Better Value Infrastructure Plan

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Executive Summary

Introduction

At the August 2011 Council of Australian Governments (COAG) meeting the New South Wales (NSW) Premier committed to develop a Better Value Infrastructure Plan (BVIP) with the objective of assisting governments in Australia to drive better value in infrastructure development and delivery.

The last 5-7 years has seen a sharp increase in both public and private infrastructure investment to replace existing assets and develop the infrastructure network to meet the needs of an expanding population and the increased growth in key resource export markets. The Better Value Infrastructure Plan focuses on priority actions for industry to enhance the value achieved from the public dollar spend, reflecting the accountabilities of governments in setting strategy, policy and budgets and the role of the private sector in delivery. The Plan acknowledges the significant reforms in progress, proposing actions that align with industry priorities and complement the work to date.

In the Plan "Better Value Infrastructure" is defined as getting the right infrastructure built at the right time for the right cost. The emphasis on achieving better value is not simply about achieving lower cost or short term efficiency gains. Value is maximised through the delivery of long term improvements and enhancements to our infrastructure systems such that service levels are augmented and life cycle costs are optimised. Achieving better value from infrastructure spend will in turn improve productivity, drive economic growth and provide better public amenity.

Research for the Plan and the proposed improvement objectives and actions have been informed by:

- A detailed review of the wide range of reform work currently underway or in progress by state and federal governments (specific studies are referenced throughout this paper)
- Consultation with a wide range of government and industry stakeholders
- Guidance from the Infrastructure Working Group, NSW Department of Premier and Cabinet and Infrastructure New South Wales.

Focussing effort in these areas of priority for industry will maximise the achievement of better value from our infrastructure investment.

Context

Our research and consultations have shown that there are several broad issues impacting on the value achieved in current infrastructure provision:

- The lack of a coordinated and staged national pipeline of projects that can be relied upon with confidence.
- Limitations in the effectiveness and efficiency of infrastructure procurement across the value chain.
- The complexity and layering of environmental and planning legislation across federal and state jurisdictions.

Priority issues identified by industry across the value chain relating to the procurement and delivery of infrastructure are summarised in the following figure.

Planning, Strategy & Prioritisation	Agree delivery model	Conduct tender process	Manage construction	Operate assets productively
• Lack of coordinated strategic infrastructure planning can result in service shortfalls and a lumpy pipeline of projects • Inconsistent approach to the preparation and evaluation of business cases can impede prioritisation and funding allocation and result in the wrong suite of projects being put to market • Unclear decision making and commitment around project selection and prioritisation can lead to stop start programs • Lack of clear communication of project priorities, staging and timeframes for delivery erodes market confidence	• Insufficient engagement with industry to determine the most effective form of delivery limits value and innovation opportunities • Insufficient visibility of delivery model and proposed procurement approach impacts industry ability to effectively prepare and respond • Risks are often not allocated to those best able to manage them, but to those least able to resist them	• Complex planning and environmental assessment and approval processes can extend the project timeline and add cost • Inconsistency in public sector skills and capability impacts procurement efficiency and outcomes • Tendency for excessive probity to limit industry engagement during procurement at the expense of optimal technical solutions	• Poor scope definition during procurement can lead to subsequent construction delays and costly project variations • Developing and maintaining skills, capability and capacity is a challenge for both government and industry and impacts on the ability to deliver projects	• Lack of adequate consideration of whole of life costs during procurement results in assets that are often not operated efficiently • Lack of system and network wide analysis in investment decision making results in sub optimal utilisation of existing assets

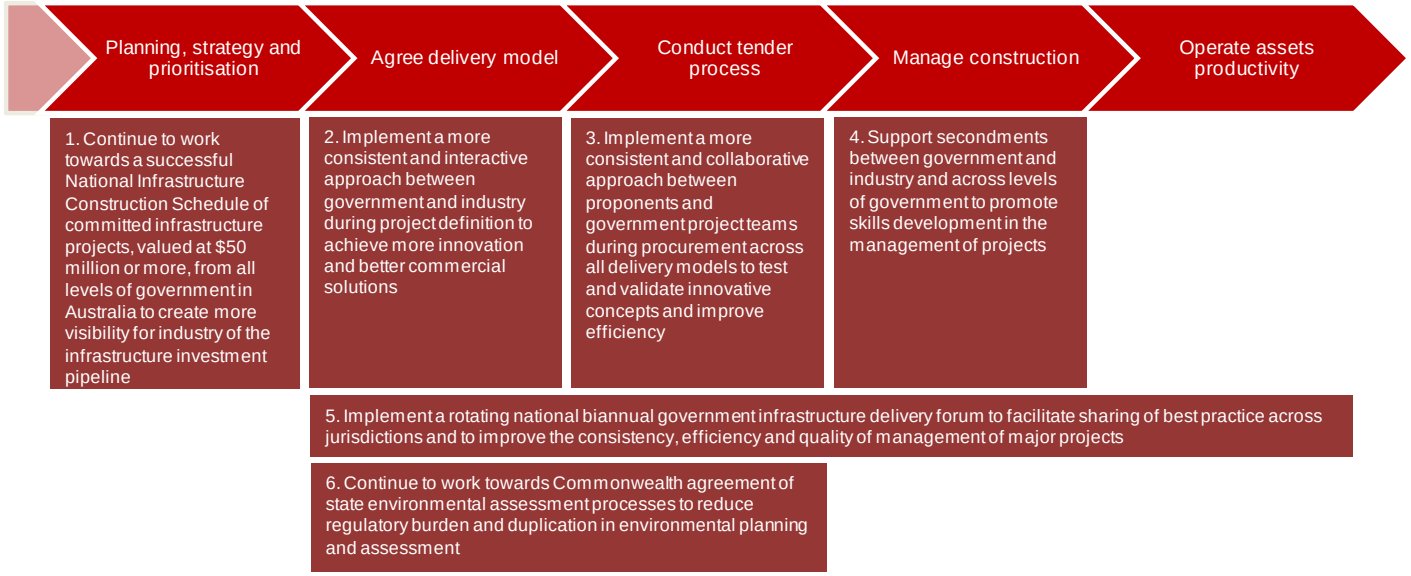
Priority actions for better value infrastructure

Our research indicates that by dollar spend, 50% of the nation's publicly funded infrastructure is presently delivered by the private sector. It is important to note the roles and responsibilities of governments and the private sector in this current business model.

- Government (or the public sector) is responsible for infrastructure prioritisation and funding decisions and its role is that of determining, establishing and setting strategic direction though policy formulation and enunciation and through setting broad parameters for economic development.
- Industry (or the private sector) is best placed to understand the options around technical solutions to deliver infrastructure, and the opportunities to provide strongly innovative models and approaches that can offer significant benefits to individual infrastructure projects.

Given the above, the BVIP is focussed on pragmatic solutions that maximise the involvement of and gain best value from the private sector. The actions are intended to drive improvements to processes, behaviours and expertise in the planning, procurement and delivery of infrastructure to encourage greater innovation, lower whole of life costs and deliver the right level of performance, service and quality.

Unlike other studies the BVIP has analysed, by design, a broad range of opportunities across the entire value chain, and across all procurement models, proposing reforms that aim to address current issues with the infrastructure pipeline, planning legislation, delivery approach and public sector capacity and capability. Given the breadth and depth and number of actions, to aid successful implementation and maximise the impact of this work a number of priority actions are proposed for immediate implementation.



Focussing effort in these areas of priority for industry will maximise the achievement of better value from our infrastructure investment.

1. Introduction

1.1 Overview of the Better Value Infrastructure Plan

At the August 2011 Council of Australian Governments (COAG) meeting the New South Wales (NSW) Premier committed to develop a Better Value Infrastructure Plan (BVIP) with the objective of assisting governments in Australia to drive better value in infrastructure development and delivery.

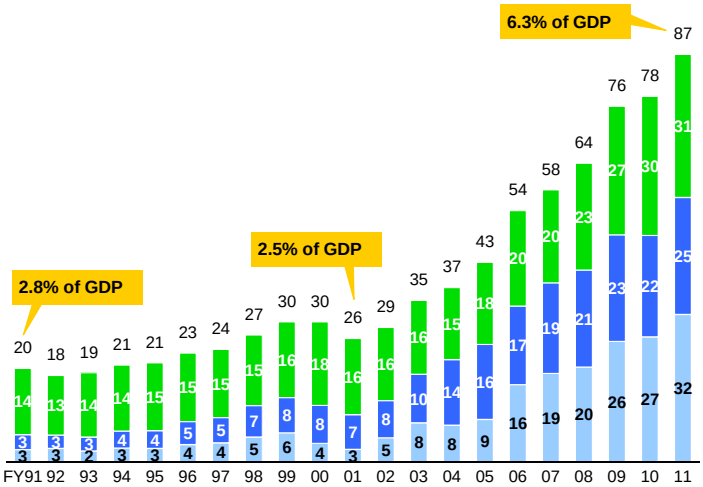
The BVIP is focussed on pragmatic solutions that maximise the involvement of and gain best value from the private sector. The actions are intended to drive improvements to processes, behaviours and expertise in the planning, procurement and delivery of infrastructure to encourage greater innovation, lower whole of life costs and deliver the right level of performance, service and quality. Unlike other studies the BVIP has analysed opportunities across the entire value chain, and across all procurement models, proposing a broad range of reforms that aim to address current issues with the infrastructure pipeline, planning legislation, delivery approach and public sector capacity and capability.

1.2 Context

Analysis of BIS Shrapnel data (Figure 1) indicates that there has been significant growth in infrastructure investment in the public and private sector over the last 10 years in Australia. As a percentage of GDP infrastructure spending has increased from 2.8% of GDP in FY02 to 6.3% in FY11.

