

INQUIRY INTO CROSS CITY TUNNEL

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Theme:

Summary

**SUSTAINABILITY AND INFRASTRUCTURE: PUBLIC PRIVATE PARTNERSHIPS IN TRANSPORT
- A Fork in the Road?**

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Sustainability

Sustainability is a new way of thinking in public policy that has arisen out of global politics. It has considerable relevance to any discussion about infrastructure. It is a reaction to the kind of engineering that sees any development as acceptable as long as it can be efficient. Since the UN World Commission on Environment and Development (the Brundtland Commission) in 1987, sustainability has challenged us to think differently. It suggests that we must consider the long term legacy of any infrastructure and we should be able to demonstrate that there are simultaneous benefits to the environment, the community and the economy (Newman and Kenworthy, 1999).

Every state in Australia is actively pursuing what this means for governance. In Western Australia we produced a State Sustainability Strategy (Government of WA, 2003) that sought to locate the core principles of sustainability (see Box 1). There are several principles of relevance to infrastructure considerations covered in this paper: one is the principle relating to the 'common good in planning'; a second is about the need to try and achieve 'net benefit' in development; the third is how sustainability applies to cities meaning each step of development should 'reduce the ecological footprint (land, water, energy, waste...) whilst simultaneously improving the quality of life'.

In NSW the Sydney Metropolitan Strategy (Department of Planning, 2005) is based on a similar set of five principles that suggests all urban development should simultaneously 'Enhance Liveability; Strengthen Economic Competitiveness; Ensure Fairness; Protect the Environment; and Improve Governance'.

The Sydney Strategy also says all new urban development must meet a set of sustainability criteria. Each of these has some measurable directions associated with them, for example on infrastructure and on access (see Box 2). What these clearly suggest is that there will be no new infrastructure unless it is clearly part of a government plan, and there will be no new suburb or redevelopment area without new transport infrastructure that can help achieve all the sustainability goals.

This is the Plan. This is what all Australian cities want. But it just doesn't seem to be happening that way. This paper will try to help us see why.

The Need for Transformative Public Transport Infrastructure

Sustainability principles are very demanding. Not only are we having to do difficult, long term thinking across disciplines, but we are also having to create a different kind of city

where people use less energy and water, take up less land, and create less waste/emissions. This is not what we are used to as we know how to create more liveability but we have always done this at the expense of the ecological footprint, especially energy.

Transport is one of the main ways that cities can choose to change their character and create a different approach to ecological footprint and liveability. Thus cities are beginning to see they must build transformative public transport systems. Sustainability requirements cannot be met by large road systems. Roads use up huge amounts of space: freeways can only carry 2,500 people per hour in each lane; in the same space a busway would carry 8000 and a railway can carry 50,000 or 20 times as much as a freeway. The Sydney Olympics rail spur carried 50,000 people per hour to the stadium; a 20 lane freeway would of course have been impossible economically as well as in terms of the space required. If Sydney's CBD rail connections were cut you would need to provide 65 lanes of freeway and 782 ha of car park which would pave over the CBD.

This spatial requirement as well as the cost of driving help to explain why rail-based cities in a global survey by Kenworthy and Laube (1999) were 43% wealthier, and why they have a lower percentage of their wealth being spent on transport (5 to 8% in good public transport cities of 12 to 19% in car-based cities). At the same time they use much more fuel for transport (US and Australian cities use 30 to 80 GJ of fuel per person compared to Wealthy Asian cities (Hong Kong, Singapore and Tokyo) and European cities which use 5 to 15 GJ per person with correspondingly less emissions; yet none of these fuel use patterns relate to per capita wealth levels (Newman and Kenworthy, 1999). All our data suggest that some cities invest in high quality public transport infrastructure and others don't, and that this can explain most of the patterns in transport and in land use.

