



Australian Government

Department of Infrastructure and Regional Development

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1. Introduction

The Department of Infrastructure and Regional Development (the Department) has prepared this submission to the Productivity Commission (PC) to provide comment on its *Public Infrastructure – Issues Paper* (Issues Paper).

The Department notes in particular that infrastructure investment is broad ranging. Funding and financing should not be reviewed in isolation of how we plan, select, deliver and operate infrastructure in Australia to ensure the right project is delivered at the right time. Furthermore, funding and financing elements should not be considered in isolation of the costs to deliver the infrastructure.

This submission has been prepared predominantly with a surface transport focus. However, the Department cannot emphasise enough the need to consider the network wide impacts of all infrastructure required to ensure a city or region is built for the long term.

The Department notes the questions put forward by the PC in its Issues Paper, and considers the questions posed as being broadly the “right questions” to ask.

This submission responds to those where appropriate and relevant to the Department’s involvement in infrastructure investment including:

- infrastructure planning;
- project selection and decision making;
- optimising existing infrastructure e.g. smart technology;
- ownership, regulation and governance;
- funding and financing;
- project costs; and
- driving micro economic reforms.

2. What is Public Infrastructure

The PC's Issues Paper defines 'public infrastructure' as 'encompassing infrastructure where government has a primary role and responsibility for deciding on whether infrastructure is provided, and/or the source of the revenue streams to pay for the infrastructure'.

For the purposes of the Inquiry, the Department notes that the Issues Paper states that the Inquiry will not seek to arrive at a precise definition of 'nationally significant infrastructure'¹, but is seeking guidance on how interpretations may influence the scope.

Whilst the Department is of the view that the current definition of nationally significant infrastructure as defined is appropriate for this Inquiry, the PC may also wish to consider:

- the role of funding, financing and cost implications of delivering public infrastructure in regional, rural and remote communities, and for different industries, including the agricultural and mining industries²;
- differences between funding and financing economic and social infrastructure; and
- the role of local government in the planning, identification, delivery and management of public infrastructure.

It is also important that the Inquiry consider the linkages and/or differences between the different types of infrastructure when assessing the funding or financing mechanisms and the costs. Such an approach identifies the public benefit of a complete transport infrastructure system as a mechanism to identify significant infrastructure and infrastructure gaps. Key examples of this approach to defining significant infrastructure include the Commonwealth and NSW government released *Joint Study on aviation capacity for the Sydney region*, and ongoing reviews of key road and rail networks.

2.1 How is public infrastructure funded and financed?

The Department views the definition of **funding** of public infrastructure as how infrastructure is paid for. There are ultimately only two sources of funding for public infrastructure: government investment, made available through the tax base; and direct user charges sourced from those who benefit from the infrastructure.

In comparison, **financing** of public infrastructure is seen as referring to the ways in which debt or equity is raised for the delivery and operation of infrastructure.

In this sense, financing is the financial mechanisms that allows public infrastructure to be delivered over the stages of the assets' life. In most cases a project will require a funding component as it is the ultimate source of capital which allows for the financing.

The Department also notes that funding and financing is sometimes discussed with reference to the capital costs of construction only. The Department is of the view that the PC may also wish to consider funding and financing requirements (and whose responsibility they should be) across the full lifecycle costs of the infrastructure, including operational and ongoing costs.

¹ As noted in the Issues Paper, under the *Infrastructure Australia Act 2008*, nationally significant infrastructure includes transport, energy, communications and water infrastructure in which further investment will materially improve national productivity.

² These issues also link in with the current Agricultural and Northern Australian White Papers.

Further information on the mechanisms currently under consideration by the Department is included later in the submission, with a summary table at Attachment A.

2.2 Trends in public infrastructure investment

In its 2013 publication *Macromonitoring infrastructure investment*, the Bureau of Infrastructure, Transport and Regional Economics (BITRE) has identified a strong overall trend towards growing investment in infrastructure over the last decade. This growth has spanned the areas of road construction, railways, harbours, telecommunications, water and energy. Investment has been evident in both the public and the private sectors. This investment appears consistent with the trends in the growth in the transport task.³

Further publications outlining trend data are available at:

1. Australian infrastructure statistics yearbook 2013
http://www.bitre.gov.au/publications/2013/yearbook_2013.aspx
2. Key Australian infrastructure statistics
http://www.bitre.gov.au/publications/2013/yearbook_2013.aspx
3. Infrastructure investment macro-monitor
http://www.bitre.gov.au/publications/2013/is_052.aspx

³ However, a detailed gap analysis of the infrastructure needs of Australia is yet to be undertaken. Infrastructure Australia is commencing this work. Until such a time as this is completed, consideration of the magnitude of an “infrastructure deficit” should be considered in this context.

3. Provision of Public Infrastructure

3.1 Commonwealth involvement in the provision of public infrastructure

Within the Infrastructure portfolio, the Commonwealth is not directly involved in the construction of new transport infrastructure or the delivery of public infrastructure services. The Commonwealth supports the delivery of transport infrastructure through State and Territory governments (the states). This role includes working with these other bodies to ensure the right project is delivered at the right time, through providing funding and other support for infrastructure upgrades, by identifying and assessing national priorities for investment, and working to implement infrastructure related reforms initiatives, such as establishing national guidelines to provide governments, the private sector and the public with certainty.

The Government has also:

- chosen to support investment of the interstate rail network through equity and grant investments through the Australian Rail Track Corporation (ARTC), which is now able to fund much of its capital program from its own balance sheet;
- established of the Moorebank Intermodal Company as a Government Business Enterprise to develop and finance an intermodal facility in Western Sydney through the private sector;
- recently outlined its immediate infrastructure priorities, which are currently being implemented through the Infrastructure Investment programme (as outlined below); and
- signalled a new approach to planning for Australia's infrastructure needs⁴.

The Department sees the cornerstones of the new approach as:

- long term strategic planning;
- rigorous project selection;
- optimal funding and financing arrangements; and
- more effective programme delivery.

3.2 Long term strategic planning

Long term planning is crucial to delivering the infrastructure that Australia needs. Currently planning happens at a local and state level. Over the last few years, this process has become far more robust with integrated planning documents being developed by the states. These are based on anticipated population growth. However, the policy parameters (such as greenfield versus brownfield) are often determined by governments, and are therefore subject to change with a change of government, making long term planning difficult.

In addition, the states' views of the infrastructure its community needs, often stops at the border. Historically this led to significant underinvestment in the interstate rail network, which was loss making and not a priority for any single jurisdiction. Similarly, a major freight route for one state may not be a preferred route for an adjoining state, or states may not wish to see export freight flow across state border to a port in another jurisdiction. This can make funding (especially under a user charges model) more challenging.

⁴ See the Government's election commitment policy on infrastructure at: <http://www.liberal.org.au/our-plan/infrastructure> (accessed 23 December 2013).

The Australian Government has driven the development of the National Ports and Freight initiatives with the states and territories. Integrating the states' infrastructure planning and strategies with a national focus will realise broader growth in international trade and economic productivity.

Recognising that ports and airports are international gateways that are essential for export trade and regional growth, these strategies assist governments in project identification and prioritisation. Considering the interconnections between economic, environmental and social aspects is necessary for successful long term land use planning and transport infrastructure corridors that link these key economic growth hubs. The early identification of land to be set aside for future corridors is critical to lowering the cost of developing infrastructure projects within those corridors.

Although, the Commonwealth and the states have commenced action to develop and implement initiatives to address these priorities (e.g. the development of Network Strategies by this Department), there is still work to be done.

3.3 Rigorous project selection

The Issues Paper indicates that in the absence of government facilitation there may be no market mechanism to act as a signal for when new investment is warranted to meet current and future demand. How to identify the need for investment is important⁵.

Robust cost-benefit frameworks that are applied consistently are an important tool for economic infrastructure. A proper cost-benefit framework should not need to rely on "wider-economic benefits" (WEBs). Productivity metrics are also being explored more broadly by states and one particular structure was recently referred to Austroads for consideration. While such alternatives may complement the cost benefit framework, they should not replace it. Currently, the Department is of the view that the metrics for both WEBs and Productivity tools are too subjective to be considered as an alternative to determining the economic basis for the building of infrastructure.

The Department currently works with the states to develop detailed assessments of potential projects that have been identified through long term planning and through rigorous programme selection processes (including for new programmes that have been announced by Government, such as the local bridges programme and the strategic regional programme).

