

## Submission Transport Masterplan



View from the train: M2 widening instead of North West Rail Link. The bus ramp is gone.

### **Methodology and Sequencing**

The methodology is very simple: assume a linear world with unconstrained economic and population growth along past trends. The plan starts with (unquantified) objectives, continues with project proposals and then discovers three quarters into the report that sustainable sources of energies will have to be found: the sequencing of chapters is not logical. A system dynamics approach incorporating limited oil and energy supplies, increasing debt, geopolitics in the Middle East and climate tipping points is unknown to the authors of this plan.

### **Objectives**

All objectives in chapter 1 lack quantification and timelines. Therefore it will be impossible to measure the performance of plan implementation. Chapter 8.3.4 mentions a target to reduce CO2 emissions by 5% by 2020 but nowhere in the plan are there any calculations if or to which extent this target can be achieved by the portfolio of projects proposed.

### **Proposals**

The plan proposes a business-as-usual set of motorways (M5 East, M4 Extension, F3-M2 link) and inter-city highways with a couple of rail projects to service greenfield developments in Sydney's West and to improve access to the CBD, including new projects which add new traffic. Otherwise it's all buses. More coal trains also feature prominently.

### **Consistency**

Given the deficiencies in the definition of objectives and the mixed bag of contradictory proposals there is no particular direction of this plan. Each chapter seems to have been written by a separate team, with a lot of duplication and repetition but without overall coordination at report level.

### **Omissions**

Main rail line duplication and electrification, night-trains replacing domestic flights, replacing car traffic by public transport, rural branch line rehabilitation, decentralisation of urban development, transition from oil to alternative fuels (CNG and LNG) and getting away from fossil fuels in general.

### **Outcome**

If this plan is implemented expect this to increase:

- Fuel consumption and therefore oil vulnerability at Metropolitan and State level
- CO2 emissions in NSW
- Future compensation claims resulting from coal exports
- Motorway debt and losses of super annuation funds
- Waste of budget allocations
- Bankruptcies of companies with high fuel cost

### **Assessment**

The plan will fail as many of its predecessors.

### **Recommendation**

The plan must first identify all available, sustainable sources of (primary) energy as mentioned in chapter 8.3.4. On this basis a set of quantifiable objectives must be defined. In a 3<sup>rd</sup> step transport projects must be designed to achieve the targets in a given time. The ratio of funding road/rail has to be commensurate with the objectives.

## Prologue

Budget Estimate hearings 16/10/2012

www.aph.gov.au/Parliamentary\_Business/Senate\_Estimates/Estimates\_daily\_programs

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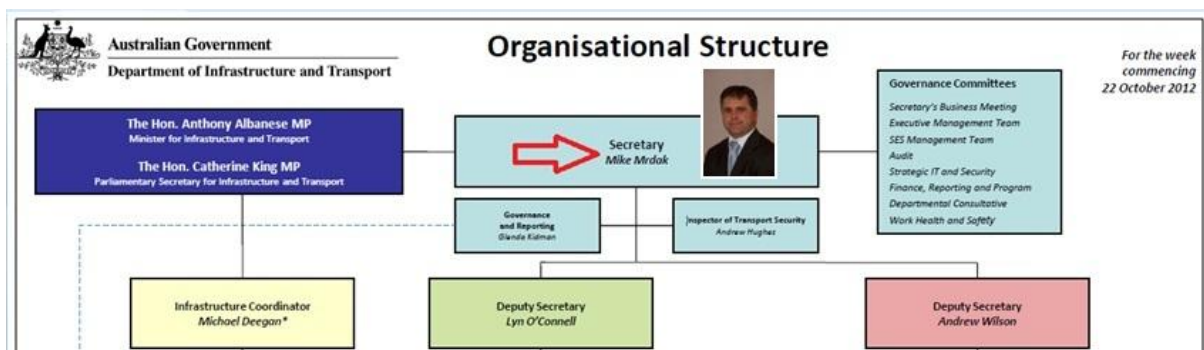
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Estimates daily programs

Rural and Regional Affairs and Transport (PDF 32KB)  
Agriculture, Fisheries and Forestry: Monday, 15 October 2012  
**Infrastructure and Transport: Tuesday, 16 October 2012**  
Regional Australia, Local Government, Arts and Sport: Tuesday, 16 October 2012

Infrastructure Australia Secretary

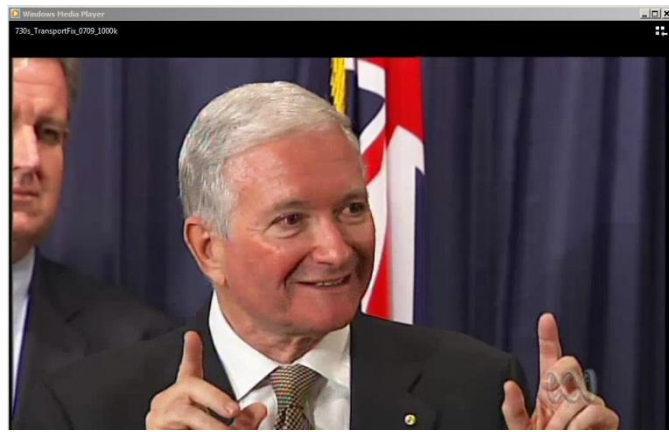
<http://www.infrastructure.gov.au/departments/about/secretary.aspx>



<https://www.infrastructure.gov.au/departments/about/files/OrganisationChart23Oct2012.pdf>

Mr Mrdak: ....The reality is that if we are seeing more traffic on motorways, isn't that a good outcome, in the sense that we are seeing more activity, more development, more economic activity?

PDF <http://tinyurl.com/9n38ygp>



Up with those traffic estimates for road tunnels:  
Former Premier Nick Greiner and now INSW boss

"What happened is you got a substantial gaming effect where between the banks, the engineering consultants, the traffic consultants, the construction companies, everyone tried to get their patronage estimates up and get the banks to fund these estimates, because that's how you won , and that's how you could pay whoever the State treasurer was lot's of money upfront. So, yeah, it is the case that Bilfinger Berger was in that project and lost money on it. I don't.. that's actually a qualification, dare I say it, for my involvement in this position"

<http://www.abc.net.au/news/2012-09-07/user-pays-fix-to-the-provide-transport-billions/4249622?section=nsw>

Here is the game:



11/11/2010 Tollopoly on Sydney's orbital

<http://crudeoilpeak.info/tollopoly-on-sydney%e2%80%99s-orbital>



## Introduction

I have written numerous submissions on transport all of which were ignored.

20/5/2012 Submission on NWRL

<http://crudeoilpeak.info/wp-content/uploads/2011/02/Submission-on-NWRL.pdf>

30/4/2012

NSW Transport Master Plan debates conventional peak oil 2006, assumes continuing oil age

<http://crudeoilpeak.info/nsw-transport-master-plan-debates-conventional-oil-peak-2006-assumes-continuing-oil-age>

8/3/2010 Submission to the Inquiry of the Sydney Morning Herald

<http://www.crudeoilpeak.com/?p=1231>

7/10/2009 Too late for Sydney Metro Tunnels

<http://crudeoilpeak.info/too-late-for-metro-tunnels>

450 million dollars alone were wasted on the Mini metro to Rozelle. I should have charged a consultancy fee of 1 per mille for every dollar saved. The North West Rail Link tunnel is the next candidate.