TOTAL ENGINEERING CONSTRUCTION BY FUNDING SOURCE

Value of work done, $ Billions (Real, 2008/2009)



Compound annual growth rate	91-01	01-11
Publicly funded	1.4%	6.5%
Private excluding mining and heavy industry	8.6%	12.9%
Mining and heavy industry**	0.2%	28.1%
All privately funded	5.9%	19.0%
Total	2.8%	12.7%

* Engineering construction covers: roads, highways and subdivisions, bridges, railways, harbours, water storage and supply, sewerage and drainage, electricity generation, transmission and supply, pipelines, recreation, telecommunications, mining and heavy industry, and other

** Mining and heavy industry is almost entirely funded by the private sector

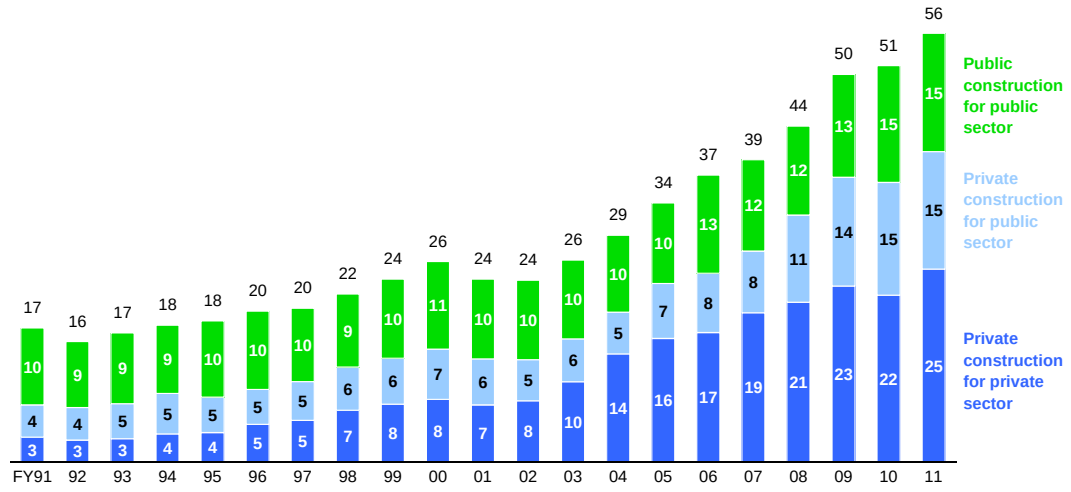
Source: BIS Shrapnel Engineering Construction in Australia, March 2011; Australian System of National Accounts ABS 5204.0, table 1

Figure 1: Total engineering construction by funding source

Further analysis of BIS Shrapnel data (Figure 2) also points to a trend of increasing outsourcing of the delivery of public infrastructure by Australian Governments for the benefit of competition and lower cost. As a result the private sector currently delivers 50% of public infrastructure, compared with 33% ten years ago.

ENGINEERING CONSTRUCTION BY CONTRACTOR—EXCLUDING MINING AND HEAVY INDUSTRY*

Value of work done, $ Billions (Real, 2008/2009)



* Engineering construction covers: roads, highways and subdivisions, bridges, railways, harbours, water storage and supply, sewerage and drainage, electricity generation, transmission and supply, pipelines, recreation, telecommunications, and other

Source: BIS Shrapnel Engineering Construction in Australia, March 2011

Figure 2: Engineering construction by contractor

The Better Value Infrastructure Plan addresses recommendations to enhance the value achieved from the public dollar spend, acknowledging the challenges and opportunities that exist in an outsourced and mature market.

In this paper "Better Value Infrastructure" is defined as getting the right infrastructure built at the right time for the right cost. The emphasis on achieving better value is not simply about achieving lower cost or short term efficiency gains. Value is maximised through the delivery of long term improvements and enhancements to our infrastructure systems such that service levels are augmented and life cycle costs are optimised. The overarching objectives of achieving better value from infrastructure spend is to improve productivity, drive economic growth and provide better public amenity.

The study involved collating and synthesising the large amount of work already undertaken in this arena, including work underway on infrastructure financing by Infrastructure Australia. With this in mind the Plan identifies a number of practical reforms that complement what is already being done, and can be prioritised for action by governments to continue to progress the agenda of improving infrastructure provision.

1.3 BVIP problem definition

Our research and consultations have shown that there are several broad issues impacting on the value achieved in current infrastructure provision:

- The lack of a coordinated and staged national pipeline of projects that can be relied upon with confidence.
- Limitations in the effectiveness and efficiency of infrastructure procurement across the value chain.
- The complexity and layering of environmental and planning legislation.

Figure 3 below details the priority issues identified by industry across the value chain relating to the procurement and delivery of economic infrastructure.

Infrastructure Australia's latest report "Communicating the Imperative for Action' states that progress in improving infrastructure planning, policy development and project evaluation has been slow[1]. Further the report states that key weaknesses in planning and project development remain at the level of strategy development and that projects continue to be presented to Infrastructure Australia that do not align well with the proponents own strategic directions and plans.

It is worth noting however that whilst a continued focus on improvement should be encouraged, a number of reports have shown that Australia compares well with practices overseas. For example in their 2010 PPP procurement review KPMG reported that Australian PPP processes compared favourably with similar processes internationally[2]. Although there is a great deal of work and reform underway across Australia there is still more to be done; the BVIP focuses on a number of key areas for reform to deliver better value in infrastructure provision.

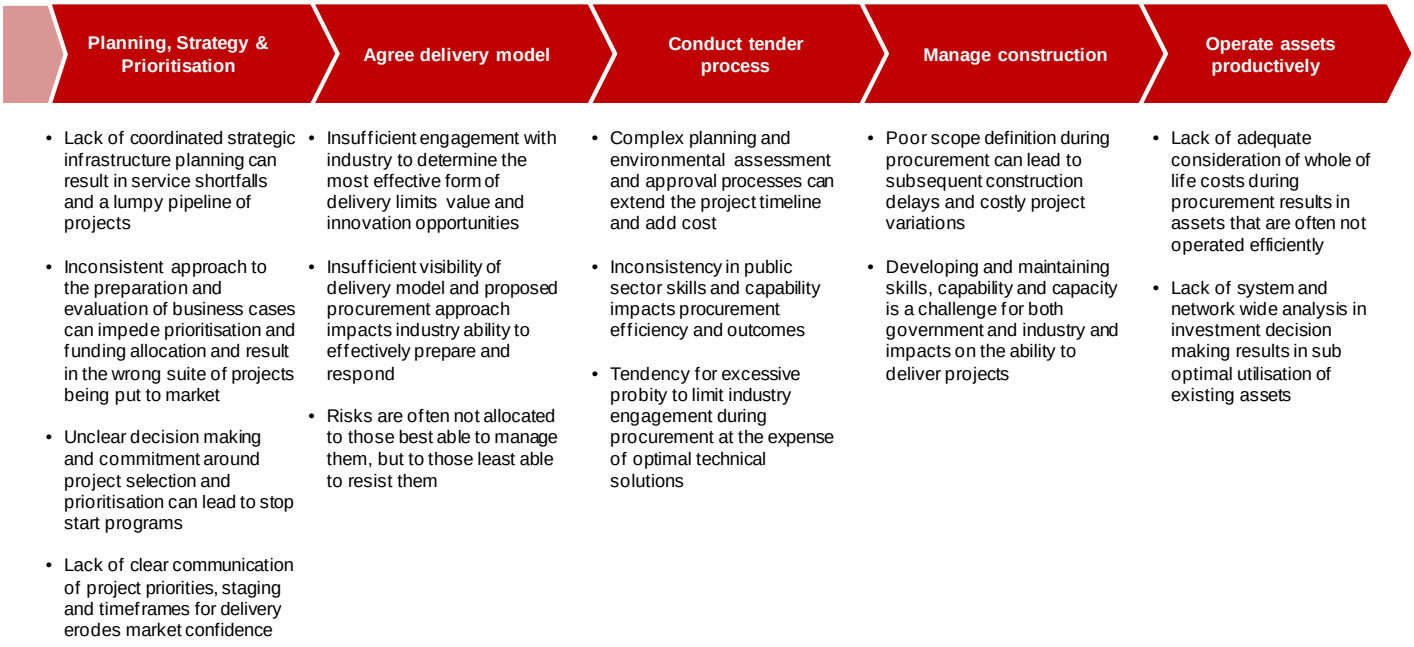


Figure 3: Problem Definition – Strategic Context

[1] Infrastructure Australia report to COAG - Communicating the Imperative for Action – Referred to throughout this paper as 'Infrastructure Australia's latest report'

[2] PPP Procurement – Review of barriers to competition and efficiency in the procurement of PPP Projects (May 2010) P3

1.4 Structure of this paper

The remainder of this document is structured as follows:

- Chapter 2 provides an overview of the Plan, describing the four objectives
- Chapter 3 discusses the issues and priority actions relating to the infrastructure pipeline
- Chapter 4 discusses the issues and priority actions relating to smarter delivery
- Chapter 5 discusses the issues and priority actions relating to building capacity and capability
- Chapter 6 discusses the issues and priority actions relating to environmental planning
- Chapter 7 draws the final conclusion and details the next steps for the Plan.

2. Design and delivery of infrastructure

2.1 Overview of the Plan objectives

Four key interlinked objectives have been identified to maximise the involvement and gain best value from the private sector:

1. Creating more visibility and continuity of the infrastructure investment pipeline
2. Adopting a more consistent and smarter approach to infrastructure delivery
3. Improving capability and cross-jurisdictional knowledge and skills transfer
4. Reducing the regulatory burden and duplication in environmental planning and assessment

Within each of the four objectives a number of practical actions are proposed for implementation in the short term to deliver better value in infrastructure provision.

