



Australian Government
Productivity Commission

Public Infrastructure

Productivity Commission
Inquiry Report
Overview

No. 71, 27 May 2014

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27 May 2014

The Hon Joe Hockey MP
Treasurer
Parliament House
CANBERRA ACT 2600

Dear Treasurer

In accordance with Section 11 of the *Productivity Commission Act 1998*, we have pleasure in submitting to you the Commission's final report into Public Infrastructure.

Yours sincerely

Handwritten signature of Peter Harris, Presiding Commissioner.

Peter Harris AO
Presiding Commissioner

Handwritten signature of Dr Warren Mundy, Commissioner.

Dr Warren Mundy
Commissioner

Handwritten signature of Paul Lindwall, Associate Commissioner.

Paul Lindwall
Associate Commissioner

Terms of reference

Public Infrastructure: Provision, Funding, Financing and Costs

I, Joseph Benedict Hockey, Treasurer, pursuant to Parts 2 and 3 of the *Productivity Commission Act 1998*, hereby request that the Productivity Commission (Commission) undertake an inquiry into ways to encourage private financing and funding for major infrastructure projects, including issues relating to the high cost and the long lead times associated with these projects.

Through this inquiry, the Commission is to conduct a broad ranging investigation into costs, competitiveness and productivity in the provision of nationally significant economic infrastructure and examine ways to: reduce infrastructure construction costs; address any barriers to private sector financing, including assessing the role and efficacy of alternative infrastructure funding and financing mechanisms, and recommending mechanisms and operating principles that may be applied to overcome these barriers; and, without limiting the generality of this reference, outline options to reduce construction costs.

Background

Efficient public infrastructure plays a key role in a competitive and productive economy and the ongoing funding and financing of infrastructure development in Australia is therefore of critical importance.

The capacity of government to meet expectations for improved infrastructure services is always limited, and the use of financing options involving the private sector can reduce the call on government resources, allowing scarce public funds to be targeted in a more effective manner.

While alternative financing and funding models offer opportunities to reduce the immediate call on governments, it should be noted that the application of new models is not a panacea. Ultimately infrastructure can only be funded through taxation, borrowings or direct user charges. There are difficult trade-offs to consider given increasing demand and competing priorities.

Scope of the inquiry

In reporting on funding and financing and the scope for reducing costs for public infrastructure projects, the Commission is to analyse and develop findings on the following:

1. How infrastructure is currently funded and financed in Australia, including by the Commonwealth, the States and the private sector.
2. The rationale, role and objectives of alternative funding and financing mechanisms, including:
 - a. the full range of costs and benefits of different models
 - b. the issues and costs associated with the allocation of project risks, availability of finance, contracting arrangements and delivery models for construction projects
 - c. the disincentives to private sector investment
 - d. broad principles for the use of these funding and financing mechanisms
 - e. the roles of the Australian Government, the States and Territories, Local Government and the Private Sector in the implementation of these mechanisms, and the relationship between each of the parties
 - f. creation of revenue streams to attract private sector finance; for example, through user charging, availability payments etc.
3. Consider the financial risks to the Commonwealth posed by alternative funding and financing mechanisms, as well as their possible impact on the Budget and fiscal consolidation goals.
4. Examine the cost structure of major infrastructure projects in Australia, including where infrastructure project costs have increased considerably, compared with other countries.
5. Provide advice on ways to improve decision-making and implementation processes to facilitate a reduction in the cost of public infrastructure projects, including in relation to:
 - a. measures to improve flexibility and reduce complexity, costs and time for all parties

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- b. access to the market for domestic and international constructors, including barriers to entry, and what effect this has on construction costs
 - c. ‘greenfield’ infrastructure projects.
6. Comment on other relevant policy measures, including any non-legislative approaches, which would help ensure effective delivery of infrastructure services over both the short and long term.

Process

In undertaking this inquiry, the Commission should take into account the work being led by the National Commission of Audit to examine the scope for efficiency and productivity improvements across all areas of Commonwealth expenditure.

The Commission is to undertake an appropriate public consultation process including holding hearings and inviting public submissions. It will consult with the State and Territory Governments in undertaking this inquiry.

The Commission should release a draft report in March 2014.

The final report should be provided within six months of the receipt of these terms of reference.

The Government will consider the Commission’s recommendations, and the Government’s response will be announced as soon as possible after the receipt of the Commission’s final report.

J. B. HOCKEY
Treasurer

[Received 13 November 2013]

Contents

Terms of reference	v
Acknowledgments	x
Overview	1
Key points	2
What has the Commission been asked to do?	4
There is scope to do much better	6
Role of governments and improving decision making	8
Funding	11
Financing	13
Improving institutional and governance arrangements	18
Public infrastructure construction costs	22
Reform can begin immediately and will produce large economic benefits	35
Recommendations and findings	39

The full report is available at www.pc.gov.au

Acknowledgments

The Commission is grateful to everyone who has given freely of their time to discuss with it the very wide range of matters canvassed in the terms of reference, especially those appearing at the roundtable, hearings and providing written submissions.

The Commissioners would like to express their appreciation to the staff who worked on the inquiry, led by Ralph Lattimore and John Salerian and included Rick Baker, Melissa Edwards, Carole Gardner, Jared Greenville, Anthony Housego, Ellie Jepsen, Alex Maevsky, Ana Markulev, Ian Moran, Greg Murtough, Tom Nankivell, Bonnie Nguyen, Hudan Nuch, Chris Perks, Joshua Runciman, Carl Toohey, Elise Whalan and Kirsten Wren.

OVERVIEW

Key points

- There is an urgent need to comprehensively overhaul processes for assessing and developing public infrastructure projects.
 - There are numerous examples of poor value for money arising from inadequate project selection, potentially costing Australia billions of dollars.
 - Additional spending under the status quo will simply increase the cost to users, taxpayers, the community generally, and lead to more wasteful infrastructure.
 - Reliance on the notion of an infrastructure deficit, too, could encourage poor investment choices.
- It is essential to reform governance and institutional arrangements for public infrastructure to promote better decision making in project selection, funding, financing and the delivery of services from new and existing infrastructure.
- Well-designed user charges should be used to the fullest extent that can be economically justified. However, governments will have to continue to fully or partly fund some infrastructure projects and address equity issues.
- Significant institutional and longer-term road pricing arrangements will create more direct links to road users, taking advantage of advances in vehicle technology.
- Private sector involvement in infrastructure provision and/or financing delivers efficiency gains only if well designed and well implemented.
 - Private financing is not a ‘magic pudding’ — ultimately users and/or taxpayers must foot the bill.
 - Government guarantees and tax concessions are not costless and often involve poorly understood risks.
- Governments will have some capacity to fund more projects than under current fiscal and debt management practices, provided the reform package in this report is implemented to ensure the selection of projects with strong net benefits.
- Data problems limit analysis and benchmarking. A coordinated and coherent data collection process will address this and improve future project selection decisions.
- Nevertheless, there is evidence of recent significant increases in the costs of constructing major public infrastructure in Australia. Elevated labour costs due to the mining construction boom has been one factor, but no single input has played a decisive role in cost increases.
- Until recently, labour productivity growth in the construction sector generally has been sluggish. There is no conclusive evidence that Australian levels of productivity in construction are significantly different from other developed countries.
- The industrial relations environment in the construction industry remains problematic, mainly in general rather than civil construction, with the problems much greater for some sites, unions and states. Governments can use their procurement policies to drive reform, and penalties for unlawful conduct should rise.
- Despite significant concentration in the market for large public infrastructure projects, the market appears to be workably competitive today, though a few simple measures would make it more so and would reduce the cost pressures facing procurers.
- There is significant scope to improve public sector procurement practices and lower bid costs for tenderers, with potentially large benefits for project costs and timing.

Overview

Efficient provision of infrastructure, including public infrastructure, is the hallmark of a well-functioning economy. Australian governments have traditionally taken overall responsibility for most aspects of public infrastructure provision. In part, this was due to a desire to ensure equitable access to services across the community and because there is a range of ‘market failures’ that would lead to inadequate provision if decisions were left entirely to the private sector. However, over recent decades with the maturing of private markets, there has been an increasing recognition of the benefits that can come from greater private sector involvement in the provision of public infrastructure.

There are several drivers of an increased interest in public infrastructure.

- Widely held views that deficiencies in certain aspects of Australia’s infrastructure — such as in roads, rail, and ports — are holding back productivity growth and affecting the amenity of our cities and regional areas. This gives rise to concerns about an overall infrastructure deficit.
- Apprehension about the costs of delivering new public infrastructure and the potential for efficiency gains in the delivery and use of infrastructure, including those that might be induced by new opportunities for user charging.
- Concerns about debt and long-term budgetary pressures being faced by governments at all levels and how these might affect the provision of public infrastructure, for which there is often limits to funding through direct user charges.
- Macroeconomic objectives of offsetting decreasing investment and employment in other sectors and promoting economic growth more generally.

This focus on public infrastructure and how community expectations about its provision can be met is also an international phenomenon, as evidenced by interest from the G–20, the OECD, the World Bank and the International Monetary Fund.

What has the Commission been asked to do?

The Australian Government has asked the Productivity Commission to undertake a wide-ranging inquiry into public infrastructure that assesses:

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- how infrastructure is currently funded and financed in Australia, including by the Australian Government, the States and Territories and the private sector
 - the rationale, role and objectives of alternative funding and financing mechanisms
 - financial risks to the Commonwealth posed by alternative funding and financing mechanisms, as well as their possible impact on the budget and fiscal consolidation goals
 - cost structures of major projects in Australia, including where infrastructure project costs have increased considerably compared with other countries
 - ways to improve decision making and implementation processes to facilitate a reduction in the costs of public infrastructure projects
 - other relevant policy measures, including any non-legislative approaches, that would help ensure the effective delivery of infrastructure services over both the short and long term.

