

The problem is, of course, that the "right price" is killing our economy, bit by bit. More details are here:

8/9/2013
New Australian Prime Minister is sceptical that peak oil has value for policy making
http://crudeoilpeak.info/new-australian-prime-minister-is-sceptical-that-peak-oil-has-value-for-policy-making

What's worse, the next energy white paper is unlikely to deal with peak oil as the issues paper does not mention it at all. http://ewp.industry.gov.au/

Reasons the government is ignoring the problem are:

- Not a vote winner
- Energy complacency and illiteracy in the bureaucracy
- Media not informing about oil production facts
- Public assuming there will be other sources of energy for EVs, green cars and yellow cars
- General opinion that there will be plenty of time for solutions

The only way this will change is, unfortunately, a big physical oil crisis.

a. **the need for an integrated approach across road and rail in addressing congestion in cities, including Sydney**

An example in Sydney of failing to integrate road and rail is the widening of the M2 and the North West Rail Link (NWRL) which serve the same (low density) area. But the problem goes deeper than a mere lack of integration. An expensive rail tunnel – actually an underground regional express link - with few stops is not a proper PT solution for a low density area. A light rail network would be better. But the decision to widen the M2 had been made anyway so the main function remaining for the NWRL will be to serve new residents in new residential high-rises to be built around the new rail stations (so-called TOD=transit oriented development) but NOT to replace EXISTING car traffic on major roads and the M2 in particular. Since these residential towers will have huge basement car parks it is not clear how the modal split will be improved in favour of PT. It is likely that congestion on roads will be increased, not reduced.

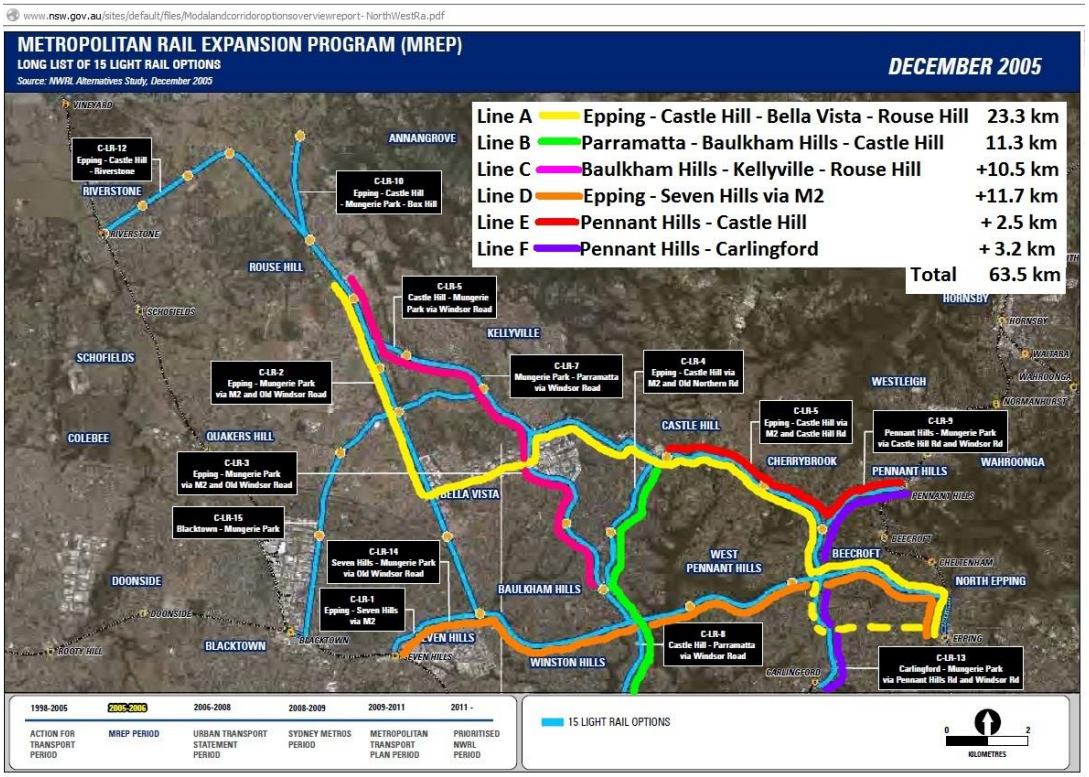
Kellyville's Samantha Drive tower. NWRL trains are proposed to be filled by residents yet to arrive – mainly from overseas 17/1/2014 http://www.dailytelegraph.com.au/