Figure 4 below summarises the four objectives:

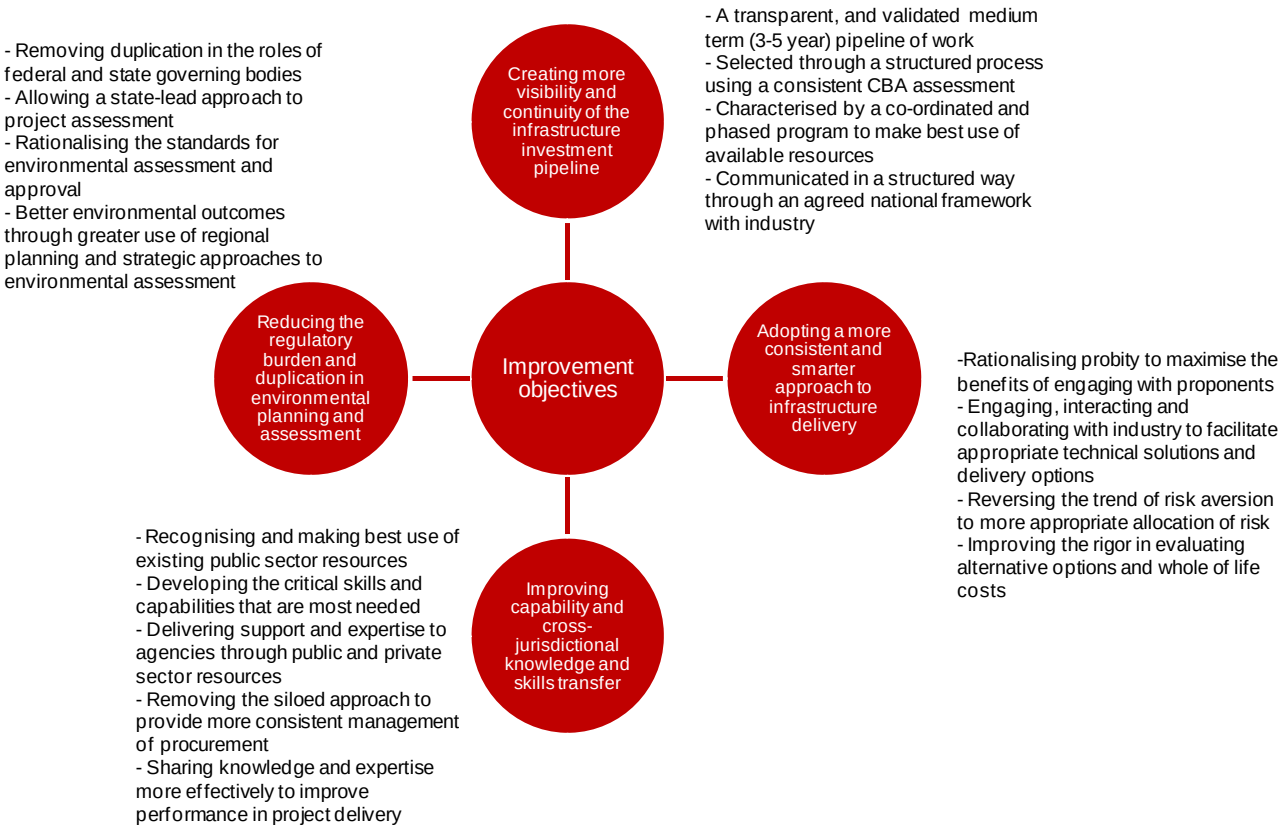


Figure 4: The four objectives of the Plan

The objectives and related priority actions have been informed by:

- A detailed review of the wide range of reform work currently underway or in progress by state and federal governments (specific studies are referenced throughout this paper)
- Consultation with a wide range of government and industry stakeholders (detailed in Appendix 1)
- Guidance from the Infrastructure Working Group, NSW Department of Premier and Cabinet and Infrastructure New South Wales.

The objectives have been chosen to complement the other work that is being done and are focussed on initiatives that help governments engage with and maximise value from industry, increase the capacity and capability of agencies to deliver projects and remove the barriers to efficient and effective delivery. In arriving at the four objectives and the associated actions we note that:

- The funding of infrastructure is a major area of reform to be addressed – this is in part covered in the BVIP supporting paper and is also subject of many other papers and working groups
- Bid cost issues have been clearly highlighted in many previous papers and are not the subject of specific focus in this study
- Integrated and coordinated planning of transport and other infrastructure is acknowledged to be of significant importance but is covered only briefly in this study in the context of informing a better pipeline.

It is important to note that the four objectives are complementary and interrelated as shown in Figure 5 below:

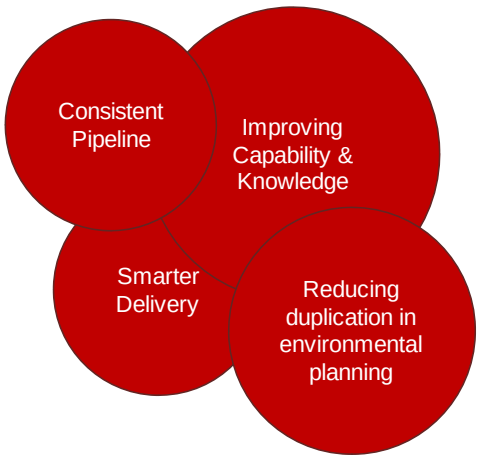


Figure 5: The four interrelated objectives

The four objectives are interrelated in that:

- Efficient and effective delivery of infrastructure is underpinned by the skills and capability of the government and agency staff responsible for the planning, procurement and implementation of that infrastructure
- Having a consistent pipeline of work allows both government and industry to build capacity and further develop capability
- Reducing duplication in environmental planning will help to facilitate smarter delivery
- Engaging with industry (through smarter delivery) will allow better management of the pipeline and will encourage skills and knowledge transfer between the public and private sector

Unlike other studies the BVIP has analysed, by design, a broad range opportunities across the entire value chain, proposing a specific set of actions that aim to address the current issues noted by industry in Section 1.3. Figure 6 below demonstrates how the four objectives have impact across the value chain:

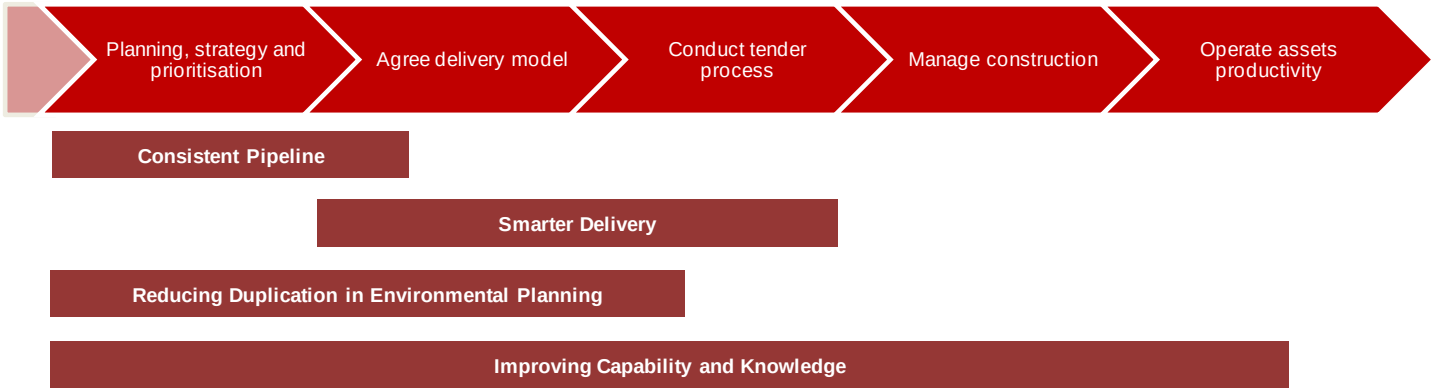


Figure 5: The four objectives across the value chain

The subsequent sections of this paper describe in further detail the benefits of addressing the objectives, the specific issues currently observed and the actions proposed to help resolve those issues.

3. Creating more visibility of the infrastructure investment pipeline

3.1 The importance of an investment pipeline

Our research and consultations have shown that a consistent and reliable infrastructure investment (and delivery) pipeline is a key driver in achieving value for money in infrastructure provision. For example, the 2010 report commissioned by Infrastructure Australia to review the barriers to competition and efficiency in procurement of PPP projects identified that the 'largely unknown pipeline of projects and their sporadic nature' is one of the most common barriers to entry in the PPP market. Further to this, in our industry consultations this message was reiterated, with one representative from a major multinational construction company stating that the lack of a consistent pipeline has the biggest impact on the ability of the company to deliver projects efficiently and cost effectively.

The infrastructure market in Australia is made up of a small number of key players which combined, have a finite capacity. It is therefore important that the release of major projects is coordinated to best match the market capacity where possible. As an example, when interviewed, senior management at the NSW Transport Projects Division noted that they would not go to market for a major rail construction project in NSW at the same time the Victorian Regional Rail Link project was under construction; such a large draw on resources would result in a less than favourable project outcome.

Our consultations with several agencies and departments revealed that the rate at which projects are released to the market has a direct impact on prices; at times of peak demand the unit cost of construction can be up to 40% higher than that in a lower demand period. This is particularly evident for a 'lumpy pipeline' where project workload is unstable and is not driven by longer term strategic planning.

