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Submission to The Senate Inquiry into the investment of Commonwealth and State funds in public passenger transport infrastructure and services

Senate Standing Committee on Rural and Regional Affairs and Transport

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Save Our Suburbs, Inc (Vic)
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(A) PREFACE

This submission briefly canvasses the need for more mass transit and far less road construction in order to address the growing problems of accessibility and traffic congestion in Australian cities.

Historically, continued expansion of the road system has been seen by powerful and influential bodies like VicRoads in Victoria as the only real answer to road congestion, which is exacerbated by growing population and fluctuating petrol prices. Added to this is the need to reduce greenhouse gas emissions in this era of climate change and peak oil.

Last year's report by Sir Rod Eddington on an East-West link for Melbourne concluded that "the number of trips made by car in Melbourne will increase by a substantial amount for the foreseeable future – and the city's road network must be able to cope with this increasing demand in an efficient and sustainable manner".

But for economic and environmental reasons, we cannot afford to allow that possibility, let alone plan for it. Instead, we must plan proactively for alternatives, not more of the same "solutions" that have got us into the car-based spiraling congestion conundrum that most Australian cities suffer increasingly from today.

Existing research shows that major mass transit / heavy rail systems operating in parallel with arterial roads and freeways are by far the most sustainable and effective long-term solution, not just for mitigating traffic congestion but also to reduce air pollution and boost the effects of economic networking that improve productivity in a thriving city.

Urban rail systems are vital in reducing energy use and minimising greenhouse gas emissions. They are the most energy-efficient transport mode and the most effective at capturing modal share from private transport. Even more importantly for congestion remedies, traffic flow paradoxes (see Part C) mean that expanding a road system to reduce congestion is not only ineffective but likely to be counter-productive. New freeways induce more vehicular traffic and take modal share away from public transport networks that operate in the same transport corridors.

We have lots of arterial roads and freeways - now we need an efficient integrated mass transit alternative to attract road commuters and relieve road congestion permanently.

In Melbourne, the city's serious planning and transport problems need to be addressed citywide if a re-defined version of its metropolitan strategy is to be able to deliver a compact, sustainable city for the future. The current Melbourne 2030 plan (M2030) - now re-badged as "Melbourne @ 5 million" - is uncoordinated and under-funded, and does not have sufficient expert administrative support or implementation mechanisms to succeed.

Reasons for these conclusions follow, including discussion of sustainable transport alternatives and the use of state and federal public infrastructure funding and a central autonomous authority to provide citywide, fully integrated mass transit systems.

(B) BACKGROUND – MELBOURNE'S FLAWED METRO PLAN

As the Eddington Report noted, any long-term attempt to improve transportation in Melbourne must be consistent with planning policies, especially M2030, a 30-year plan theoretically based on the European model of a more compact, efficient and productive city with higher density development around activity centres at mass transit nodes.

However, the strategy has been poorly implemented by councils, the state bureaucracy and the state government, and poorly integrated with other government policies. From its very introduction in 2002, it was not linked to the state budget process and there was no definition of whole-of-government strategies and responsibilities for its implementation. In particular, the "integrated transport strategy" supposed to underpin activity centre development just consisted of suggestions to "prepare plans" (Mees 2004).

Other than retail floor-space, there was little rationale for the selection of activity centres (DOI 2002). M2030 also made no distinction between private car-based malls and traditional centres near mass transit nodes. By contrast, in Sydney, pro-active land consolidation and activity centre policies ensured that most major centres were rail-based.

Three years after the launch of M2030 itself, the release of the Melbourne Metropolitan Transport Plan in 2005 was supposed to address the lack of the comprehensive integrated public transport network that theoretically underpinned the M2030 strategy. But the MTP was strongly criticised by the Minister's own M2030 Implementation Reference Group as:

> "*a plan without specific details, timing or funding commitments …..**The current disaggregated approach to transport and land use planning and implementation is not delivering the outcomes it should***." (M2030 IRG 2005)

> NOTE: All information about the M2030 Implementation Reference Group was recently removed from the departmental website, except the statement that in March 2003 "*The Melbourne 2030 Implementation Reference Group was established to give the Minister for Planning independent advice on the implementation of Melbourne 2030*" (DPCD 2009).
>
> However, the minutes and reports of the M2030 IRG can be accessed via the recent Google Cache of the department's website (see ref. Google 2009)

The first five-year audit of M2030 by the M2030 Audit Expert Group confirmed the failure of the strategy to achieve any of its fundamental aims to date:

- failure to direct residential growth from the fringe to established urban areas
- lack of significant residential or mixed-use development in large activity centres
- insufficient resources and capacity to implement activity centre structure planning
- insufficient provision of or commitment to crucial public transport investments
- inherent tensions within M2030 itself and lack of guidance for policy prioritisation.