Government decision making about public infrastructure is complex because of the:

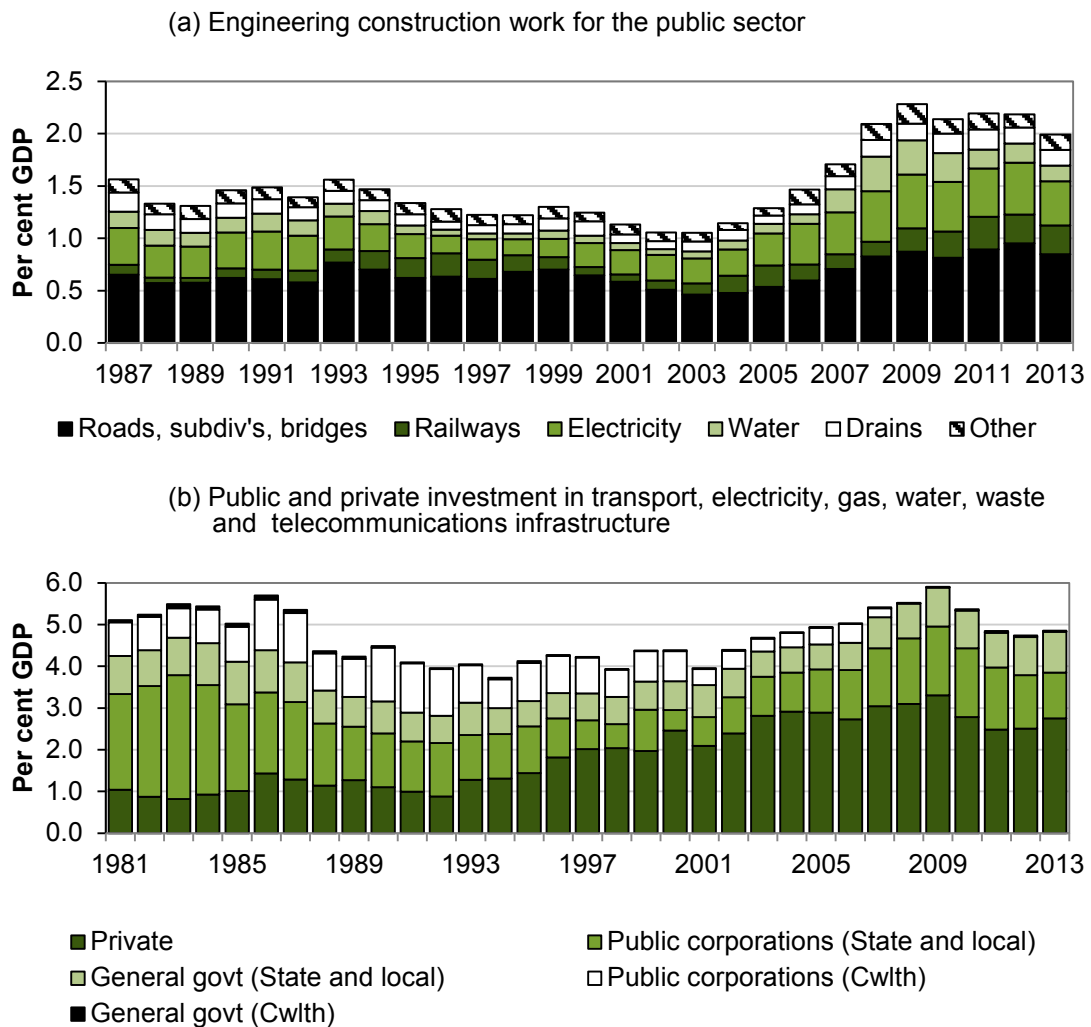
- need to address efficiency, productivity and social objectives
- presence of market failures, especially externalities and natural monopoly
- competing proposals and opportunities for political and financial gain or loss
- long-lived nature of the assets
- need to plan for provision well in advance, which can involve restricting other land uses for many years
- changes over time in industry structure, population size and distribution across and within regions that can be difficult to predict
- important technical and economic differences across the various types of infrastructure.

The terms ‘funding’ and ‘financing’ are often conflated. For the purposes of this inquiry, funding refers to the revenue-raising sources and streams to pay for the costs of infrastructure over its life (such as user charges). Financing refers to the supply of capital (private or public) used to pay for the upfront investment costs of an infrastructure project. The term public private partnership (PPP) is used broadly in this inquiry to cover procurement models involving some privately financed investment.

Investment in public infrastructure is substantial. Engineering work done for the public sector has been equivalent to more than 2 per cent of GDP since 2008

(figure 1, panel a). Much of this has involved roads, bridges and electricity infrastructure. There has also been a significant amount of investment in buildings for the public sector, such as hospitals. However, over the past two decades, private sector investment has grown, and in recent years it has typically accounted for around half of total infrastructure investment (figure 1, panel b).

Figure 1 Trends in infrastructure provision



The provision and procurement of public infrastructure encompasses a complex and politically hazardous range of policy and administrative decisions. Decisions need to be evaluated carefully to ensure that long-term net benefits are not undermined in the pursuit of short-term gains, including political ones.

In undertaking this inquiry, the Commission has sought to identify practical improvements based on:

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- recognising the importance of transparent cost–benefit analysis and institutional and governance arrangements, which involves selecting projects and allocating risks to maximise the net benefits for the whole community
 - considering the full range of options for government and private involvement, with a particular focus on funding and financing
 - looking for ways to achieve cost savings in the delivery of projects.

There is scope to do much better

There are many examples of inadequate project selection that have led to costly outcomes for users and taxpayers. These include electricity networks and desalination plants in some states. An Australian Government example is the decision to proceed with the National Broadband Network without doing a thorough analysis of its costs and benefits.

Efficient infrastructure provides services that improve both productivity and quality of life. However, poorly chosen infrastructure projects can reduce productivity and financially burden the community for decades with infrastructure that is unnecessary and expensive to maintain. (A noteworthy international example is Spain’s Ciudad Real airport, which was opened in 2008 at a cost of about €1 billion and closed in 2012 after only four years of operation.)

A key message of this report is that there is a fundamental need for a comprehensive overhaul of the poor processes currently used in the development and assessment of infrastructure investments particularly, but not exclusively, by governments. The costs of poor project selection and delivery will be exacerbated if governments decide to increase their infrastructure investment programs without reforming their governance regimes.

All other desirable or aspirational objectives — project pipelines, increased private financing, cost savings and even user charging and pricing reform — ultimately depend for their efficacy on having a much-strengthened and widely-applied set of credible and welfare-enhancing reforms.

Private financing of infrastructure projects, including through the use of PPPs, has grown over recent years, although the commercial failure of a number of toll roads and the global financial crisis led to a slowing of this trend (box 1). This slowing has also led to an increased scrutiny of, and focus on, various private financing mechanisms. The outcomes from PPP infrastructure projects have been mixed, which is consistent with that observed internationally.

Box 1 Illustration of mixed outcomes from public private partnerships

In some instances, governments have assumed risks associated with public infrastructure projects that have not performed well. For example, in 2002 the Victorian Government exercised 'step-in rights' under its contract with the private operators of the Latrobe Regional Hospital because of the substantial operating losses (stemming from a low initial bid price) and the inability of the private sector consortium to make the efficiency gains originally assumed. Similarly, the NSW Government incurred significant costs from the Sydney Airport Rail Link after the company that built and operated the link failed to meet scheduled payments to creditors.

In other cases, outcomes have been negative for private sector investors, but arguably positive from the point of view of some users, who got a new road. For example, when tolls were introduced on the CLEM7 motorway in Brisbane, patronage was about one third of the forecast. Within a year, the private party was put into receivership and the (then government-owned) Queensland Motorways eventually acquired the \$3 billion project for \$618 million. However, some participants have claimed that this and other investment losses, such as the Cross-City Tunnel in Sydney and the Airport Link motorway in Brisbane, have caused private investors to be less willing to take on patronage risk in subsequent projects. This may be a temporary phenomenon.

In contrast, there have been successful projects. For example, Melbourne's CityLink and Sydney's Eastern Distributor projects are generally considered to be successful public infrastructure projects from a public and private sector point of view, notwithstanding concerns about the level of concessions provided by the Victorian Government to Transurban for the Melbourne CityLink project.

In the case of privatisations, the Commission has commented previously on the success of the Australian Government's airport leasing program.

User charges are the norm in many public infrastructure sectors (including electricity, gas, telecommunications, water, ports, airports, and public transport). However, there has been a reluctance among policy makers to explore and actively pursue potentially innovative means of user charging in other areas, particularly for road transport (apart from a limited number of toll roads in Sydney, Melbourne and Brisbane).

There have also been increasing concerns about costs and productivity within infrastructure sectors. Many stakeholders have a perception that costs are high, especially in comparison to some of Australia's international peers. There have also been claims that costs have risen steeply in recent years, making infrastructure unnecessarily costly. The data supports some, but not all, of these perceptions.

Government-imposed deficiencies in design and pricing can thwart the potential for private sector involvement, particularly private financing. For example, the

Queensland Government required one toll road operator to place toll points before and after entry and exit points for major interconnectors respectively. This provided almost half of the users with an opportunity to use a significant part of the road free of charge, increasing the burden imposed on taxpayers relative to users.

To sum up, governments are sometimes weak at determining what, where and when infrastructure projects should be scoped and constructed. This stems from deficiencies in using coherent decision-making frameworks to assess the portfolio of potential projects, especially:

- scoping and developing transparent cost–benefit analyses
- appropriate long-term planning for corridors, rigorous demand forecasting, investigating project risks fully (including latent risks borne by governments)
- providing opportunities for users rather than taxpayers to fund projects
- efficiently allocating risks between public and private partners.

There is substantial room for improvement, particularly in the decision-making processes of governments.

Role of governments and improving decision making

Building a credible and efficient governance and institutional framework for project selection is a critical and urgent task for governments. Processes aimed at improving the transparency and efficacy of decisions only work when Ministers and other elected officers fully support these institutional arrangements, especially when there are politically expedient alternatives.

Selecting the right projects is the most important aspect of achieving good outcomes for the community, irrespective of the funding and financing mechanisms used. It is at the stage before contract signing that governments have the best opportunity to ensure infrastructure meets the needs of the community efficiently and cost effectively.

Role of transparent cost–benefit analysis

Properly conducted cost–benefit studies of large projects, and their disclosure to the public, is an important starting point for guiding project selection and improving the transparency of decision making. The assessment should be augmented with a real options analysis where useful. Also important is awareness of matters that might be outside the scope of a project level cost–benefit analysis, such as equitable access to

infrastructure (which can be addressed effectively through other policies, such as community service obligations).

The institutional and governance arrangements within which project proposals are analysed, compared and selected are also vital. Reforming these is important to avoid project selection biases and delivery problems. Although this will not guarantee the selection of good projects, it substantially reduces the probability and harm from poor project selection. Project selection problems are manifested in two directions — either selecting projects with negative net benefits or failing to select projects with high net benefits.

Role of risk analysis and allocation

The overarching motivation for involving the private sector in the delivery of public infrastructure services is to improve the economic efficiency in the delivery of services to the community (box 2).

Private sector involvement that does not have this as its principal objective is at a major risk of sub-optimal outcomes.

Additional efficiency gains may be achieved when private sector involvement includes private financing. These gains can arise from the greater commercial discipline and due diligence imposed by private financiers in the design, construction and operation of public infrastructure services.

In some cases, the private sector has replaced government and is making efficient decisions regarding project selection, such as those taken by many major and regional airports following their privatisation.

Private sector involvement also brings additional risks and costs, which need to be weighed against the benefits above. These include motivating the private sector participant(s) to act in the best interests of the community in the presence of asymmetric and incomplete information, and the transaction costs associated with negotiating and contracting with private parties.

Box 2 Potential benefits of public private partnerships

Only if well-designed and executed does a PPP agreement offer the potential for efficiency gains compared with traditional public procurement. Bundling together design, build, operate and financing may bring greater discipline and incentives to providers to reduce life-cycle costs for an infrastructure project. The potential benefits of using such procurement methods, including private financing, are that they can lead to a lower overall cost of providing infrastructure services. For example, they can facilitate:

- access to private technology and innovation, including specialised contractors and operators
- enhanced private sector incentives to deliver projects on time and within budget
- opportunities for competition for the market in provision of infrastructure and its services
- long-term value for money through credible risk transfer.