NSW SUMMARY POPULATION ACCOUNTS				
	2011-16	2016-21	2021-26	2026-31
Start-of-period population	7,211,500	7,701,000	8,223,900	8,716,400
Births	509,500	540,400	559,300	566,400
Deaths	250,600	266,400	283,900	306,000
Net interstate migration	-100,000	-100,000	-100,000	-100,000
Net overseas migration	**330,700**	**348,800**	**317,100**	**317,100**
End-of-period population	**7,701,000**	**8,223,900**	**8,716,400**	**9,193,900**
http://www.planning.nsw.gov.au/Portals/0/HousingDelivery/2013_Preliminary_NSW_Population_Projections.xls				

This table shows that population growth is mainly driven by net overseas migration.

The proper solution for the existing population is light rail on existing road corridors, thereby closing down car lanes on arterial roads.

Photo montage: Windsor Rd in Baulkham Hills with car lanes replaced by light rail



This proposal was prepared in 2005 but nothing has been implemented. (p 35)
http://www.nsw.gov.au/sites/default/files/Modalandcorridoroptionsoverviewreport-%20NorthWestRa.pdf

The reality:

Left: bus lanes shortened on M2

Right: bus ramp pulled down

16/1/2014 Unsustainable Sydney: cost of using M2 toll-way grows 4 times faster than traffic
http://crudeoilpeak.info/unsustainable-sydney-cost-of-using-m2-toll-way-grows-4-times-faster-than-traffic

12/2/2012
Car addicted Sindney destroys bus ramp near rail hub as tollway debt increases 60% at least
http://crudeoilpeak.info/car-addicted-sindney-destroys-bus-ramp-near-rail-hub-as-tollway-debt-increases-60-pct-at-least

b. **the social and environmental benefits of public transport projects compared to road infrastructure projects such as Westconnex and the East-West Link**

The benefits are well described in the proposal for Sydney's South East Light Rail project

KEY BENEFITS – *SYDNEY'S LIGHT RAIL FUTURE*

Increased capacity

- Space for 300 commuters on each 45 metre long light rail service – equivalent to five standard length buses
- Reduced crowding and congestion
- Buses freed up to service other destinations.

Faster, simpler, more reliable services

- 'Turn up and go' services every two to three minutes in peak times
- 97 per cent reliability
- Services that are on time and fast
- Real-time information at all stops and on vehicles, showing route and stop locations
- Simple to navigate
- Effective wayfinding at stops and interchanges, to help you transfer to bus, ferry or heavy rail.

Urban renewal opportunities

- Pedestrian friendly streets, open spaces and revitalised public areas
- Reduced congestion at the heart of the CBD
- A more attractive, accessible environment for visitors, businesses and workers
- Improved connections where people live, work and visit.

Improved amenity

- Integrated, electronic ticketing available at outlets or on-board
- Light rail stops maximise accessibility, with multiple doors available to alight at your stop
- Smooth, comfortable and quiet services, with air-conditioned vehicles
- Safe, clean, accessible and comfortable environment.

Key benefits of light rail (p 10)

http://www.sydneylightrail.transport.nsw.gov.au/projects/sydney-light-rail

http://www.transport.nsw.gov.au/sites/default/files/b2b/projects/Sydneys_Light_Rail_Future_December_2012.pdf

However, the cost of $ 1.6 bn for just 12 kms is too high. In Frankfurt, construction cost for an extension of light rail lines U8/9 to a new campus of the Goethe University