A complementary regulatory framework is also fundamental to supporting the selection and delivery of any infrastructure project. This is across the entire lifecycle of the project. However, the regulatory framework should be appropriately targeted (for example, ensuring safety) and not duplicative or burdensome as this increases costs and timeframes for the delivery of that infrastructure. The Department notes the work done by the PC on Major Project Development Assessment Processes and that the Terms of Reference recommend that the PC consider the work of the Commission of Audit.

The Department also notes that there are arrangements within jurisdictions, as well as the Australian Government, that support and guide major project proponents through the regulatory system. These include 'lead agency' and 'case manager' arrangements that help coordinate assessment and approval processes for proponents. The Australian Government's own Major Project Facilitation service provides proponents with a single point of contact in the Australian Government and facilitates relationships between the various state and Commonwealth regulatory agencies.

⁵ An alternative way to look at this issue is to say "why the infrastructure needs to be built".

3.4 Optimal funding and financing

The Infrastructure Investment Programme

The Commonwealth plays a major role in funding road and rail infrastructure through the Infrastructure Investment Programme. Over the last decade infrastructure investment has been a continuing series of four or five year programmes, primarily involving the provision of grants to the states (and local government) to deliver specific road, rail and road/rail intermodal freight terminal facility projects.⁶

The current Infrastructure Investment Programme (2013-14 to 2018-19) has a total expenditure of over \$35 billion. The program includes the major infrastructure investment component and smaller subprograms including: the Black Spots Programme (targeting minor, safety related road upgrades); the Heavy Vehicle Safety and Productivity Programme; the Bridge Renewal Programme; investment in transport research; and Roads to Recovery (annual grant payments through states to local governments to support local road maintenance). Funding is provided under the *Nation Building Program (National Land Transport) Act 2009*.

The major infrastructure investment component involves major road and rail infrastructure projects agreed through negotiations between the Commonwealth and state governments. State governments submit proposed projects usually prior to the commencement of the program for assessment by the Commonwealth against strategic priorities (including whether they are listed on Infrastructure Australia (IA)'s priority list⁷) and economic viability. Projects seeking Commonwealth funding over \$100 million are also assessed by IA⁸. As with previous programmes, the recently announced package of projects will be incorporated into a National Partnership Agreement between governments.

The Department's main role in the delivery of the Programme is assessing project proposals; monitoring project progress; and developing strategic policy around project delivery in order to protect the Commonwealth's investment in the work and obtain value for public money. The Commonwealth is not directly involved in the construction of the projects (which are managed by the relevant state government), or the contracting or project management approach, except through its assessment and approval of the project.

The Department, together with Treasury also develops the funding and financing options for the key projects for advice to government. Not all projects can or should be delivered through alternative financing arrangements. It is critical that the right projects are selected first and the best financing and funding solutions for government are selected to assist in the delivery of those priority projects.

The Department will continue to work collaboratively with the Department of Finance and the Treasury to ensure that the risks to the Commonwealth are appropriately identified, assessed, mitigated and/or managed. Where relevant, a dedicated team may be created with the Department with expertise to specifically manage loans and guarantees for major projects.

⁶ Previous five year programmes were the AusLink Programme (2004-05 to 2008-09) and the Nation Building Program (2008-09 to 2013-14).

⁷ Note all projects listed on Infrastructure Australia's Priority List as "Ready to Proceed" are being funded by the Commonwealth.

⁸ Following the passage of amendments through Parliament, Infrastructure Australia will be required to publish its analysis of these projects.

In addition to the involvement in the implementation of the Infrastructure Investment Programme, the Department has a role in establishing the policy settings to assist in the effective prioritisation and delivery of major publically land transport infrastructure, including safety; regulating 22 major airports, providing policy advice on safety, security and regulation for ports and airports.

Delivering infrastructure services through government owned corporations

The Commonwealth Government owns a number of Government Business Enterprises (GBE), which are directly responsible for delivering transport infrastructure and services. These include:

- the Australian Rail Track Corporation (ARTC) - ARTC owns or leases rail assets on the interstate freight rail network. It provides access to the assets to private sector rail operators through access charging regimes;
- the Moorebank Intermodal Company (MIC). MIC was established to facilitate the development of an intermodal terminal at Moorebank in Sydney's South-West. It is proposed that the terminal itself will be financed, delivered and operated by a private sector body; and
- Airservices Australia operates similar to a GBE, but has no formal status as such. It has responsibility for providing airspace management, communications and information to the aviation industry, on a commercial fee basis.

The Australian Government supports the GBE provision of infrastructure services by:

- providing equity funding, in the form of purchasing additional shares in the wholly government owned corporations, to support capital upgrades programmes. The Commonwealth only provides equity to GBE where it can receive a return on investment. Commonwealth equity injections must, therefore, raise the quantity or quality of the infrastructure managed by the GBE to the extent to which the GBE can increase its operating profit, and improve its dividend payments to the Commonwealth;
- providing grant payments to GBE's to deliver specific works. Examples of this include provision of grants to the ARTC to upgrade existing freight rail lines in the greater Sydney region. In providing grants to the GBE, the Commonwealth assesses the economic benefits and costs of the works. As a principle, grants to the GBE to deliver specific works are appropriate where the upgrades will provide a net economic benefit to the public, even though the upgrades may not provide a financial return; and
- in addition, GBE's will use their own resources to fund infrastructure through user charges, debt and other financial mechanisms. For example the ARTC has in recent years made significant investments in infrastructure well beyond the grant or equity support it has received from government. Government ownership has supported a higher credit rating than would otherwise be the case.⁹

⁹ See for example https://www.moody's.com/research/Moodys-revises-ARTCs-rating-outlook-to-negative-from-stable--PR_288041?WT.mc_id=NLTITLE_YYYYMMDD_PR_288041

3.5 More effective program delivery

Through the Council of Australian Governments (COAG) Infrastructure Working Group (IWG), the Commonwealth and states have been developing national frameworks of policy and guidelines for the main delivery models of infrastructure considered in Australia, including:

- Public Private Partnerships (PPPs);
- Alliance contracting; and
- Traditional contracting (including Design & Construct and similar forms of contracting).

These guidelines are designed to support governments and the private sector to deliver public infrastructure by assisting governments to manage risks in the financing and delivery of major works, and by improving the consistency and predictability of government processes for industry including contractors.

Public Private Partnerships (PPPs)

A PPP is a collaboration between the public and private sector to finance, build, and in some cases operate and/or maintain an infrastructure project such as a road, school or hospital.

PPP's are most commonly used for large, complex projects which by their nature tend to involve significant risks and a high public profile. The primary purpose of pursuing a PPP model is to better assign project risks to the party best able to manage the risk and thereby deliver better value-for-money outcomes.

PPPs are most appropriate where the risks are clear and are easily able to be enforced, and the proponent is willing to pay the costs of transferring the risk to the constructor / operator.

Under PPP arrangements, new infrastructure is primarily financed by the private sector. This finance is repaid either through user charges (such as tolls) or payments (such as state availability payments) from the Government. The Department is not directly involved in PPPs.

As there have been both successful and unsuccessful PPP projects in Australia, IA produced National PPP guidelines to provide a consistent framework for ensuing rigorous governance over the selection of projects for PPP. The right project should receive funding at the right time and it should be funded under the correct model. The guidelines require projects to: be in the public interest, demonstrate value for money, engage the market, allocate optimal risk, be output oriented, transparent and accountable at all stages of procurement and delivery.

Alliance contracting

Alliance contracting is recognised as potentially providing value for money benefits to governments through risk sharing between the (state) government proponent and the contractors and by incentivising innovation in delivery. Alliance contracting is most appropriate where the project risks are uncertain or difficult to transfer without substantial cost, and where there is an opportunity to share uncertain benefits or savings.

In August 2011, the government released the National Alliance Contracting Guidelines. The Guidelines are designed to help improve the quality, consistency and commercial outcome of government alliance projects by setting out the minimum conditions required for proponents to meet the National Alliance Contracting: Policy Principles. The three main principles of the National Alliance Contracting framework are as follows:

1. Governments should ensure good public accountability and transparency, and protect the public interest;
2. Each project should achieve value-for-money in line with business case commitments; and
3. Efficient and effective market engagement should be undertaken for each project.

The Commonwealth's experience in supporting state government initiated alliance-based projects through its investment programmes has been mixed.

The Commonwealth's role in these projects is to provide funds to the state government, and the Commonwealth does not sit within the alliance itself.

The major issue has been the contract finalisation process, which requires all aspects of the project to be completed, including the defects and warranty periods before any gain share can be settled and the alliance dissolved. This has the result of delaying the capacity of the Commonwealth to financially acquit its commitment and close the project.