PPPs might also offer a valuable means of encouraging better use of pricing and other efficiency-enhancing mechanisms associated with infrastructure. Private financing can create options and incentives to overcome policy-makers' reluctance to adopt better practice.

In effect, involving the private sector through a partnership can unleash substantial gains. Yet there are also greater risks if: there is poor project selection; the more complex set of contracts with the private sector are inadequately written; or short-term considerations dominate judgments. A PPP project can go awry.

The best way to prevent this is by high-quality analysis of the project by pertinent experts employed by the government and by carefully designing the contracts so that risks are transferred efficiently, transparently and credibly, with incentives that align the interests of the private sector with that of the public.

In practice, there may be factors that detract from the effectiveness of risk allocation arrangements, including:

- incentives to shift risk to parties not best able to manage them, and a lack of clarity about the risks being allocated
- implicit or perceived government guarantees (which are never costless), which might create perverse incentives for risk management.

Overcoming these challenges is far from straightforward. There is no single approach to determine risk allocation, the well-founded level of private sector involvement, or the particular procurement model to deliver public infrastructure services. There are some risks (such as ensuring service continuity to the

community in the event of the insolvency of a private provider) that cannot be credibly transferred to the private sector. Governments should not only take care to avoid inadvertently paying the private sector for such risks, but also take active steps to ensure arrangements are put in place from the outset to deal with such an eventuality.

Sectoral and regional differences might mean that models of private sector involvement that best serve the community's interests in one sector or location may not be the most opportune in others. The choice of delivery model should be based on providing the best value for money to the community from delivering public infrastructure and services.

Funding

Public infrastructure funding must come from payments for the provision of services through market-based prices (determined by consumers and providers and possibly supervised by regulators), taxes on beneficiaries, general taxation sources, and occasionally from philanthropy.

User charging

User charges should be used to the fullest extent that they can be economically justified. Well-designed and efficient user charges are likely to be superior to taxpayer funding of infrastructure in many situations. Efficient user charges are an effective means to reveal willingness to pay for new infrastructure and to improve the use and augmentation of existing infrastructure.

User charges are already the norm for most types of economic infrastructure, such as electricity, telecommunications, gas, water and many transport sectors. Concerns about market power can lead to such charges being determined or monitored by a regulator. The extent to which user charges are able to recover the full costs of supply differs across sectors and regions. As infrastructure can provide benefits over generations, user charges too can span generations if they properly reflect the effective life of the assets concerned.

Roads

Although there are some toll roads in Sydney, Melbourne and Brisbane, the majority of roads are not subject to direct user charges. There is already a system of charges for heavy vehicles and some effort has been made to scope the linking of

charges to mass, location and distance travelled. Well-designed user charges for road use would provide an efficient long term and sustainable funding base to improve road provision to all Australians.

Governments should undertake pilot technical studies of (revenue-neutral) direct road user charging for cars and light vehicles using vehicle telematics and extend tolling across existing road networks as it becomes practical and cost-effective to do so. The application of charging mechanisms created by rapidly-changing communications technology appears promising. Importantly, these trials would introduce direct user charges as a substitute for other taxes, such as the fuel excise.

Governments should also actively encourage the exploration of new pricing approaches as technologies develop in other sectors (such as switch-off devices for electricity).

However, user charging is not a panacea to meeting all public infrastructure needs. There will continue to be a role for governments to fund, at least partly, some types of public infrastructure, including roads. This can be warranted: when it is impractical to exclude users who do not pay direct charges; where the transaction costs exceed the benefits of charging; or the wider beneficiaries are difficult to identify or are diffuse. In effect, there will be some roads that always remain a community service obligation.

That is why a mix of government funding and direct charging will remain appropriate for roads, public transport and social infrastructure.

Where needed, government funding should generally be sourced from broad-based taxes (income, consumption or land taxes) because they have lower efficiency costs. Income and consumption taxes, by far the largest in terms of the level of revenue raised, are levied by the Australian Government. This vertical fiscal imbalance means that the Australian Government has a vital role in funding infrastructure spending by State, Territory and Local Governments.

The Australian Government should use this role to:

- encourage direct user charging and value-capture measures (such as betterment levies and property development charges) where justified
- improve project selection and delivery
- promote collection of data and information to inform decision making by governments about future infrastructure projects.

The potential opportunities for new forms of user charging should be explored in conjunction with institutional models (and policy frameworks) needed to facilitate implementation and community acceptance of these new directions.

Infrastructure funds

Some participants have suggested the creation of various forms of infrastructure funds, including an infrastructure bank. The Commission cannot identify the evidence necessary to justify providing special support for infrastructure via a dedicated fund or bank. These models are likely to be suboptimal on the basis that they create additional risks, even should the governance arrangements be sound. The availability of pre-committed funding in this general way can create pressure to spend on projects that do not necessarily yield the highest net benefits to the community.

Financing

There are three broad mechanisms that can be used to involve the private sector in delivering infrastructure: traditional procurement using government financing; corporate financing; and project financing. The first (traditional procurement) uses government financing and the other two use private financing (and are classified as PPPs).

PPPs are not a magic pudding

As noted (box 2), PPPs can generate benefits. However, PPPs also appeal to governments for another reason. There is a perception that they offer a way to increase the provision of public infrastructure without drawing on a government's purse, thereby circumventing budgetary and borrowing constraints. This can only be so if the expectations for proposed projects are that over the life of the projects, revenues from direct user charges would be sufficient to recover the total costs of the project, including an appropriate risk-adjusted return on capital.

Otherwise, while PPPs offer scope to alter the timing of government payments to fund infrastructure services, they do not necessarily alter the long-run impacts on government budgets (setting aside the efficiency gains and any intergovernmental transfers arising from tax treatments of depreciation and interest expenses). If a PPP involves non-contingent obligations to make future payments to private sector providers, this creates a liability that needs to be funded from taxes and/or government charges, and has an effect analogous to direct government borrowing.

Some forms of availability payments have been developed for road projects that are of this kind. Ultimately, ratings agencies see all claims on a government as the same. There is no magic pudding.

A common public perception is that increasing government debt levels are synonymous with financial imprudence and inherently undesirable. This has been particularly the case since the global financial crisis, and such concerns are well founded for a number of countries, especially in Europe. However, when governments are considering whether or not to borrow, it is important to consider both the purpose for borrowing and the existing level of indebtedness.

In Australia's case, governments that implement the suite of recommendations in this report will, other things being equal, improve their capacity to fund higher levels of public infrastructure provision. Projects of demonstrable high net social benefit but of lesser commercial value to the private sector (less amenable to user charging) may be a particular target for such investment. However, proper assessment of projects and efficient delivery is crucial in these circumstances.

Potential benefits from greater use of user charges

PPPs might assist in providing an alternative where governments impose restrictions on public infrastructure capital expenditure, regardless of project benefit. Where this occurs, the community may well be worse off. In this situation, to the extent that user charges can be used to fund the return on investment, private sector provision offers a way to increase the delivery of infrastructure and raise community welfare.

Potential costs of PPPs

The benefits of using PPPs need to be offset against the higher costs relating to relatively more complex development bidding and contracting to ensure that risks are credibly borne by those best able to control them.

The opportunity cost of capital for governments is a contentious topic. Some commentators and participants argued that governments should use the long-term bond rate as the cost of capital comparator. However, this would be problematic because some risks associated with projects being funded by governments are usually allocated to taxpayers and the cost of capital should reflect this.

Therefore, the assessment of a project should be a function of the project's cash flows, not the legal character of the agent providing finance. That is, the long-term

government bond rate, often used as a surrogate for the risk-free rate of return, is *not* an appropriate benchmark for comparisons with the risk-adjusted return of public infrastructure projects precisely because these projects are not risk-free. Consequently, PPPs can be expected to require rates of return that are higher than the government bond rate and commensurate with the higher risks of the project.

In principle, PPPs might be delivered as concessions where the revenues to the provider are derived solely from end-user charges. Such projects are not on the government's balance sheet, apart from notes about the contingent liability risks associated with the contract (which should be immaterial for a well-designed PPP contract).

However, PPPs with private sector finance do appear on a government's balance sheet to the extent that there are non-contingent, long-term contractual payments provided by the government for the delivery of services (for example, availability payments, which are finance leases on the government's balance sheet). In such circumstances, there are fiscal effects and there is no free lunch provided by the private sector.

Private financing issues

The finance matters raised by many participants focused on ways by which the uncommercial component of public infrastructure investment, including risk, can be assigned to governments.

Uncommercial infrastructure projects

Many participants argued that the commercial failure of some high-profile PPPs, combined with the global financial crisis, has meant that it is presently uncommercial to allocate certain risks to the private sector (particularly demand risk for greenfields public infrastructure). The views of participants imply that there is often a gap between a government's assessment of the value of a public infrastructure project to the community and its commercial value to private providers (based on revenue streams possible from direct user charges). Many of the suggestions that inquiry participants made about funding and financing instruments were designed to get governments to fund or finance the 'gap'.

However, like all cyclical oscillations between exuberance and risk aversion, this attitude might be shifting as the more recent example of private failure becomes more remote.

The finance community has generally indicated that it is only too willing to provide and finance public infrastructure projects where it has assessed the projects to be commercially viable.

Procurement processes and the cost of finance

Some participants argued that the current process of requiring fully financed bids (where debt and equity providers are committed to each bidding consortium before the preferred bidder is identified) imposes relatively higher costs for consortia preferring a greater proportion of equity and discourages longer-term bond finance options. There could be benefits in creating greater competition from a wider portfolio of finance sources in some situations. In addition, a greater range of financial instruments of varying structure and tenor could allow for a more efficient allocation of financial risks.

Relaxing the fully financed bid requirement

The Commission proposes that governments' pilot bidding processes in which the requirement for bids to be fully financed at the time of tendering is relaxed. The preferred bidder (normally providing equity to the project) would subsequently determine the finance structure and arrange the necessary debt prior to financial close on the project. This could encourage greater interest in greenfield PPPs by consortia with longer-term investors, such as superannuation funds and issuers of long-term bonds.

Governments would need to trade off the potential cost savings and competitiveness benefits against the costs of greater due diligence regarding bankability at the initial bidding stage, and risk of higher transaction costs if a preferred bidder subsequently fails to secure debt finance. The higher transactions costs could be borne by the bidder through forfeiture of a bond in the event that finance cannot be raised.

Inverted bid

Some representatives of the superannuation sector are promoting an alternative bidding process referred to as the 'inverted bid' model to address the procurement issues raised above. While the proposal is still being developed, the Commission has some reservations about the framework relating to probity, competition in procurement and clarity of risk sharing between governments and private providers.

