Lessons in Integrated Infrastructure Planning:
The Australian Case

Roundtable held on
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Development conversations

> “Infrastructure – such as water, energy, communications and transport – has very complex relationships with economic, community, and environmental issues.”
>
> Australian infrastructure priorities, May 2009

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Lessons in integrated infrastructure planning: The Australian case

1. Introduction

In recognition of the critical impact of infrastructure on economic growth, the South African Cabinet recently established the Presidential Infrastructure Coordinating Commission. The DBSA has also been tasked by its Board to develop an integrated infrastructure approach and a 10-year infrastructure plan which must be sufficiently flexible to take into account the long term national development agenda.

The Bank's Development Planning Division which is primarily responsible for this work recently convened a Roundtable to explore a comparative Australian case study of infrastructure planning with potential to generate alternative perspectives on, and new insights into the South African challenges. The purpose of this Roundtable was to gain practical insights into the approach of the Australian government that could be applied in South Africa and where possible in the broader Southern African context. Of particular interest was how to improve efficiencies and coordination of infrastructure across the three spheres of government.

The discussion was informed by presentations from Dorte Ekelund of the Australian Department of Infrastructure and Transport, and by Stephen Alchin of Infrastructure Australia. The purpose of this report is to provide a summary of the key issues that emerged from discussion at the Roundtable.

2. Features of the Australian infrastructure development environment and emerging issues of comparative interest

2.1 Institutional arrangements

The current Australian labour government, which came into power in 2007, identified that there had been significant under-investment in national infrastructure. There was also a critical need to focus more intensively on Australian cities and the management of urban infrastructure systems as the Federal government saw urban systems as outside of their ambit. This led to the establishment of Infrastructure Australia, an Advisory body with a broad mandate in infrastructure policy. Its key task is to secure the future productive potential of Australia – thus productivity is the main driver of Infrastructure Australia's existence.

"Infrastructure Australia was created to drive the development of a long term, coordinated national approach to infrastructure planning and investment. Infrastructure Australia seeks to ensure that Australia identifies and invests in the infrastructure needed to meet the significant challenges ahead, while also being mindful of the issues our community faces today."

(Australian infrastructure priorities, May 2009).

2.2 Identifying infrastructure needs

One of the first tasks of Infrastructure Australia (IA) was to develop investment proposals by 2009. In 2008, it instigated an audit of infrastructure needs, a bottom-up exercise whereby local or provincial governments could put forward proposals. Six hundred submissions and 1 000 infrastructure proposals were received and evaluated against a template. The weakness in the process was that, as a submissions-based model, it lacked a strategic view. Furthermore, although a large number of proposals were received, they were not well considered, struggled to present a strategic context, or lacked key information such as a clear statement of the problem and how infrastructure was to address it.

The exercise revealed that states and territories did not have clear strategic plans. As a result the Prime Minister initiated a coordination exercise across Australia involving heads of Treasury and Premiers, and established a task force to consider what criteria should guide infrastructure planning. This process generated a National Objective for infrastructure development which emphasised productivity, liability, and social inclusion.

As a consequence several processes were initiated:

- Infrastructure Australia (IA) provided strategic top down advice regarding where government should direct its infrastructure resources. IA also sought to develop a long term perspective with thirty to forty year timescales incorporating costing models.
- A transport-focused National Ports and Rail Strategy was commissioned.
- A Reform Council to review infrastructure development in capital cities, establishing criteria for metropolitan systems, and examining plans, implementation elements and capacity to deliver.

Government also created a 'Major Cities Unit', a small urban policy think tank. Following a public consultation process, government released a National Urban Policy in May 2011, which informs thinking on infrastructure planning.

2.3 Evaluating projects

The Australian approach to evaluating the potential of proposed projects was discussed at the Roundtable. The following criteria were applied:

1. National Significance Test (capital cost of at least AU$100 million). The project needs to address a national infrastructure problem, and innovation with potential for wide application.
2. Test of strategic fit and alignment. To what extent has the project proponent given evidence that there is alignment with relevant policies such as the National Urban Policy? Is the proponent taking into account longer term challenges such as economic productivity, climate change, other dimensions of environmental sustainability, energy, security, etc? To what extent has the proponent made an effort to consider other parties who may be affected by the infrastructure proposal?