This market dynamic is by no means unique to infrastructure, managing the demand profile to maintain a constant supply with competitive pricing is an ongoing challenge that governments face. Cost is however not the only factor at play, the infrastructure pipeline has many influences on the behaviour, structure, capacity and capability of industry. A well structured and managed pipeline of projects can lead to a number of benefits including:

- Increased certainty of investment – Announcing major projects in advance of construction encourages investment institutions to support the financing of infrastructure.
- Innovation – With knowledge of a future pipeline of projects of a particular type, industry is encouraged to invest in developing innovative and cost effective solutions to common problems.
- Increased competition – A clearly planned pipeline of projects is likely to increase the interest in the market (both locally and overseas) and result in a higher level of competition for projects. This is particularly evident when a consistent level of work is being put to market.
- Skills development – Given a forward pipeline of projects, industry is more able to invest in additional skilled resources on a permanent basis, leading to more capability to deliver projects in the future.
- Capacity building – An increased certainty of future work allows industry to build capacity both in terms of resource and equipment. This leads to a market better able to respond to the project pipeline and deliver more efficiently.
- Market confidence – This will result over a period of time once a consistent pipeline is evidenced and seen to be delivered. Once confidence is established all of the above benefits will be realised with increased focus.

- More efficient procurement and delivery – A more structured project pipeline is not only a benefit to the private sector, governments are better able to plan and deliver the procurement processes that infrastructure provision depend on. Agencies are able to build capacity and increase skills themselves with the resulting efficiencies helping to reduce private sector bid costs and government overheads.

In practice committing to a consistent pipeline of infrastructure projects is challenging given the political environment in which projects are planned, prioritised and delivered and the budget constraints that impact on their release to market. Achieving a balance is critical; the pipeline must be smooth and consistently delivered over an extended period of time in a coordinated way such that competition, price, responsiveness and quality of work are maintained.

3.2 Key issues

- **Historic absence of a national pipeline** – Our industry consultations reinforced the need to have clear and consistent information on the pipeline of priortised projects. The notion is that increased visibility and certainty of forthcoming ('market ready') projects raises competition and confidence in the market resulting in more efficient delivery. Until recently there has not been formal published national pipeline of projects that is communicated and managed in a structured way in Australia. As an example, publicly available information on the pipeline of PPP projects in Australia indicates that 4 projects are at pre-tender or in tender stages, compared with 19 projects in Canada. The federal government is in the process of addressing this issue by publishing a National Infrastructure Construction Schedule (NICS) which is due to be launched in May 2012. The success of this initiative is likely to have a positive effect on industry's willingness to innovate, up skill and invest in capacity building
- **Co-ordination and consistency of the pipeline -** One of the key issues, and one that has significant impact on project cost, is that projects have not been released and delivered at a consistent rate. When interviewed, both government and industry described the historic pipeline of infrastructure projects to be 'sporadic' at best and at times 'boom or bust'. This can partly be attributed to a lack of coordination between jurisdictions on the delivery of major programs of work. The Australian PPP market statistics offer an example of this inconsistency. Since 2005 the project pipeline has seen peaks and troughs both in terms of number of projects and total value of the deals – the latter being amplified by the size of PPP's delivered in Australia which on average are estimated to be 3.5 times bigger by dollar value than those the UK and 2 times bigger than in Canada. The forward PPP pipeline outlook is presently limited, as one contractor interviewed stated 'the Australian PPP market has all but dried up'. With no visible future deal flow evident, Australian companies are left with no option but to look offshore for projects or face the prospect of downsizing their workforce. This is not necessarily a problem for Australian companies, competing in a global market is becoming more and more business as usual in many industries, the issue that results however is a skills shortage where the skills are needed most.
- **Strategic planning and decision making** - Historically a further key issue has been commitment to project and program delivery. In a number of jurisdictions projects and programs have been publicly announced and subsequently withdrawn. One well known example is the South Australia Prisons PPP in which three bidders were taken to the final bid stage and the project was subsequently cancelled, causing upset in the market. These issues have severely impacted industry confidence which in turn has had a negative impact on value for money in the market. Additionally, there continues to be a concern as to whether the right projects are being delivered and can attract committed funding.

- **Communication and market engagement** – Presently the way in which project information is presented to the market is varied and inconsistent across jurisdictions. There is no 'one source of truth' regarding project timing and proritisation. Having confidence that projects will come to market is essential to maximizing competition and encouraging efficient delivery. One construction company interviewed reported that having invested $10m to reach preferred bidder stage for a major infrastructure project they had to await the interim budget update for assurance that the project was still on the priority funding list. Clearly this is not a sustainable way of doing business and highlights a present weakness in communication and public/private sector relationship management.

3.3 Reforms for consideration or in progress

The issues noted above have been highlighted in a large number of previous studies (carried out by government, private sector industry bodies, consulting firms and construction companies) and a number of reforms have either been implemented or are under consideration.

The most notable development at a national level was the creation of Infrastructure Australia (IA) and its remit to work with governments and the private sector to assist in infrastructure investment decisions and develop a deeper 'pipeline' of priority infrastructure projects in the Australian market. Infrastructure Australia has focused on prioritising infrastructure projects that have the right strategic fit and offer the greatest opportunities to increase productivity. Over the past four years IA has produced an enhanced list of priority projects, focusing on those projects worth over $100 million or those of national significance and value.

The IA Reform and Investment Framework has resulted in a short list of national 'significant' projects which are recommended as ready to proceed or recommended for project development funding. This list however, does not detail projects that are being funded entirely off the state government balance sheet or those that are being delivered by PPP. In a similar vein to IA, within NSW the creation of Infrastructure New South Wales (INSW) is another positive step towards the effective prioritisation and delivery of critical public infrastructure. It is essential that the roles of both IA and INSW and other state infrastructure coordinating bodies are aligned to avoid further 'layering' of government and ensure that objectives are maintained.

Further to the above, for the first time, the federal government will publish a national pipeline of committed infrastructure projects from all three levels of government. From May 2012 the National Infrastructure Construction Schedule (NICS) website will list large economic and social infrastructure projects in all Australian jurisdictions to help build a pipeline of projects for industry to invest in.

The Department of Infrastructure and Transport's 'Commonwealth's Infrastructure Investment Framework' outlines a number of principles to address reforms to the infrastructure market and to maximise the benefits from government infrastructure investment. In particular the principles to maximise benefits from government infrastructure investment are an indication of the direction that must be taken to reinforce the delivery of better value infrastructure:

- Infrastructure investment decisions will be consistent with relevant planning and reform agendas, with emphasis on major projects that deliver high economic benefits pursuant to a thorough business case appraisal of project proposals, including the use of cost benefit analysis
- Commonwealth infrastructure investment will be consistent with the Government's overall macroeconomic policies and its fiscal strategy
- Commonwealth investment in economic infrastructure will focus on nationally significant infrastructure that leads to the greatest productivity returns

- Commonwealth infrastructure investment will leverage progress by the state and territory governments on the national reform agenda (such as capital cities strategic planning and national regulatory reforms)

The recommendations that follow align with these principles and identify some specific actions to reinforce the work that is already being done.

3.4 Proposed priority actions

Noting the current extensive activity in this space several key actions are proposed that build on the work being done. These are summarised in the table below and discussed in further detail in the pages that follow.

Statement of intent	Proposed Actions	Outcomes	Benefits to government
Objective: Create more visibility and continuity of the infrastructure investment pipeline			
Create visibility in the short to medium term pipeline of infrastructure projects across Australia	(a) Publish a National Infrastructure Construction Schedule of committed infrastructure projects from all three levels of government in Australia (b) Develop a coordinated, rolling medium term (3-5 year) committed project pipeline supported by each jurisdiction (c) Increase the emphasis on coordinated strategic land use and infrastructure planning to maximise effective decision making	• Better visibility to industry of the medium term pipeline • Industry is able to match capacity and skills • Increased Innovation • Improved supply chain efficiency • Improved linkages between state and Commonwealth strategies and the project pipeline	• Increased certainty for industry • Lower construction costs • More effective decision making • Increased capacity and competition in the market
Improve consistency between state and Commonwealth stage gates and evaluation methodologies for project approval and funding decisions	(d) Create more consistency in state and federal project stage gate processes (e) Ensure a transparent approach to project evaluation and prioritisation based on a consistent Cost Benefit Analysis methodology	• Improved prioritisation of projects • More effective allocation of government funds • Increased certainty of project timing and delivery	• Increased private sector funding possibilities • Prioritised delivery of the 'right' projects

3.4.1 Create visibility in the short to medium term pipeline of infrastructure projects across Australia

The Department of Transport and Infrastructure has currently committed to developing a National Infrastructure Construction Schedule (NICS) to be launched in May 2012. This initiative is welcomed by industry. It is imperative that a short to medium term pipeline is visible and that projects and programs are released to the market in a structured and coordinated way. On this basis a number of actions are recommended for further attention:

(a) Publish a National Infrastructure Construction Schedule of committed infrastructure projects from all three levels of government in Australia

The NICS was announced in the Federal Government's 2011-12 Budget as part of the Infrastructure Investment Package. Currently the Government plans to launch NICS by 8th May 2012. The NICS will publish a list of large economic and social infrastructure projects valued at over $50 million across all Australian jurisdictions, with the aim to inform industry about the forward works program and provide the certainty and transparency it needs to invest.