The Commission considers that a hybrid model based on the existing bidding framework and elements of the inverted bid could be worth trialling. The key elements of the hybrid model include:

- the conduct of rigorous cost–benefit analysis of the project that is transparent and available to all bidders, in accordance with the reforms set out in this report
- the key selection criteria for winning bids would be the lowest *expected* internal rate of return on *unlevered* equity, which is then used to lock in the revenue arrangements (including tolls and/or availability payments) over the life of the project. This ensures that the providers bear the risks allocated to them over the life of the project
- a secondary debt financing competition by the preferred bidder (a relaxation of the requirement for fully financed bids).

Corporate bond market

A number of participants to this inquiry raised concerns about the shallow depth of the Australian corporate bond market. They also argued that this was having an adverse impact on the financing of PPPs by private providers. However, many Australian infrastructure companies (particularly airports and electricity businesses) have been for some time active borrowers offshore. For example, Aquasure (the Victorian desalination plant special purpose vehicle) recently issued about US\$400 million of bonds in the US private placement market (with about one-quarter of that being in Australian dollar denominated securities). A significantly lesser amount was raised in the Australian bond market, for the same refinancing.

This policy issue has not been examined in depth in this inquiry because of time constraints and its narrower scope. The participants to this inquiry have also raised the issue in the current Financial System Inquiry, which is due to provide its final report to the Australian Government in November 2014. The Commission urges that inquiry to give full consideration to this matter.

Capital recycling

Many participants to this inquiry strongly supported capital recycling — the hypothecation of the proceeds of privatisation to the procurement of new infrastructure. Recycling may be a useful program to build community support for efficient privatisation and the use of taxpayer resources to fund and finance new infrastructure.

But, critically, it could act to encourage privatisation in circumstances that are not fully justified and encourage the selection of new projects that do not have demonstrable net benefits. Already, examples of promises to reinvest have emerged in regions where assets are being sold. Tying funds to particular regions is no assurance that the highest net benefit investments are being considered.

Governments have successfully privatised airports, major ports and electricity infrastructure and services. The Commission is recommending that states proceed with the sale of any remaining assets of these types, subject to good sale processes including a sound regulatory framework. The priority for the sale of government-owned assets is not to secure the highest price *per se*, but to ensure that:

- economic efficiency is achieved
- the risks to consumers and other public interests are managed
- the market structure is amenable to the privatisation
- the sale is conducted efficiently, ethically and transparently.

The Commission is also recommending that the Australian Government scope whether there are net benefits from privatising Airservices Australia, Snowy Hydro and the Australian Rail Track Corporation.

Privatising other government businesses should only occur following a scoping study that demonstrates there are net benefits in the form of efficiency gains from doing so.

The proceeds from privatisation should only be invested in new public infrastructure if rigorous and transparent cost–benefit analysis demonstrates there are substantial net social benefits to the community — exactly the same requirements when procuring new infrastructure not supported by privatisation. Otherwise, the proceeds from privatisation may not be wisely invested, leading to suboptimal outcomes.

Improving institutional and governance arrangements

Reforming institutional and governance arrangements for the provision of public infrastructure is necessary to promote better decision making in project selection and the efficient funding, financing and delivery of public infrastructure services.

Governance arrangements

All governments should adopt institutional arrangements for the provision of public infrastructure that incorporate best-practice governance principles and policy processes (as described in recommendation 7.1).

The Australian Government should make eligibility for Commonwealth funding to other tiers of government conditional on compliance with these governance principles and policy processes to facilitate their adoption. The best practice governance arrangements should also apply under all funding or financing mechanisms. This includes circumstances where government support for public infrastructure is provided through grants, or allocation from a fund, or through other forms of support (such as loans or guarantees).

Care should be taken to ensure that obligations placed on local governments are proportionate to both the funds the Australian Government provides and the capacity of individual local governments to comply with those obligations.

To facilitate compliance with the conditions, relevant skills and capabilities should be shared within jurisdictions and between levels of government.

The governance arrangements for a reformed Infrastructure Australia (or any advisory body on public infrastructure) should be consistent with the best practice policies and processes outlined above. The normal expectation should be that tendering for a government contract will result in public disclosure of cost–benefit analysis and all other relevant information supporting a project proposal.

In keeping with the best practice principles and to ensure a common credible framework, the Australian Government should apply the governance framework to its own projects.

Project pipeline

Some participants have suggested that there needs to be a ‘pipeline’ of public infrastructure projects. There are different views about what constitutes an effective pipeline. In the Commission’s view, the package of reforms advocated in this report should lead naturally to the disclosure of considerable information, such that public funders and private financiers would have a reasonable indication of the detailed analysis supporting future public infrastructure priorities. This would constitute an effective ‘pipeline’, with the capacity to naturally update itself.

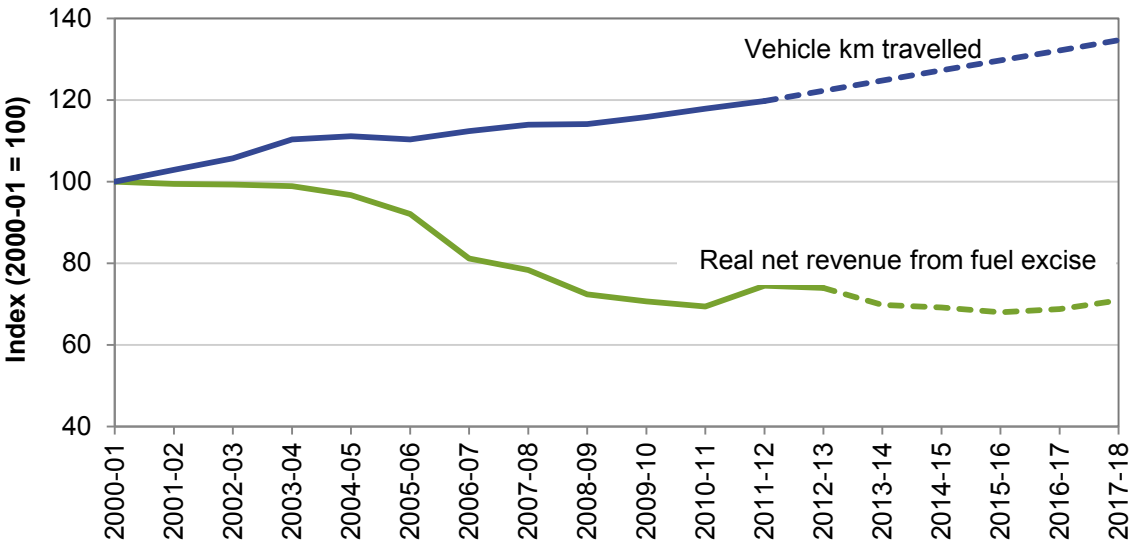
Governments could choose to regularly update and publish their list of priority projects. The Commission notes that the Australian Government has asked

Infrastructure Australia to publish a 15-year infrastructure audit plan, which will add to the public information on proposals, but does not deliver the pipeline that would be created by comprehensive publication across all governments of cost-benefit analyses on proposed public infrastructure projects.

Alternative institutional arrangements for road provision

Current governance, taxation and institutional arrangements for the funding and provision of roads are presenting challenges for coherent long-term planning and investment in road infrastructure, and are ultimately unsustainable. There is no direct link from road-related revenue to road-related expenditure. This makes it difficult to determine road users’ preferences and willingness to pay for road infrastructure services. It is also notable that net revenue from fuel excise — currently one of the largest sources of funding from motorists — has been lagging well behind growth in road use and the unit cost of building and maintaining roads. It is likely that this situation will continue, despite the recent decision to resume indexation of the excise rate from August 2014 (figure 2).

Figure 2 Road use and fuel excise



Under current arrangements, investment in roads is subject to political pressures arising from annual budget processes and election cycles. Decisions are often based on inadequate and non-transparent information and assessment of the costs and benefits of road projects.

If investment in roads is to be made sustainable with the expected high level of future urban development in Australia, there is a pressing need to commence the

task of moving towards alternative institutional and governance arrangements in the roads sector.

The adoption of a well-designed road fund model or a corporatised public road agency model is paramount to delivering net benefits from the funding and provision of roads. In the future, road funds may be able to consider direct road user charges, which would facilitate more effective asset utilisation and more rigorous assessment of new investments.

It is imperative that any institutional framework includes direct involvement of road users and a transparent process of community consultation. This will help to ensure that road investments are being directed to areas that provide the highest value to the community, and also help to facilitate community acceptance of more direct road user charging schemes.

The road reform process is likely to be a long journey, requiring effective coordination and significant commitment and effort from and across all levels of government to build public support. This is similar to the long process that built bipartisan support for trade liberalisation.

In this context, the first step in the reform process should be the establishment of road funds by State and Territory Governments and aggregations of local governments. The road funds should integrate the tasks of road funding and provision into one entity, to enable road charging and provision to be more effectively considered on a regional portfolio basis.

In light of the recent decision to bring back into government hands the Heavy Vehicle Charging and Investment Reform (HVCI) project, there is scope for a road fund model to incorporate road funding and provision for both heavy and light vehicles. There would be benefit in adopting a combined approach given that many roads and associated investment decisions address the needs of both light and heavy vehicles.

The Commission acknowledges the extensive work undertaken to progress both charging and institutional reform for heavy vehicles by the HVCI reform project. The analysis and lessons from the HVCI reform process will be directly relevant to the planning, development and implementation of this inquiry's recommended concept of road funds.

State Governments and local government associations should actively encourage and support local governments to form regional road funds for local roads. They could do this through capacity building mechanisms (such as providing specialist expert and technical assistance), and ensuring there are no legislative impediments

to the forming of funds or to developing betterment options or other cooperative arrangements.

The principal role for the Australian Government in the development of road funds should be to provide strong practical support for jurisdictional reform. This could include offering scope for redirection of resources to the new road funds and the provision of analytical and research capabilities. Hypothecation of funding will become a relevant question in this role.

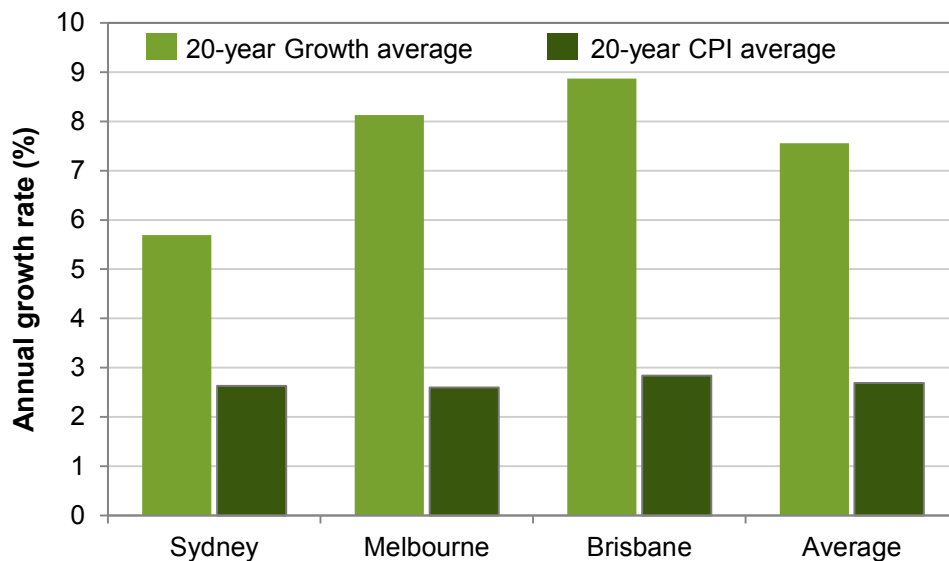
Public infrastructure construction costs

Some commentators have argued that Australia's infrastructure construction cost performance is poor by international standards, and that Australia has become a 'high cost, low productivity' location for major project construction. They suggest that project costs have escalated strongly over the past decade. If true, this would increase the prices for public infrastructure and reduce Australia's capacity to invest in public infrastructure.