The inability to finalise projects limits the Commonwealth's ability to either redirect project savings in a timely and efficient manner or exposes the Commonwealth to cost overruns, as the responsibility for any rectification works lies with the alliance and costs are considered by the state to be part of the funded project.

Whilst a full evaluation of alliance contracting under Commonwealth funded programmes has not been undertaken, anecdotal evidence suggests that for these types of projects, contracting methods including early contractor involvement appear to provide the same pricing benefits without the protracted contract period.

Traditional contracting

Traditional contracting (such as 'Design and Construct', and 'Construct Only' contracting) approaches are most appropriate to use where project risks and risk allocation are clear. This typically involves low complexity, well understood projects, where the proponent (normally a state government) takes on the operational risk and the contractor takes on the construction risk.

The IWG, led by the Victoria Department of Treasury and Finance, is currently developing national guidelines for traditional contracting of infrastructure. The guidelines are expected to help governments improve the effectiveness of traditionally contracted projects by improving the consistency and predictability of client practices, particularly in the project definition, tendering, and governance and contract management phases.

3.6 Public sector skills and capacities

The Commonwealth Government is proactively building government's capacity to partner with the private sector in infrastructure delivery. One key area the Issues Paper highlights is whether governments have the expertise required to enter into complex and lengthy contracts.

In June 2012, the IWG charged the Department with undertaking a comprehensive gap analysis on what Australian institutions currently offer to address gaps in project leadership skills and capabilities in assessing complex procurement.

The IWG is presently evaluating options it could utilize for delivering a national curriculum in project leadership. The John Grills Centre for Project Leadership (The Centre) is currently a preferred option owing to its focus on up skilling project leaders in both the public and the private sectors. The

Commonwealth Government is represented on their Program Advisory Committee, which is currently developing a curriculum for The Centre.

In relation to the capability at Commonwealth level, this is an issue that has been raised in the past and is currently being considered. A number of agencies, including IA rely mainly on external advice to make their decisions.

Lack of clarity around roles contributes to this issue but can be effectively managed through appropriate governance structures and processes. For example, the role of IA as an independent advisor to government has been more clearly defined by the recent legislative amendments of government.

Infrastructure Australia (IA)

The Commonwealth Government is currently undertaking reforms to IA, including establishing IA as an independent advisory authority¹⁰. In addition, IA's existing role in the coordination of nationally significant infrastructure priorities will be refined. IA is now required to deliver:

- a new, evidence-based audit of Australia's infrastructure base, in collaboration with the states, to be revised every five years; and
- a new 15-year pipeline of major infrastructure projects, also revised every five years, based on national, state and local priorities.

Whilst IA has historically developed national infrastructure audits and priority lists, it has primarily relied on submissions from state governments. At the same time, it is noted that there has often been disconnect between IA's priority list and national infrastructure priorities, and State government strategic plans. Often jurisdictional strategies have focused on one preferred scenario and project priorities which do not address nationally significant network gaps or which do not consider long term implications for national growth. The revised IA infrastructure audit and pipeline work will take a more bottom up approach to identifying national priorities.

The delivery of these tasks will assist in an improvement to the coordination and integration of infrastructure planning by governments and the private sector by:

- ensuring the states and the private sector can coordinate the delivery of projects in their medium and long term strategic plans to maximise the interoperability benefits;
- allowing the states and the private sector to plan for and marshal the skills, funding capacity and financial options required to support planned projects; and
- providing the private sector with a clear indication of the national, state and local priorities so that it can more efficiently assess the opportunity for and propose to governments options for infrastructure development.

¹⁰ Infrastructure Australia does not and will not provide funding to projects.

3.7 The role of COAG

The COAG has a particular focus on important national priorities and outcomes. Lifting Australia's productivity will be a major ongoing focus of COAG. As infrastructure is the backbone of a competitive, productive and growing economy, COAG has commissioned urgent work on infrastructure, including:

- practical options to accelerate project delivery, including how planning and approval timeframes can be fast tracked;
- advice on the next major transport reforms, including proposals for heavy vehicle charging and investment (HVCI) reform;
- options to increase private sector investment in infrastructure projects; and
- ways to prioritise projects that improve productivity or unlock economic growth potential, including in regional economies.

The Department notes the ongoing work through the IWG and other Commonwealth and state initiatives that promote more effective and efficient infrastructure outcomes.

3.8 Coordination between levels of governments and the private sector

Investing in appropriate transport infrastructure is important to avoiding constraints to future productivity growth, including congestion in major urban centres;¹¹ and to supporting growth in freight movements. However, major transport projects have long life-cycles (typically 30 years), long construction periods, and large costs. Additionally, major transport projects generally result in increases in infrastructure capacity substantially above a short term demand (as they are delivered to cover demand over the whole life-cycle).

As a result, transport infrastructure investments have a high opportunity cost and tend to deliver low productivity gains in the short term. This means that poor project selection has a significant negative effective on overall economic productivity. To maximise the productivity benefits of new infrastructure investment it is critical to ensure that the right projects are delivered at the right time.

Recent transport construction statistics¹² suggest that when investment in transport infrastructure by governments increases, private sector investment slows, indicating a fixed growth capacity in the market. In addition, recent spikes in government investment in transport infrastructure (2008 and 2010) are associated with spikes in construction prices. This highlights the need for government to coordinate investments and to provide industry with adequate lead times for any new investments.

Whilst the majority of transport infrastructure is constructed, owned and operated by the states and the private sector, the Commonwealth Government plays a key role in supporting the coordination of major infrastructure provision. Coordination and clarity of roles between levels of Government have improved over the last decade. This has included better identification of the nation's infrastructure needs, improved national infrastructure planning and decision-making as outlined above.

¹¹ BITRE estimate congestion costs in capital cities increasing from \$14.2 billion in 2012 to \$20.4 billion in 2020.

¹² See for example Bureau of Infrastructure, Transport and Regional Economic, 2013, *STATISTICAL ALERT Release of Engineering Construction Activity – June quarter 2013*, available at <http://www.bitre.gov.au/statistics/alert/files/Infrastructure_construction_stats_brief-June_qtr_2013.pdf>

A number of these initiatives have targeted improved engagement with the private sector, notably through improving the transparency of infrastructure investment planning.

The National Infrastructure Construction Schedule (NICS)

The NICS is a collaboration between the Commonwealth, state and local government to provide industry with publically available information about major projects committed to be governments. State and Commonwealth projects with a value of over \$50 million are updated regularly. Local government projects and state and the Commonwealth projects of below \$50 million are updated on a voluntary basis.

Establishment of the NICS represents government wide acknowledgement for the need to improve transparency when delivering major publicly funded projects. The NICS is designed to allow interested private sector firms to identify opportunities to bid on government funded major infrastructure projects significantly in advance of the announcement of the project, and with clear awareness of other projects in the market at that time.

In the planning and release of major infrastructure investment projects and asset sales, NICS could be further utilised by the states and the Commonwealth to flatten out peaks and troughs on the project delivery timeline. Similarly, ascertaining the extent to which private sector investment firms are utilising the tool to identify gaps and opportunities for involvement in the infrastructure market would be useful.

4. Funding Mechanisms

The Department, in consultation with other agencies and bodies, is developing a framework to guide the Commonwealth's involvement in alternative funding and financing mechanisms to support major economic infrastructure. It is anticipated that this work will be developed in early 2014.

In addition, the Infrastructure Finance Working Group (IFWG), an expert panel established to provide advice to governments on infrastructure financing policy, released the *Infrastructure Finance and Funding Reform* paper in April 2012. This paper sets out a series of recommendations around reforms to facilitate greater private sector infrastructure investment. The Department will consider these recommendations in the context of the development of its framework.

The Department has identified three alternatives to funding from general taxation revenue.

- 1. Direct user charging.** Users of infrastructure are issued an access charge by the infrastructure operator. This access charge can be designed to cover part (or all) of the construction cost of the infrastructure, cover the operational costs of the user, or be designed to recover an economic gain by the user (such as through congestion/peak use charging);
- 2. Value capture.** The operators, financiers or owners of new infrastructure recoup the cost of the infrastructure by capturing part of the external benefits of the infrastructure. This primarily involves capturing the increase in land values of land-owners or businesses near new infrastructure; and
- 3. Asset recycling.** Owners of existing infrastructure assets liquidate the asset to fund new infrastructure.

When considering funding mechanisms, it is important to consider who bears the bulk of the risk under each type of mechanism.