Transport investment shapes cities because of the Marchetti Principle: each of us have a travel time budget and the average in every city is around 1 hour per day. If a city builds good roads then people save time by using them, if a city builds good public transport then people save time by using that. The land use will build around the infrastructure to ensure these patterns are maintained. If you want a city to stop sprawling you stop building fast roads. If you want it to concentrate into centres then build a quality rail system. This is the theory behind why all Australian cities have Strategic Plans that suggest they want their cities to be built around a set of urban centres linked by quality public transport that can go faster than the traffic down that corridor.

In my analysis for Sydney as a NSW Sustainability Commissioner I concluded that the city's chronic traffic and public transport problems would only be overcome by a 'transformative' set of new public transport infrastructure. This was also necessary to complete their sustainability obligations which they had set themselves. This would require the kind of change that has been happening in the only Australian city to spend substantially on new rail in the past twenty years – Perth. The new rail system has been created since the 1983 decision to reopen the Fremantle rail line, closed by the previous Coalition Government. The political crisis around the rail closure led to the political

momentum around the electrification, extension north and now south, with an investment of around \$2 billion that has created a 280 km modern rail service with 72 stations. This is now faster than the traffic in all corridors and has become the basis of a redevelopment strategy that has made Transit Oriented Development not only feasible but highly attractive for a city previously built around the car (Newman, 2002).

How does a city build a transformative public transport system? It starts with a strategic plan and then it seeks funding. All Australian cities have strategic plans setting out their transformative systems that they would want to see built. All of them are stuck in the next phase of what they can finance.

Sydney for example, in its Metropolitan Strategy has committed itself to the Global Arc Rail (as I call it) which links together the North West growth area through the CBD (and global arc of the new economy jobs) and out to the South West growth area. This can be a completely new technology, fast rail which would considerably shorten travel times and join stranded areas together. It would indeed be transformative. But it will cost around \$8 billion and although land is being purchased the next financing phase is still to come.

Sydney will also need an upgraded (much faster) rail system out to the west (again this is shown conceptually on the Sydney Plan but no detail is given). And Sydney will need a much revamped central city light rail system. The inner and CBD 'bus bunching' means that travel on buses is now so slow it is like Bangkok where people can walk almost as fast as the traffic.

These are the kind of options in Sydney about how to create a more sustainable city through transformative infrastructure planning that have received considerable coverage in the media. Yet the governance structures are not in place to make this happen. Instead the governance has been geared up to build major roads (over \$10 billion worth in the past decade) mostly through Public Private Partnerships (PPP's).

PPP's in Transport

Public Private Partnership can build roads or railways, they don't just have to be tollways. Now that the Metropolitan Strategy is suggesting large rail projects are needed perhaps the priorities will change. This is only if the politics also favour this priority and the politics of infrastructure in NSW and in most Australian cities has been to big roads as the major transport infrastructure – mostly using PPP's. The politics of the Cross City Tunnel controversy in Sydney perhaps may help to shift this priority. The Cross City Tunnel has become a symbol of how an infrastructure project funded entirely by the private sector can undermine local accessibility and public transport in order to ensure their necessary profits. This totally undermines the basic approach of sustainability which seeks to achieve common good outcomes with less vehicle use not more. How did we get to such a situation?

I believe that this has happened because of an inevitable shift in the source of funding that has tipped infrastructure into being predominantly private rather than predominantly

public in its financing and in its strategic planning. In order to prevent this happening in future projects we need to understand how we got into this fix.

A short history of Australian transport funding.

Three stages can be identified in recent times:

1. 1975-2000 Federal Benevolence-State Road Agency Dominance.

The Whitlam Federal Government established a major road funding program that directed grants to State Governments for their Interstate Highways in cities and regions. States and local governments also provided funds but the dominant and catalytic source was Federal. There was no equivalent arrangement for rail; in this period the Federal Government gave \$43 billion to roads (in 1999 currency), \$1 billion to rail and \$1 billion to urban public transport (Laird et al 2001).

State road agencies like the RTA (NSW) and Main Roads (WA) were on a drip feed from Canberra. They became largely independent of state politics as no State Government was going to refuse hundreds of millions of dollars. These agencies became autonomous and arrogant in the face of any opposition from civil society. The private sector lived off them through contracts but did not need to raise finance to be part of PPP's.