http://www2.uni-frankfurt.de/37226966/Reach-GRADE

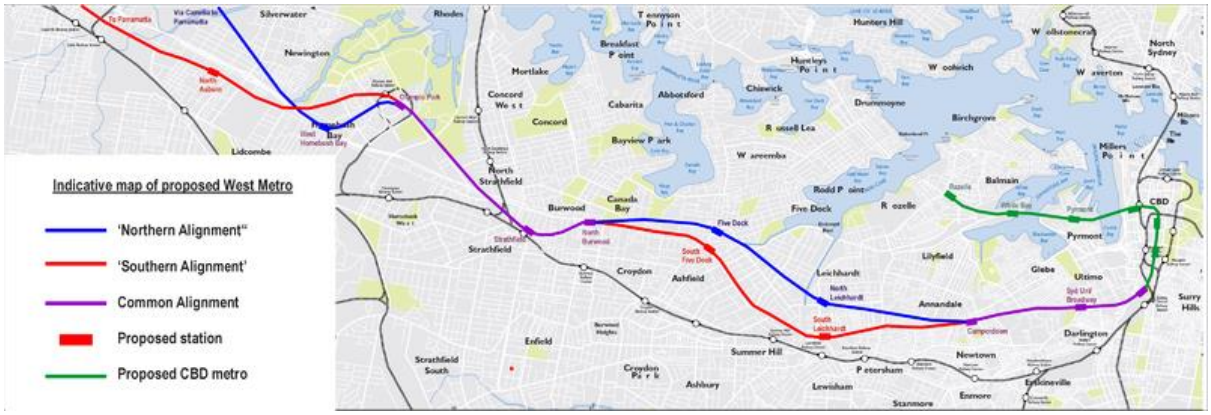
were 71 million Euro for 4 kms (2008-2010) including 2 new stops and rebuilding 2 existing stops http://www.vgf-ffm.de/fileadmin/data_archive/Downloads/Riedberg-FB_9.Korr.pdf

Sydney needs to establish a light rail authority with the staff and technical knowhow to plan, build and operate 100s of kms of light rail all over the city, employing subcontractors for what is basically simple civil works. The current strategy to use big contractors with a lot of overheads will be unaffordable. A rolling program is needed with smaller, easily manageable sections of, say, 5 kms each instead of grand projects which are announced and then abolished as happened in the past. As a result, the main beneficiaries of rail project proposals for the Westconnex corridor in Sydney – all cancelled - were consultants preparing plans for:

2002: Western Fast Rail

http://en.wikipedia.org/wiki/Western_FastRail

2008: West Metro as part of SydneyLink



http://en.wikipedia.org/wiki/West_Metro

All this has come to nothing. Now the planning is back to motorways:

12/11/2013
Sydney's Westconnex road tunnel proposal based on too many untested assumptions

Westconnex is claimed to become the “biggest infrastructure project in Australia” which must make sense at least until 2053, 30 years after its planned completion. Governments and financial institutions assume that **for the whole of this period**:

1. there are sufficient and affordable oil supplies globally and of course for Australia
2. there is no oil war in the Middle East
3. Asia, China in particular, can import the required quantities of oil to grow their economies on which Australia’s prosperity depends
4. Australian gas – which has already been locked away in long-term export contracts – can be used domestically as alternative transport fuel
5. Bushfires, floods and storms will not get worse so that we can continue burning fossil fuels like in the past

6. there is a smooth transition to renewable energies for vehicles, including electric cars and alternative fuels for trucks
7. motorists will accept tolls sufficiently high enough to pay back all toll-way debt within 20-25 years
8. the continuing financial crisis remains manageable and tollway debt can always be rolled over before it is finally paid back
9. there will be no natural gas shortages in Sydney and the Metropolitan Strategy can be implemented
10. all housing projects planned in the Westconnex catchment area, particularly along Parramatta Rd do go ahead despite Australian mortgage debt already at 80% of GDP
11. Sydney's hot summers in the West – the driver for Westconnex – will not get worse, allowing a comfortable environment for a substantial increase in population there.
12. overseas immigration will continue in periods of fuel, energy and water shortages
13. the economy grows perpetually at historic rates with increasing economic activities and traffic at Sydney airport and Port Botany

http://crudeoilpeak.info/sydneys-westconnex-road-tunnel-proposal-based-on-too-many-untested-assumptions

In Melbourne the situation is similar:

5/9/2013
Melbourne's East West Link tunnel proposal has low benefit cost ratio and high oil price risk

www.linkingmelbourne.vic.gov.au/pages/pdfs/east-west-link-stage-one--short-form-business-case.pdf

Table 1 – Economic Metrics of the East West Link Stage One

Benefit Cost Analysis Result – Including WEBs			
	Real Discount Rate (%)		
	4%	7%	10%
BCR	2.2	1.4	0.9
NPV ($m, 2013) i.e. 'Net Benefit'	$5,628M	$1,476M	-$286M
NPV / $	1.11	0.29	-0.06
IRR	9%	9%	9%