Sydney possibly holds a record of writing transport plans which have never been started, let alone implemented. A prominent feature of these plans is their attractive names like “Action for Transport”, “Fast Rail” “Rail Expansion Programme”, assorted “West-, North West and CBD Metros”, “Transport Blueprint” and “Metropolitan Transport Plan”. A good summary is here: [http://en.wikipedia.org/wiki/Proposed\\_railways\\_in\\_Sydney](http://en.wikipedia.org/wiki/Proposed_railways_in_Sydney)

The root cause for this continuing failure is the city’s car-addiction, deeply entrenched in the (mostly cynical) electorate, the corporate sector, the bureaucracy and the political system.

And if there are good intentions to get away from cars, there is always a powerful road lobby which pushes through priorities for roads and motorways.

Among those who know about peak oil and global warming there is also an (untested) assumption that these problems will not really be urgent in their own lifetime.

The prologue demonstrates the mindset of decision makers.

So here comes yet another submission which in all likelihood will be ignored. It will be moved to the “I told you so” menu of my website at the appropriate time.

## 1.1 Our transport objectives

Quote: “providing integrated services”

Comment: The government still has not managed to introduce an integrated ticketing system for single and return tickets, e.g. for metrobus and trains. A proper objective would be:

“Define zonal catchments for rail feeder buses around each train station and introduce rail/bus tickets in year 20yy at the latest.”

Quote: Support economic growth and productivity

Comment: Refer to the above quote by Infrastructure Australia where more traffic on motorways is seen as good for the economy. The proper productivity objective would be: “Reduce the ratio of traffic (measured in person kms pa and freight km pa) to economic output of NSW/Sydney Metropolitan area)

Quote: Support regional development

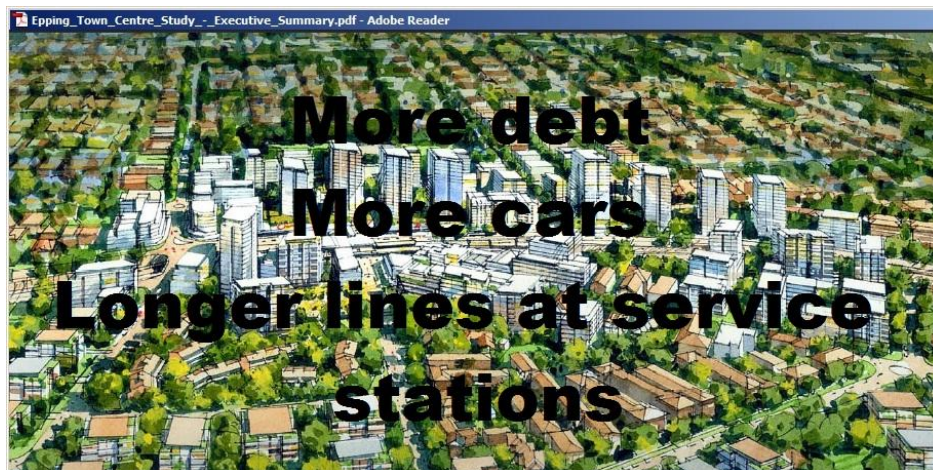
Comment: Where is a proper decentralization strategy? An objective would be: “accommodate x% of population growth in regional centres”

Quote: Improve sustainability...easing congestion ....becoming more energy efficient

Comment: Sustainability needs to be defined. Some interpret it to mean to sustain endless economic and other growth. A higher energy efficiency (of subsystems) is not sufficient as it may be cancelled out by population growth. Proper objectives would include: “Reduce oil consumption by x% by year 20yy” and “Reduce CO2 emissions by x% by year 20yy”

Quote: Strengthen transport planning processes ....by improving integrated transport planning processes, including with land use planning,

Comment: This can only mean to build more highrises around train stations



This so-called transit oriented development (TOD) proposed for Epping will still have large basement car parks with 1 car space per dwelling. TOD is mis-used by developers as an argument for their projects.

## Summary and conclusion on objectives:

The objectives are very broad and not quantified. Almost any project, including motorways, would fit into this loosely formulated objectives list. Because of these deficiencies future plan implementation and performance cannot be measured. It is recommended to re-write these objectives and introduce objectively quantifiable indicators (OVIs) as defined in the Logical Framework Approach [http://en.wikipedia.org/wiki/Logical\\_framework\\_approach](http://en.wikipedia.org/wiki/Logical_framework_approach)

This is a pre-condition for a successful plan.

Moreover, following objectives have been omitted:

- Reduce per capita debt of infrastructure by x% by 20yy
- Replace existing car traffic by public transport commensurate with objectives to reduce total oil consumption and CO2 emissions
- Move freight by rail to warehouses at x% by 20yy
- Replace x% of domestic flights by night-trains by 20yy

### 1.3 Transport and the economy

Quote: NSW enjoys a large and diverse economy. NSW contributes one third of Australia's Gross Domestic Product (GDP), with Sydney alone accounting for one quarter of the nation's economic activity.

Comment: The question here is: what are Sydney's exports to the outside world as percentage of GSP? It seems as if Sydney is mainly busy with itself. Calculating this would show how efficient or inefficient Sydney is as a whole and compared to other cities.

Quote: Sectors such as finance, insurance, retail, health, government, education, biotechnology, engineering, design and transport itself are all part of the services sector and are increasingly the way in which we earn our living.

Comment: The tertiary sector depends on the primary and secondary sector. We see the end of the mining boom and the loss of manufacturing. That will impact on the services sector. Sydney must learn to deliver tangible products instead of being mainly engaged in the swap of property titles. The tourism industry will go backwards with declining oil production.

### 1.4 Transport and our cities and centres

Quote: Sydney holds the unique position of being Australia's only global city.

Comment: Read Jeff Rubin's book "Why your world is about to get a whole lot smaller"  
ISBN 978-0-7535-1962-2

Quote: In the next 20 years, Sydney will have a transport network that provides quick and convenient public transport connections across the city and frequent links to other cities.

Comment: That is wishful thinking. Frankfurt, 4 times smaller than Sydney, started to build a metro in the 1960s (actually a hybrid metro in the CBD, running as light rail in the outlying

suburbs). The plan was too ambitious and still has not been fully implemented even after 50 years, despite political support. In 1961, Sydney closed its last tram line and lost its administrative capacity to operate surface rail on road corridors. It is virtually impossible that Sydney, a car addicted city, can do much before peak oil and global warming become a daily physical problem. Read also:

5/2/2012 Australian peak oil report ignored for urgent Sydney Canberra rail upgrade (Peak Leaks Part 2)

<http://crudeoilpeak.info/australian-peak-oil-report-ignored-for-urgent-sydney-canberra-rail-upgrade-peaky-leaks-part2>

Quote: To realise this vision, Sydney will maintain well-connected urban centres.

Comment: Well-connected? By car perhaps, but peak oil means the end of our car culture.



We see the signs again in Europe, where Ford sales have dropped 14.9%.

If only 20% of motorists were forced by circumstances to take public transport, that PT system would collapse. I predict that Sydney will disintegrate into whatever subcentres can survive, connected by whatever rail system physically exists at that time.

Quote: The city will become more 'liveable' by improving the design of buildings

Comment: Not under the current BASIX system. We witness the gentrification of leafy suburbs where old, energy frugal houses are replaced by luxurious double McMansions with black roofs, black drive ways, without solar water heaters or PV panels, fully airconditioned, affordable only by foreign investors from Asia.