Virtually no rail capital works occurred during this period. The exception was Perth, where rail became a political priority following closure of the Fremantle rail line by the Coalition Government in 1979. Subsequent elections were fought on re-opening, rebuilding and extending the Perth rail system; it was however all based on capital raised by the State Government, i.e. loans to be repaid in contrast to free grants for road.

2. 2000-2005 Private Sector Road Dominance.

The rise of private road investment began before 2000 as financial institutions and State Governments began working closer together in the 1990's. However it received a big boost in 2000 when the GST was introduced and the Federal Government gave these funds to the States in place of previous direct grants. This meant that the Federal Government now only funded regional main roads and the States were responsible for city roads. This became a bit blurred on the fringes of cities, eg the Sydney M7 was Federally funded. Rail remained on the outer until the recent Auslink Program which includes a little for regional rail, but nothing at all for cities.

Within cities, where most transport funding was required, the States now had to look to consolidated revenue rather than the designated road funds previously given from the Federal Government. This meant that transport had to compete with other demands and in this period funding has gone mostly into health and education – always the political priorities.

Road agencies, now bereft of funds for city highways, turned to the private sector for capital. This built on the culture of independence already established within these road agencies. Some tollways had already been built as PPP's but now they were seen

as the main solution to the capital shortage problem. Under borrowing limits imposed by the Federal Government and with their priorities elsewhere, States eagerly accepted the tollway funds – especially when accompanied by sweeteners of \$100 to \$200 million given to the State Government to help achieve permission to build.

However the conditions imposed by the private sector on PPP's for roads meant that public transport was not allowed to become more competitive (e.g. some contracts legally forbade public transport improvements within 3 kms of the tollway) and even local roads had to be directed into tollways to ensure profitable traffic levels. Government responsibility for the common good was becoming unstuck, with public transport squeezed even further to the outer edge of the vicious cycle.

3. 2005-? Road and Rail PPP's?

In 2005 Sydney has been the scene of a fundamental change to the culture and politics of private sector road dominance. Other cities have had some similar experiences.

First, there was widespread appreciation that the tollway solution was not solving the city's problem, namely its transportation was grinding to a halt. Faster private roads like faster public roads only create more traffic and shift the problems to other parts of the city. Community concern was highlighted by the Sydney Morning Herald's 'Campaign for Sydney' and discussion around the State's Metropolitan Strategy (Department of Planning, 2005). Similar debates occurred in all Australian cities but in Sydney it was such that transport began to shake the dominance of health and education as the top political priorities.

Second, the first proposal to build an entirely privately financed rail project was presented, based on the same principles as tollways (Western Fast Rail). The NSW State Government (especially Treasury) could only freeze at this project, as their only experience with (partly) private rail had been negative and their commitment was clearly with private road transport. This proposal was followed by a State Government announcement (based on the conclusions of the Metropolitan Strategy) to build the \$8 billion rail from the NW to SW growth sectors through the CBD (the Global Arc Rail); this was announced as a PPP though no details were provided.

Third, the debacle of the Cross City Tunnel revealed that the RTA had negotiated a contract that clearly did not look after common good outcomes. In an Australian first the head of the RTA was forced to resign. Tollways took another hit after an apartment block began slipping into one of the tunnels.

Where to from here?

I believe there are two choices:

1. Restore the dominance of government funding to PPP's (the US and European model).

If the Federal Government participated in funding urban infrastructure as suggested in the recent House of Representatives report on Sustainable Cities, then States could

once again manage transport infrastructure without the need for private sector funds and the conditions that inevitably accompany them. Governments can borrow funds at a better rate and can ensure that common good outcomes are written into all contracts without the fear of compromise.

More importantly, this public process can include road and rail, and can be done using planning processes that ensure sustainable outcomes are achieved, i.e. priorities can be decided based on community engagement and strategic planning, rather than backroom decisions by engineers in the RTA and the like. These priorities have been set as part of the metropolitan planning process in each Australian city but in every case they are failing to be implemented due to lack of infrastructure funds.