A BCR of 1.4 is classified as low by Infrastructure Australia
http://crudeoilpeak.info/melbournes-east-west-link-tunnel-proposal-has-low-benefit-cost-ratio-and-high-oil-price-risk

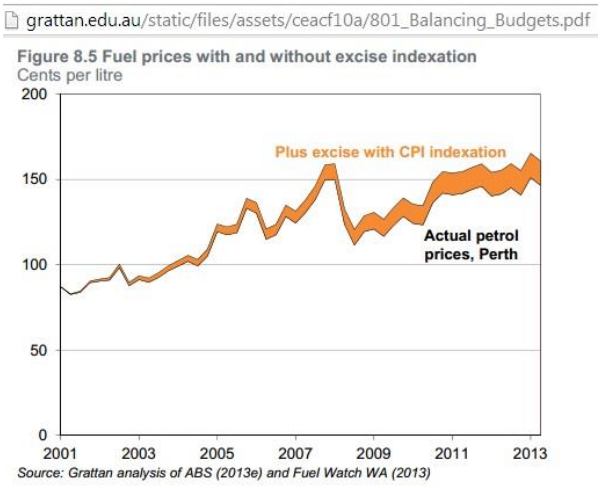
d. the relationship between public transport and building well-functioning cities

Well functioning cities the size of Australian capitals would have a hierarchy of rail networks

Appendix C: Hierarchy of Urban Rail System in Frankfurt	
Heavy rail	
	
Double deckers are used as city or regional express only; limited stops every 15 mins or so	Single deckers for all stopper services. Average distance between stations: 2.5 kms
Metro	
	
Stops every 800-1000 m, runs every 5 mins	Also above ground on dedicated track.
Light rail – surface metro	
	
8 car trains - high platforms - frequent stops	Simple stations can be built fast
Trams – low floor	
	
Sharing road way	On dedicated track; car lanes gone

f. the impact on user charges arising from requiring states to fund public transport projects

Although this is not a direct road user charge the re-introduction of CPI indexation of fuel excise could help funding PT projects.



The Grattan Institute calculated that Howard's freezing of indexing the fuel excise costed 3 billion dollars in the 2013/14 budget. (p 58)

The bottom 20% of households would be hardest hit by a re-introduction of indexation but that could be offset by tax transfers.

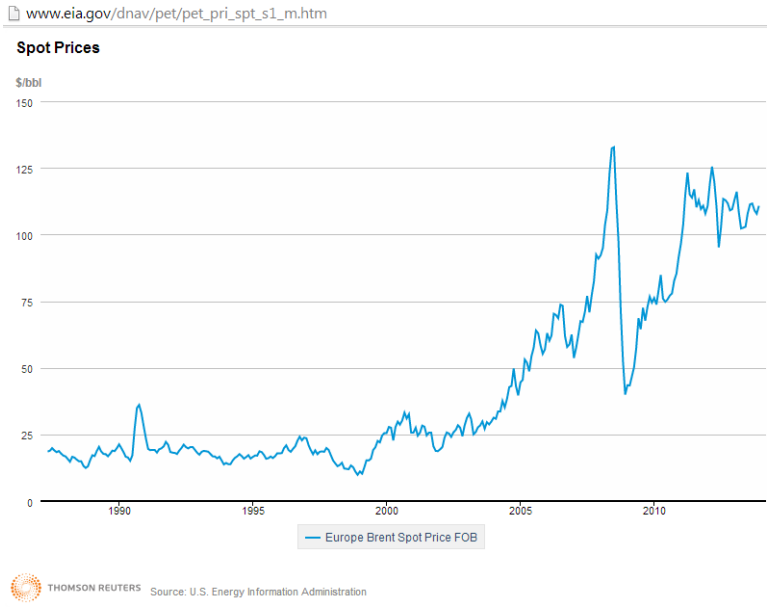
http://grattan.edu.au/static/files/assets/ceacf10a/801_Balancing_Budgets.pdf

It would be imperative that motorists are confident the extra money they pay at the bowser is really spent on PT, cent by cent.