Before: leafy old charmer



After: new heat island

Quote: The Sydney CBD and the Global Economic Corridor will have stronger transport connections to each other, to the regional cities of Parramatta....

Comment: Yes, care of a new motorway baptised "WestConnex", already "approved" by the NSW government: <http://www.infrastructure.nsw.gov.au/state-infrastructure-strategy/video-summary-of-westconnex.aspx>



NSW govt to pump \$1.8bn into WestConnex

3/10/2012

Mr O'Farrell said the state government would pump \$1.8 billion into the project that Infrastructure NSW (INSW) identified as the main priority in a report released on Wednesday.

<http://news.smh.com.au/breaking-news-national/nsw-govt-to-pump-18bn-into-westconnex-20121003-26z8p.html>

Clear beyond doubt where the priorities are. Here is the WasteConnex video from ecotransit:



[http://www.youtube.com/watch?v=E0DYZOWRO\\_0](http://www.youtube.com/watch?v=E0DYZOWRO_0)

## 1.6 Transport and freight

Quote: A well-planned freight and logistics network is particularly important to regional NSW.

Comment: Read my report on a train trip to Armidale:



Armidale: grass over tracks and the end of the rail world

28/5/2012

NSW regional railway clock stopped at midnight but Hunter coal trains are rolling

<http://crudeoilpeak.info/nsw-regional-railway-clock-stopped-at-midnight-but-hunter-coal-trains-are-rolling>

Quote: Australia's freight task is expected to double between now and 2030

Comment: where is the analysis for this daring assertion?

Quote The Port of Newcastle with T3 and T4 will have capacity for throughput of 300 million tonnes plus per annum (expected at the end of 2016) and capacity in Port Kembla Coal Terminal will reach over 20 million tonnes per annum by 2013-14.

Comment: Very interesting. At the time the Masterplan was published, T4 was not yet approved. More importantly:

8/3/2010

NASA climatologist James Hansen at Sydney Uni: "Australia doesn't agree now that they got to stop their coal, but they are going to agree. I can guarantee you that within a decade or so because the climate change will become so strongly apparent that's going to become imperative"

20 seconds clip:

<http://www.youtube.com/watch?v=qMD2sd0lPeg>

Full lecture:

<http://www.youtube.com/watch?v=5E5EdbiB4HU>

From here:

[http://www.usyd.edu.au/sydney\\_ideas/lectures/2010/professor\\_james\\_hansen.shtml](http://www.usyd.edu.au/sydney_ideas/lectures/2010/professor_james_hansen.shtml)

The damage to the NSW economy will be astronomical when compensation claims roll in:

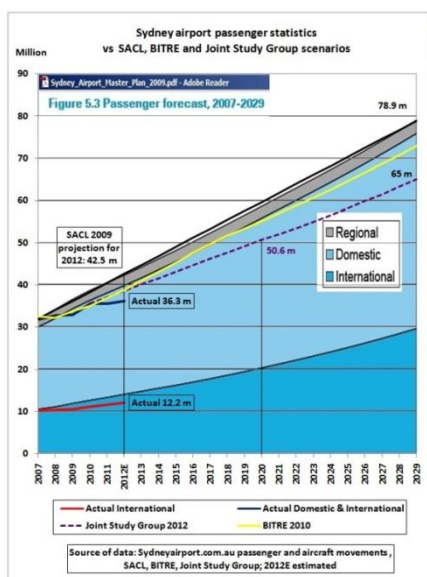


Bangladesh believes it's found a way to hold the industrialised world accountable for damages caused by climate change.

They are hoping the UN General Assembly will support a motion to take countries who fail to reduce their emissions."

<http://www.aljazeera.com/video/asia/2012/09/2012924121149546764.html>

Quote: By 2035, Sydney Airport will be dealing with around 77 million passengers and more than 1.5 million tonnes of cargo each year.



Comment: This information is from the SACL 2009 Masterplan which is outdated. Read my article:

7/10/2012

Peak oil lite: Sydney Airport passenger traffic 15% below 2009 forecast (part 1)

<http://crudeoilpeak.info/peak-oil-lite-sydney-airport-passenger-traffic-15-pct-below-2009-forecast-part-1>

The latest news is here:

21/10/2012

SYDNEY AIRPORT has quietly dropped a key part of its planned \$1 billion-plus revamp because it cannot convince Virgin Australia to shift its operations to the current international terminal.

Re: <http://www.smh.com.au/nsw/sydney-airports-plan-to-break-the-divide-flies-into-problems-20121020-27y3f.html#ixzz29t3g1ZYZQ>

### 1.7 Transport and the environment

Quote: The cost and availability of oil and the rising cost of electricity will also have a direct influence on the choices we make in procuring the most environmentally sustainable and energy efficient technologies to power our transport fleets.

Comment: Peak oil is not mentioned. There will be little choice when peak oil turns from an oil price problem to a physical shortage problem. The NSW government still purchases diesel buses instead of CNG buses. Intercity rail needs to be electrified. As there will be power shortages when climate change events force us to reduce coal fired power it can be predicted that the more energy hungry skyscrapers and high rises are being built now, the less power there will be for electric trains. The NSW government is unable (or incompetent) to do combined oil, energy and CO2 calculations. A comprehensive chapter “transport and energy security” is missing. It should come first, before all other chapters.

### 1.8 Transport and strong communities

Quote: While the rate of fatalities in road crashes has decreased over time, the rate of injury has remained relatively constant and has ongoing impacts on our society in people suffering permanent injury and trauma.

Comment: Fatalities probably decreased due to medical progress. The constant rate of injuries belies the myth that motorways and highway duplication reduce accidents

### 1.9 Transport and land use planning

Quote: The draft Long Term Transport Master Plan takes into account future land use planning, particularly in areas where significant growth will occur both from greenfield developments and infill.

Comment: There should be no more greenfield developments in the Sydney basin because land close to the city will be needed for agricultural production. Any new suburb in the commuting distance of Sydney will just increase traffic demand. The focus of the Master Plan for existing Sydney should be how to replace existing car traffic with PT, not to create additional demand for PT in infill developments. Sydney will never become a sustainable city. It is simply too big.

Sustainable cities will not have more than 150 – 200 K population (=size for a hospital), with 50% of residents being able to walk or cycle to their place of work.



This can only be done in a decentralization strategy, outside the commuting distance of Sydney

26/8/2009 Sustainable Cities Master Plan

<http://crudeoilpeak.info/sustainable-cities-master-plan>

## 2.1 Introduction

Quote: For example, to continue to develop Sydney as a liveable, world-class city we need to recognise the unique geographical constraints of a CBD that is confined by water on two sides, and needs to provide good access to jobs for people living in Greater Sydney and inter-city locations.

Comment: The Harbour view mentality is deeply entrenched in the bureaucracy, in consultancies and the financial community. As an example, Barangaroo is built without adequate rail capacities to the CBD.

18/11/2010

Sydney builds huge "sustainable" basement car park in Darling Harbour prone to flooding by sea level rise

<http://crudeoilpeak.info/sydney-builds-huge-sustainable-basement-car-park-in-darling-harbour-prone-to-flooding-by-sea-level-rise>



The NSW government, architects, town planners, financial institutions and business people are busy playing with building blocks for their pet projects instead of researching how to rescue Sydney and prepare for the period of oil decline. They are even thinking of a 2<sup>nd</sup> Casino. Is this really a priority?