The Audit also noted that the population of Melbourne had increased faster than predicted, that climate change was now an accepted reality, and that congestion and rising petrol costs have made increased travel efficiency more urgent. It concluded that:

> "*….there is now an even greater urgency to implement the many initiatives of Melbourne 2030 if Melbourne's development is to be sustainable and the city is to remain livable."* (AEG 2008, p.4)

(C) SUSTAINABLE TRANSPORT ECONOMICS - RAIL VS ROAD

The M2030 Audit found that significant investment in public transport is a high priority. and recommended integrated transport plans for major new developments, to be mandatory for relevant planning proposals - ie, in or near activity centres. Failure to integrate development with transport planning results in low-density land use, with cars being the dominant form of transport (AEG 2008, Ch.4).

The most effective way of building a 'transit metropolis' is to tightly integrate dense, mixed-use development around stops on a fixed-route transit network, maximising walk-up patronage and multiple trip making. This is the approach taken in Curitiba, Ottawa, most European cities and modern Asian cities such as Japan, Hong Kong and Singapore. Bus or light rail feeders to the main rail system are also widely exploited.

Lower income cities typically provide comparatively high levels of transit service, but most of it is inferior bus services that operate within general road traffic congestion, thus losing market share to cars and motor cycles. This is similar to the situation with Melbourne's middle and outer suburban bus services, touted by the Victorian Government as an "effective" greenhouse and anti-congestion approach.

Low density, sprawling, residential land use is particularly strongly associated with high transport energy use and CO2 emissions, as exemplified in Melbourne's sprawling outer suburbs. Conversely, urban freeways and high levels of parking in the CBD correlate with higher energy use and greenhouse emissions in cities.

Denser urban form is a critical factor in creating sustainable, energy-efficient urban transport systems - ie, reduced car use and increased public transport and non-motorised mobility. Urban rail systems are vital in reducing energy use and green-house gas emissions. Rail is the most energy-efficient transport mode and the most effective at capturing modal share from private transport (Kenworthy 2003).

There is substantial energy and greenhouse conservation potential in compact, mixed land use cities, with extensive highly-accessible transit systems operating on a backbone of rail. Limits on freeway construction and parking in central city areas help create less auto-dependent cities with lower built-in energy demand and less greenhouse emissions.

Attempting to reduce congestion through freeway building rather than targeting non-auto modes to avoid congestion doesn't reduce energy or CO_2 emissions but increases these factors and their attendant negative environmental impacts (Kenworthy 2003).

Changing economic densities by reducing travel times or costs can induce productivity gains from agglomeration economies (Graham 2007, p.4). However, comparison of estimates indicates that urban road traffic congestion plays a significant role in 'constraining' the benefits of agglomeration, and consequently, it can reduce achievable levels of urban productivity (Graham 2007, p.26)

Conversely, new mass-transit rail systems generate substantial new patronage, which can enhance agglomeration effects in major urban centres, leading to productivity increases and generating substantial additional benefits (Shefer 2005).

Where public transport and roads compete, expanding road capacity is a two-way loser. It attracts additional traffic, eventually making road conditions worse. It also reduces public transport patronage, making public transport less attractive as well. Conversely, improving public transport can improve travel times for both public transport and road users.

Vancouver in Canada has built no freeways for decades, but invested in public transport instead and average travel times have decreased as a result. This widely recognised phenomenon has been dubbed the Downs-Thompson Paradox.

Supply-side policies are not effective in reducing urban traffic congestion because urban commuting is subject to the theory of "triple convergence." In response to an addition of capacity, three immediate effects occur (Downs 2004). First, drivers using alternative routes begin to use the expanded roads. Second, those previously travelling at off-peak times (either immediately before or after the peak) shift to the peak time. Third, public transport users shift to driving their vehicles.

Because of triple convergence and a potentially large induced demand, it is difficult to remove peak-hour congestion from highways by creating more road capacity (Ding et al).