Details of these mechanisms are found at [Attachment A](#) to this submission.

4.1 User charging

Ultimately, public infrastructure must be funded by the broader community, through taxation, or by those who benefit from the infrastructure, through some form of user charging. Typically, transport infrastructure supported by the Commonwealth includes a mixture of taxation and user charging funding sources. For example, whilst the ARTC as the provider of the national freight rail network applies user charging to customers to fund ongoing maintenance and capital works, it has also received capital grants and equity injections from the Commonwealth to support additional capital upgrades. Similarly, whilst the construction costs of the major of Commonwealth funded road projects are entirely taxation funded, funding for maintenance of the road network is broadly linked to vehicle registration, representing a charge on beneficiaries of the road system.

Direct user charging for road infrastructure, such as the provision of road tolling, is primarily a matter for state governments as the owners of road networks. Historically, the appetite for setting user charges for general road users has varied between states.

The Commonwealth has had a role in the development of a national agenda on user charging for road use, with a particular focus on heavy vehicle charging and management of patronage risk.

Consideration of all types of user charging should be an important aspect to the PC's Inquiry. However, the PC should not underestimate the immaturity of this topic in the public arena and the need for a range of communication tools to engage communities on this issue.

Signals for the efficient use of existing and new infrastructure

Optimising the use of existing infrastructure can generate significant savings by reducing the investment required for new infrastructure. This is of common interest across all levels of government and benefits can be achieved through shared knowledge and investigation.

Reform in infrastructure governance is required to ensure the infrastructure stock in Australia is maintained and improved. IA has already been tasked with conducting an audit of Australia's infrastructure and from that, developing a 15 year running project priority list for new nationally significant infrastructure. Government should build upon this concurrent work to investigate best practice for whole of life infrastructure asset management.

While constructing new projects is important, more emphasis and attention needs to be placed on ensuring the current infrastructure network is maintained and utilised in the most efficient manner possible to ensure users are able to access infrastructure during peak times and at an appropriate price point. Effective infrastructure asset optimisation involves a systematic governance process for assessing, upgrading and maintaining infrastructure. This can be achieved through the use of extensive network planning to ensure infrastructure is maintained to the required standard, utilised effectively and upgraded at the point where it is most beneficial.

A key development in asset management is the more prevalent use of Information Technology Systems (ITS) to best utilise current infrastructure assets. While ITS cannot be used in isolation of other considerations, there are examples of ITS improving road efficiency and this is currently being investigated through the Federal Government Managed Motorways Program in Australia. Reviewing the outcomes of better practice asset management in an international context such as the use of ramp metering, dynamic tolling, congestion pricing, and high occupancy toll lanes will best place governments to maximise the efficiency of the current infrastructure network.

Heavy Vehicle Charging and Investment Initiative (HVCI)

Australian governments, through COAG and the Council on Transport and Infrastructure (COTI) are working to implement HVCI reforms. The reforms are being developed through the Heavy Vehicle Charging and Investment Project Board, which consists of senior government officials from the Australian and New Zealand treasury and transport portfolios, as well as representatives from the Australian Local Government Association, the National Transport Commission and industry.

The HVCI reforms propose an integrated charging, funding and investment framework for managing the road use by heavy (high productivity) vehicles. It is considering a user-pays charge that would be based on the distance travelled, the vehicle mass and the costs of different road types used.

The framework proposes to:

- ensure vehicle road charges reflect the cost of road use and infrastructure required to improve access for heavy (high productivity) vehicles to meet the future freight task;
- ensure revenue collected by governments in heavy vehicle charges flows back into improving road services and growing the road network; and

- facilitate better coordination and consultation between the three levels of government in planning, investing and funding in the delivery of heavy vehicle road infrastructure and services.

This model will directly link the charges on commercial road users with investment on the road that they use, which has the potential to change the way funding allocation and project selection is currently undertaken.

Patronage risk and user charging

A significant challenge to applying user charging to roads in Australia has been the patronage forecasting used to determine the possible return on projects being overly optimistic on some recent unsuccessful projects. A number of major road projects have experienced significantly less patronage during operational phases than was originally forecast, making them less financially viable. Key examples of these projects include the Lane Cove Tunnel (2007; actual traffic about half original forecast) and the Cross City Tunnel (2005; actual traffic about 70% of forecast).

As a result of high profile errors in patronage forecasting, governments have seen a reduced willingness by the private sector to accept demand risk in the development and operation of new road projects. In comparison, it appears that private sector appetite remains for brownfield assets, where the traffic usage profile has been proven. This has constrained governments' ability to procure viable PPPs for road projects. Work is underway through the IWG and the Department to identify mechanisms to improve traffic forecasting.

For large greenfield projects such as airports and intermodals, options similar to the Moorebank intermodal terminal could be used more extensively (see Attachment C). This option involves the establishment of a GBE, which will hold a lease on the site from the Commonwealth and procure an operator to build, operate, maintain and finance the project. This approach will enable some risks (such as patronage risks) to be taken out of the project, making it more attractive to private investors. It is expected that such projects would be privatised once the facility is operational and favourable market conditions exist.

Further details on toll road projects that have had both positive and negative results are provided at [Attachment B](#).

Congestion charging

A congestion charge is a fee-based mechanism aimed at limiting the number of private vehicles on the road by imposing a direct cost on the users of the externalities arising from road congestion. The main congestion charge structures utilised globally are either:

- distance-based: with users charged for distance travelled through electronic tagging of vehicles; or
- cordon-based: where users are charged for entering a defined area (such as the CBD).

The tenor of user charging regimes

Historically, user charging for road infrastructure has been tied to the capital costs of originally delivering the infrastructure, whilst user charges for other infrastructure modes have broadly been associated with covering the capital, and then operating costs. In order to support continued infrastructure development, it is appropriate to consider longer term and permanent user charging regimes. These regimes would be designed to continue to seek revenue from users after the capital

cost of the project has been met, with the additional funding then being used to support the development of new infrastructure projects.

4.2 Value capture options

Value capture can be defined as a type of infrastructure funding and financing where increases in private land value generated by public investment are in part 'captured' through a variety of approaches to help pay for infrastructure projects.

Generally, value capture options tend to involve a narrower tax base, and apply to a subset of properties within a jurisdiction, or are limited in terms of geographic areas or specific new development projects. This reduces the stability of the revenue source.

Value capture options involve some degree of financial risk – in the sense that they rely on a large enough increment in property value being created to provide adequate revenue. Therefore, it is important to consider who bears the bulk of the risk under each type of policy.

Value capture is also unlikely to generate a significant amount of funding and will be need to be applied on a case by case basis.

Options include: benefitted area levies; broad based transport improvement levies; incremental rates growth (commonly known as Tax Increment Finance [TIF]); development charges and development rights; and a user infrastructure levy.

4.3 Asset recycling

Asset recycling of publically-owned assets potentially provides a powerful mechanism for governments to effectively partnership with the private sector to support infrastructure development and to expand their funding capacity. Mature, revenue generating assets with a comparatively low operational risk profiles are attractive for private sector investors. Governments can use the proceeds to fund new greenfield or brownfield infrastructure that would not otherwise be feasible for the market to deliver, effectively bearing or mitigating the construction and short-term operating risks of the new assets.

IA released a paper in October 2012 outlining the benefits of privatisation of infrastructure and utilising the gains to fund future greenfield infrastructure projects in light of the limited appetite of the private sector to take on greenfield project risk. Within the transport infrastructure portfolio, there are limited Commonwealth-owned infrastructure assets that could be recycled. A wider scope exists within the state governments.

There are a number of issues that should be considered when discussing asset recycling as they can encounter a range of political, social and financial constraints. For example, the infrastructure proposed may be owned by state and territory governments and privatisation may not necessarily ensure the appropriate social outcomes are being met by the new private sector owner. There may also be a need to establish additional or at least different regulatory oversight.

In order to be effective at expanding government's funding base, asset recycling needs to be undertaken as continuous process, with the proceeds of asset privatisations recycled into new assets that can be brought up to maturity and in turn recycled. A singular process of privatisation and investment does not resolve government's funding options, but rather pushes funding constraints onto future generations. A key element of ensuring the sustainability of asset recycling is investing

in new economic infrastructure which has the capacity to mature into a revenue stream generating asset, therefore supporting future recycling.