During the NICS development the Federal Department of Infrastructure and Transport has been working with State Governments through the Council of Australian Governments Infrastructure Working Group (IWG). Based on industry consultations as part of this study, there are a number of ongoing priorities that need to be considered during implementation and operation of the NICS including:

- Post launch, feedback should be arranged on the fitness for purpose of the NICS for industry. For example the scope for project selection and extent of project data should be reviewed in collaboration with industry and the state governments to ensure it aligns with market needs.
- There is a desire to include projects where there is a commitment to fund their development not solely construction.
- The schedule must be time phased with coordinated release of significant projects to market
- The agreed list and schedule of projects must be validated to proceed with a high level of certainty such that confidence in the system is encouraged in the market
- The NICS must be maintained as a rolling schedule with a frequent turnover of projects and should not be allowed to become a static list. This means that the States should maintain their input and have responsibility for design and improvements to the Schedule.

(b) Develop a coordinated, rolling medium term (3-5 year) committed project pipeline supported by each jurisdiction

Throughout the BVIP consultation process a consistent message was evident about project planning; the issue of most importance is that a medium term investment pipeline should be clearly visible. To encourage efficient delivery, industry needs to know what projects are in planning and what projects are considered a priority, so that when funding becomes available there is clarity on which ones will be delivered first. This planning and prioritisation also applies to projects that are being proposed for private funding.

A medium term 3-5 year project pipeline is promoted in a number of jurisdictions at present however more can be done to create consistency across the states and improve coordination nationally. A common example from industry of 'best practice' is the South East Queensland Infrastructure Plan which outlines the State's infrastructure priorities for the next two decades and sets the strategic platform to guide the planning, prioritisation and sequencing of infrastructure.

A further priority for industry is that the construction ready pipeline of projects is released to the market in a coordinated way to create a consistent schedule of work. This is particularly important for significant projects and projects in certain sectors where national resources are known to be limited. There needs to be an emphasis on phasing programs of work to avoid overloading the market and driving up prices. Where possible anti-cyclical release of projects is to be encouraged – this will result in higher levels of competition and more investment in innovation and supply chain efficiency.

To realise this recommendation requires state treasuries and infrastructure delivery agencies, together with the Department of Transport and Infrastructure, to coordinate and share best practice in medium term project pipeline planning and communication. The NICS will provide a clear communication channel for

the immediate pipeline however it does not replace the need for each jurisdiction to assess, plan and communicate a longer term forward works program to industry.

(c) Increase the emphasis on coordinated strategic land use and infrastructure planning to maximise effective decision making

Infrastructure networks should be developed on the basis of long term strategic plans. It is essential that projects are not considered in isolation, their role in the wider network must be clear and the resulting productivity and wider economic benefits understood. In their latest report IA notes their intent to place greater emphasis on strategy development and use the results from that work to shape the infrastructure priority list. The recently released national ports strategy and national freight strategy are good examples of this approach. The COAG Reform Council's current capital city strategic planning systems work identifies the need to provide for a consistent hierarchy of future oriented and publicly available plans, including long term (15-30 year) integrated strategic plans, medium term (5-15 year) prioritised infrastructure and land-use plans, and near term prioritised infrastructure project pipeline backed by appropriately detailed project plans.

To realise this recommendation requires statutory bodies such as Infrastructure Australia and the various state infrastructure coordinating agencies (with the support to of COAG) to ensure system wide plans are in place and that infrastructure spending decisions are made on a system-wide basis and supported by strategic plans which will form the basis of the future project pipeline.

3.4.2 Improve consistency between the state and Commonwealth stage gates and evaluation methodologies for project approval and funding decisions

Planning a project pipeline with certainty and clarity requires a structured process with consistent milestones for approval and funding decisions. Additionally, it is necessary to evaluate projects through the various stages of the lifecycle using consistent methodologies that assist in identifying those projects that provide the best economic and productivity outcomes. On this basis a number of actions are recommended for further attention:

(a) Create more consistency in state and federal project stage gate processes

At present a number of frameworks and processes exist across jurisdictions to manage the project development lifecycle, determine the priorities and administer funding. In addition to the various state and territory frameworks, Infrastructure Australia has adopted its own 'reform and investment framework' which is linked to two funding streams; recommended ready to proceed projects and projects recommended for development funding. The gates in this process are not entirely clear and there is a need to create a more understandable and consistent national approach to funding stage gates.

We note that the Gateway methodology has been widely adopted by many states and the federal government as the primary project governance process. This process is a useful tool that helps to improve delivery and budget outcomes; however it is not typically used to drive priority funding decisions.

To realise this recommendation requires statutory bodies such as Infrastructure Australia and the various state treasury departments and infrastructure agencies to review the project development frameworks and create alignment and consistency in the stage gates and funding decision points. Consistency is required across states but also between state and federal processes to give industry better visibility of project progression and likely funding points.

(b) Ensure a transparent approach to project evaluation and prioritisation based on a consistent Cost Benefit Analysis methodology

Project assessment processes need to be underpinned by strong understanding and consistent calculation of the expected economic benefits from the implementation of that project. This will allow a more transparent approach to the evaluation and prioritisation for funding and delivery (this of course does not take away from the need to ensure that the right projects are proposed and that they are aligned with state and national strategic priorities). Presently state governments have business case guidelines and frameworks that differ in methodology and level of detail. To encourage a fair and consistent appraisal and comparison of projects requires that a standardised approach is developed to determine, calculate and validate project benefits. Within some agencies such frameworks exist, such as the NSW Roads and Maritime (Formerly RTA) economic evaluation methodology for roads. This principle needs to be applied consistency across all types of infrastructure at a high level to enable fairer assessment of a projects economic, social and environmental benefit. This is particularly important for nationally significant projects such as those being evaluated by Infrastructure Australia.

To realise this recommendation requires statutory bodies such as Infrastructure Australia and the various state treasury departments and infrastructure agencies to review the assessment processes and create alignment and consistency in the evaluation methodologies. Consistency is required across states but also between state and federal processes. This will result in a more rigorous and consistent approach to the calculation of economic benefits, enhancing the quality of submissions and allowing project assessment on merit rather than the quality of submission.

4. Adopting a smarter approach to infrastructure delivery

4.1 The importance of consistent and smart delivery

4.1.1 Aligning the delivery process

The objective of developing economic infrastructure is to improve productivity and create economic growth. The process used to deliver economic infrastructure should therefore also be focused on this objective, and to ensure that the best value is achieved. This includes not just the process of procurement, but all stages of the life cycle. The process can be defined broadly in a number of stages (government funding has been excluded from this paper, and is the focus of Paper 2):

- **Identifying a need** for increased economic infrastructure capacity. This can take place well in advance of the point where the infrastructure is actually required
- **Evaluating the options** and defining whether concept has merit (prefeasibility study or preliminary assessment) including an analysis of the potential risks and fatal flaws to the project
- **Completing a business case** to inform the preferred option based on an analysis of costs and benefits, including an analysis around how best the infrastructure might be procured
- **Conducting a procurement process** to determine who will build the infrastructure, including completion or close (signature of contractual and financing agreements)
- **Building the infrastructure**
- **Benefitting** from the completed infrastructure

All of these stages have the potential to impact on value and it is important that each of the stages is aligned with the objectives of improving productivity and creating economic growth. Infrastructure Australia has established three broad criteria that are considered good infrastructure planning and investment practice. These include strategic alignment, economic appraisal and deliverability.

It is important that the processes used by states and territories reflect these criteria, as these are critical to achieving better value. Specifically, the identification of needs (and higher order goals) and the evaluation of options are critical in ensuring that the right infrastructure is selected (i.e. Value is improved by ensuring that the best solution is selected). The business case and procurement process ensures an appropriate level of economic appraisal and assesses the deliverability of the proposal (Improves value through ensuring and quantifying economic benefit, and planning efficient and effective procurement).

4.1.2 Industry involvement

Active, positive interaction and collaboration between government and industry, drawing on the strengths and skills of each is the best means of achieving the best value outcomes for infrastructure delivery.

Government (or the public sector) is responsible for infrastructure prioritisation and funding decisions and its role is that of determining, establishing and setting strategic direction though policy formulation and enunciation and through setting broad parameters for economic development. Government is also best placed to ensure that the development and delivery of infrastructure, particularly economic infrastructure, is properly regulated and that issues of wider importance including health and safety and the environment are properly addressed.

In the infrastructure sector, industry (the private sector) is best placed to understand the options around technical solutions and the opportunities to provide strongly innovative models and approaches that can offer significant benefits to individual infrastructure projects.

The efficient engagement of industry by government is thus critical in ensuring infrastructure requirements are met. This is driven by a combination of strong industry skills and experience in infrastructure design and delivery, industry track record in on time and on budget delivery, reduced capacity of government to physically deliver infrastructure (in most states, the Department of Public Works has been scaled back or disbanded) and limited capacity of Government to finance all of the infrastructure that is required.

Governments' main objective when engaging with industry is to extract the best value for money, and governments have explored a number of different procurement options in achieving this. The public sector has also recognised that procurement models should be chosen to suit the circumstances surrounding the infrastructure that is being procured. Each individual project has a specific set of characteristics that will be best suited to a particular type of procurement. It is critical that governments understand what these characteristics are, and how to get the best value for money through selecting the right procurement approach for each project.

A more efficient process, irrespective of the choice of delivery model would bring with it significant advantages specifically including:

- Improved functionality of the infrastructure
- Closer match between user needs and requirements and the final design
- Faster delivery of infrastructure (shorter period between completion of business case and contractual and financial close).

Central to achieving best value infrastructure is achieving the most efficient and productive relationships between the government and industry.