In addition, transportation researchers have identified three traffic paradoxes that reveal that expanding road systems to remedy congestion is not only ineffective but under some conditions can also be counter-productive (Murchland 1970; Arnott and Small 1994; Braess et al 2005).

Specifically, the Pigou-Knight-Downs paradox states that adding extra road capacity does not reduce travel time. The Downs-Thomson paradox states that the equilibrium speed of car traffic on the road network is determined by the average door-to-door speed of equivalent journeys by public transport. Consequently, increasing road capacity can actually make overall congestion on the road worse. Finally, the Braess paradox states that adding extra capacity to a network, when the moving entities selfishly choose their route, can in some cases reduce overall performance and increase total commuting time.

Increasing road capacity can actually make overall congestion on the road worse when the shift from public transport causes a dis-investment in the mode such that the public transport operator either reduces frequency of service or raises fares to cover costs. This shifts additional passengers into cars. Ultimately, congestion on the road gets worse and the total commuting time increases (Ding et al).

So expanding a road system as a remedy to congestion is not only ineffective but often counterproductive. This "Lewis-Mogridge Position" was extensively documented by Martin Mogridge in his case-study of London traffic (Mogridge 1990).

Thus, with increased traffic congestion and tolls from more freeways, plus externalities like worse air pollution and greenhouse gas production, improved travel times and economic agglomeration benefits could be best delivered by upgrading mass transit routes that serve the same transport corridors. This would siphon off a significant number of commuters onto mass transit, improving their travel time and that of the reduced number of motorists left on the freeways (Graham 2007).

However, adopting this approach in Victoria would mean overcoming the state's institutional bias towards road and freeway construction, illustrated by the Scoresby Freeway project where the government's own consultants found that shifting just 2% of car trips to public transport would relieve more congestion than building the freeway. But the public transport alternative was not even considered because without a freeway, it failed to fit the state definition of 'integrated' transport!

The message for both State and Federal Governments is clear - substantial upgrading of rail networks with few or no new freeways will not only reduce existing road congestion and travel times, it will also permanently reduce the emission of greenhouse gases and air pollution generally. It will also save large numbers of outer suburban commuters from living in a "public transport desert" where adult are totally car dependent and hostage to fluctuating petrol prices.

While rail extension services are being constructed, other measures to reduce peak hour gridlock could include priority car pool and bus lanes, differential vehicle registration charges and a congestion tax for commuters to the Melbourne CBD. Such a tax is increasingly supported by academics and business and environment groups.

(D) VICTORIA'S NEW TRANSPORT PLAN

The latest attempt by the Victorian Government to address the ailing public transport system is the new Victorian Transport Plan (DoT 2008). But its creators don't seem to have been aware of the research described above. The $38 billion Plan is certainly extensive and has finally acknowledged the need to upgrade and extend outer suburban rail services. But it includes no transport emissions reduction target, no viable alternative fuels - and its major focus is still on funding and feasibility studies for roads!

The plan involves 122km of new motorways but only 36km of new railways in order to "relieve" traffic congestion. For car-dependent residents of Melbourne suburbs where the only public transport is buses and who rarely travel into the CBD, the new Transport plan will make very little difference.

The Plan makes the spurious statement that "80% of public transport kilometres are travelled on road" to justify continuing to focus on upgrading roads and bus services rather than an urgent priority focus on rail (Priority Four: Moving around Melbourne). The Plan should instead have cited passenger kilometres because trains carry far more passengers than buses (and don't contribute to road congestion in the process).

A transport plan of this scale should have included key overdue initiatives like:

* Construction of railway lines to Rowville and Doncaster
* Duplication of single track sections on the Belgrave and Lilydale lines
* Extension of tram route 48 to Doncaster Shoppingtown
* Extension of tram route 75 to Knox City
* Duplication of single track sections between Dandenong and Cranbourne East….

According to the Plan, "the Victorian Government will also seek Commonwealth Funding for a number of nationally significant projects". This implies that most of the projects are to be state-funded, yet ALL the listed "highlights" of the Plan are initiatives contingent on Federal funding by Infrastructure Australia. With a long list of state requests and growing economic limitations, the future of these highlighted initiatives is uncertain at best.

The highlights include $12 billion worth of rail projects out of an unspecified $38 billion total for the entire Plan, although all figures given are rounded off and some projects have no estimates at all, so that no analysis of road vs rail projects is possible. The whole Plan appears to be a political document with little proper costing or budgetary commitment.