The role of public transport in delivering productivity outcomes

The main question the government needs to be asked:

Which projects would neutralize the economic impact of the 4-fold increase in oil prices we have seen since 2003?



http://www.eia.gov/dnav/pet/pet_pri_spt_s1_m.htm

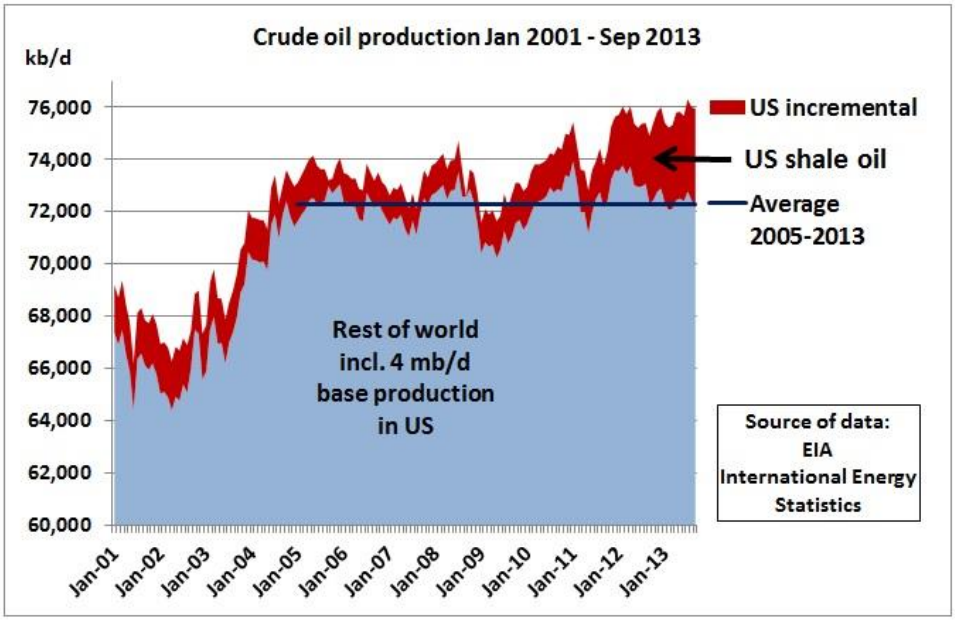
The answer would be

(1) for cars: either car pooling or public transport
(2) for trucks: electric rail freight and cargo trams

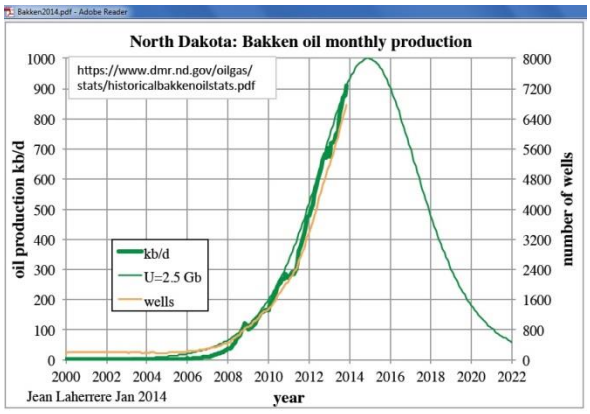
Central coast express: standing only

If in an oil crunch situation only 10% of motorists took trains then - due to the high modal share of private passenger cars – the existing rail system would collapse every day.

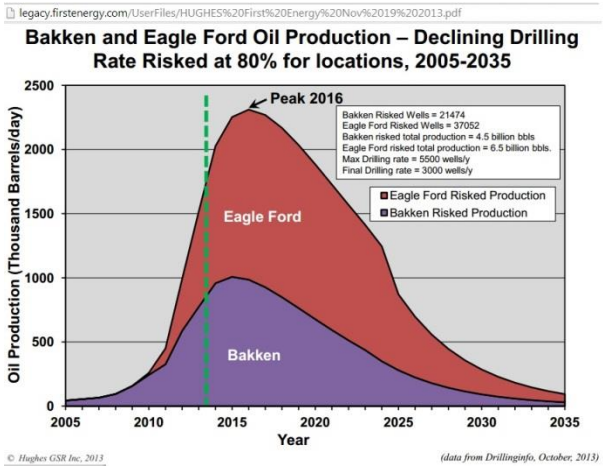
Prepared by Matt Mushalik mushalik@tpg.com.au



The US shale oil sits like the icing on a flat pan cake (rest-of-world crude production in 2013 back to 2005 levels). When US shale oil peaks, there will be some surprises.