## 2.3 Integrate, modernise, grow and manage

Quote: Expand the current network to meet changing customer needs, driven by land use changes and population growth

Comment: The need will come from the end of our car culture. So do not allow population growth in Sydney because the task to replace existing car traffic is already daunting enough

31/8/2011 1 billion vehicles in year #7 of peak oil

<http://crudeoilpeak.info/1-billion-vehicles-in-year-7-of-peak-oil>

Quote: ....protect our transport assets

Comment: What will happen to motorway assets when toll-way operators do not or cannot pay back debt?

14/8/2012 Transurban does not pay back its debt

<http://crudeoilpeak.info/transurban-does-not-pay-back-its-debt>

Answer: Allow them to build rail lines on their corridors (Transperth model)

## 2.4 Our approach to transport planning

Quote: Figure 2.5 2012 Sydney Strategic Transit Network

Comment: The team should test the existing network by analysing PT timetables and connections used by actual staff for following critical and/or important facilities:

(a) hospitals (b) medical centres (c) schools (d) government offices (e) shopping centres

As an example a health worker of the SAH hospital living in Baulkham Hills would need more than 1 ½ hrs for each trip (using 3 uncoordinated buses) and would not be able to work early morning shifts. That is unacceptable. The root cause is that Sydney's unstructured settlement pie was built for use by cars, not PT. This cannot be changed within the limited timeframe given by peak oil and the requirement to reduce CO2 emissions. That is why Sydney should not be allowed to grow.

## 3.6 Modernising the public transport fleet

Quote: The XPT rolling stock has exceeded its original design life with all trains needing either a significant upgrade or retirement

Comment: Indeed. Read about my own experience:

5/12/2011

Australian intercity rail run-down and unprepared to replace domestic flights after peak oil

<http://crudeoilpeak.info/australian-intercity-rail-run-down-and-unprepared-to-replace-domestic-flights-after-peak-oil>

There is a big question mark how long airlines can survive high oil prices.

30/10/2011 Qantas hit by invisible hand of peak oil

<http://crudeoilpeak.info/qantas-hit-by-invisible-hand-of-peak-oil>

16/4/2012 Fry and Fly - the new era of sustainable aviation  
<http://crudeoilpeak.info/fry-and-fly-the-new-era-of-sustainable-aviation>

How quickly airlines can collapse:

23/10/2012 Kingfisher grounded, 'unlikely' to fly again  
<http://www.smh.com.au/travel/travel-news/kingfisher-grounded-unlikely-to-fly-again-20121023-282d1.html>

One alternative to airlines would be cruise-ships (2,000-3,000 passengers = 10 aircraft = 60 buses). Time is killed by an endless discussion:

10/4/2011  
Australia's debating club on transport fantasies after global crude oil exports peaked 2005  
<http://crudeoilpeak.info/australias-debating-club-on-transport-fantasies-after-global-crude-oil-exports-peaked-2005>

### 3.8 Seamless interchanging

Quote: Integrated and aligned public transport timetables

Comment: As an example, the Metrobus M54 between Parramatta and Epping (replacing the cancelled PERL!) is no longer running on a timetable. This means you have to add 10-15 minutes to the trip to e.g. Epping station. That is why I usually take the bike because I can plan that trip allowing for, say, 3-4 minutes extra time for delays.

Quote: Single-deck trains can load and unload quickly at stations, thereby allowing more trains per hour on any given line.



Comment: The introduction of double deckers in Sydney was a cheap-fix alternative solution to building additional track and rail-lines. Frankfurt, for example, quadruplicated several critical sections at that time, running single deck S-Bahn (ET 420 – the Olympic train) on track separate from express services. Double deckers are normally used as city or regional express

trains, stopping every 10-15 minutes. Whether single deckers can increase capacity on the existing rail network is a hotly debated topic and requires engineering calculations and not wishful thinking. Certainly many platforms are too narrow to accommodate increased passenger numbers. How old stations are properly rebuilt can be seen at the Eastern Cross in Berlin>>



#### 4 GETTING SYDNEY MOVING AGAIN

Quote: A detailed feasibility study for new bus interchanges in the Sydney City to redirect buses from the city centre.

Comment: That is an idea from Prof. Hensher for an underground bus terminal.

Now, bury the problem

David Hensher, the director of the University of Sydney's Institute of Transport and Logistics Studies, said putting the buses underground could fix problems of peak-hour delays for commuters.

<http://www.smh.com.au/nsw/now-bury-the-problem-20110625-1gkgq.html>

Question: Where will the exhaust stacks for the diesel fumes go? How costly is this compared to a hybrid metro cum light rail solution?



<<< Helsinki's Kamppi underground bus terminal, together with metro station, for long distance buses:

*The new bus terminal can be described with some interesting numbers: For instance, the underground floors require airflow of 240 m<sup>3</sup>/s, and the outside ventilation grilles have a combined area of c. 120 m<sup>2</sup>. This is equivalent to ventilating an office building with a surface area of over 100,000 m<sup>2</sup>*

<http://www.projectusteam.fi/en/news.php?id=13>

Quote: A long term plan to complete critical links in Sydney's motorway network.... and the F3 to M2/Sydney Orbital connection

Comment: I had written a submission against that link and participated in a hearing of the F3-M7 link review by Mahla Pearlman. Her final report refers to the oil supply situation mentioned in my submission.

<http://www.infrastructure.gov.au/roads/F3toM7Review/index.aspx>

It is unbelievable that these old ghosts are resurrected in year #8 of peak oil

Quote: As traffic volumes on these corridors grow, there will be increasing strain on our rail and road networks – the implications of this are also examined in detail.

Comment: How would all this new infrastructure be financed? The logical conclusion is to reduce immigration to stop Sydney from growing more than through natural growth. At the Federal level we hear about the end of the mining boom, a reduction in tax receipts and the winding back of health and social services to balance the budget (instead of cancelling superfluous highway duplication projects). The cost of diesel is too high and this is the result of peak oil:

24/8/2012 BHP Billiton's Australian oil reserves in long term decline

<http://crudeoilpeak.info/bhp-billitons-australian-oil-reserves-in-decline>

Quote: The epicentre of these issues is the Sydney CBD, where many of these problems converge..... By 2031, more than half of Sydney's population will live in Western Sydney.

Comment: The Masterplan is completely contradictory in its strategic focus. Is it to continue further development of the CBD (implying increasing mono directional traffic flows- see Fig 4.24) or to pro-actively promote a multi-centred city (city of cities). It seems the plan has something for everyone, also called the “watering-can principle” where benefits are distributed across the board without any direction.

#### 4.2 Connecting Sydney's strategic centres – keeping our major corridors moving

Quote: Figure 4.6 Sydney's constrained strategic corridors in 2031

Comment: A transport corridor Blacktown – Norwest Business Park – Castle Hill – Hornsby (Pennant Hills) is missing

#### 4.3 Congestion is clogging our transport network

Quote: While road congestion can reflect a growing economy, it also has a cost to our economy of around \$5.1 billion each year

Comment: Road traffic is an indicator for unsuccessful town planning which must aim at minimising traffic by distributing land uses, densities and subcentres accordingly. Moreover, it is more important to calculate future economic losses when peak oil becomes a physical problem (cost of oil vulnerability). By the way, Australia agreed to reduce its energy intensity, an objective which has been completely forgotten:

20/11/2011 APEC energy intensity reductions: what it means for Australian oil consumption  
<http://crudeoilpeak.info/apec-energy-intensity-reductions-what-it-means-for-australian-oil-consumption>

#### 4.6 Customers' travel needs are changing

Quote: Figure 4.44 Opportunity to replace short car trips with walking

Comment: It would be more important to research into which car trips can be replaced by PT in order to save fuel. For example, how would Sydney work if petrol rationing of, say, 20 litres per week per car, were introduced? Here is the experience of previous oil crises:

Sunday driving bans: <http://crudeoilpeak.info/oil-crisis-1973>

Long lines at filling stations: <http://crudeoilpeak.info/my-experience-oil-crisis-1979>



Shell filling station on Pennant Hills Rd: going (left) and gone (right)



It is likely that many more filling stations will close as is already happening. This means that petrol lines at the remaining stations will be longer.