Other evidence that bureaucratic thinking is still rooted in the traditions of the past includes recent anti-road congestion measures - in the "Keep Melbourne Moving" anti-road-congestion initiative launched in May 2008, the only provisions directly related to improving public transport services were two tram stops and improvements to two tram routes - $5million out of $113million, just over 4%! (VicRoads 2008).

There still seems to be no understanding within government or the bureaucracy that the only permanent solution to road congestion is to get commuters out of cars and into trains (especially since trams and buses add to road congestion). For example, there is an urgent need for a rail link to Doncaster and beyond, to alleviate traffic congestion at the city end of the Eastern Freeway and make Doncaster Shopping Town functional as a principal activity centre. The DART bus link to Doncaster is not a feasible mass transit alternative.

It could be an encouraging sign for public transport initiatives that Federal funding for one road project, the Peninsula Freeway, appears to have been refused (as of late March), although this may also be a sign of overall limited funding rather than any bias against road projects or in favour of more comprehensive integrated rail networks in Australia.

(E) INFRASTRUCTURE - PUBLIC OR PRIVATE FUNDING?

Given population growth, global warming and peak oil, triple-bottom-line benefits from infrastructure provision must be the primary goal of city development strategies. In Melbourne for example, infrastructure funding mechanisms will have to be adopted that extend beyond traditional state or private sector funding (AEG 2008).

States must consider debt funding of infrastructure projects, including integrated public transport initiatives. Particularly during an economic downturn, equity markets are likely to be interested in stable returns that allow communities to invest in their own futures (AEG 2008) so industry is likely to prefer the state to fund public infrastructure through government debt rather than taxes and user charges, because debt financing delivers broader economic benefits like employment without impacting on good management.

These strategies match costs to community benefits over time. Recent quantitative analysis by Allen Consulting (Allen 2004) indicates that:

- *Government at state and local levels should acknowledge that re-capitalising our cities is essential to maintain and enhance economic, social and environmental sustainability.*
- *The case for the greater use of government debt is strong.*
- *Fundamental public finance arrangements need to be revisited.*
- *The trend towards ad hoc and wasteful infrastructure funding techniques should stop.*

At least up until the current international economic depression, fiscal policy eschewed debt and tax increases. Neo-conservative economic theory suggested that fluidity in international capital markets enforced major disciplines on macro economic policies. This reluctance to maintain or increase traditional public borrowing opened the way for public-private partnerships (PPPs).

But there is a tendency towards natural monopoly public sector provision and regulation of urban infrastructure, given its public good characteristics and capacity to generate externalities, which can include positive health impacts, facilitating international competitiveness amongst regional firms and shaping development patterns in preferred ways. Infrastructure investment would be sub-optimal if left to the market (SGS 1999). Some authors go further and state that there is no rationale for State governments not to borrow, and that there is no direct relationship between public debt and interest rates.

PPP policies can thus be viewed as being due to political pressure from private vested interests seeking secure public finance. Most PPPs are really just conventional principal-agent contracts - not real 'partnerships' at all but a recession-proof form of corporate welfare. PPPs can only be profitable if service quality is reduced, taxpayers get gouged, or large-scale efficiency gains are found (Sheil 2002).

The Australian Institute of Project Management reached a similar conclusion, stating that PPP projects have not delivered their promised benefits to society - community and social obligations have been ignored and further PPP projects should be stopped (AIPM 2005).

Allen Consulting warns that reluctance to use government financing could prove very expensive over time because there is more risk to economic prosperity and personal safety from under-investment in infrastructure. Failure to mobilise resources into public infrastructure will constrain economic opportunities and thus impact on the livability of urban areas central to competitiveness and sustainability (Allen 2004).

However, one of the upsides of the current economic downturn is the recognition by both state and federal governments that large-scale provision of neglected infrastructure is necessary to underpin a return to efficient and prosperous cities. Hopefully they will also recognize that while many roads need to be maintained, building more of them is counterproductive in a carbon-conscious and resource-efficient world.

(F) NEEDED - A CENTRAL IMPLEMENTATION AUTHORITY

Provision of infrastructure funding is the first hurdle - the second is implementing the infrastructure projects. In Melbourne, the main imperative identified by the M2030 Audit Expert Group for the city's planning and public transport woes was the need for better governance arrangements to ensure the necessary responsibility, authority and visible leadership to oversee and coordinate the implementation of a sustainable city planning strategy (AEG 2008, p6). The Audit suggested several options: coordination by the Department of Premier and Cabinet; a Metropolitan Planning Authority; a Ministerial Advisory Council; or an inter-departmental coordination committee.