3. Economic benefit and investment involving cost-benefit analysis. Fairly conventional approaches may be employed such as discounted cash flows, wider economic benefits, etc. Cost benefit ratios must be taken into consideration. A minimum cost benefit ratio of above 1:1 was set. It is a requirement that proponents must prepare a cost benefit assessment for IA to interrogate.
4. Deliverability. This covers the area of funding arranagements. Where possible, especially for projects involving transport, ICT, water and energy, improvements should be funded through user charges. What needs to be established is the proponent's willingness to accept such an approach and if they will contribute to the financing mix.
5. Risk management. Is there a solid risk management plan consistent with international standards? Have the necessary environmental approvals been secured? Have land acquisitions been attended to?

2.4 Prioritising projects

An Infrastructure priority list was devised with four components, based on a bottom-up and top-down strategic view. Projects are categorized as:

1. Worthwhile but at an early stage
2. Showing real potential
3. On the threshold for investment
4. Ready to proceed – investment ready.

In prioritising projects, two new advances in the approach as contained in the 2011 report of Council of Australian Governments (COAG) were added:

- First IA provided some advice on the relative priority of projects judged as ready to proceed. A matrix with two criteria was applied. One criterion is the degree of strategic fit, and the other criterion is the benefit cost ratio. The application of these criteria provides a list starting with projects ranked from the highest priority and tapered down, against these criteria.
- Second, IA provided advice to the Australian government on projects worthy of development funding. In recognition of the fact that the Government could steer support to future investments, a list of projects requiring development funding was produced. This was in addition to a project list confined to relative capital investment.

2.5 Challenges for infrastructure

Australia has three tiers of government making intergovernmental operations a challenge. There is a high degree of vertical-fiscal imbalance – 80% of public sector funding is provided by the federal state, 16% of funding is provided by provincial states, and 4% of funding is provided by local government. There is a fair amount of intergovernmental transfer. Most infrastructure spending is channeled towards transport, water and energy. The following aspects were given attention in the discussion:

Addressing transport issues in Australian cities is challenging. As a result of this, IA seeks to better understand future transport needs. Therefore the focus has been on improving public transport as opposed to building more roads, which only addresses congestion issues. Attention is not only on the movement of people, but also on the movement of goods.

The previous developments did not adequately address issues faced by inner cities which led to greater congestion, with the existing infrastructure unable to accommodate the influx of people into inner city precincts.

Passenger rail systems were also previously neglected. Vehicle kilometers travelled per person are now showing a reduction, with a concomitant increase in public transport usage. However, there is a capacity issue in public transport.

2.6 Institutional capacities

What is the capacity of these institutions to deliver on their mandates? It was established that the IA was not adequately capacitated. Currently IA has a staff of less than 50 with an additional technical team of twelve. Consequently, IA has a consultancy budget and has depended heavily on consultants. Resources increased by 40% in last budget round.

The Major Cities Unit reporting to the Department of Infrastructure and Transport, was established with four people. Given the resource limitations, the Unit needed to work through leveraging resources in a collaborative or partnership mode such as with the big private sector entity, Planning Australia. Now the Unit has 11 people with offices in Sydney and Canberra and it works with agencies across the Australian government. The challenge is to spread this thinking to other agencies about operating in a more coordinated way.

2.7 Financing

Public Private Partnerships (PPPs): Australia is probably a world leader in the use of PPPs. However, the number of PPPs is decreasing, especially with the global financial crisis and the impact of rolling over debt. There have been at least three financial collapses in PPPs, all of them toll-way projects – two in Sydney and one in Brisbane. Insufficient funds have been generated through tolling systems to pay off debt. Now the private sector is a lot more cautious about getting involved in these types of projects. Increasingly, it is the case that the private sector is looking to government to underwrite projects. Also, there has not been a strong public appetite for paying tolls, so the Australian Government announced some changes to make toll-ways more attractive and addressed provisions in the taxation legislation with respect to the change of ownership of entities.

Pension funds: Another avenue of funding that has been considered is through pension funds that are willing to invest in developing brown field projects as opposed to investing in new projects where the infrastructure component asset class is small. Government is considering what can be done to increase pension funds' appetite to invest in infrastructure?

Greater national coordination: Most of the agencies in government operate in silos but there are attempts to work across agencies to increase impacts on urban systems. Within the Major Cities Unit, there are massive investments in health, education, defense, etc. so the idea is to work with colleagues in other portfolios to approach their plans more strategically and thus to achieve improved outcomes. For example, greater coordination is sought across vertical spheres of government. The Department of Infrastructure and Transport acknowledged that some urban cities have been neglected and some operate in silos. Within the major cities, agencies have greater appreciation for the best places to locate services that are accessible.