This is the process that governs transport decisions in the United States and in Europe. The US Federal Government provides substantial base funding that needs to be matched by States who can find local government and private sources to top it up. Their process must go through community-based approaches and eventually a Metropolitan Planning body that approves strategic priorities (Newman and Kenworthy, 1999).

One problem with this model is that government dominance can mean fewer innovative solutions are found and some long term inefficiencies in transport management are not dealt with (eg union rules and management practices that remain unquestioned).

2. Allow more private sector PPP's in road and rail with greater control of conditions (the Asian and third world model).

If the Federal Government will not change their funding priorities then there is no choice for States – they will need more PPP's where the major funding comes from the private sector. This is how many Asian cities like Singapore, Seoul and Hong Kong fund rail and road projects and increasingly how the World Bank operates in the third world.

If this model were to be adopted in Australia, PPP's must no longer be allowed to be so cavalier about common good outcomes nor can they be so lacking in strategic direction. Governments can address this through processes such as the metropolitan planning strategies which establish the priorities to underpin PPP's on rail and road projects. Perhaps there should be clear restrictions on ownership of such infrastructure with PPP's just being allowed for 'build, maintain and operate', not 'own'.

No doubt this will sometimes mean more roads appear as priorities, especially for freight in key locations. However it would also mean that rail projects like the Western Fast Rail and Global Arc Rail (NW-SW) could be high priority funding opportunities - they are central to the Sydney Metro Strategy in its goals and its detailed planning for key corridors and they are projects that respond to issues such as

looming peak oil, climate change and accelerating traffic growth. Light rail is also an obvious requirement for Sydney.

The rail projects could be entirely new fast rail technology, on separate track from the public system though linked to stations where land development opportunities could be negotiated as part of the contract (enabling both public and private benefit). These rail systems could be built using private sector funds, especially superannuation funds that are looking for safe investment with public good outcomes for their subscribers. However a fully public disclosure of all key elements of such PPP's must be part of any contract development and they must be subject to the full public assessment process. The neglect of common good outcomes cannot be allowed to continue. This would be a new kind of State Government institutional responsibility and process as these contracts have been shrouded with secrecy in the past.

Final Thoughts

Australian cities are in a critical state of need for transport infrastructure, especially for rail systems (with the exception of Perth the infrastructure is not fit for purpose) whilst traffic growth is out of hand and the problems of car dependence continue to proliferate. Funding such infrastructure has reached a fork in the road – or the tracks. Australia can either go for a more traditional funding that involves governments finding most of the capital or for a more experimental PPP where the private sector finds most of the capital. There are problems with either approach but the reality is that cities cannot wait for a perfect model – they desperately need help.

My preference is for the public-funded model as there is already a lot of experience in State Government planning and assessment processes to ensure common good outcomes are achieved, though not necessarily more sustainable outcomes. The Perth rail system is adequate testament that a modern city can build a competitive and efficient rail option in Australia using public funds. All Australian cities have plans in place that will direct priorities towards new and revamped public transport systems with centres and corridors that reduce car dependence. However, this option must be supported by the Federal Government. It cannot work realistically in a world where State Governments have to find all the funds. They are always going to favour health and education - unless designated capital funds can be unlocked from Canberra. If they are not then we must head down the path of the private-based PPP with all its risks and questions.

In order to ensure common good, sustainability outcomes, in our infrastructure decisions, it is necessary to further develop our assessment process, whether it is for public or private infrastructure. Sustainability assessment has been developing based around major resource development projects (see Pope, Annandale and Morrison-Saunders, 2004). The idea is that projects are not only getting delayed in their assessment but that the kind of assurance needed by financiers is increasingly requiring that broader social, environmental and strategic/political issues are adequately considered (Gibson, 2005). This is an approach that requires government and the private sector to:

- Consider social, environmental and economic factors together and early in the scoping stage of projects;
- Minimize trade-offs and create 'net benefit' outcomes in each area of the triple bottom line (often using offsets);
- Provide space for community engagement in both the scoping stage and the detailed project assessment phase;
- Ensure common good outcomes are paramount in the focus as it is not possible to create the sustainability assurance needed in such projects without it.