The story is more nuanced and uncertain than this (especially as official statistics often do not separate infrastructure construction from construction more generally), though some facts are clear:

- prices for engineering construction projects (*excluding land prices*) rose steeply over the decade from 2000 and at an accelerating rate. But that trend has recently abated. This pattern is not unique to construction. Competition for scarce resources associated with the resources construction boom appears to have generally increased input costs, and now that the boom is over, price and cost growth rates are low. The cyclical impact of the global financial crisis also had a short-lived (negative) impact on costs and prices
- there is no single culprit for such construction cost increases. Labour costs have risen steeply, particularly for (largely non-unionised) engineering design and consulting services. But, so too have material input prices, which sometimes reached double figure growth rates in the mid-2000s. For the construction industry as a whole, the labour *share* of total costs has not changed appreciably over the past two decades
- while land prices are often excluded from many measures of construction costs, the prices for large public infrastructure include land costs. These have risen much faster than prices in the economy generally (figure 3). They also vary significantly by region and state, so project location can make a large difference to costs.

Figure 3 Land prices have risen well above inflation — 1993 to 2012



There remains considerable uncertainty about many facets of construction costs. There are sometimes large and inexplicable variations in the construction costs for what appear to be similar activities, such as the cost per kilometre of rail projects (figure 4).

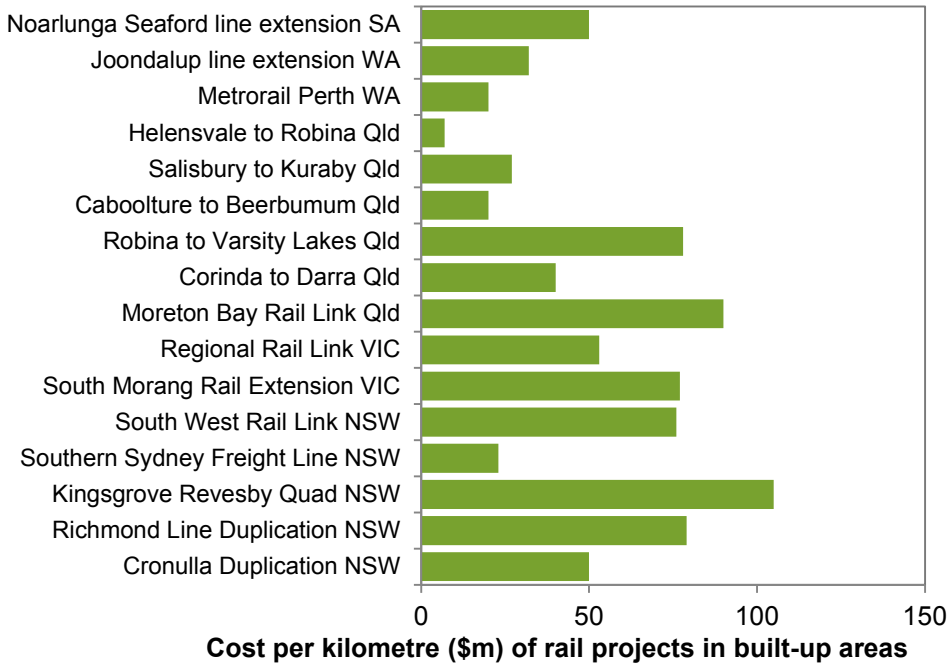
It is likely that many of these variations reflect the differing costs of brownfield construction and, as shown later, procurement competencies and individual labour relations on sites. What lies beneath the soil (toxic materials, power, water and sewerage infrastructure) and what lies above (existing buildings and roads) can make a large difference, as can the varying costs of addressing the disruption to a city from major projects and environmental impacts. Sometimes there is no choice but to build infrastructure underground, especially if former reserved corridors have been sold. Tunnels are expensive (as the construction of the Sydney North West Rail Link revealed).

There is also considerable uncertainty about whether Australia is a more costly location for infrastructure than other *comparable* countries. Making comparisons with low-wage countries makes little sense. Other than when industrial relations in the industry raise wages unduly above other industries (a genuine issue), it would not be possible to set lower wages in the construction industry and retain workers. And reducing wages across Australia to make construction costs lower seems to be putting the cart before the horse, since most Australians want to live in a high-wage economy.

For comparable countries, it is not evident that Australia is more costly, as shown by various benchmarking exercises for specific project types. For instance,

Australia had lower costs per square metre for comparable airport terminals than the United Kingdom and (most) large cities in the United States.

Figure 4 Rail construction costs vary enormously



Moreover, at least when cost overruns are concerned (an indicator of project management and estimation), Australia is a significantly better performer for some forms of infrastructure. As an illustration, the average cost overrun for a sample of 12 roads in Australia was 10 per cent. The international benchmark (covering nearly 170 projects) was double this. Of course, this need not mean that Australian road construction costs are necessarily lower than those of our international peers.

Overall, while some relatively clear aggregate patterns emerge from the available data, the micro data that would systematically explain the sources and nature of cost pressures in ‘like-with-like’ projects in Australia and overseas is missing or incomplete. To some extent, this difficulty reflects the bespoke character of many major construction projects but the main difficulties generally appear to arise from inadequate and poorly coordinated data collection. This is not an academic concern. Governments experimenting with different policies for funding, financing, procurement approaches, planning and industrial relations need to know what difference their choices make to ultimate construction project costs. Without the data, they will learn more slowly or not at all.

The Commission recommends that the Australian Government should introduce a detailed benchmarking framework. Infrastructure Australia would oversee public

reporting of benchmarking results across Australia for major infrastructure construction projects covering transport, energy, water and social infrastructure. It would outsource the development of the benchmarking framework to agencies expert in the relevant areas. For example, the Bureau of Infrastructure, Transport and Regional Economics would be responsible for benchmarking of transport infrastructure (the dominant type of public infrastructure). State and Territory Governments will have an important role to play in, and be primary beneficiaries of, such benchmarking. It will improve the information base for their infrastructure tendering, and significantly improve ex post evaluation. The provision of data by State and Territory Governments should be a requirement for all projects where the Australian Government provides funding.

One of the major drivers of long-run construction costs in infrastructure is the achievement of productivity gains. Accordingly, it is important to understand Australia's performance in this area, and to assess the factors contributing to it.

Productivity

Over the past 30 years, labour and multifactor productivity growth has ebbed and flowed in the construction industry, with a long period of stagnation in the decade from the mid-1980s. Productivity has trended up since then, but much of the increase occurred in relatively short bursts. Rising capital intensity has partly contributed to higher labour productivity growth rates from the mid-2000s. The most exceptional feature of the last few years was the surge in measured MFP and labour productivity (of over 10 per cent) in 2011-12. Its source and credibility is uncertain, but will partly have reflected the compositional shift to engineering construction.

The international evidence about Australia's relative performance is patchy and contradictory, and is reliant on case studies in parts of the industry, and indirect measures of factors correlated with productivity, such as the commitment to R&D development. For example, Australian construction companies are relatively more R&D intensive than their overseas peers. Australia has also grown its exports of construction technical services strongly, suggesting globally competitive capabilities in this part of the industry. But other case studies paint a more mixed picture of Australia's recent productivity performance in particular areas of infrastructure construction.

Regardless, there was a widespread view that there was scope for more innovation and diffusion of new technologies in the industry. However, any such improvements are largely in the hands of businesses and driven by competition and commercial

imperatives. Beyond any regulatory reforms to address policy barriers to innovation, the most important role governments can play is by being demanding and informed customers that are willing to pay for, and contribute to, innovative design and engineering solutions.

Procurement — Is it true that a ‘good customer is hard to find’?

While government clients have sought to continuously improve their procurement practices, the Commission’s consultations suggest that there are substantial dividends from reforms to project scoping and design, appropriate due diligence and probity management, avoidance of overloading tenders with unnecessary obligations and, as an overarching requirement, increasing their sophistication as buyers and negotiators.

Bidding costs can come down

Bidding costs for large complex projects are high — up to 1 per cent of the project value. It is desirable that some bidding costs exist — they are an investment by the businesses and the customer in the selection of the best constructor, and a mechanism for feedback on good design and innovation. However, bid costs still appear too high in Australia. A major contributor to this is that the preparatory work that would most efficiently be undertaken by the client has been outsourced to prospective constructors. The Commission advocates that clients should:

- invest more in initial design to reduce the design imposts placed on tenderers, while making key project standards contestable
- on a case-by-case basis, contribute to the bid costs of tenderers where innovation is assessed as being genuinely in prospect, in return for ownership of the design so that key innovations from unsuccessful tenderers are not ‘lost’ and incentives for innovation remain strong
- alter the timing of tender documentation such that only cost-relevant plans (such as those relating to design) are demanded of all bidders, with the remaining (of which there are many) being a condition of the tender, but only required of the preferred tenderer.

These solutions rely on government clients becoming more informed about the project they are wishing to purchase and for clients not to rush to market with untested scope documents. The importance of informed customers has equal relevance to other forms of government contracting. For example, for PPPs, the patronage risk analysis, undertaken by governments and any other information

relevant to project risks should be provided to potential bidders to lower bid costs and elicit better costed bids.

Eliciting best value-for-money bids

Even with low bid costs, the design of the procurement process may result in the selection of a constructor and design that does not provide the best value-for-money for the client and ultimately the community. The way in which tenderers are shortlisted (and their number), including the assessment of new international entrants, the information used to assess the designs and other procurement ‘rules’, all have the potential to influence the final tendered cost of a project.

It is important that the shortlisting of possible tenderers does not focus excessively on *local* experience, as this would deter bidding by potentially better international suppliers (which are taking a greater interest in the Australian market).

Government clients also have substantial scope to improve the quality of the information used to assess tenders. Superior information can provide a better understanding of whole-of-life project costs and potentially lower construction costs. To this end, a modelling approach (so-called ‘Building Information Modelling’ or BIM) has been shown in other markets to generate construction efficiencies and provide higher quality information on possible costs beyond the construction phase for complex projects. Given the potential savings from BIM, government clients should consider provision of initial designs in a BIM format when the project is of sufficient complexity to provide for lower construction costs and the selection of the lowest ‘whole-of-life’ design option. This will typically apply to projects that involve large building works, but less so to flat structures, surface road and rail projects. Governments, in consultation with industry and other private sector procurers, should coordinate the establishment of common technical standards to ensure that the greatest benefits from the adoption of BIM are realised.