Instead. the Government chose the least effective governance option - an implementation group buried within the Department of Planning and Community Development (DPCD 2008). And this was after the Victorian Auditor-General's Office had just found that DPCD still did not even have the capability to comprehensively measure and monitor the performance of the existing state planning system (VAGO 2008a).

Voluntary central coordination in Victoria has failed to provide any driving force to unite the government bureaucracy (and Treasury in particular) behind the implementation of M2030 and a fully integrated metro-wide mass transit system, largely because of a lack of expertise, vision and political will. This is clear from the documented failure of M2030 to achieve its goals, in particular the lack of progress over the last five years towards serious planning (let alone funding or implementation) for an extended integrated rail network to serve the outer metro area and growth corridors.

Strong state government leadership and a new collaborative culture between government departments and agencies is needed to implement planning and transport reforms. As the M2030 Audit concluded, this will require a new statutory authority to coordinate a more compact city with greatly improved public transport and reduced private commuting and to ensure efficient provision of infrastructure into growth and intensification areas (a conclusion the M2030 Implementation Reference Group also arrived at four years ago: M2030 IRG 2004).

The new authority would need the full support of Treasury and a mandate to implement a re-defined, more prescriptive sustainable metro strategy to minimise the outer suburban sprawl and prevent increasingly unsustainable dependence on private vehicle transport. It should draw on external expertise rather than the moribund Victorian bureaucracy, and it could also be headed up by an influential visionary like Professor Peter Newman, who ran the WA Government's sustainability unit so successfully when it was first set up.

(G) CONCLUSION

Planning for Australian cities in the 21st century will mean urgently adopting strategies to deliver more compact and efficient cities that conserve water and energy, provide more affordable housing, and reduce greenhouse emissions, petrol dependence and traffic congestion (minimising road use by commuters and freight).

In Melbourne, there have been no significant efforts to fully coordinate and deliver the M2030 strategy, as recommended three years ago by the Minister's own M2030 Implementation Reference Group (M2030 IRG 2005) and last year by the M2030 Audit. Consequently, an independent statutory planning and transport authority must be established to coordinate a triple bottom line approach to public transport and urban planning in Melbourne, including the implementation of M2030 and the urgent development of a metro-wide, fully integrated public transport system based on heavy rail.

Given the present Victorian Government's failure to provide enough funding for extra necessary infrastructure and maintenance of existing facilities - even for regional roads (VAGO 2008b) - there will need to be a major paradigm shift in government thinking if an effective, sustainable metro development and transport strategy is to be delivered.

In the context of the twin crises of climate change and peak oil, earmarking any amount of funding for new road projects that would increase greenhouse emissions and prolong oil dependence is insanity. We don't need more studies or more prevarication - we just need to implement the obvious, which is also what the community has been demanding for years - a reliable, metro-wide, fully integrated public transport rail network that can cut back car dependence and ensure the future viability of Melbourne.

What is lacking is political vision and will. As the M2030 Audit concluded on p.7:

> *We have the Plan. We have the objectives. The task is to translate the words into action. One might well heed the words of the great Hawthorn football coach John Kennedy: "Don't think – just do".*

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Melbourne, March 2009

References

AEG 2008, *Melbourne 2030 Audit Expert Group Report*, Audit Expert Group, March http://www.dse.vic.gov.au/DSE/nrenpl.nsf/LinkView/44CBF8AAC036C259CA25744A0011E500718331E8AB7D9987CA256D1900299B45

AIPM 2005, *Public Private Partnership (PPP) projects*, Media release, Australian Institute of Project Management, 19 October 2005

Allen Consulting Group 2004, *Financing Public Infrastructure in Victoria: A comparison of approaches*, Report to Property Council of Australia (Vic), Sydney. www.propertyoz.com.au/vic/Allens%20Consulting%20Infrastructure%20Victoria.pdf

Arnott R & Small K A, 1994, "*The Economics of Traffic Congestion*," American Scientist, Vol. 82, No. 5, pp. 446-455.

Braess, C., A. Nagurney, and T. Wakolbinger (2005), "*On a Paradox of Traffic Planning*," translated from the (1968) original Braess paper from German to English, Transportation Science, Vol. 39, No.4, pp. 446-450.