The coordination and transparency of asset recycling across governments is also important. An orderly process that clearly sets out the proposed asset sales over an extended period would provide the infrastructure financing market with appropriate lead time to prepare bids whilst helping maximise the sale price for government. Should states seek to expand their asset privatisation programmes, there is a role for the Commonwealth in helping coordinate the programmes. The NICS is currently being expanded to assist in promoting and coordinating future state asset sales.

Further, careful consideration should be made around the bundling of infrastructure assets during privatisations. A number of government-owned infrastructure assets contain elements which are designed to achieve a social outcome or deliver economic rather than financial benefits. Where assets are privatised as bundles, it is important that governments consider the cost of exposing the non-profitable elements of the asset to the market. This can involve consideration of community service obligation payments (payments to an entity by government to deliver a public service).

Similarly, government assessment of profitability should be considered across the asset's lifecycle. In some previous cases of privatisation of transport infrastructure, new private sector managers have achieved short term profits at the expense of the long-term sustainability of the asset (such as through deferring maintenance works), with an apparent perception that a future government will be willing to repurchase or financially support the asset in order to ensure the continuation of services.

Governments must also balance the need to invest in new assets which have the capacity to be recycled with desired social and economic objectives of their infrastructure investment programmes. For example, if governments are willing to recycle social infrastructure with a view to reallocating the capital in more profitable economic infrastructure, there is risk of a long term decline in social infrastructure.

5. Financing Mechanisms

The Commonwealth has identified five financing mechanisms to be utilised.

1. **concessional loans:** flexible financing arrangements are offered by governments to project proponents at lower interest rates and/or longer terms than available in the market;
2. **government guarantees:** an agreement by government to make project repayments (or parts of project repayments) to a third party debtor in the event that a proponent is unable to service its debt obligations, effectively wrapping private sector debt with a government's credit rating;
3. **phased grants to support availability payments:** regular grants to the states over a longer period (e.g. over 30 years) to support the state making availability payments against the infrastructure service to the private sector operator. These payments provide certainty on revenue streams and can be dependent on the asset being available for its intended use;
4. **targeted payments:** the government provides the state governments or project proponent with start-up capital, or targeted payments, to support large, nationally significant projects that could not be fully financed by the private sector alone; and
5. **infrastructure bonds:** a debt instrument issued by the private sector or the government to fund infrastructure projects.

Details of these mechanisms can be found at [Attachment A](#).

If designed and implemented correctly, new approaches have the potential to offer significant advantages. Specifically, they should allow governments to:

- reduce the impact on balance sheets to allow the concurrent delivery of numerous large infrastructure projects across the country;
- reduce upfront costs of projects allowing contributions to be made in smaller amounts over longer periods;
- spread existing funding over a greater number of worthwhile projects;
- attract significant contributions from the private sector to help with the important and expensive up front financing requirements of projects; and
- increase the investment pipeline, creating greater opportunities for long term investors, including superannuation funds, to be involved in infrastructure.

It is also worth noting that investment and financial policy development cannot occur in isolation of broader economic reform centred on labour market reform, tax reform, investment and access reform, regulatory reform and infrastructure planning and prioritisation. The PC may wish to consider some of the other broader whole-of-government work being considered currently, such as the Son of Wallis inquiry.

It should also be noted that the lack of available finance is not a key issue. There are a number of domestic and international investors eager to invest in Australia's infrastructure.

As indicated previously, the Department, in consultation with other agencies, is developing a framework to guide Commonwealth involvement in alternative funding and financing mechanisms to support major economic infrastructure. It is anticipated that this work will be developed in early 2014.

5.1 Risk allocation and contracting issues

The Department recognises that there are specific risks associated with government agencies in implementing alternative financing arrangements. For example, it is noted that where an agency has responsibility for selecting and prioritising a project, it may be appropriate to have a second agency undertake the due diligence on the financing options. Similarly, there is a risk with alternative financing models that the incentives of the mechanism – to return a profit or to avoid additional costs to the Commonwealth due a liability being realised – may be in conflict with the underlying policy objective of delivering the infrastructure. An example of this might be investment in a road funded through user charging which is notionally delivered by government for the objective of improving access opportunities to lower socio-economic regions.

5.2 Barriers to private sector involvement and financing

There are a number of identified factors impacting the private sector financing of public infrastructure.

Cost of finance

The bank loan market is unwilling to provide debt with a tenor greater than 7 years (more commonly between 3 -5 years), with IA advising that 80% of bank loans to corporate borrowers within the last twelve months have tenors of 5 years or less. These shorter loans reflect the regulatory and risk management pressures on banking institutions' asset and liability management.

In turn, shorter loan tenor increases the refinancing risks of public infrastructure projects, particularly as most projects are highly capital intensive, and include an extended period of construction and operational risk which generally overlaps with the refinancing period. It can be argued that this reduced availability of full tenor debt has seen a reduction in gearing and an increase in equity pricing, reflecting that investors are unwilling to take on the full refinancing risk.

Whilst there appears to be some indications that the national bonds market is recovering following an extended period of downturn since the global financial crisis (GFC), a continuing concern for private sector financing is the limited availability of long term debt. A continuing issue is the limited monoline insurer market, which has limited the viability of infrastructure bonds. As a result, public private partnerships have primarily been financed through short term bank loans.

Arguably, this constraint in the financial market is exhibited where governments do not appropriately cost risk during project selection processes. This has occurred where government PPP procurement assessment processes consider net present costs (against, say, public sector comparators). Under this model, a proposal with a lower debt cost but a high refinancing risk is prioritised ahead of a proposal with a high initial debt cost but with a more stable capital structure. Governments may also devalue refinancing risk because it will generally occur after the completion of the construction phase.

5.3 Uncertainty of future projects

Despite ongoing work by Australian Governments to establish clear project pipelines, including IA's national audit and infrastructure priority lists, and the NICS; Austrade has advised that international firms continue to view options for future investment in Australian public infrastructure with uncertainty.

Austrade advises that this is driven by perceptions of project cancellation, a decline in infrastructure investment and announcements of major projects which are not identified in national priority lists. This is especially noticeable following changes of government.

Bidding process and procurement tendering and approval processes

Industry has indicated a view that tendering for public infrastructure works has a high cost, particularly due to the depth of information required at the Expressions of Interest phase, whilst also indicating that there is a lack of appropriate lead time into the bidding process. Unpublished research by the Department suggests that this does not reflect substantial barriers to entry for new or international construction firms. Nonetheless, it could reflect a factor in the viability of obtaining a secure, stable capital arrangement.

6. Financial Risks to the Commonwealth

The Government's capacity to continue to provide traditional grants, which are funds provided for infrastructure without requiring repayment, is no longer sustainable given the changing economic climate in Australia. The complementary use of government financing options can reduce the upfront call on government resources, allowing scarce funds to be targeted in a more effective manner.

The local government sector is also concerned about access to infrastructure financing, and while specific options for the local government sector have previously been developed, they have not all gained support. The Department of Attorney General also note the constitutional risk of providing funding directly to local governments.

In determining the most suitable funding or financing solution for each project, consideration needs to be given to the type of project, its cost, the benefits, the relevant stakeholders, the ability of the project to generate revenue, the role of government and the risk for government.

Whenever alternative financing approaches or partnership arrangements are proposed, there needs to be a thorough consideration of the risks that are being transferred as a result of that arrangement.

Commonwealth risk in relation to the funding and financing of infrastructure can be adequately managed through appropriate governance structures collectively across Commonwealth agencies, including the Department, the Treasury, the Department of Finance and Prime Minister and Cabinet.

7. Costs of Infrastructure Projects

7.1 Trends in costs

Infrastructure projects in Australia are considered to be costly relative to other comparative countries. Based on road and rail projects funded through the Infrastructure Investment Programme, key factors in cost growth in recent times have been:

- the cost of capital; and
- land acquisition, particularly in regard to meeting environmental requirements. For example, the required biodiversity offsets are approximately four times the size of the land purchased for the infrastructure itself.

In the project development and tendering phase costs are being driven by the increasing scale and complexity of projects which is prolonging the regulatory approval process. Action has commenced to reduce the time and costs associated with project approvals such as the 'one stop' environmental approvals process. Further information on the Department's views on this matter can be found in its submission to the PC's Inquiry into Major Project Approval Processes.

The Department suggests that more cost savings and productivity improvements could be achieved through broader micro economic reforms that:

- streamline and where possible reduce regulation – with particular emphasis on removing duplication;
- create greater opportunities for competition, particularly encouraging international players to bring new technologies and innovation to the domestic market;
- improve efficiency and transparency of public sector processes – through best practice guidance and evaluating the success of different methodologies; and
- improve the allocation process for investment – including linking investment decision to long term planning, better asset management, and better sequencing of approaches to the market (NICS can assist in that regard).