Other government rules on procurement have the potential to lead to perverse outcomes. Local content plans, specifically Industry Participation Plans, while not binding, add to bid costs and have questionable underpinnings. The requirement for such plans should cease. There are already policies with a sounder basis that increase the capabilities of Australian businesses (such as various R&D programs).

Similarly, excessively tight rules on probity — a form of inefficient or excessive risk aversion — can inhibit the selection of the best tender and perversely increase the risks to government. The main purpose of probity rules is to ensure that the selection process for constructors is genuinely based on merit. However, particular

ways of achieving due diligence can increase the time and costs of procurement processes, and frustrate superior procurement options for some projects.

Project management

Once the client has identified the successful tenderer, the operation of the contract is critical in determining final project costs. Contracts contain various pecuniary incentives for contractors to identify options that minimise construction cost, but proper project oversight by the client remains an important role. An informed and competent client has a better capacity for overseeing claims for variations and ensuring compliance with the contract. Some participants in the inquiry suggested that public sector project management was poor, citing large cost overruns on some key public sector projects.

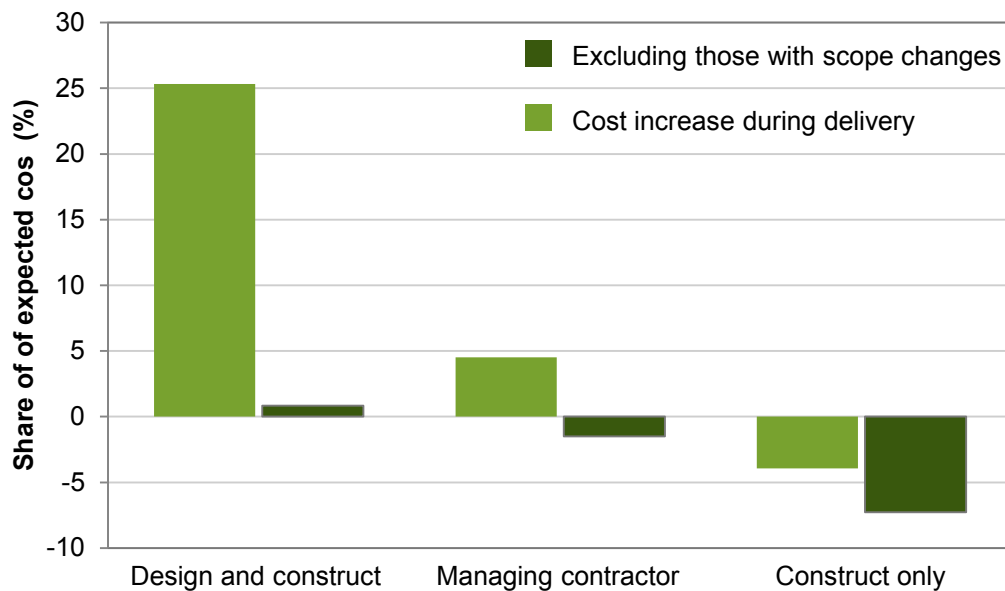
However, it is important to differentiate between project scoping, pre-tendering project planning and specification and the client's project oversight that commences after the construction contract has been signed. Some evidence suggests that poor initial cost estimation and then scoping errors lead to cost overruns, and that the project management phase generally proceeds well. In Western Australia, for example, the Auditor-General has estimated that 90 per cent of the cost variation of the top 20 non-residential capital works projects completed by 2012 (representing \$6.2 billion in spending) reflected early estimation errors. Also, analysis conducted by the Commission shows a strong link between overruns in the project selection and scoping stage, and those during construction. This highlights the flow on effect of poorly developed projects on the turnout costs of infrastructure projects.

Evidence on cost overruns due to poor project management is mixed. While the frequency of cost overruns by government clients is greater than private sector procurers, when there are cost overruns, their extent is lower. Further, where costs do overrun the contracted amount, it is often because the government client changed the scope of the project after contracts were signed (figure 5).

Nevertheless, even governments have acknowledged that project management has sometimes been deficient (as has procurement more generally). A common element to all cost overruns by public and private clients is project size and complexity. Large projects are often subject to greater uncertainties (and for government clients, the potential for the intrusion of political factors), which increases the scope for error. To help overcome some of these issues, several governments have developed specialist major procurement agencies. These manage infrastructure procurement on behalf of government clients that only occasionally purchase capital works. The Commission sees merit in adopting this approach across all Australian jurisdictions

to improve the quality of procurement-related advice and expertise in the public sector.

Figure 5 Cost overruns during delivery mainly stem from government clients changing the scope of the project^a



^a Cost overruns are defined as the difference in actual project costs as a percentage of the expected project costs at the time of contract signing.

Does the market structure for large projects lead to construction cost increases?

Many parties cite the presence of an apparent duopoly in the ‘tier 1’ segment of the market — Leighton Holdings and Lend Lease Group — as contributing to high infrastructure prices. Following a series of mergers and acquisitions, these businesses have emerged as the main players in the Australian infrastructure construction market — especially for the large infrastructure projects that are the focus of this inquiry. While estimates vary, these corporations and their subsidiaries collectively enjoy a significant market share. Some stakeholders claimed that risk aversion by some government purchasers led them to prefer the incumbents, contributing to the dominance of these two players.

Of course, a large market share by a few players does not necessarily lead to high prices or weak competition. In this regard, the Australian Competition and Consumer Commission has not found cause to block any of the acquisitions or mergers of Leighton Holdings or Lend Lease, nor has it taken action against them for anticompetitive conduct.

While there are some (low-level) barriers to new firms entering the market, it appears to be largely contestable. Indeed, international contractors (primarily from a depressed European market) are increasingly active in Australia, placing competitive pressure on the incumbents. For example, the four kilometre long elevated skytrain contract of Sydney's new North West Rail Link, costing around \$340 million, was awarded to an Italian-based construction company. Similarly, two foreign contractors and a local second-tier constructor are constructing the Northern Link tunnel in Brisbane (costing around \$1.5 billion).

This competitive pressure can be further developed by adapting work health and safety accreditation processes for international market entrants. Options such as provisional accreditation for firms with good safety records abroad may add to competition in the market.

While the concentrated structure of the market neither appears to inhibit competition nor increase construction costs, some uncertainties remain. For instance, there may be insufficient competition to adequately constrain prices in some parts of the market because the broader market is segmented by the type, location and size of projects. The cost impacts are unclear.

Governments can partly address any residual concerns through smart procurement strategies, for example by:

- using its large and ongoing purchasing activities to discourage excessive pricing behaviour
- packaging major projects into smaller parts to increase the number of potential bidders where the benefits outweigh costs
- taking into account that project scheduling can make a large difference to the number of potential bidders for big projects (and therefore the prospects for genuine competition)
- penalising market participants that engage in 'sweetheart' deals with unions (which raises costs and may limit competition).

Industrial relations

The industrial relations (IR) environment in construction has long been seen as problematic. It exhibits greater than average levels of industrial disputes. There are concerns about excessive union control of work sites and expedient deals between head contractors and unions to buy industrial peace and preserve the market advantage of good relationships. Multiple reviews have found unlawful (and sometimes criminal) conduct in some parts of the industry — mainly involving

larger commercial building projects rather than infrastructure projects. A prominent concern is that union and employer behaviour is not only fuelling unlawful conduct, but also frustrating productivity and raising costs.

The systemic problems affecting core parts of the sector have fuelled industry-specific arrangements, including IR building guidelines and the creation of industry-specific regulators.

However, to place these concerns in context:

- in the Commission's meetings with stakeholders and in submissions, most parties did not raise IR issues as a major source of cost pressures for civil and engineering construction, which is the dominant form of construction for public infrastructure
- while days lost per employee are higher than most other industries, they are very low by historical standards. They fell somewhat during the early years of the Australian Building and Construction Commission (ABCC), but then rose (albeit to levels that are still low by the historical standards of the industry)
- unionisation continues to fall, and is now at record lows
- higher productivity growth rates in the aggregate construction industry do not appear to be associated with the construction-specific IR arrangements that commenced in 2002
- while union bargaining power appears to have increased wages significantly for some projects and jurisdictions, labour earnings growth over the last decade also reflects labour shortages associated with increasing demands for construction. There is evidence that current enterprise bargaining rounds could lead to a reduction in labour costs
- an important aspect of the outcomes in IR is not regulatory. The competence of the parties to negotiate with each other is important. Governments can adjust institutions, but cannot directly improve the capabilities of the IR managers in construction companies.

Notwithstanding this, there are still considerable concerns.

- Cases prosecuted by the Fair Work Building and Construction (and formerly the ABCC) continue to reveal unlawful conduct (mostly of a civil nature) and adverse IR cultures. Overwhelmingly the issues centre on general, rather than civil and engineering construction, with cases concentrated in Victoria and most often involving just one union, the Construction, Forestry, Mining and Energy Union. It is important in that context to avoid generalising the flaws and follies

of an industrial relations environment spanning such a patchwork of businesses, unions, project types and jurisdictions.

- Most recently, allegations of bribery between constructors and unions have emerged, and are the subject of the Royal Commission into Trade Union Governance and Corruption.
- There is evidence of potentially excessive powers for some union officials and constraints on workplace flexibility likely to be inimical to productivity.
- Analysis of enterprise bargaining agreements (EBAs) suggest large and inexplicable variations in terms and conditions for employees. For example, there were large wage premiums associated with the construction of desalination plants throughout Australia. This might reflect the urgency with which these projects proceeded (and the resulting bargaining power bestowed on the relevant unions). More generally, some caution needs to be exercised when analysing EBAs, as they only can ever reveal part of the information set necessary to fully appreciate the bargaining environment at the time they were struck.
- The nature of the construction projects provides unions with significant leverage, which they sometimes abuse. Businesses are exposed to large delay penalties, and high costs if construction work is interrupted (such as a concrete pour).
- For particular projects, the nature of the project, the relevant union and delegates, the negotiating competencies of parties, and the incentives of the head contractor can lead to highly costly, combative and problematic outcomes. So while many projects may not be dogged by problems, some have involved toxic relationships.
- Further, the capacity for parties to negotiate enterprise bargains that suit the circumstances and preferences of individual businesses and their employees has been partly subverted. Various pressures by employee associations and the principal unions can lead to the implicit adoption of pattern bargaining, which leads to the same agreements across relevant parts of the entire industry. Greenfield agreements for a particular project struck between a union and a head contractor can also stifle the potential for subcontractors to negotiate EBAs suited to their own circumstances. Each of these factors can inhibit productivity growth.