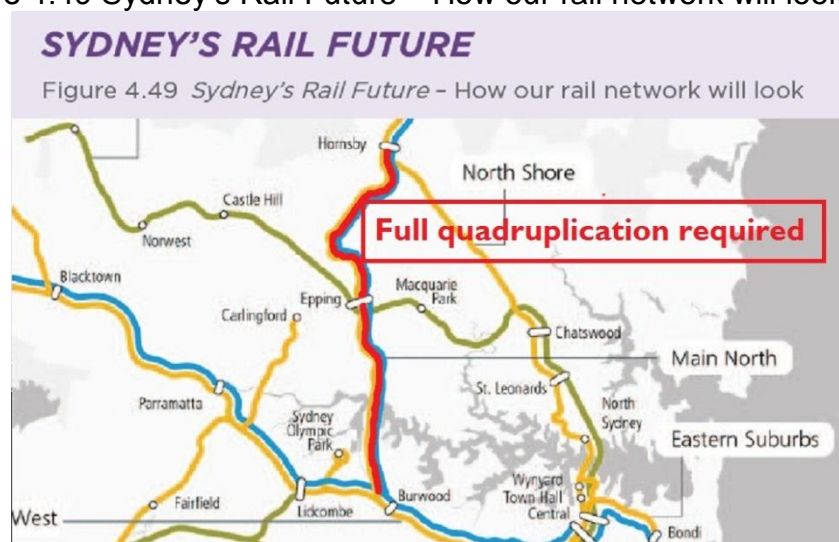
Quote: Further work is required to create a connected network of cycleways.

Comment: It is not good enough to paint bike signs on roads and declare them as bike paths (example Epping – Parramatta)



This is a good example of a shared foot path/bike way along Waterloo Rd in North Ryde. Note the alignment around a bus stop. Such projects would have to be multiplied by the 1,000s to make any impact on fuel consumption or the environment.

Quote: Figure 4.49 Sydney's Rail Future – How our rail network will look



Comment: Just a 3<sup>rd</sup> track between Epping and Pennant Hills for freight trains is not sufficient. The whole Northern line between Strathfield and Hornsby needs to be quadruplicated.



<<<< 4 tracks between West-Ryde and Epping narrowing down to 3 tracks shortly before Epping station. When the EIS for the Epping station design was on public consultation I asked in a meeting why the new station has only 3 above ground tracks. I was told that a 4<sup>th</sup> track can be added later. I replied, no, we have peak oil and there won't be any funds then. Any modification now would of course be difficult because of the tunnels underneath the station.

#### 4.7 Meeting the increasing demand for Sydney's growing travel needs

Quote: Second Sydney Harbour rail crossing, new CBD line and new CBD stations

Comment: INSW wants to shelve this project indefinitely and therefore brings uncertainty into the Masterplan. It is incomprehensible that Mr. Greiner – known as the motorway tsar – was appointed in the first place. I wrote following post on this occasion:

9/5/2011 Sydney now beyond point of no return

<http://crudeoilpeak.info/sydney-now-beyond-point-of-no-return>

It would be better to spend the INSW budget on buying CNG buses or rail cars.

Quote: Buses are important for mass transit and connecting centres and local regions.

Comment: In a million city like Sydney a mass transit system built on buses can only work if car lanes are closed down and replaced by bus lanes.

Quote: Introduce high-capacity Metrobuses on other key corridors



Comment: It is not as easy as that. Metrobus M 54 Parramatta – Macquarie Park is running through residential areas where roads have not been designed for heavy traffic as can be seen on this photo where the pavement cracks and is lifted up.

We may remember that then Transport Minister Costa cancelled the Epping – Parramatta rail link saying that every passenger on a train costs him money. Some in the bureaucracy obviously thought it is enough to

replace a rail line with a Metrobus.

Quote: A number of these [pricing] mechanisms are briefly described in the following table.

ROAD PRICING MECHANISMS USED AROUND THE WORLD				
Option	Description	Objectives	Sub-Options	Example(s)
7. Non-price initiatives	Rationing and other non-price measures for reducing congestion	<ul style="list-style-type: none"><li>• Reduce congestion</li></ul>	<ul style="list-style-type: none"><li>• Registration</li><li>• Restricted registration</li><li>• Car park space rationing</li><li>• Fuel rationing</li><li>• Road access rationing</li></ul>	<ul style="list-style-type: none"><li>• Worldwide</li><li>• Singapore (weekend use)</li></ul>

Comment: The table does not include the objective to reduce fuel consumption. Nor does it include car pooling <http://www.singcarpool.com/>

<http://green.autoblog.com/2007/03/22/california-lawmakers-want-to-impose-shame-on-hov-lane-violators/>



Fuel rationing will happen when unrest and armed conflicts in the Middle East spread to more oil producing countries. Australia is only 3 tanker weeks away. Here is the latest from Iran:

*Jafari's plan allegedly describes in detail how a massive environmental catastrophe could be created if, for example, the Iranians were to steer one of these*

*supertankers onto a rock*

*In 1994 and 1998, accidental oil spills threatened desalination plants in the United Arab Emirates and Saudi Arabia, thereby imperiling fresh water supplies for the two countries.*

<http://www.spiegel.de/international/world/iranians-planning-to-create-environmental-catastrophe-in-hormuz-strait-a-861343.html>

Quote: The rationale for building major new road infrastructure should be to generate substantial productivity benefits by increasing the volume of traffic the infrastructure can accommodate.

Comment: Wrong. As already mentioned under objectives the volume of traffic must be minimised for a given economic output. Every economic activity is a transformation of primary energy (input factor in production function) into useable energy. Thus, the ultimate driver of an economy is not money but the efficiency of this transformation process. A single occupancy car on a motorway is NOT an efficient means of transport and will become unaffordable

Quote: Reducing reliance on car travel

Comment: The proposed motorway expansion is in direct conflict to this laudable objective

Quote: Distance-based tolling, a standardised cents per-kilometre charge across Sydney motorway network, will have multiple benefits.... It will help to improve traffic flows and provide a revenue stream for much needed investment in extending and enhancing the current motorway network.

Higher tolls to pay for widening the M2 - Windows Internet Explorer  
Wider M2 will drive deeper into motorists' wallets  
Alexandra Smith  
October 27, 2010  
Comments 11



Comment: No. The current tolls are so low they don't even allow toll-way operators to pay back their existing debt. The assumption that tolls can pay for new motorways is unrealistic, if not wishful thinking. Wait what happens when a \$6 toll is introduced on the M2

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>



Quote: We will seek to provide an appropriate allocation of road space to provide priority for buses, light rail....

Comment: The opposite is happening. A bus ramp was pulled down to make way for a 3<sup>rd</sup> M2 lane.