The PC's analysis should also include an assessment of the appropriateness of risk management frameworks, competition settings, regulation, planning and the interface between government, infrastructure providers and the engineering construction supply chain. There would be a requirement to ensure an appropriate balance between the Australian government's role and strengthening the responsibility of the jurisdictions in these areas to ensure that reforms can be delivered.

Consideration should also be given to how these issues are evaluated to determine their effectiveness in reducing costs while still ensuring effective delivery of major infrastructure.

7.2 Work to improve cost estimation in Commonwealth funded transport projects

In order to achieve greater value for money from the Australian Government's investment in road, rail and port infrastructure, the Department has developed the following policy relating to project cost estimates. These policies apply to major projects funded through the Commonwealth's Infrastructure Investment Programme:

- project proponents are be required to prepare cost estimates using robust quantitative (probabilistic) risk analysis techniques for projects for which Australian Government funding is being sought, and to provide, with their cost estimates, P50 and P90 risk adjusted costs in both real and nominal (price escalated terms) accompanied by a comprehensive Cost Estimate Report explaining how the cost estimate was developed;
- the project proponent's cost estimates will be subject to external review and verification at the Department's discretion by suitably qualified consultants; and
- As a principle, Commonwealth funding for projects will be normally only be approved up to the verified P50 outturn cost estimate of the funding for each phase. Future preference is that access to additional funds beyond P50 up to P90 will only be provided on a demonstrated needs basis, noting that the Department may review and/or seek independent verification of the proponent's requirement for additional funds beyond P50.

The Department is developing guidance for project proponents, including standard reporting templates, on its requirements for quantitative cost estimation.

The Department is also investigating methods to benchmark infrastructure project costs. This work is in its infancy in Australia, but when developed, will assist further when assessing project costs during funding approvals stages.

7.3 Workforce issues

It is difficult to get a clear picture of skill shortages in infrastructure construction, this is partly owing to the fluidity and transferability of skills between mining, construction and transport related roles.

Previous spikes in Commonwealth investment in transport infrastructure in 2008 and 2010 are associated with spikes in construction prices over and above the inflation rate, highlighting the risk of over-stimulating the market in the short term. However, in the long-term, there appears to have been considerable growth in construction capacity in response to growth in investment.

In part, this is because whilst there are only a small number of domestic organisations capable of delivering very large transport projects, in practice these organisations draw on a wider pool of specialised firms and cross-sector subcontractors. In addition, historic capacity to deliver complex very large projects has been provided by international firms entering the market.

Infrastructure construction labour is also mobile, moving between the transport sector and the mining and communication sectors.

Anecdotal advice from Commonwealth funded transport projects has been that whilst the overall road and rail construction labour market is flexible to current levels of investment, spikes can occur due to the availability and mobility of localised labour and materials, most notably when projects face unexpected scope movements. This might occur where a project undertaken in a regional area requires a significant increase in local labour or materials due to a newly identified scope gap. The Department has not undertaken extensive research on the time and cost impact of this on average project costs or project cost risk.

7.4 Market behaviour plan

Market concentration

Most of the work done on large projects is undertaken by a small group of relatively large firms. These firms are also either subsidiaries of Leighton Holdings or Land Lease. Therefore, market share analysis on contracts awarded to the subsidiaries could imply control by just two firms. Alternatively, if the firms are considered independent, then five large firms control around 75% of the market.¹³

Unpublished research undertaken by the Department in previous years suggests project clients consider the market to be sufficiently competitive, with cost increases being driven instead by rising input costs, e.g. cement, oil and steel, rather than by skills shortages or in delivery by the two to five main firms.

Currently engineering construction is at historically high levels, but with a downwards trend. Research by the Australian Industry Group suggests that the rate of growth in the sector has fallen from 8.9% in 2011 to 4.5% in 2012 (although noting this is based on limited market data). The BITRE reports a reduction in the value of work to be done (work planned but not commenced) from \$26 billion in June quarter 2012 to \$18 billion in June quarter 2013. In combination, this indicates that there may currently be excess capacity in the sector.

In order to access this potential capacity to deliver very large projects or to respond to high levels of investment, the states and market need an extended lead-time to plan procurement. The NICS has been an important tool to help guide state government to manage their procurement of major works. However, the Department sees merit in greater utilisation of the NICS by the private sector.

The government as a client in the infrastructure market

To ensure value for money is achieved in major infrastructure projects, there is also an identified need for government and its agencies to act as an intelligent client – a client that knows what it wants, how to get it and what it should cost; and does not passively accept the advice and influence of consultants, contractors or tenderers. As governments engage in more complex financial arrangements to deliver infrastructure, they will need to develop the skills and capacities to competitively procure and deliver infrastructure.

In addition, there is a need for governments to continually review procurement and project management approaches to ensure that they are consistent and robust. Whilst the Commonwealth does not have a major role in direct procurement of transport infrastructure, through the IWG, it has led the coordination on a number of policies designed to improve governments' management of projects:

- the publication of National PPP Guidelines and National Alliance Contracting Guidelines, and the support of Traditional Contracting Guidelines (as outlined above);
- development of Best Practice Cost Estimation for Publically Funded Road and Rail (currently under review); and
- the publication of Best Practice Case Studies in Infrastructure Planning and Delivery.

¹³ Analysis based on 2008-09 data.

8. Conclusion

Infrastructure investment supports economic productivity across Australia. However, with a constrained fiscal environment consideration needs to be given to how governments and industry can be more efficient and reduce costs to get better value for money.

The work being undertaken by the Department and the Australian Government, such as driving the strategic infrastructure planning and analysis, ensures there is a sound pipeline of investment priorities and potential projects.

However, a well planned infrastructure pipeline is only one part of the longer term plan to address investment shortfalls. Governments will need to become more innovative and flexible in how they ensure the appropriate level of investment is maintained in infrastructure so that the right project is delivered at the right time.

Key elements of the PC's Inquiry, therefore, will need to be on how to encourage greater user charging, identifying and reducing costs to government and industry; and ensuring there are appropriate mechanisms in place to ensure risk is appropriately managed, while maintaining the flexibility required to adapt to policy needs.

Attachment A: Table of Alternative Funding and Financing Mechanisms

Mechanism	Description	Applicability	Strengths	Weakness and risks	Budget Impacts
User Charging	<p>A charge is issued to the direct users of the infrastructure. The charge can be tied to recovery of the cost of establishing the infrastructure, the cost of providing the infrastructure service, or at a market rate based on demand for the service, or a mixture of these.</p>	<p>The infrastructure asset must provide a clear service and mechanisms must be in place to capture the benefits to users.</p> <p>Historically, user charging has been used to support build-maintain-operate PPP projects.</p> <p>User charging may be problematic when applied to infrastructure which also delivers a non-profitable social objective. For example, urban passenger rail.</p> <p>Road user charging in the form of tolls has successfully been implemented on projects in a number of states however; its use has not been implemented across road networks. A one size fits all approach to user charge is not appropriate.</p>	<p>User charging supports infrastructure outside of government taxation funding.</p> <p>Charges can be regulated to achieve secondary policy objectives. For example, road pricing can be used to encourage heavy vehicle use of specific roads or to help reduce congestion.</p>	<p>Public infrastructure is often a monopoly provider, and government regulation of user charging is required to ensure market power is not abused.</p> <p>The expected revenue of user charging is significantly impacted by operational risks.</p> <p>For example, whilst user charging has been successful in other modes of transport, road charging (primarily in the form of road tolls) has had a mixed experience in Australia due primarily to poor patronage forecasting.</p> <p>As a result, there has been a limited appetite by the private sector to take on the initial operational risk of greenfield road projects.</p>	<p>Where user charging supports private sector financing, it can potentially deliver infrastructure outside of government budgets.</p>
Value Capture	<p>A charge imposed upon indirect beneficiaries of the infrastructure, such as land owners benefiting from increased land values due to improved accessibility to transport services.</p> <p>There are a number of different models of value capture:</p> <ul style="list-style-type: none"> a levy on a geographical region, often applied through land value taxation; sale of value-appreciated 	<p>The infrastructure must result in a clearly defined increase in value which can be captured through a cost effective mechanism.</p> <p>Transport infrastructure which provides clear improvements to accessibility and employment or education opportunities is a clear candidate for value capture mechanisms.</p>	<p>Value capture provides an additional source of revenue from an infrastructure asset.</p>	<p>Assessing the benefits which will be able to be value captured is highly contested, and under current models, comes with a substantial degree of uncertainty and risk. Additionally, revenues are rarely substantial, and need to be supplemented with other sources.</p> <p>PPP value capture models which bundle the public infrastructure delivery with the development of</p>	<p>Where funding is captured by government, value capture models will primarily benefit state and local governments rather than Commonwealth Governments.</p>