Most industry participants and business bodies argued for the replacement of the current industry-specific industrial relations regulator, Fair Work Building and Construction, with the preceding body, the Australian Building and Construction Commission (ABCC). The latter had greater coercive powers, higher penalties, and the capacity to still investigate matters where the union/s and an employer had reached an agreement after an industrial dispute.

The evidence that the ABCC stimulated material improvements in *aggregate* productivity or achieved cost reductions is weak. But the debate about the aggregate productivity numbers alone misses several important points about the effectiveness of the ABCC.

The ABCC is likely to have had its primary impact on unlawful conduct and on local productivity and costs at particular sites. These are important effects that are hard to find in the aggregate data. Moreover, a major goal of reform is to ensure that parties are confident that IR regulations, agreements and contracts are observed.

Strengthening of regulatory responses is clearly needed, but the industry itself needs to embrace changed behaviour.

A sensible starting point is for all jurisdictions and the Australian Government to deploy the Victorian guidelines (or something akin to them) for their building codes of practice. Breaching the guidelines would potentially disqualify contractors from tendering for public infrastructure projects if they had mismanaged their industrial relations arrangements or had reached ‘sweetheart’ deals with unions that precluded competition from sub-contractors with lower wage costs.

The Commonwealth could encourage the Australia-wide adoption of such guidelines in several ways:

- where the Commonwealth is the procurer (say, as in the National Broadband Network), it would apply the new guidelines to its tenderers
- where the Commonwealth is a funder of state projects, it would require compliance with a code and guidelines embracing the Victorian principles as a precondition for funding.

In addition to this measure, there are also grounds for raising the ceiling for penalties for unlawful conduct. This would enable the Federal Court to set penalties more commensurate with the economic damage of industrial unrest, or to provide greater deterrence where there was recurring recidivism by an employer, employee or union for unlawful conduct.

Adoption of the guidelines and higher penalties would be likely to significantly improve the industrial relations environment and avoid industrial disputes and excessively generous enterprise bargaining agreements.

Skill formation and shortages

Based on current evidence, it is unlikely that skill shortages are a major cost driver for large infrastructure projects. However, they have some bearing on wage costs, can cause project delays, and affect the competitiveness of subcontractors. A survey of engineers showed 11 per cent of respondents observed cost increases or delays caused by skill shortages. Around 3 per cent saw projects that did not proceed due to skill shortages in 2012 — down from 8 per cent in 2008 and 2009.

Several occupations relevant to infrastructure construction, including engineers, technicians and operators, have been in apparent shortage at various points since the early 2000s. The persistence and severity of the shortages have differed across occupations, levels of experience and seniority, and jurisdiction. However, the most recent data suggests shortages are decreasing.

No single policy can address all skill shortages in construction and, indeed, it would not be feasible or cost-effective to avoid skill shortages during transient boom periods. Rather, policy should aim to reduce the occurrence of skill shortages and their effect on businesses. One complicating factor is that most occupations are highly specialised, requiring years of experience before reaching proficiency. The shortage of engineers has been strongest for those with 14 to 18 years' experience. The need for experience is greater for major projects.

The intermittency of construction projects has been one of the most important drivers of skill shortages in infrastructure construction. Intermittency makes it difficult to retain staff, reducing the number of people with industry-relevant experience. It also reduces an employer's incentive to invest in staff training, especially the incentives to take on new apprentices. This will then have flow-on effects on future skill availability. In part, such diminished incentives are addressed by various arrangements that fund training. However, the short- and long-term effectiveness of many of the apprenticeship programs (in construction and more generally) have not been assessed for some time. The Commission believes a more systematic review of apprenticeship arrangements for all industries is warranted.

Consistent occupational licensing across jurisdictions would also improve geographic labour mobility, providing one avenue for addressing regional shortages. The men and women who work as tradespeople, their clients and their employers have been poorly served by the lack of progress in producing consistent occupational licensing across jurisdictions.

Some stakeholders have argued that the impact of intermittency on skill formation should be resolved through orchestrating a predictable, continuous pipeline of public infrastructure projects. As outlined earlier, the Commission considers that

implementing the broad suite of recommendations in this report will result in a more coherent, economically-justified pipeline of projects that will form a more robust basis for forecasting the demand for skills and therefore, their creation.

Social and environmental regulation

Public infrastructure projects are subject to an array of ‘non-economic’ regulations, covering matters such as pollution control and waste management, biodiversity, heritage, native title, land access and usage, and noise levels and urban amenity. The regulations are typically coupled with requirements for community consultation, planning, pre-project assessments and approvals. The scope and stringency of these regulations and requirements have escalated over time.

While regulation is necessary to achieve many social and environmental objectives, unnecessary costs can arise where regulations are over-specified, duplicate existing requirements or are in other ways poorly designed, coordinated and/or administered. For example, approval delays can create major costs for projects, imposed on the financier (often the Government), and reduce the benefits to the community from the deployment of infrastructure. Where approval processes can be expedited without sacrificing their coherence and efficacy, there are likely to be significant gains to the community.

There is substantial scope to rationalise and improve the web of regulations and approval processes in the infrastructure construction sector. The Commission has identified many such opportunities in its recent study of development assessment processes for major projects. In addition to recent actions to reduce overlap of national and state environmental approvals processes, Australian governments continue to consider that study’s wide-ranging recommendations for reform.

Reform can begin immediately and will produce large economic benefits

A central message from this report is that there is scope for individual governments to act immediately on many of the Commission’s suite of recommended reforms. In a large proportion of cases, the necessary steps for reform are reasonably well understood and can be implemented without a national agreement or coordination between jurisdictions.

Governments (including the Australian Government) should proceed to commit to and implement the relevant reforms in their own jurisdictions without delay. This

will lead to the adoption of improved frameworks, governance arrangements and processes for the provision of public infrastructure within each jurisdiction.

Some of the reforms that should be initiated immediately include:

- more thorough consideration of alternatives to infrastructure provision that achieve the same policy goals (for example, traffic flow management with the intelligent use of traffic lights, peak hour road closure and the introduction of ramp metering among other options)
- improved project selection. Even election commitments to build and/or fund major infrastructure should be subject to rigorous project assessment and selection after the election. White elephants should become an endangered species
- pricing reform for those areas of infrastructure that are already amenable to it, which would provide a revenue source for infrastructure funding, and provide a signal about where and when to make investments
- a clearer idea about the pitfalls and lessons of different funding and financing models, which could avoid some of the mistakes of the past
- privatisation, where it improves investment and operational efficiency, and only after governments have determined the essential elements of the policy and any efficient economic and other regulatory frameworks that will be faced by the businesses post-privatisation
- the development of greater procurement competencies, and introduction of cost-reducing tender process improvements
- the adoption of procurement guidelines to provide incentives for better industrial relations arrangements.

Jurisdictions should also commence consideration of the road fund model as soon as possible, with each advising the Australian Government of how it can best support its reform as early as possible.

Early reform will deliver large benefits for the community. Based on recent levels of investment, a 10 per cent reduction in the cost of delivering infrastructure — a conservative estimate of the potential savings from implementing sensible reforms — would amount to an annual saving of around \$3.5 billion (and that would grow over time). A goal to achieve just a portion of this, say \$1 billion per annum, would be quite feasible.

Coordination and agreement between jurisdictions

Implementation of some of the reforms could benefit from a level of coordination and cooperation between jurisdictions. The active support of Australian Government Ministers responsible for various types of infrastructure will also be an important factor in progressing reforms at the state, territory and local government levels.

As a means of achieving this, and while not a prerequisite for any of the reforms proceeding, there would be further benefit in incorporating a subset of them in a national agreement, or a series of formal bilateral agreements between the Australian Government and the relevant State or Territory Government.

The Commission does not oppose a national agreement in support of aspects of these reforms that can benefit from nationally coordinated activity. However, it is conscious of significant differences between jurisdictions in their level of privatisation, preparedness to embark on large new infrastructure programs and funding flexibility.

Bilateral agreements may be more suitable to rapid implementation as the Australian Government could negotiate and agree early with those jurisdictions whose circumstances make this most desirable. This may create bilateral model agreements that could be rolled out by other jurisdictions sequentially; or be adapted to meet the specific characteristics of individual jurisdictions. The reforms proposed are for the long term. The time needed by different jurisdictions in seeing them adopted should be expected to vary.

Recommendations and findings

Better institutional and governance arrangements are crucial

FINDING 7.1

Institutional and governance arrangements for the provision of much of Australia's public infrastructure are deficient and are a major contributor to unsatisfactory outcomes.

FINDING 6.1

Where project selection decisions are made in accordance with the framework recommended in this report, there is additional capacity for the Australian and State and Territory Governments to finance public infrastructure through borrowing.

RECOMMENDATION 7.1

All governments should put in place best practice institutional and governance arrangements for the provision of public infrastructure. This includes:

- *clearly defining the principal objective of ensuring that decisions are undertaken in the public interest, taken to be the wellbeing of the community as a whole*
- *setting clear and transparent public infrastructure service standards*
- *instituting effective processes, procedures and policy guidelines for planning and selecting public infrastructure projects, including rigorous and transparent use of cost–benefit analysis and evaluations, public consultation, and public reporting of the decision*
- *use of transparent, innovative, and competitive processes for the selection of private sector partners for the design, financing, construction, maintenance and/or operation of public infrastructure*
- *ensuring efficient allocation and subsequent monitoring of project risks between government and the private sector*

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- *regularly reviewing funding and financing policies, including application of transparent user-charging mechanisms as the default setting where this is efficient*
 - *monitoring of project performance and ex-post independent evaluation and publication of project outcomes (including periodic reporting of benchmark costs by Infrastructure Australia)*
 - *retaining sufficiently skilled public sector employees to be responsible and accountable for performing these functions*
 - *establishing mechanisms for transparent review or audit of the decision-making process by an independent body, for example, an Auditor-General or Infrastructure Australia.*

RECOMMENDATION 2.3

All governments should commit to subjecting all public infrastructure investment proposals above \$50 million to rigorous cost–benefit analyses that are publicly released and made available for due diligence by bidders. In general, analyses should be done prior to projects being announced. If a project is announced before analysis is done, for example, in the lead-up to an election, this should be conditional on the findings of a subsequent analysis.

RECOMMENDATION 7.3

Australian Government funding or other forms of financial assistance (including incentive payments under Commonwealth–State agreements) for public infrastructure that is provided to State and Territory and Local Governments should be conditional on the adoption of the governance arrangements outlined in recommendation 7.1.

This assistance should only be provided where there is evidence of a demonstrable net public benefit from the project that would otherwise not be obtainable without Australian Government support.

The Australian Government should support the incorporation of the framework in recommendation 7.1 for project assessment in the energy network investment framework.

Consultation on the criteria to be applied and any potential implementation issues associated with such an approach should be undertaken with the State and Territory and Local Governments.

Various public and private financing models may have a role to play

RECOMMENDATION 2.1

State and Territory Governments should privatise their government-owned:

- *electricity generation, network and retail businesses*
- *major ports.*

Privatisation should be subject to appropriate processes to ensure that the public interest is protected through structural separation, regulation, sale conditions and community service obligations.