Quote: Six corridors will be most constrained in the future unless we take action

Comment: Fig 4.52 demonstrates the CBD centric thinking in this Masterplan.

Quote: Sydney's Rail Future will lift the capacity of the Airport Line from eight trains per hour to 16 trains per hour.



Comment: Sydney airport will have no interest in this. They just built a new multilevel car park. They depend on it for revenues:

#### **\$16 an hour - Sydney still tops on airport parking fees**

Sydney Airport gains about 11 per cent of its revenue from car parking, including car wash and

valet charges. ... Car parking has long been a big money spinner for airports

<http://www.smh.com.au/travel/travel-news/16-an-hour--sydney-still-tops-on--airport-parking-fees-20120926-26k6w.html>

#### 4.8 Expanding capacity on our most constrained corridors

Quote: Work being done on the Sydney Light Rail Strategic Plan is considering the potential for light rail in three inner Sydney corridors: the Sydney CBD and the corridors to the University of Sydney and University of NSW

Comment: These are actually only 2 lines one of which is shown in Fig 4.54. An Anzac (metro) line between West-Ryde and Malabar via UNSW was already proposed in 2008. So one wonders why no progress was made for a much cheaper surface rail solution.

Quote: Modern light rail vehicles are 45 m long and carry up to 100 seated and 200 standing passengers.

Comment: No. That would be very uncomfortable for 200 Pax.

“In center cities the Tram-Trains operate on streets and interact with other vehicles. Therefore they are subject to the same regulations as trams. According to [the German] BOStrab the maximum dimensions of Tram-Train-vehicles are 75 m (246 ft) long and 2.65 m (8.7 ft) wide. Other countries have similar maximum dimensions.

Considering passenger comfort, a Tram-Train-vehicle's capacity is about 112 passengers (based on occupying 95% of seats and 20% of standing room). When these vehicles are operated in double traction (to reach the allowed maximum length of 75 m) the capacity is about 225 passengers. A typical example is the Alstom Regio Citadis illustrated in Figure 4.”

<http://www.andynash.com/nash-publications/2012-Naegeli-Tram-Train-19march2012.pdf>



<< Frankfurt's old style tram train  
triple traction  $3 \times 25 \text{ m} = 75 \text{ m}$ ,  
suitable for metro tunnel operation.

Video:

<http://www.youtube.com/watch?v=G8mKs6IXPoA>





Old rolling stock is now being replaced by Bombardier's Flexity Swift in various configurations. Maximum length is 100 m, for raised platforms, as shown in this video:

U 50 + U25 + U25

<http://www.youtube.com/watch?v=EsNfIeqCH8>

Sydney needs high capacity light rail so all platforms need to be built for 100 m long trains.

#### 4.9 Creating a vibrant, attractive CBD – the heart of Global Sydney

Quote: Central Station – A comprehensive and multi-modal upgrade

Comment: The question is whether part of the Eveleigh workshops can still be used (or reserved) as a rail yard for rolling stock.

#### 5.1 Improving public transport and cutting congestion

Quote: Regions in the outer suburbs of Greater Sydney have higher average levels of car use and dependency than their counterparts in inner and eastern Sydney, with a higher number of vehicles per household, and with higher average vehicle kilometres travelled per person.

Figure 5.1 Summary of vehicle use across Sydney regions

	Botany Bay	Liverpool	Campbelltown	Parramatta	Penrith	Inner Sydney	Eastern suburbs
% of trips in private vehicle driving	64%	79%	79%	71%	82%	40%	58%
Vehicles per household	1.3	1.8	1.6	1.4	1.9	1	1.2
VKT per person (km)	12.9	22.5	23.4	16.7	29.8	9.3	11.8

Comment: Developers, themselves all travelling by car, will take these data as an argument to ramp up densities anywhere. Fuel and power shortages will come much earlier than changes in the city structure. What will control car use in future are the price and the availability of petrol, not densities. Those with a reasonably sized backyard will be better off as they can have veggie gardens and fruit trees to complement the reduced amount of food they will be able to buy in the shops.

Quote: Figure 5.4 shows how service frequencies on the public transport network vary widely by time of day

Figure 5.4 Comparison of public transport services per hour in peak and off-peak periods



Comment: So what is being done with this information? The Masterplan does not provide any passenger numbers on buses. But 50 inbound services should be around 2,500 per peak hr. Compare this to the traffic flows given in the M2 documentation:

m2ueavol2pt1ttiamainreportch6to8.pdf (application/pdf Object) - Mozilla Firefox

Table 45 - LCT Western Portal, AM & PM Peak Traffic Flows

Peak Flows		2009	2011 Base	2011 M2 Upgrade	% Change	2021 Base	2021 M2 Upgrade	% Change
LCT	AM-IB	3,497	3,516	3,662	4%	3,713	4,182	13%

According to this M2 document:

*The M2 Motorway is a key link in the Sydney Orbital network and has over 100,000 vehicle trips per work day.....Numerous bus routes operate along the M2 to serve Sydney's north west regions. Combined, these bus routes carry over 17,000 passengers each weekday.*

[http://www.rta.nsw.gov.au/roadprojects/projects/building\\_sydney\\_motorways/m2/documents/environ\\_ass\\_public\\_disply/m2umetingsydtransportneedsposter.pdf](http://www.rta.nsw.gov.au/roadprojects/projects/building_sydney_motorways/m2/documents/environ_ass_public_disply/m2umetingsydtransportneedsposter.pdf)

The occupancy rate in the morning peak hrs with trip purpose "work" is 1.08 (Grace Corpuz study from Department of Planning) so we have 2,500 bus passengers and 3,800 passengers in cars per peak hr. This shows the substantial contribution of public transport of 40% for commuting purposes. However, over the whole day the contribution is only  $17/117 = 15\%$

Let us assume that the average motorist clocks 300 km Mon-Sat and consumes 24 litres of petrol. If a petrol quota of 20 ltr per week per car were introduced, and no Sunday driving, motorists would have to economize 20% either by car pooling at the rate of 1.3 passengers per car or use buses. Over the whole day, additional bus capacity would have to be 20,000 which means more than a doubling. Picture the density of bus traffic this would create in the CBD and other centres. No planning whatsoever is being done for this event.

### 5.3 Connecting new growth centres

Quote: The North West and South West Growth Centres .... will be home to some 500,000 residents

Comment: A nightmare. Why does the State government not build completely new cities outside Sydney's commuting distance? The government should buy land and then lease it to developers or individuals. That would guarantee low land prices. Infrastructure cost per capita would be a fraction of those in Sydney, the only chance for affordable housing.

### 5.7 Supporting Greater Sydney's employment centres

Quote: Work with Parramatta City Council on city centre improvements and light rail

Comment: No details are given on Parramatta's light rail proposal although this should have been part of the Masterplan. The Council's web page is here:

[http://www.parracity.nsw.gov.au/work/economic\\_development/strategy/solving\\_transport\\_problems/light\\_rail\\_for\\_western\\_sydney](http://www.parracity.nsw.gov.au/work/economic_development/strategy/solving_transport_problems/light_rail_for_western_sydney)

### 5.9 Protecting Greater Sydney's transport corridors

Quote: We will enhance major public transport corridors in Greater Sydney that serve Sydney's strategic centres (see Chapter Four), particularly:  
Parramatta to Sydney CBD via Strathfield

Comment: What means "protecting"? Protecting from a competing motorway development? Apparently not. The WestConnex proposal already received priority. So this is another example of an inconsistent strategy.