Mechanism	Description	Applicability	Strengths	Weakness and risks	Budget Impacts
	<p>government owned assets, such as selling land and advertising space; and</p> <ul style="list-style-type: none"> development of alternative revenue streams, such as establishing shopping centres around transport hubs. <p>Value capture mechanisms are mostly available to state and local governments, who generally own the appreciating assets and are responsible for collecting land taxes.</p>			<p>alternative revenue streams, such as the establishment of a shopping precinct to help fund a train station, require governments to accept the risk of investment in non-traditional infrastructure.</p>	
Asset Recycling	<p>Governments privatise mature assets and apply the proceeds to new, economically viable assets which can then be recycled in the future. The private sector owner of the recycled asset will generally return a profit on the asset through user charging.</p> <p>The majority of transport infrastructure assets are state government owned.</p>	<p>Assets for privatisation should be mature, lower risk and revenue generating.</p> <p>Some infrastructure assets provide both profitable and non-profitable services. This can require governments to continue to provide community service obligation payments to the privatised owners to purchase the non-profitable services.</p>	<p>A continuous asset recycling programme provides government with a means to leverage their existing balance sheet to delivering new infrastructure.</p> <p>Asset recycling helps support a private sector infrastructure investment market by providing industry with low risk infrastructure assets through both debt and equity opportunities. This may be attractive to institutional investors, such as superannuation funds, who desire the moderate, long-term returns of an infrastructure asset, but are unwilling to accept the construction and initial operational risk.</p>	<p>Asset recycling programs need to be undertaken on a continuous basis in order to supply a continuous funding source.</p> <p>There are risks in privatising public infrastructure that require additional government regulation. The private sector owners running down the assets under the assumption that the government will be willing to purchase the asset back in the future to ensure its continued service provision. Public infrastructure is often a monopoly provider.</p> <p>Asset recycling effectively involves the government selling a mature, low risk infrastructure asset in order to take on the construction and operating risk of a new infrastructure project.</p>	<p>State governments generally own infrastructure assets that can be recycled. As such, the sale of assets can result in a reduction in tax-equivalent payments to the state government (whilst in some cases, the state will continue to provide CSOs to ensure an infrastructure service). However, the privatised asset will pay company taxation to the Commonwealth.</p> <p>Whilst this is a noted imbalance, the impact of this will vary substantially between assets.</p>
Concessional Loans	<p>The Government provides a proponent (such as a state government or private sector special purpose vehicle) with a loan on favourable terms, such as a lower</p>	<p>Concessional loans are appropriate where the infrastructure financing market issues low tenor debt. Concession loans would reflect the Government's view that the life-</p>	<p>Concessional loans can be used to lower the financial costs of the project to allow for greater contingency costs, potentially making a project viable where</p>	<p>A concessional loan has a risk of default.</p> <p>There is a significant risk that provision of concessional loans by</p>	<p>Concessional loans will likely need to be funded with borrowings, increasing net debt at the point of issue.</p>

Mechanism	Description	Applicability	Strengths	Weakness and risks	Budget Impacts
	<p>than market interest rate. The loan is issued with strict conditions of use.</p> <p>A concessional loan effectively leverages government's comparatively lower cost of debt to reduce the overall financing costs of a project.</p>	<p>cycle project risk is lower than the debt market's assessment of project risk.</p>	<p>it otherwise would not be. For example, a concessional loan by government could offset some of the impact of construction and patronage risk on the cost of finance, with the expectation that in the long-term the project would achieve profitability.</p>	<p>government could crowd out alternative private sector financing sources.</p>	<p>Over its repayment period, the loan will have positive impacts on the underlying cash and fiscal balance.</p> <p>Depending on how the concessional feature is established, it would likely impact the fiscal balance from issuance.</p>
Government Guarantees	<p>The Government promises to cover a third party's repayments (in full or in part) of a private loan to construct infrastructure, should they fail to pay.</p> <p>There are multiple options for implementing guarantees:</p> <ul style="list-style-type: none"> • The guarantor could cover coupon costs or the loan repayment. • The guarantor could cover part of the repayments (such as 15%). • The amount could be capped. • Loans could be double guaranteed across governments, such as a state government guaranteeing the first 15% of repayment, and the Commonwealth the next 15%. • A fee is charged by the guarantor to the borrower, incorporating the contingent risk. 	<p>Government guarantees are appropriate where there is a gap in the debt insurance market (such as an absence of monoline insurers) and the government views the project risk as lower than estimated by the market (such as where there is low debt tenor, and project risk is assessed by the market over the short term, rather than the project's life).</p>	<p>Guarantees are designed to de-risk of issuing debt to the borrower. This effectively provides the government with a means to wrap infrastructure debt in the government's credit rating without direct government investment.</p> <p>Where a debt insurance market does not exist, the success of government guarantees could demonstrate the stability of the model, encouraging new private sector insurers.</p>	<p>Guarantees require government to take on substantial contingent risk. Where the Commonwealth is the guarantor, there may be challenges in identifying appropriate security against the guarantee.</p> <p>Where a debt insurance market exists, government guarantees are likely to crowd out the market, or prevent a market from developing.</p> <p>Systematic use of guarantees may put pressure on government credit ratings.</p>	<p>Whilst the issue of individual guarantees would not have a direct cash impact on the budget, it is likely that government would need to establish some form of fund to allow for the immediate payment of claim.</p> <p>Regardless, it will appear on the statement of risks as a contingent liability.</p>
Phase Grants to support Availability Payments	<p>Availability payments are payments made against service delivery performance (generally either against the continued operation of the infrastructure or against the infrastructure continuing to meet some level of performance criteria).</p>	<p>Under this model, a private sector operator financing the construction and operation of an infrastructure asset by borrowing against future availability payment from a state government. The Commonwealth then provides the state</p>	<p>The private sector takes on the construction and delivery risk, and provides the upfront funding of the project. Availability payments incentivise on-time delivery of the infrastructure and the</p>	<p>Phased grants and availability charges incur long-term liabilities to government. State governments retain some or all operational risks.</p> <p>In comparison to an upfront grant, this mechanism can result in a</p>	<p>Phase grants have a long-term negative impact on the Commonwealth's fiscal position. Like upfront grants, phased grants would impact underlying cash balance, fiscal balance and net debt from the year of payment.</p>

Mechanism	Description	Applicability	Strengths	Weakness and risks	Budget Impacts
	<p>Availability payments are generally provided by state governments to private sector infrastructure asset operators. Generally, the government will also collect any user charges associated with the infrastructure to offset the cost of the availability payments.</p> <p>Phased grants are regular grant payments made to a state government over an extended time (generally the asset's life). Grants can be based on achievement of milestones.</p>	government with regular grants over the project life to support the payment of the availability service.	<p>continued deliver of the infrastructure service. Government user charges can be regulated to achieve secondary policy objectives.</p> <p>Guarantees long-term Budget certainty for governments.</p>	higher overall cost of the project. This is a result of the initial financing being sourced by the private sector (with a high cost of debt than the Commonwealth).	Availability payments represent a long-term liability to the state governments. However, this liability is offset against the positive fiscal impacts of the phase grants and any revenue from user charging.
Targeted Payments	The Commonwealth provides states with start-up capital (grant funding) to allow them to enter into PPP to deliver major infrastructure projects. The risk and debt free start-up capital helps reduce the overall cost of capital of the project to bring it up to viability.	Targeted payments are appropriate where they would bring the project to financial viability.	Targeted payments act as a grant to encourage private sector investment in infrastructure.	Targeted payments are grants, and have a direct impact on government budgets.	Targeted payments operate as upfront grants.
Government Issued Infrastructure Bonds	Government raises funds through issuance of debt instruments through the Australian Office of Financial Management, Treasury or other Public Service Agencies with the appropriate legislative powers.	Infrastructure bonds could encourage additional private sector investment in infrastructure.	Bond financing can be provided for tenors beyond that which is economic for banks to provide, better matching the duration of infrastructure assets. This can reduce refinancing costs for project proponents.	The government is likely to need to provide some form of concession to encourage interest from investors owing to the risk of infrastructure projects, a lack of investor experience in valuing bonds and a lack of data to price long-dated bonds.	Infrastructure bonds issued by the government as a debt holder then there would be an underlying cash and fiscal balance effect through coupon and bond maturity payment. The effect on the balance sheet would be the concessionality based on the difference of any payment level above the bond coupon and maturity payment. The government as a debt holder in the project would also incur the risks inherent in any large scale infrastructure project.