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Box 1 Principles For Sustainability in Western Australian Sustainability Strategy

FOUNDATION PRINCIPLES

• **LONG TERM ECONOMIC GAIN**

Sustainability recognises the long term needs of future generations (as well as the short term) for economic health, diversity, innovation and productivity of the earth

• **ACCESS, EQUITY AND HUMAN RIGHTS**

Sustainability recognises that everyone should have their interests recognised and share in the fruits of development, that an environment needs to be created where all people can express their full potential and lead productive lives, and that dangerous gaps in sufficiency, safety and opportunity endanger the earth.

• **BIODIVERSITY AND ECOLOGICAL INTEGRITY**

Sustainability recognises that all life has intrinsic value, is interconnected and that biodiversity and ecological integrity are part of the irreplaceable life support systems upon which the earth depends.

• **SETTLEMENT EFFICIENCY AND QUALITY OF LIFE**

Sustainability recognises that settlements need to reduce their ecological footprint (i.e. less material and energy demands and reductions in waste), whilst they simultaneously improve their quality of life (health, housing, employment, community...).

• **COMMUNITY, REGIONS, 'SENSE OF PLACE' AND HERITAGE**

Sustainability recognises the reality and diversity of community and regions for the management of the earth, and the critical importance of 'sense of place' and heritage (buildings, townscapes, landscapes and culture) in any plans for the future.

• **NET BENEFIT FROM DEVELOPMENT**

Sustainability means that all development and particularly development involving extraction of non-renewable resources should strive to provide net environmental, social and economic benefit for future generations.

• **COMMON GOOD**

Sustainability recognises that planning for the common good requires acceptance of limits to system requires acceptance of limits to consumption of public resources (like air, water, open space) so that a shared resource is available to all.

PROCESS PRINCIPLES

• **INTEGRATION**

Sustainability requires that economic, social and environmental factors be integrated by applying all the principles of sustainability at once, and seeking mutually supportive benefits with minimal trade offs.

• **ACCOUNTABILITY, TRANSPARENCY AND ENGAGEMENT**

Sustainability recognises that people should have access to information on sustainability issues, that institutions should have triple bottom line accountability on an annual basis,

that regular sustainability audits of programs and policies should be conducted, and that public engagement lies at the heart of all sustainability principles.

- **PRECAUTION**

Sustainability requires caution, avoiding poorly understood risks of serious or irreversible damage to environmental, social and economic capital, designing for surprise and managing for adaptation.

- **HOPE, VISION, SYMBOLIC AND ITERATIVE CHANGE**

Sustainability recognises that applying these principles as part of a broad strategic vision for the earth can generate hope in the future, and thus it will involve symbolic change that is part of many successive steps over generations.

Box 2 Sydney Metropolitan Strategy Sustainability Principles of relevance to infrastructure.

1. Infrastructure Provision

Mechanisms in place to ensure utilities, transport, open space and communication are provided in a timely and efficient way.

Measurable Explanation of Criteria

- Development is consistent with any relevant residential development strategy, subregional strategy, regional infrastructure plan, and Metropolitan Strategy.
- The provision of infrastructure (utilities, transport, open space, and communications) is costed and economically feasible based on Government methodology for determining infrastructure contribution.
- Preparedness to enter into development agreement.

2. Access

Accessible transport options for efficient and sustainable travel between homes, jobs, services and recreation to be existing or be provided.

Measurable Explanation of Criteria

- Accessibility of the area by public transport and appropriate road access in terms of: - location/land use; to existing networks and related activity centres. – Network: the areas potential to be serviced by economically efficient public transport services. – Catchment: the area's ability to contain or form part of the larger urban area which contains adequate transport services. Capacity for land use/transport patterns to make a positive contribution to achievement of travel and vehicle use goals.
- No net negative impact on performance of existing subregional road, bus, rail, ferry and freight network.