RECOMMENDATION 2.2

The Australian Government should conduct scoping studies to investigate the efficiency gains and other merits of privatising some or all of the business activities of the Australian Rail Track Corporation and Airservices Australia. The study into Airservices Australia should include a review of the efficiency of its capital expenditure program, as recommended by the National Commission of Audit.

The Australian, New South Wales and Victorian Governments should similarly investigate the sale of Snowy Hydro. Sale of shares by any one of these governments should not depend on the decisions made by the other governments.

RECOMMENDATION 6.1

Governments should undertake pilot procurement programs without the requirement for bids to be fully financed at the time of tendering for the project.

RECOMMENDATION 5.1

The Financial System Inquiry should investigate characteristics of Australia's corporate bond market to identify whether there are factors impeding its development that could be corrected by policy action and provide a net benefit to the community.

Road-specific institutional and funding reforms are required

RECOMMENDATION 8.1

The first step in a long-term transition to a more efficient and effective approach to the provision and funding of roads should be the establishment of Road Funds by State and Territory Governments. State Governments, and local government associations, should actively encourage and support local governments to form regional Road Funds for networks of local roads.

To be effective, Road Funds should:

- *have the objective of clearly linking road-user preferences with investment and maintenance decisions*
- *integrate the tasks of road funding and provision*
- *have a significant degree of autonomy*
- *have access to adequate revenue to meet the costs of the road network they administer, as required by the relevant road users*
- *entail transparent processes for determining the level and allocation of funds*
- *include an open and transparent procedure for direct involvement of road users and consultation with the broader community on project selection, funding, and road charging decisions*
- *involve systematic post-project evaluation and periodic review of the arrangements.*

The implementation of Road Funds should take into account the research and analysis developed for heavy vehicles by the Heavy Vehicle Charging and Investment reform project.

RECOMMENDATION 8.2

There are complex issues associated with establishing Road Funds, such as determining what sources of road revenues should be directed to Road Funds (including Australian Government road revenues) and the method of allocation.

The Australian Government should assist in this reform effort by directing the Productivity Commission to undertake a public inquiry on the design and implementation of Road Funds.

RECOMMENDATION 4.1

The Australian Government should actively encourage State and Territory Governments to undertake pilot studies on how vehicle telematics could be used for distance and location charging of cars and other light vehicles. To do so, the Australian Government should:

- *offer to partly fund these pilot studies*
- *work with the States and Territories to address privacy concerns and share lessons from the trials and overseas experience*
- *ensure that motorists are directly involved via roads and motorists associations.*

The pilot studies should be designed to inform future consideration of a shift to direct road user charging for cars and other light vehicles, with the revenue hypothecated to roads. Heavy vehicle trials could also be developed on a similar basis.

The Road Funds proposed in recommendation 8.1 could be tasked to undertake the trials if this does not result in unreasonable delay.

Planning and tendering arrangements can be significantly improved

RECOMMENDATION 9.1

Given high and rising land costs in urban areas, Australian governments should ensure that project selection take explicit and detailed account of available alternatives, including the enhanced use of existing infrastructure, pricing solutions and cheaper build options. Australian governments should also consider ways in which land policies can be improved in this area, given the deficiencies in the current planning of land reservation in most jurisdictions in Australia.

RECOMMENDATION 12.1

All governments should invest more time and resources in the initial concept design specifications to help reduce bid costs, but in doing so, provide opportunities in the tender process for tenderers to contest the specifications of the design.

RECOMMENDATION 12.2

When tendering for major infrastructure work under design and construct arrangements, government clients should consider contributing to the design costs of tenderers on the condition that governments own the design, where a thorough prior assessment has demonstrated that design innovation is both worth seeking and likely to be received.

RECOMMENDATION 12.3

Government clients should alter the timing of information provision in the tendering process for infrastructure projects so that non-design management plans are only required of the preferred tenderer. The obligation to produce documents upon becoming a preferred tenderer should remain a condition of the initial request for tender.

RECOMMENDATION 12.4

The ‘early contractor involvement model’ should be trialled by government clients to test the costs and benefits of applying past contract performance by tenderers as a means of constructor selection, consistent with the practices of some private sector clients.

RECOMMENDATION 12.5

For complex infrastructure projects, government clients should provide concept designs using Building Information Modelling (BIM) to help lower bid costs, and require tender designs to be submitted using BIM to reduce overall costs. To facilitate the consistent use of BIM by public sector procurers, Australian, State and Territory Governments should:

- facilitate the development of a common set of standards and protocols in close consultation with industry, including private sector bodies that undertake similar types of procurement*
- include in their procurement guidelines detailed advice to agencies on the efficient use of BIM.*

RECOMMENDATION 12.6

Within the request for tender, government clients should provide opportunities for tenderers to contest some key standards of the design where they have previously assessed scope exists for innovation to occur.

RECOMMENDATION 12.7

Australian, State and Territory Governments should remove the requirement for local content plans, such as the Australian Industry Participation plans, from tenders.

RECOMMENDATION 12.8

For larger and more complex projects, government clients should pre-test the market to gain insights into possible savings from packaging the project into smaller components, reducing the level of risk borne by any one contractor, and promoting greater competition from relatively smaller construction companies.

RECOMMENDATION 12.9

Government clients should invest more time and money in understanding the site risks for infrastructure projects and update the information provided to tenderers during the request for tender stage in consultation with potential contractors.

Costs have risen due to many reasons

FINDING 9.1

Aggregate data indicate that the costs of construction inputs, particularly labour, fuel and land, have risen substantially in recent years. While such data shed little light on design, environmental and many other cost elements, other evidence suggests that there have recently been periodic increases in these elements too. Most recently, labour market conditions appear to be softening significantly in some jurisdictions, which should reduce wage pressures.

Achieving better labour markets

FINDING 13.1

There is no robust evidence that the new industrial relations environment specific to construction had significant effects on the costs and productivity performance of the construction industry as a whole. There are likely to have been more important effects for the non-residential building segment of the industry, but any such effects would be hard to discover in the aggregate construction productivity data.

Regardless, for some segments of the industry and specific project sites, there remains evidence of unlawful conduct, overly generous enterprise bargaining arrangements, and other problematic industrial relations arrangements that are inimical to productivity and costs.

RECOMMENDATION 13.1

Australian, State and Territory Governments should adopt codes and guidelines with an essentially similar framework to the Victorian Code of Practice for the Building and Construction Industry for their own major infrastructure purchases.

The Australian Government should require compliance with these guidelines as a precondition for any infrastructure funds it provides to State and Territory Governments.

RECOMMENDATION 13.2

The Australian Government should:

- *increase the ceiling of penalties for unlawful industrial relations conduct in the construction industry.*
- *ensure that the specialist regulator has adequate resources to give genuine and timely effect to the enforcement regime.*

RECOMMENDATION 14.1

The Department of Industry should make and publish regular projections of labour demand from public infrastructure construction. Information collected and produced as part of the proposed benchmarking activities (recommendation 9.2) should support this activity, as should data held by Infrastructure Australia. The Department should also seek agreements with all private sector infrastructure providers and State and Territory Governments to provide data pertaining to their expectations of future need.

RECOMMENDATION 14.2

The Australian Government should request the Productivity Commission to conduct a public inquiry into Australia's apprenticeship arrangements. The inquiry should include, but not be limited to, an assessment of:

- *the deficiencies of the current system, how these arise and who they affect*
- *the role of the current apprenticeship system within the broader set of arrangements for skill formation*
- *factors that affect the supply and demand for apprenticeships*

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- *the structure of awards for apprentices*
 - *potential reforms to improve the efficiency and effectiveness of Australia's apprenticeship arrangements.*

RECOMMENDATION 15.1

The current Review of the Australian Government Building and Construction OHS Accreditation Scheme should examine options such as ‘recognition’ and ‘provisional accreditation’, with a view to the implementation of measures to improve access to Commonwealth-funded projects for firms not presently operating in Australia.

FINDING 14.1

The Commission considers that overall, tradespeople, their clients and their employers have been poorly served by the lack of progress amongst governments in producing consistent occupational licensing across jurisdictions.

Better data collection and some improvements to Infrastructure Australia is required

FINDING 9.2

Comparisons of major project construction costs between Australia and other countries suffer from a range of methodological and data problems that limit their use. Recommended improvements in data availability, together with further development of reference frameworks, should assist greatly in reducing such limitations.

RECOMMENDATION 9.2

The Australian Government should fund the development and ongoing implementation of a detailed benchmarking framework for major infrastructure projects in Australia – in transport, electricity, water, gas and social infrastructure. This would substantially assist in the future planning and evaluation of projects, and is an essential factor in the much-cited pipeline of projects.

The benchmarking should include sufficient information of a strategic nature, including on costs per major unit, using a standard cost breakdown, and average expenditures over the construction period.

The provision of data to support the benchmarking framework should be a requirement attaching to all Australian Government funding for major infrastructure projects. The Australian Government should ensure data relating to its own projects are also captured. Mechanisms should also be developed to capture similar data from projects funded by other levels of government and consideration should be given to what information might be gathered from the private sector to enhance the quality of information provided by the benchmarking.

This ongoing benchmarking must be seen to be independent of both government and industry influence and also be seen as technically robust and credible. Infrastructure Australia should be responsible for packaging and publishing the benchmarking results, but should outsource the development and implementation of the benchmarking framework to agencies expert in the relevant areas, including the Bureau of Infrastructure, Transport and Regional Economics for transport projects.

RECOMMENDATION 7.2

The Australian Government should not proceed with those amendments to the Infrastructure Australia Act 2008 that restrict Infrastructure Australia from publishing information on project proposals it has evaluated, including cost-benefit analyses. The Board of Infrastructure Australia should have the power to limit the publication of information if, in its view, this would be likely to cause significant commercial harm to a government, individual or corporation. The Board should make it clear to project proponents and sponsoring governments that all information will be publicly disclosed except in these limited circumstances, and that it will not accept redactions in project proposals.

RECOMMENDATION 10.1

The Australian Bureau of Statistics should be funded to revise its approach to collecting productivity and other data within the construction sector. Separate collection and regular reporting of data for building construction and heavy and civil engineering construction would greatly improve the statistical information available to researchers and policymakers

Implementation of reform

RECOMMENDATION 16.1

Governments should commence implementing the recommendations outlined in this report that are relevant to their jurisdiction immediately. A formal Agreement across all jurisdictions is not a prerequisite for Australian, State and Territory and Local Governments pursuing most of the recommendations made by the Commission, as they relate to implementing best practice or improved processes within each jurisdiction.

RECOMMENDATION 16.2

The Australian Government should consider entering into formal bilateral agreements with State and Territory Governments that commit each jurisdiction to implementing a subset of the reforms (such as those identified by the Commission in table 16.2, or some combination of these recommendations).

The agreements should contain effective monitoring and public reporting arrangements, an agreed timetable for implementation, and a commitment to conduct an independent review of the reforms after a set time period.