Ding C & Song S, *Paradoxes of Traffic Flow and Congestion Pricing*, http://www.cec.zju.edu.cn/web/UserFiles/File/6.12.doc.

DOI 2002, *Metropolitan Strategy: Melbourne 2030 - Planning for Sustainable Growth,* Department of Infrastructure (Vic), October 2002

DoT 2008, *Victorian Transport Plan*, Department of Transport (Vic), December 2008 http://www4.transport.vic.gov.au/vtp/

Downs A 2004, *Still Stuck in Traffic: Coping with Peak-Hour Traffic Congestion*, Washington D.C.: Brookings Institution Press.

DPCD 2008, *Planning for all of Melbourne*, [incl. M2030 Audit Expert Group Report] www.dse.vic.gov.au/DSE/nrenpl.nsf/childdocs/-3AFDBF77580D7A93CA256D19002583CC-718331E8AB7D9987CA256D1900299B45-44CBF8AAC036C259CA25744A0011E500?open

DPCD 2009, About Melbourne 2030, http://www.dse.vic.gov.au/DSE/nrenpl.nsf/childdocs/-3AFDBF77580D7A93CA256D19002583CC-718331E8AB7D9987CA256D1900299B45-A880EF1092FE0F07CA256D19002A0A5D?open

Google 2009, *Google cache of M2030 IRG from DPCD website*, http://72.14.235.132/search?q=cache:YoDQN04pkLMJ:www.ces.vic.gov.au/DSE/nrenpl.nsf/LinkView/A851C2CBB0D142CCCA256DDC007FE5154761677A5E8BBC52CA257

2DB00128993+melbourne+2030+implementation+reference+group&cd=1&hl=en&ct=clnk&gl=au&client=firefox-a

Graham D J 2007, *Investigating the link between productivity and agglomeration for UK industries*, Centre for Transport Studies, Imperial College London

Kenworthy J R 2003, *Transport Energy Use and Greenhouse Gases in Urban Passenger Transport Systems: A Study of 84 Global Cities*, International Sustainability Conference, Perth, 17-19 September 2003

Mees P 2004 '*Paterson's Curse: the Attempt to Revive Metropolitan Planning in Melbourne*', *Urban Policy and Research,* Vol 21 (3) pp 287-299

M2030 IRG 2004, *Challenges to the Implementation of the Activity Centre Policy,* Melbourne 2030 Implementation Reference Group, July 2004

M2030 IRG 2005, *Confidential Draft Response to the Metropolitan Transport Plan*, Melbourne 2030 Implementation Reference Group (Transport Thematic Working Group), 16 February 2005

Mogridge M J H, 1990, "*Travel in towns: jam yesterday, jam today and jam tomorrow?*". Macmillan Press, London. ISBN 0-333-53204-X

Murchland, John, "*Braess's Paradox of Traffic Flow*," Transportation Research, December 1970, Vol. 4, pp. 391-394.

Shefer D, Aviram H (2005), *Incorporating agglomeration economies in transport cost-benefit analysis: The case of the proposed light-rail transit in the Tel-Aviv metropolitan area*, Papers in Regional Science 84 (3) , 487–508 doi:10.1111/j.1435-5957.2005.00048.x

SGS 1999, *Managing Urban Systems - an Introduction*, Spiller Gibbins Swan Pty Ltd, University of Canberra (SGS Urban Economics and Planning, Melbourne)

Sheil C 2002, *The trouble with PPPs - An un-holy alliance*, Evatt Foundation Breakfast Seminar on PPPs, Southern Cross Hotel, Sydney, 16 August 2002

VAGO 2008a, *Victoria's Planning Framework for Land Use and Development*, Victorian Auditor-General, 7 May 2008. <http://www.audit.vic.gov.au/reports__publications/reports_by_year/2008/20080507_land_use_and_devt.aspx>

VAGO 2008b, *Maintaining the State's Regional Arterial Road Network*, Victorian Auditor-General, 25 June 2008 <http://www.audit.vic.gov.au/reports__publications/reports_by_year/2008/20080625_reg_arterial_road.aspx>

VicRoads 2008, *Keeping Melbourne Moving,* 29 April 2008 http://www.vicroads.vic.gov.au/Home/RoadsAndProjects/RoadAndTrafficManagmement/KeepingMelbourneMoving.htm