### 6.2 Improving the mix of transport options across regional NSW

Quote: Newcastle to Tweed Heads – This provides highway and rail links from major coastal centres to Brisbane and Sydney and traversing some of the fastest growing regions in NSW.... The planning for a Coffs Harbour bypass has been completed and a route identified. We will deliver the Coffs Harbour bypass in the longer term.

Comment: This will destroy valuable agricultural land West of Coffs Harbour. The rail line to Brisbane has the character of a 3<sup>rd</sup> world branch line. The NSW government including a whole generation of Transport Ministers should be ashamed.



Yes, this is the main rail line Sydney – Brisbane South of Coffs Harbour

Read my report here:

1/4/2009 XPT Sydney-Coffs Harbour vs. Pacific Highway Upgrade  
<http://www.crudeoilpeak.com/?p=479>

### 7.3 Increasing network efficiency

Quote: For our agricultural industries, the role of local roads in the supply chain is vital. Across regional NSW, trucks carrying grain, dairy products and other produce need to access farms, storage facilities, silos and processing plants efficiently, and this usually means using larger vehicles.

Comment: Diesel supplies will be especially scarce. Trucks need to be converted to CNG (local) and LNG (long distance). Rail branch lines need to be re-vitalised to minimise transport by truck. Agricultural machinery and pick-up trucks of farmers need to use bio fuels – which should not be wasted on the urban motorist.

### 7.4 Growing future freight network capacity

Quote: This means the coal freight task will grow from 170 million tonnes in 2011 to nearly 370 million tonnes in 2031. It will be NSW's largest export commodity and rail network activity for the foreseeable future.

Comment: How naïve. It seems the authors of this chapter cannot foresee the global warming future. As already mentioned above, nature will not allow us to burn all that coal. Moreover:

Figure 7.6 Coal export commodity flows through NSW in 2010-11 in kilotonnes



<< Every coal ship will generate future compensation claims for loss of property and life caused by global warming, on a pro rata basis of CO2 emissions and shared benefits obtained by producers and users of the coal. If NSW or coal producers now argue for high economic benefits this information will be used to increase claims. A shot in the foot.

Again climatologist James Hansen:

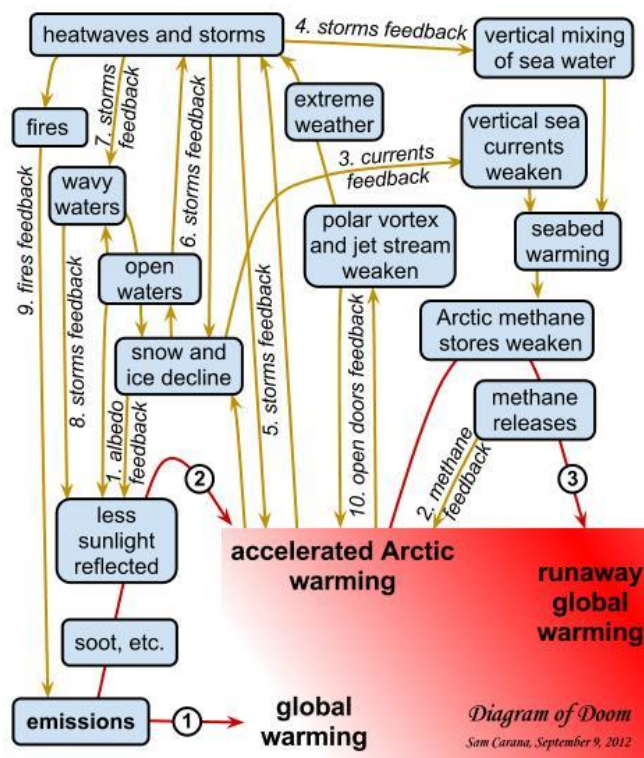
"For most of 20 miles there were trains parked, engine to caboose, half of the cars being filled with coal. If we cannot stop the building of more coal-fired power plants, those coal trains will be death trains – no less

gruesome than if they were boxcars headed to crematoria, loaded with uncountable irreplaceable species."

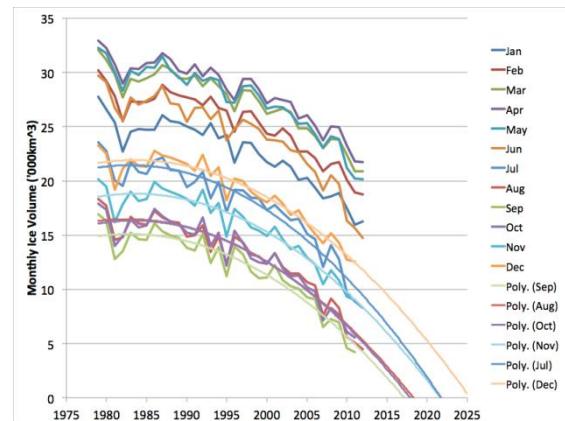
[http://www.columbia.edu/~jeh1/2007/IowaCoal\\_20071105.pdf](http://www.columbia.edu/~jeh1/2007/IowaCoal_20071105.pdf)

Historic reminder: [http://en.wikipedia.org/wiki/IG\\_Farben\\_Trial](http://en.wikipedia.org/wiki/IG_Farben_Trial)





When the Arctic sea ice disappears in this decade, there will be some surprises. It will mean the end of our coal culture.



Up: Parabolic trend of Aug/Sep Arctic sea ice volume towards zero in this decade. From the early warning blogspot.

<http://arctic-news.blogspot.com.au/2012/08/diagram-of-doom.html>

## 7.5 Managing community and environmental impacts

Quote: Transport for NSW works with industry in implementing two programs aimed at managing the emissions from the road freight task.

Comment: No calculations have been done whether these efforts will offset the emissions increase from the claimed growth in freight traffic by trucks

## 8.1 Reducing transport inequality

Quote: Figure 8.2 Oil and mortgage vulnerability in Sydney

Comment: Oil vulnerability is seen as an inequality problem of certain parts of the population, but not as a problem for the whole of Sydney and in competition to 14 million new motorists in China. Read: <http://www.endofsuburbia.com>

## 8.3 Promoting sustainability and protecting the environment

Quote: Australia has set a target of reducing greenhouse gas (GHG) emissions by five percent on 2000 levels by 2020

Comment: Where in the plan are calculations which show that the proposed projects will achieve this objective?

Quote: We will need to power our transport system with more sustainable sources of energy, adopt more energy efficient practices across the system and make land use choices that will help to reduce car use

Comment: Well, where are those sustainable sources of energy and in which timelines and at which cost are they available? Without these, the whole plan with all its motorways and highways is nul and void.

## 8.8 Protecting the environment

Quote: Transport for NSW will collaborate with the Standing Committee on Transport and Infrastructure, other State Governments and participants in the electric vehicle market to develop an Electric Vehicles Road Map

Comment: So from which sustainable source of primary energy will electric cars be powered? Where are the calculations to show that a transition to EVs can offset oil decline? Without this number crunching motorway and highway development makes no sense.

Quote: Transport for NSW will conduct climate change adaptation assessment to understand where our system is most vulnerable and follow this up with a program of action to 'future-proof' vital transport infrastructure against climate impacts of coastal surges, extreme storms, floods and bushfires

Comment: Check on the rail line on the central coast. Just 100 km North the Hunter coal trains are rolling which contribute to sea level rises. This system self-destructs.