User charges: For alternative forms of funding, IA evaluates whether or not projects can be financed through user charges. The net economic benefit for Australia needs to be considered. Therefore the process takes into account investing in equity for returns in due course. Unfortunately, statistics show that the dependency rate will increase substantially, and health budgets are expected to double, but with less people contributing to the cash base, this will generate financial challenges in the future.

2.8 Spatial planning – the rural-urban question

Regional expenditure is an important consideration given that the Australian society is predominantly urban. 75% of the population live in cities larger than 100 000 citizens, and 67% in capital cities, whereas only 18% live in settlements with a population of less than 30 000 people. Under these circumstances, the coordination of infrastructure development involves applying resource allocation criteria such as cost-benefit ratios. Monetary based evaluations and the role of inputs from the citizenry are part of the process of spatial planning.

Parliament supports regional areas with a combination of a fly-in fly-out workforce (individuals who are primarily in the area for work purposes) and local residents, for example in Queensland and Western Australia. The challenge that arises is how much should be invested in such areas and in identifying the impact of such a strategy.

Focusing planning on cities is strategically important and beneficial because funding provided by the private sector tends to gravitate towards development projects in cities. In considering regional infrastructure it is necessary to go through processes that align strategic fit of additional infrastructure with the leading infrastructure in the region. Economic infrastructure with a development focus is the fundamental aim.

2.9 Value capture and trade-offs

Regarding trade-offs, value capture is an important consideration to realise investment potential. For example, with public transport it is important to make sure there are high density residential areas for generating accessibility to housing and transport. These are locational issues that also address living affordability. Value capture is also important where government owns land. For example it is more cost effective to develop land owned by government, and other developers could benefit

as well. In terms of structuring social housing, social inclusion has played a role. The Australian government has invested in social housing especially during the financial crisis, working closely with those in housing policy planning. Government policy is committed to skills development and advancing capacity, so the location of schools and universities is important in terms of future growth.

Value capture is receiving growing interest even from the private sector. For example, in Queensland a light rail project generated an estimated AU$120 million through local taxes, therefore spill-over benefits accrued to owners of land near where the project was implemented.

A disjuncture exists between practitioners and the communities needs and perceptions, and with pressure on government budgets, transparency is a necessity. The public does not know of all the costs and trade-offs involved. Therefore, ensuring social inclusion is necessary to ensure that the public does not make uninformed demands. The big challenge is communicating the need for change and getting people interested in government decision making processes.

2.10 Integrated planning and implementation

The, National Settlement and Infrastructure Strategy work is underway to map investment in infrastructure across Australia to support spatial analysis of how cities grow and how they are supported by infrastructure and growth patterns. There is evidence that the Australian government is taking an increased interest in planning.

Infrastructure development occurs through interaction between the state and territory (provincial) governments. The plans are prepared by the province with a reasonable amount of input by the National government, although National government is not deeply rooted in planning, as planning and implementation is usually left to agencies.

Regarding implementing integrated plans, there are weaknesses that start in strategic planning and review processes. It was noted that in public transport policy development, there is a disjuncture between national public transport strategy and provincial strategies, requiring the merging of two levels of planning. Public transport support must take account of broader development and must enable and facilitate urban growth and development. For example, the Sydney Plan has a long term approach (to 2036) with projections that the population of the city may reach 6 million from the current 4.4 million, whereby 70% of the growth may occur in the fringes of the city. In another example, the Department of Infrastructure and Transport has been involved in government led exercises to analyse the high-speed rail connecting Sydney, Brisbane, Canberra and Melbourne. Further, in New South Wales, the government has been involved in joint planning for the second Sydney Airport.

National governments' central agencies have been nervous about ongoing financing of public transport and prefer providing once-off financing. The question then becomes whether to improve public transport systems or urban roads.

3. Conclusion

The Roundtable illustrated the value of strategic and thorough development planning, and acknowledging the complexity of infrastructure development in terms of planning time frames and tradeoffs in making decisions. It seems that in the instance of Australia, making economic development the goal for infrastructure development has assisted in focusing infrastructure investment. The emphasis on integration of sectors, agencies and spheres of government seems to be shared with South Africa.

The issues of silos, neglect of investment over years, and the need to better exploit financing options are also shared characteristics between Australia and South Africa. The Australian institutions, Infrastructure Australia, the Major Cities Unit and the Infrastructure and Transport Department are all relatively new. However valuable lessons derive from their approach, in particular an emphasis on the need for a strategy within which to locate projects, and application of criteria to assess various levels of project fit, provide valuable pointers for the work of the Roundtable participants.