4.2 Key issues

The consultation and research process has identified a number of consistent general themes that can impact the effectiveness of infrastructure procurement:

- Strongly "input" (e.g. design) focussed specifications rather than "output" (e.g. performance) focussed specifications, limiting the opportunity to bring innovation. This approach is often driven by a perception that an input based approach minimises the risk of inappropriate solutions being proposed.
- Limited contact between proponents and project owner (often driven by concerns around probity) during a tender process in the belief that this approach encourages fairness. The consequence of this is a tender process which results in a test of proponent's deductive powers in trying to understand what is actually required.
- Requirements that significant levels of detail are provided in tenders and proposals, including high levels of design development, detailed method statements and comprehensive descriptions of team makeup, in the belief that this approach results in better defined proposals.
- Focus on the asset rather than a focus on best whole of life outcome, often with limited attention paid to the issues around operation and maintenance. This issue may be exacerbated by a view that maintenance budgets are the first casualties of budget reviews and cuts.

- Lengthy procurement processes, with a strong emphasis on the process and less emphasis on the outcome and proposed solutions.
- Asymmetric risk allocation and a belief that maximum risk transfer to the private sector is preferred over optimal risk transfer to the party best able to manage it. (Risk allocation should be determined by the party who is best placed to manage the risk)
- Overly controlled and robust probity processes designed to manage risk and fairness at the expense of promoting productive interaction and innovation.

We note that the above 'general' issues have been widely publicised and discussed and many have been addressed in previous reviews/papers with corresponding reforms and recommendations being proposed. Given this context, this paper is specifically focussed on three primary issues which are explored in further detail below, with corresponding actions being proposed in Section 4.4.

- **Engagement between Government and Industry –** Our consultations suggest that limited discussion is undertaken between government and industry around wider program issues and in the case of specific projects, around potential technical solutions. This approach is driven, in part, by the belief that procuring agencies are themselves capable of adequately determining the best technical solutions and of establishing best practice delivery programs, and by a belief that probity constraints inhibit the dissemination of information.

  A common characteristic of the tender process during infrastructure procurement is the overriding demand from probity advisors for a process that is completely arms length in nature. This approach is intended to avoid perceived and actual breeches of confidentiality with a consequent possibility that the process is subject to legal challenge. As such, the approach represents a risk mitigation strategy that is designed to reduce risks to the project and its outcome.

  The consequence of the approach is to severely limit the extent of interaction, and as a result, the solutions nominated when tenders are submitted will have been developed in isolation and without reference to the project team, stakeholders or reference groups. Proponents are forced to read between the lines and guess the intentions, expectations and requirements for the project.
- **Informed decision making –**Throughout our consultations there was a consistent message that infrastructure decision making could be improved through better use of asset data and wider system based thinking. Commonly when considering increased economic infrastructure capacity the evaluation of options often focuses on how new infrastructure can address that need. Infrastructure Australia's reform and investment framework requires higher order goals and specific objectives to be articulated, constraints to be analyzed and a broad range of options (including not constructing new infrastructure) to be considered and rigorously analyzed. At present the quality of information and level of detail regarding state infrastructure assets is insufficient to support the effective evaluation of options that is required.
- **The rigor in evaluating alternative options -** Current guidelines for business cases and economic analyses prompt for an evaluation of options, but do not specifically require an assessment of how existing infrastructure in the network could be augmented to provide a portion or all of the required capacity. In addition, our research and consultations indicate that the extent of the rigor with which real alternatives are assessed in meeting the high-order goals and objectives of projects is limited. Positive steps have been made in the restructure of central government agencies to prioritise infrastructure spending more broadly across a wider range of alternative options, and wider range of infrastructure alternatives. This has been achieved by ensuring that decisions are made by a central body that looks across all infrastructure types, rather than internally focused on a more limited range of infrastructure. However, processes to support the restructure (including business case guidelines, economic appraisal guidelines, and procurement guidelines) have not been updated to fully support this initiative. The decision making process of states and territories often

does not reflect the principles outlined by Infrastructure Australia, which is accepted to be good practice.

4.3 Reforms for consideration or in progress

The need to consider alternative infrastructure options has been recognised, and a number of reforms are currently in progress. This includes the formation of Infrastructure Australia, and state-based agencies such as Infrastructure NSW, with the objective of making infrastructure decisions across all of government. These structural reforms are important, and Infrastructure Australia has developed a Reform and Investment Framework. This framework provides key principles that are considered good practice. The framework should be the basis for the development of processes and guidelines across all Australian jurisdictions.

The Victorian Treasury is currently undertaking work on updated guidelines for business case development. It is anticipated that this document will propose methodologies that add rigour in evaluating alternative options to high-level infrastructure objectives, and that it will incorporate the principles of the Infrastructure Australia Reform and Investment Framework. The outcomes from this work should be shared with other jurisdictions, and an attempt made to ensure that consistency across Australian jurisdictions is achieved where possible.

The Infrastructure Australia Infrastructure Finance Working Group (IFWG) is focussed on infrastructure finance policy and the role of private finance, user charges and alternative finance models. The outcomes from the IFWG are important in ensuring that all procurement and funding options are understood. This should not be a substitute for ongoing dialogue with the private sector about specific projects. The use of different funding models on each project will be critical, and outputs from the IFWG will be a good tool to base future discussions with the private sector as they relate to specific projects.

Through the COAG Infrastructure Working Group (IWG), guidelines have been or are being developed on best practice in procurement and delivery of infrastructure, including PPP Guidelines, Alliance Guidelines and Design and Construct Guidelines.

Infrastructure Australia is also continuing to work on a governance framework for consistent decision making. However, in their latest report they stated that “key weaknesses in infrastructure planning and project development remain at the level of strategy development. Projects are still being presented to Infrastructure Australia that do not align well with the proponents’ own strategic directions and plan.” The structural reforms commenced by Infrastructure Australia and Infrastructure NSW will need to be supported by process and guidelines, which directly support the objectives and framework established in order to improve alignment.

4.4 Proposed priority actions

Statement of intent	Proposed Actions	Outcomes	Benefits to government
Objective: Adopting a smarter approach to infrastructure delivery			
Improve the engagement between government and industry	(a) Adopt a consultative approach between government and industry based on regular and consistent interaction (b) Implement a consistent interactive approach between government and industry during project definition	• More informed decision making around procurement by government • Better understanding of government capacity, constrains and limitations	• Improved value for money • More innovative technical solutions • Better informed implementation strategy and decision making • Better commercial solutions • More efficient procurement

Statement of intent	Proposed Actions	Outcomes	Benefits to government
	(c) Implement a collaborative approach between proponents and government project teams during procurement across all delivery models	• Better and more focussed tenders • Increased innovation.	• Better understanding of industry capability and capacity
Improve the rigor in evaluating options that optimise existing infrastructure systems and services	(d) Review, evaluate and optimise the performance and service delivery levels of existing asset portfolios and networks (e) Update the project development frameworks and processes to introduce a stronger focus and analysis of existing infrastructure to meet identified service needs	• Reduced capital expenditure as a result of increased capacity of existing infrastructure • Improved asset utilisation • Improved service levels from existing assets, networks and systems • More informed decision making • Better understanding of asset condition and performance	• Selection of best value options over the lifecycle of the asset • Improved infrastructure system performance • Higher productivity and satisfaction of service users • Better application of limited financial resources

4.4.1 Improve the engagement between government and Industry

The development and evaluation of infrastructure options relies on an understanding of what is technically possible. This technical understanding comes from those with experience in the design and operation of infrastructure, and it is industry that has the majority of technical infrastructure design skills and capacity in Australia and globally. Strong, productive and constructive engagement between government and industry is critical to ensure that innovative solutions are considered.

This requires close collaboration and partnerships with industry that focus on the private sector bringing innovation, while minimising inefficient costs associated with lengthy processes and unnecessary effort expended on redundant information requests. This engagement process should be strongly focused on providing decision makers in government with the means to make informed decisions and choices based on an understanding of what is possible.

The collaborative approach should seek to place government in a better position to make informed decisions and choices around the selection of technical solutions and delivery models. This approach should always be cognisant of the role of government which is to be the decision making party around infrastructure choices (A role that should not be abrogated to industry).

(a) Adopt a consultative approach between government and industry based on regular and consistent interaction

The consultation process identified significant inconsistencies around the engagement with industry on both a state by state basis and also on an agency by agency basis. Some agencies reported detailed, ongoing and highly productive industry engagement activity, including bi annual workshops around project pipelines, delivery strategies and technical solutions. There was a view that such engagement was to the benefit of both government and industry because it encouraged government to share thoughts, plans and ideas with potential proponents and enabled potential proponents to express ideas and thoughts around program, capacity and capability. It was further reported that industry participants were willing to share

ideas frankly and freely because of the benefit that the approach brought to the procurement and delivery process.

It is recommended that every jurisdiction adopt a program of active industry engagement across all agencies responsible for delivering infrastructure projects. This engagement process should provide for regular, programmed and thorough industry consultation around a range of issues. The program should be intended to elicit the best and most innovative ideas and an in depth understanding of the capacity and constraints facing industry. It should also allow for the development of a better understanding by industry of the approach and constraints faced by government.

The engagement approach should be designed to:

- Facilitate regular government consultation to assess market conditions, industry capacity, capability and constraints, which informs planning decisions relating to the project pipeline
- Enable government to work up and establish technical ideas, specifications and reference designs that accurately reflect best practice and produce innovative technical solutions
- Encourage industry participation in developing delivery solutions (technical and commercial) that are innovative and which represent best practice
- Promote cross industry collaboration without breeching confidentiality and intellectual property rights.

This approach will enable government to better understand what industry is capable of, what the capacity of industry is to deliver projects and to explore technical ideas and solutions without jeopardising the confidentiality that is required once the procurement of a project is underway.

(b) Implement a consistent interactive approach between government and industry prior during project definition

Our research and consultations suggest that often infrastructure projects commence procurement without first having undertaken detailed consultation with industry. In some instances, consultation is undertaken via a market sounding exercise performed during the development of the project's business case which is usually aimed both at disseminating information about the project to industry and ascertaining the level of interest in the project by industry. This consultation, taking place as part of the business case, usually occurs once the overall technical solution has been established, and the process itself is mainly intended to confirm the approach.