<< French oil geologist Jean Laherrere calculates a peak of Bakken shale oil by end 2014
http://aspofrance.viabloga.com/files/JL_Bakken2014.pdf



<< David Hughes estimates a combined Bakken and Eagle Ford peak around 2016

http://legacy.firstenergy.com/UserFiles/HUGHES%20First%20Energy%20Nov%2019%202013.pdf

The Hirsch report http://en.wikipedia.org/wiki/Hirsch_report recommended that preparations for peak oil be started 20 years before the peak. Are new high-ways a preparation for peak oil?

392659.pdf - Adobe Reader

GROUP DRAWN DEBT AT 30 JUNE 2013

transurban

TRANSURBAN CORPORATE DEBT	AUD ($ MILLION)	USD ($ MILLION)
Working capital lines[1]	–	266
Term bank debt	600	–
US Private Placements	1,336	162
Domestic AUD bonds	1,050	–
Canadian MTN (CAD Notes)	233	–
TOTAL	3,219	428

NON RECOURSE (AUD $ MILLION)	ASSET DEBT	OWNERSHIP	PROPORTIONAL
Lane Cove Tunnel	260	100.0%	260
M1 – Eastern Distributor	520	75.1%	391
Hills M2 – Hills Motorway[2]	733	100.0%	733
M5 Interlinks Roads[3]	587	50.0%	294
Westlink M7	1,260	50.0%	630
TOTAL	3,360		2,308

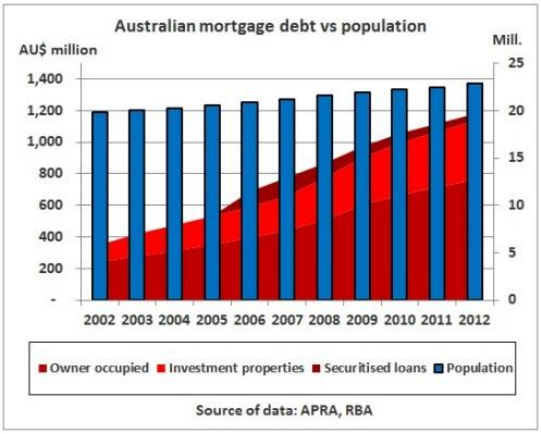
NON RECOURSE (US $ MILLION)	ASSET DEBT	OWNERSHIP	PROPORTIONAL
Pocahontas 895 – Senior	306	75.0%	229
Pocahontas 895 – TIFIA[4]	189	75.0%	142
95 Express Lanes – Senior	242	67.5%	163
95 Express Lanes – TIFIA[5]	–	67.5%	–
495 Express Lanes – Senior	589	67.5%	398
495 Express Lanes – TIFIA[6]	658	67.5%	444
TOTAL	1,984		1,376

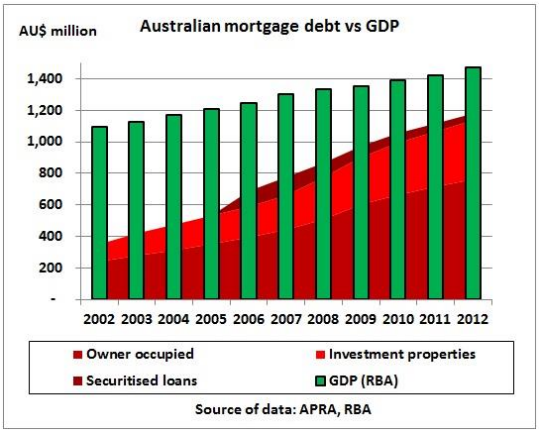
Transurban's debt. In the next credit crunch the problem of rolling over debt will get worse.

More details are in this article:

12/2/2013 No debt repayment plan for Sydney's toll-ways
http://crudeoilpeak.info/no-debt-repayment-plan-for-sydney%e2%80%99s-toll-ways

14/8/2012 Transurban does not pay back its debt
http://crudeoilpeak.info/transurban-does-not-pay-back-its-debt





Mortgage debt grows faster than both population and GDP. This cannot continue and will have an impact on infrastructure planning in capital cities.

More details are here:

Submission on Metropolitan Strategy
http://crudeoilpeak.info/wp-content/uploads/2013/06/Submission_Draft_MetroStrategy_June_2013_by_Matt_Mushalik.pdf