## 10.2 Funding our transport system

Quote: Figure 10.1 Sources of transport funding in \$billions, 2011-12

Comment: This figure and the associated table do not show how much of the funds go into roads vs rail. Therefore, there is no way to assess whether funds are spent in line with environmental objectives of chapter 8.3.4. The same problem is in Fig 10.2 where recurrent and capital expenditure are not shown separately for road/rail.

## 10.4 Considering our options

Quote: Public private partnerships (PPPs) have now been used successfully in every State in Australia as a means of procuring infrastructure across many sectors, not just transport.

Comment: Wrong. There are quite a number of failed projects (refer to comments by Nick Greiner himself), with billion dollar losses to investors.

28/2/2011 Brisbane's Clem7 tunnel in receivership  
<http://crudeoilpeak.info/brisbanes-clem7-road-tunnel-in-receivership>

7/2/2010 Which bank would now finance more road tunnels?  
<http://crudeoilpeak.info/which-bank-would-now-finance-more-road-tunnels>

27/1/2010 Peak oil brought forward moment of truth for Lane Cove Tunnel  
<http://crudeoilpeak.info/peak-oil-brought-forward-moment-of-truth-for-lane-cove-tunnel>

8/1/2006 How Cross City Tunnel Planners ignored peak oil  
<http://www.crudeoilpeak.com/?p=219>

Next candidate:

6/7/2012 Brisbane Airport Link: another tollway miracle of growing debt and assumed traffic growth (part 1)  
<http://crudeoilpeak.info/brisbane-airport-link-another-tollway-miracle-of-growing-debt-and-assumed-traffic-growth-part-1>

Recommendation: the Infrastructure Financing Unit should investigate why Transurban cannot pay back its debt, before even starting to think about new motorways.

Quote: Motorists should expect to pay the same amount for the same type of road use

Comment: Then abolish the cash-back scheme for the M5 and see how you can get more motorists into trains  
[http://www.rta.nsw.gov.au/usingroads/motorwaysandtolling/m4m5\\_cashbackscheme.html](http://www.rta.nsw.gov.au/usingroads/motorwaysandtolling/m4m5_cashbackscheme.html)

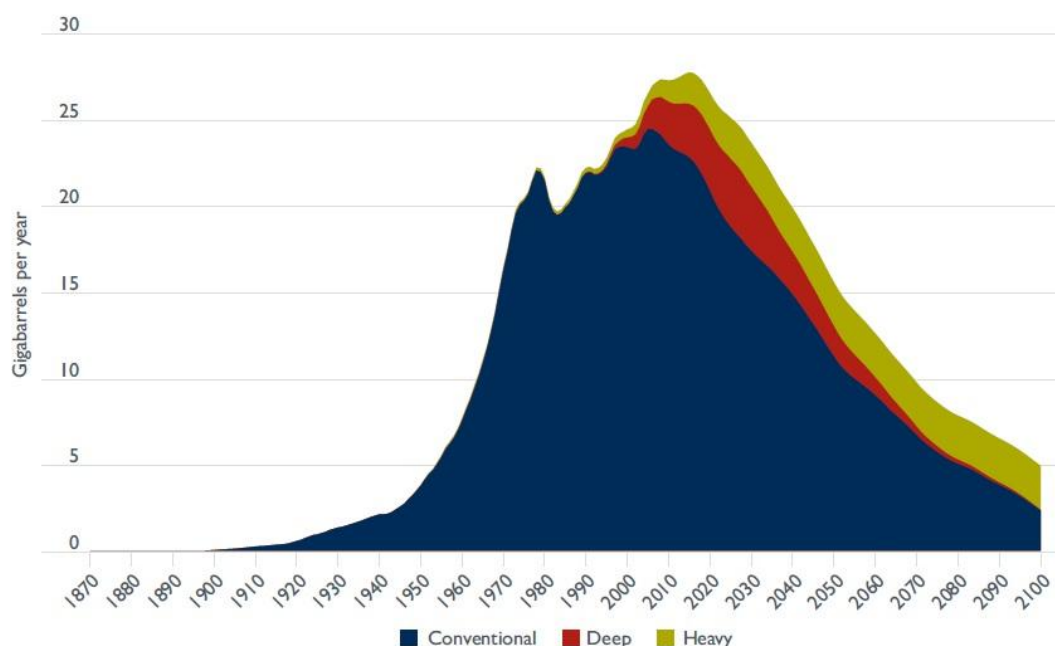
Quote: Directly allocate toll revenues to fund public transport and complete missing motorway links.

Comment: What a contradictory objective. It is against the sustainability objective at the beginning of the plan.

Quote: Capturing value from new real estate projects

Comment: The value is cost on the other side of the equation. Someone has to pay for it. If infrastructure costs are high because of an inefficient city structure then residential and commercial developments will be expensive no matter what clever value capture scheme is invented.

Figure 13.12 Components of total world crude oil production



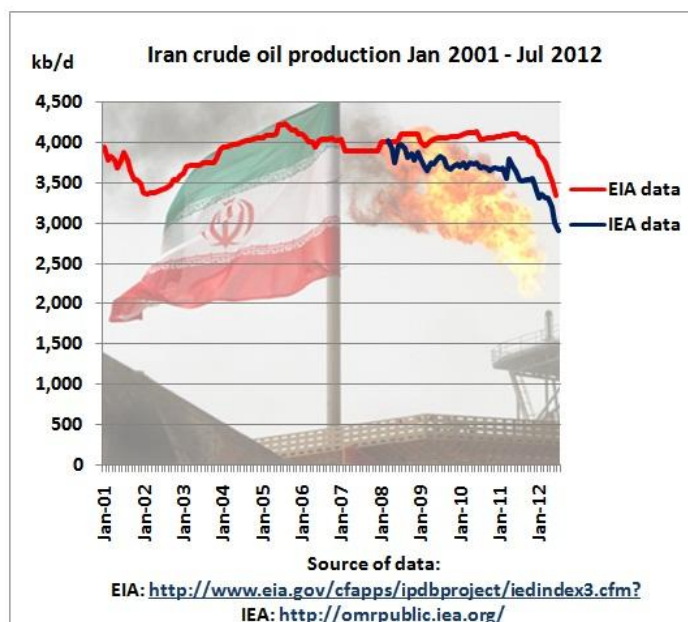
24/2/2012

Australian Government kicks own goals in Senate peak oil debate (peaky leaks part 3)

<http://crudeoilpeak.info/australian-government-kicks-own-goals-in-senate-peak-oil-debate-peaky-leaks-part-3>

24/9/2012 Minesweeping exercise near Saudi oil hub

<http://crudeoilpeak.info/minesweeping-exercise-near-saudi-oil-hub>



<< The decline of Iranian oil production – speeded up by sanctions – will not evolve peacefully. We are already in the stage of proxy wars and it will get worse.

*Britain has rebuffed US pleas to use military bases in the UK to support the build-up of forces in the Gulf, citing secret legal advice which states that any pre-emptive strike on Iran could be in breach of international law.*

*The Guardian has been told that US diplomats have also lobbied for the use of British bases in Cyprus, and for permission to fly from US bases*

*on Ascension Island in the Atlantic and Diego Garcia in the Indian Ocean, both of which are British territories.* <http://www.guardian.co.uk/world/2012/oct/25/uk-reject-us-request-bases-iran>

HAPPY MOTORING