PPP Examples

Successful PPP projects in Australia

Peninsula Link, Melbourne

Peninsula Link is a 27 kilometre freeway stretching from Carrum Downs to Mt Martha in Victoria. The road opened to traffic in January 2013.

Peninsula Link was built as an Availability Public Private Partnership (PPP). Under this delivery method the private sector financed, designed and built the freeway, and will operate and maintain it for 25 years. Using this model allowed Peninsula Link to be delivered toll-free for users, while making use of private sector expertise and resources for delivery and operation.

The Victorian Government makes quarterly payments to the private sector subject to meeting key performance indicators including: traffic access, incident response, road maintenance, environmental management and reporting regularly to the government.

Peninsular Link was considered to be a successful PPP as it was innovative in nature and was the first road project to utilise the availability financing model.

Westlink M7 Motorway, Sydney

The project involved the financing, design, construction, operation and maintenance of a 40km, dual carriage motorway between the F5 freeway and M5 motorway in Prestons and M2 motorway in West Baulkham Hills.

The Project was released to market in 2001 as a build-own-operate-transfer PPP (known as a BOOT PPP), with the road being returned back to NSW after the concession period. The Australian Government contributed \$360 million in funding, primarily for land acquisition, with the remainder of the funding, the design and the construction undertaken by the private sector.

The project has proved to be viable as a standalone commercial operation. Growth in Western Sydney has sustained the commerciality of the venture. An innovation (at the time) was the concept of a distance-based tolling regime as opposed to the fixed, flat-fee tolling regime of the M2 and other toll roads.

The M7 was a good example of how a BOOT PPP model allowed a motorway to be delivered when full government funding was not available, whilst also allowing for the transfer of appropriate risks to the private sector. The M7 also has a revenue-sharing agreement, which will see windfall revenue by the operators of the M7 provided back to the NSW Government once a fixed patronage threshold is reached.

Westlink M7 is an example of a successful public/private partnership. It was also strongly supported by all levels of government – local, state and federal.

M2 Hills Motorway, Sydney

The M2 is a 21 kilometre road link between Epping Road and the Lane Cove Tunnel in North Ryde and Old Windsor Road, and the Westlink M7 motorway in Baulkham Hills. The project was funded, designed and built by the private sector.

The project had an estimated capital cost of \$644 million at the time the 48 year contract was awarded in August 1994.

Ownership and operation of the road was obtained by Transurban in 2005 through a successful takeover bid. Transurban cited opportunities to improve the operation of the M2 for motorists and extract maximum value for investors.

The synergies created by seamless connections to other major motorways, such as the Lane Cove Tunnel and the Westlink M7, as well as emerging housing and employment zones in Western Sydney have also sustained the motorway's viability and success.

In August 2013, The Hills M2 Upgrade was completed, adding additional lanes to reduce congestion and new ramps to improve access. The upgrade was funded entirely by the private sector and led to the contract period being extended to May 2046.

This example demonstrates how privately run roads can be improved and enhanced over time without impact to government balance sheets.

Examples of failed PPP projects

Lane Cove Tunnel

The Lane Cove Tunnel, opened in 2007 at a cost of \$1.6 billion, is a 3.6 kilometre motorway tunnel in northern Sydney, linking already-completed parts of the Sydney orbital motorway.

It is a tolled road, constructed under another build-own-operate-transfer (BOOT) contract.

In going to market many design requirements, toll levels and escalation procedures were set. There was also a lack of data about traffic and travel patterns. This may have allowed for the adoption of optimistic traffic forecasts parameters.

As a result, when the winning bidder went into receivership in 2010, actual traffic was under half of that forecast.

Sydney's Cross City Tunnel

The Cross City Tunnel (CCT) project involved the procurement of two toll road tunnels running 2.1 kilometres east-west underneath Sydney's Central Business District (CBD). The tunnel runs from Darling Harbour to the west of the CBD to the Kings Cross Tunnel in the east.

The cost of construction was \$680 million, funded by the CrossCity Motorway Consortium (CCM) and reimbursed by toll receipts. The total cost of the project to CCM was approximately \$1 billion, including financing costs.

When the tunnel was opened in August 2005, the daily patronage was 20,000 vehicles per day, as compared to the 70,000 vehicles a day forecast. Lower than projected traffic volumes continued, causing lower than expected revenue. This meant the owner/operator was not able to meet debt obligations, and the CCT was placed in receivership in 2006 and sold for \$695 million in 2007.

The main cause of the CCT performance issues related to the forecast usage varying considerably between bidders.

Sydney Airport Link Railway

The Sydney's Airport Link Railway is a 10 kilometre underground two-track railway which was designed to provide rail services between Sydney's Kingsford Smith Airport and the CBD.

The project was announced in 1994 with the NSW Government contributing \$470 million and a private consortium, Airport Link Company ('ALC'), spending \$125 million for the construction and operating costs for the project.

The contract price was initially valued at over \$650 million, \$484 million for tracks and tunnels (funded by the State Rail Authority) and \$128 million for the stations (private sector). However, due to major changes in scope, the project final cost was \$920 million.

Following the commencement of operation in 2000, the patronage experienced by the project was far less than forecast, forcing ALC into receivership within 6 months.

In addition, as a consequence of the significantly lower than forecast patronage the NSW Government spent \$800 million to amend the 30 year concessional BOOT contract with ALC to remove the requirement for NSW to making up shortfalls in revenue below 48,000 passengers per day.

Current Funding and Financing Projects

Sydney Motorways - F3 to M2

The F3 to M2 project comprises the construction of a dual two lane road tunnel approximately 7.7km in length beneath Pennant Hills Road and the Northern Railway Line, linking the F3 Freeway and the M2 Motorway.

In early 2012, the NSW Government received an unsolicited proposal from Transurban to construct the F3 to M2 link. The project will be delivered as a private public partnership and has a target cost of \$2.65 billion.

Targeted payments will be made by the Commonwealth and New South Wales Governments to make the project commercially viable. The Australian Government has committed \$405 million to help deliver the project in partnership with the NSW Government and the private sector, including \$5 million in 2013-14 to take the project to market. The NSW Government will at least match the Australian Government's \$405 million contribution.

This is a good example of the Australian and NSW Governments utilising targeted payments to allow a project to be delivered by the private sector, which otherwise would not have been viable without government assistance.

Gold Coast Rapid Transit

The Gold Coast Rapid Transit project involves the construction of a 13 kilometre light rail system to link key activity centres from Griffith University (Gold Coast Campus) to Broadbeach via Southport.

The project is anticipated to cost \$949 million. The Australian Government is contributing \$365 million, the Queensland Government contributing \$464 million and the Gold Coast City Council contributing \$120 million.

This funding model provides a good example of value capture by leveraging additional funding towards the cost of a project. The Gold Coast Council's contribution is funded through a transport levy on all ratepayers, allowing for those who are likely to receive a benefit from the project to contribute towards its construction.

Moorebank Intermodal Terminal

The Australian Government is working with the private sector to provide an intermodal terminal facility including a rail 'port shuttle' between Port Botany and the south west of Sydney, warehousing and an interstate freight terminal.

The project will relieve the growing pressure on congested infrastructure around Port Botany and the M5 motorway, facilitate a modal shift from road to rail and boost productivity and economic activity. The Moorebank Intermodal Terminal will have capacity for up to 1.2 million import export and 500,000 interstate freight containers.

To deliver the project, the government has established the Moorebank Intermodal Company Limited (MIC) as a Government Business Enterprise (GBE) which will hold a lease on the site from the Commonwealth and is currently undertaking a competitive tender the development of the freight facility.

The project is providing access to Commonwealth land to boost productivity and improve transport links in Australia's biggest city, and provide a jobs boost for south western Sydney. This approach will enable some of the risks to be taken out of the project, making it more attractive to investors, while ensuring the government can protect the Moorebank site as a strategic national asset. It is expected the Company will be privatised once the facility is operational and favourable market conditions exist, enabling the government's investment in MIC to be recycled into future infrastructure investments.

This model provides an alternative method for the government to develop critical infrastructure (especially greenfield infrastructure), attract private sector investment and recycle capital, once operational.

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