During our research and consultations with industry, examples of good practice interactive and collaborative approaches between the government and industry were highlighted. In Western Australia the Eastern Goldfields Prison PPP was referenced for the ability to shape the procurement method prior to the underlying business case being recommended. In a similar vein, the industry engagement process currently occurring on the New South Wales North West Rail Link project is a further example of how benefit can be derived through positive interaction during project definition.

It is recommended that a consistent interactive and collaborative approach is adopted by agencies developing infrastructure projects to provide an opportunity for further refinement of potential technical solutions and delivery models, and enable government to make well informed choices and decisions around the most efficient and effective means of providing the services intended by the infrastructure being delivered.

(c) Implement a collaborative approach between proponents and government project teams during procurement across all delivery models

It is recommended that a process of interactive tendering is implemented by state infrastructure delivery agencies during the procurement phase, for all projects above a threshold value, and that the probity process and constraints are adapted to facilitate this process.

During the consultation process, a regular and consistent response from both private proponents and government officials emphasised the significant benefits that are capable of being achieved through an active and interactive tender process, while recognising the increased demands on capability and skills from project delivery teams. It is noted that while examples of best practice in interactive tendering exist, the approach has yet to be applied consistently and effectively across all agencies and delivery models.

It is recommended that jurisdictions review and update (where required) probity processes so that fairness continues to be assured, while promoting productive interaction between proponents and project teams. Strongly interactive tendering processes should be implemented so that bids are prepared and developed with engagement between industry, government project teams and stakeholders.

A more interactive tender process will substantially improve the proposed technical solutions, strongly promote a series of comparable tender responses and ensure that the infrastructure that is delivered meets the expectations and requirements of a project's stakeholders and sponsors.

4.4.2 Improve the rigor in evaluating options that optimise existing infrastructure systems and services

Elsewhere in this report, recognition has been given to the fact that there is currently a relatively high level of investment in infrastructure in Australia. In order to achieve the objectives and obtain the best value out of this investment and out of future infrastructure investment, it is important to ensure that spending is targeted and smart, rather than assuming that new infrastructure or previously identified iconic projects are automatically the right solution for delivering the associated services. This approach should begin by determining and evaluating whether the objectives can be met through alternative projects, including those focussed on existing infrastructure and infrastructure systems and innovative technical solutions ahead of rolling out new infrastructure.

Good decision making is based on the availability of good data (and the decision maker's ability to interpret and use that data). With access to the right information, the right skills and through the use of appropriate frameworks, infrastructure investment decision making can be enhanced. For example, investment in existing infrastructure, through operational improvement (such as scheduling) or more efficient asset management can often provide a more cost effective solution to adding capacity.

This aim of this approach is to:

- Improve the performance of existing assets
- Provide better value for money than resorting to developing and building new assets
- Take a whole of system and whole of life view of assets rather than a narrow focus on delivery.

(d) Review, evaluate and optimise the performance and service delivery levels of existing asset portfolios and networks

Several respondents highlighted the need to look at infrastructure as a system and the ultimate objective of providing a service to the user. This need applies both in the longer term strategic planning of our infrastructure systems but also at a project and program level where decisions must be made with more discipline. The notion is that decisions can be better informed by improving the availability of reliable asset data both in terms of performance and condition. This would allow more thorough analysis of all possible solutions to address the service need, including the option to enhance existing infrastructure before the construction of new infrastructure. With a higher level of asset data it will also be possible to more accurately determine output specifications for infrastructure enhancements.

To realise this recommendation requires a state led approach to create a central repository of robust asset data and performance statistics to better inform agencies and reduce the risk profile of investment decisions. Data relating to asset condition, performance, costs, workforce and population demographic

should be collated, synthesized and held in a central knowledge hub (see 5.4.1 (b)) so as to be accessible to all agencies involved in project development and evaluation.

(e) Update the project development frameworks and processes to introduce a stronger focus and analysis of existing infrastructure to meet identified service needs

The decision-making process for project planning, development and evaluation needs to be better supported by structured problem solving processes such as Infrastructure Australia's Reform and Investment Framework. It is recommended that the frameworks and processes used to guide the evaluation of options and the completion of business cases include a stronger focus on identifying the service need and analysing how existing assets are part of meeting that need. These documents include state and territory guidelines and policies relating to business cases, gateway reviews and economic analysis. These documents should be updated to:

- Reflect the principles outlined in the Infrastructure Australia Reform and Investment Framework;
- Have a stronger mandatory step to include an analysis of existing infrastructure
- Improve the consideration of infrastructure as a system and a service and how to address broader needs
- Improve consistency across Australian Infrastructure

To realise this recommendation requires a state led approach to review and optimise the guidelines to incorporate the above principles and encourage best practice in infrastructure options evaluation and decision making.

5. Improving capability and cross-jurisdictional knowledge and skills transfer

5.1 The importance of capability and cross-jurisdictional knowledge and skills transfer

5.1.1 Capability and capacity across government

As important to the infrastructure sector as its financial capital is, the sector must also increase its investment and focus on its human capital if it is to meet the burgeoning challenges outlined in this and other papers. Research conducted as part of this study indicates that the sector faces significant capacity and capability challenges in critical areas of prioritisation, planning, scoping and delivery.

Skilled and capable people drive value and are essential to an efficient and reliable infrastructure network. Conversely, inexperienced and / or insufficiently competent staff, compromises the ability of agencies and states to secure funding streams, deliver cost-effective solutions or prioritise the 'right' investments. From an industry perspective, inconsistency in public sector skills and capability can significantly impact the effectiveness of infrastructure procurement processes, particularly in complex delivery models such as Public Private Partnerships, to the detriment of innovation and cost-effective delivery.

Governments at all levels are facing significant skill and capability gaps in high-risk areas, particularly in the domains of engineering and construction. State delivery agencies are increasingly relying on outsourcing as a means to plug capability gaps, which is not a sustainable or capacity building model for government.

Government must look to create strength and depth (of skills and capability) in critical areas, and set a clear and well understood benchmark or industry standard that can be nationally applied. Furthermore, effective governance arrangements and support frameworks for state-based agencies should be considered.

5.1.2 Cross jurisdictional knowledge transfer

Significant opportunity exists for government to better exploit organisational, state, national and international knowledge on all aspects of infrastructure delivery.

Our research and consultations evidence that across the country significant projects are being scoped, planned and delivered in (effective) isolation. Often there is insufficient cross-agency or cross-state collaboration or knowledge sharing occurring, which is creating or further embedding inconsistent approaches and is failing to generate the efficiencies or integrated benefits that appear possible.

There are examples of quality, joined-up, cost-effective infrastructure provision occurring in Australia at present. Some of these examples have been highlighted with the key learnings being synthesised and summarised as 'good practice' across the country. The department of infrastructure and Transport's 'Best Practice Case Studies' paper is one such example of this. The report encourages governments and industry to learn from each other and adopt best practice strategies for the future procurement of major infrastructure to drive best value for money for the Australian taxpayer or investor.

The challenge of knowledge capture and transfer is significant. Even within single government agencies, effective processes, systems or culture of collaboration and sharing do not exist across capital portfolios, so to create a nationally coordinated approach to knowledge sharing and collaboration will be very demanding.

The infrastructure industry at large has the opportunity to embrace new models of working, and new models for innovation. The traditional view of government and industry was that innovation was created from within, by a core group (often from the R&D function). However, research is now suggesting (and the creation of bodies such as the Australian Green Infrastructure Council would seem to corroborate this research) that in fact, multi-discipline, multi-party, multi-sector collaboration and a joined-up approach is the key to innovation which in turn drives better outcomes (be they better engineering solutions or lower-cost delivery).

A highly capable, skilled workforce with the systems, processes and culture that enable cross-jurisdictional knowledge and skills transfer, presents the Australian infrastructure sector with significant benefits, including:

- Reduced risk exposure in areas of skill or capability shortage – through a robust and risk-based analysis, agencies and states can pinpoint areas of delivery that are lacking capacity and / or capability and focus human capital strategies at these areas.
- Improved prioritisation, planning and delivery – by coordinating and collaborating across boundaries (agency & state), finite resources (funding & people) can be best allocated into appropriate areas for improved results.
- Reduced operational costs associated with staff retention, training, capability building and knowledge management – by creating common systems and processes, the burden on individual agencies and governments to create (often from scratch) enabling tools, training materials, etc. is reduced.
- Reduced skills and knowledge leakage from the sector – in certain engineering disciplines, the retirement rate is far outpacing graduate entries in the same field. By embracing knowledge management strategies now, government will be able to reduce the impact of the significant retirement rates facing the industry.
- Increased efficiencies across agencies by more effectively ‘learning’ lessons from past projects (successful and otherwise) and by leveraging knowledge from other agencies, states, research facilities and industry – the potential benefits to be derived from a fully integrated knowledge management approach, including mechanisms to genuinely learn and embed lessons from others are significant.
- Cost savings through nationally consistent application of tools, systems and processes – bespoke templates, guidance, processes, stage gates, sign-offs, etc. are costing the industry. By reviewing and rationalizing and agreeing on a few key unified approaches, significant savings can be realized.
- More creative and innovative solutions developed - through multi-discipline, multi-party, multi-sector collaboration and a joined-up approach, more innovative, cost-effective and fit-for-purpose solutions can be developed.

5.2 Key issues

A number of issues and challenges currently exist in the area of government and industry capability and knowledge sharing; including:

- **Changing age profile** - Population ageing, and the associated decline in workforce participation, is projected to reduce the potential economic growth rate of the Australian economy[1]. It will also significantly impact the infrastructure sector at a time in which workforce participation is critical. Research by the NSW Department of Premier and Cabinet suggests that of 18,000 public sector workers in NSW aged 45 years or over, 57% will retire from the workforce by 2015[2]. Furthermore, Australia's peak engineering body (Engineers Australia) suggests that up to 30,000 engineers will retire over the next decade[3]. The demographic composition of the infrastructure workforce presents government with significant capability and capacity challenges; including finding new models of engaging with the private sector, capturing and creating value from the knowledge of staff exiting the workforce and creating flexible governance and human capital policies and strategies to enable skills and knowledge to be mobile and responsive.

- **Skills and capability challenges** - Infrastructure Australia, in its recent report, identified skills and capability gaps in infrastructure planning and project development as a primary concern and action area. In a number of critical roles (or functions) little strength or depth in capability and capacity exists, with only one or two subject matter experts or highly regarded professionals in role in the country.

  One of the primary challenges in this area appears to be the lack of clarity or agreement on a consistent method for analysing key risk areas or for identifying major capability or capacity gaps in those areas. Government must have a clear idea of its current capability and capacity (especially in those areas deemed high risk or critical) before it can effectively plan human capital solutions to mitigate or manage these gaps in skill or capacity.

  Furthermore, our research suggests that government is not currently leveraging the skills or capacity of private sector participants to the fullest extent. Given the increasing involvement of the private sector in infrastructure funding, planning and delivery, government must (at all levels) find innovative and effective strategies for harnessing private sector resourcing.

- **Lack of a knowledge culture / lack of a single 'infrastructure identity'** – Across government presently our research suggests that there is no consistent processes or systems nor is there a culture which supports the effective capture, analysis, dissemination or value extraction from knowledge. Agencies, states and industry are to a large extent (although not exclusively) operating independently on the provision of major infrastructure projects. Consortia are of course created through the delivery process, and within consortia there is evidence to suggest that innovation thrives and knowledge is shared. However, it is not evident that agency project portfolios, agencies within states and state governments themselves are effectively sharing knowledge or creating opportunities for project experiences (or even project staff) to be transferred across boundaries. It seems as if there is no common 'infrastructure identity' to which agencies and relevant government departments and industry can associate or affiliate with.

1 Australian Government Treasury (Intergenerational Report 2010)

[2] NSW Public Sector Workforce Strategy 2008 – 2012 (page 12) – NSW Department of Premier and Cabinet

[3] GHD: Innovation in Infrastructure Report 2010 (page 2)

5.3 Reforms for consideration or in progress

The issues noted above have been highlighted in a large number of previous studies (carried out both by government, private sector industry bodies, consulting firms and construction companies) and a number of reforms have either been implemented or are under consideration. Of most comparative relevance would be the 2004 Management Advisory Committee Report - Connecting Government: Whole of Government Responses to Australia's Priority Challenges[4]; which acknowledges that many of Australia's largest challenges (including those in infrastructure) can be best dealt with by a whole-of-government, coordinated, collaborative response.

Whilst it is acknowledged that these issues have been discussed prior to this paper, evidence of wholesale adoption of any prior recommendations under the heading of capability and cross-jurisdictional knowledge and skills transfer has not been shown.

In terms of existing initiatives aimed at creating a common platform or portal for knowledge sharing for infrastructure intensive organisations, the Australian Green Infrastructure Council Knowledge Hub - http://www.agic-khub.net.au/ is one such example.

A significant and exciting investment has been made in the SMART Infrastructure Centre, based out of the University of Wollongong. The SMART Infrastructure Facility's mandate is to provide the data and analytical capability to successfully create and execute a national integrated infrastructure plan for Australia - http://smart.uow.edu.au/index.html

The publication of the first 'Infrastructure Planning and Delivery: Best Practice Case Studies' booklet in 2010 was a positive and welcome initiative. This report is a vital first step in encouraging governments and industry to learn from each other and adopt best practice strategies for future procurement of major infrastructure.

The ongoing skills and capability gap issue has been flagged by Infrastructure Australia as an area for concern and action. Specific infrastructure related training courses are being provided by the Australian Institute of Management (AIM) in partnership with IA. However, evidence to suggest that IA is embarking on a nationwide skills and capability audit or has commissioned any similar or related initiatives has not been seen.

The creation of Infrastructure Australia and similar state-based bodies, such as the recently formed Infrastructure New South Wales (INSW) and Transport for NSW (TfNSW), is a first step in creating a single 'source of truth' and governance body for infrastructure in this country. As IA evolves, it is envisaged that it will assume more responsibility for promoting cross-agency, cross-state and cross-industry collaboration and knowledge sharing (in a formal and informal context).

In addition it is acknowledged that skills development, collaboration and knowledge transfer are beginning to be addressed by organizations such as the Australasian Procurement and Construction Council, AUSTROADS, the Sustainable Built Environment national research centre (SBEnrc) and the Gateway Review Forum.

5.4 Proposed priority actions

Statement of intent	Proposed Actions	Outcomes	Benefits to government
Objective: Improving capability and cross-jurisdictional knowledge and skills transfer			
Improve collaboration and knowledge transfer across states and agencies, to encourage consistent and efficient behaviors and approaches	(a) Develop a knowledge and information management strategy and framework for national infrastructure delivery (b) Scope the potential for a central knowledge 'hub' for infrastructure (a common portal for all agencies and states to access consistent data, information, tools) (c) Review and coordinate existing research and other partnership arrangements across the country	• Enhanced communication between agencies, states and industry • Improved learning of lessons and sharing of critical project / delivery knowledge • Consistent application of tools, systems and processes (regardless of agency or state)	• Help to mitigate impact of skills and knowledge leakage from the sector • Reduce inefficiencies across agencies by applying learnings & knowledge from other agencies, states, etc • Cost savings through nationally consistent application of tools, systems and processes • More creative and innovative solutions developed
Enhance the delivery capability and capacity across all levels of government to enable and support effective infrastructure provision	(d) Implement a rotating national biannual government infrastructure delivery forum (e) Conduct a national review of critical capability and capacity gaps in the sector (focusing on sector demographics, retirement rates etc) (f) Develop a comprehensive skills and capability development strategy for infrastructure provision (g) Support secondments between government and industry and across levels of government	• Clarity on high risk / exposed capability areas • More competent and highly skilled staff across the value chain • Improved recruitment and retention of staff in critical areas of delivery • Improved cross agency and cross jurisdictional sharing of best practice and lessons learned • Improved awareness and communication at a national level • Improved skills development in the management of projects	• Clarity on the major capability and capacity gaps across the country. This will enable better planning and resource allocation • Reduced risk exposure in areas of skill or capability shortage • Reduced operational costs associated with staff retention, training, capability building and knowledge management • More efficient and consistent prioritisation, planning and delivery of projects and programs

5.4.1 Improve collaboration and knowledge transfer across states and agencies, to encourage consistent and efficient behaviours and approaches.

(a) Develop a knowledge and information management strategy and framework for national infrastructure delivery

At the national level, a strategy and framework is required for data, information and knowledge management in infrastructure provision. Existing frameworks only operate at an agency level and do not factor in the wider knowledge needs of other state-based agencies, industry or other levels of government.

The strategy and framework should outline the enabling systems, processes and supporting frameworks that are required for effective knowledge capture, creation, dissemination across the sector. It must also focus on the behaviours and culture required to support effective multi-party collaboration.

Given the national focus of the strategy and framework, Infrastructure Australia should lead its development, in consultation with state-based agencies, such as Infrastructure NSW.

Of critical importance to this framework will be the development of protocols for capturing useful lessons from projects. A number of specific 'lessons learned' processes are in place within specific agencies (for example within the NSW Transport Projects Division (formerly TCA)), however, these lessons are not being amalgamated at a national level, with common lessons being identified, analysed and converted into meaningful and applicable guidance for practitioners.

(b) Scope the potential for a central knowledge 'hub' for infrastructure (a common portal for all agencies and states to access consistent data, information, tools)

Data, information and knowledge is presently held in multiple repositories, by multiple parties, with varying access and editor privileges. An opportunity exists for Infrastructure Australia to create and host a 'knowledge hub' which could become the portal for infrastructure provision in the country. The knowledge hub could contain project pipeline data, all relevant policy and standard documents, all previous case study and lessons learned material, platforms for engaging in forum discussion etc.

(c) Review and coordinate existing research and other partnership arrangements across the country

Much collaboration and partnering is occurring across the country between agencies, industry, research centres and universities. An opportunity exists to review and coordinate these relationships for the broader benefit of the nation. Examples include the Centre for Excellence and Innovation in Infrastructure Delivery (CEIID) in Western Australia which is a multi-agency collaborative unit, Infrastructure Partnerships Australia (IPA) and the SMART Infrastructure organization based at the University of Wollongong. The collaboration, knowledge transfer and research focus of these partnerships can be factored up to a national level, with research being prioritized and coordinated, knowledge being shared at a national level (not just within partnerships).

5.4.2 Enhance the delivery capability and capacity across all levels of government to enable and support effective infrastructure provision

(d) Implement a rotating national biannual government infrastructure delivery forum

Enhancing the long term delivery capability and capacity across government requires a structured process of identification of capability and capacity gaps followed by development and implementation of a comprehensive development strategy. To create immediate impact it is proposed to implement a government infrastructure delivery forum to facilitate the sharing of best practice across jurisdictions and improve the consistency, efficiency and quality of delivery for major infrastructure projects. Presently there is not a national platform for state and commonwealth government officials to share knowledge, experience and learning's relating to the delivery of infrastructure projects.

The NSW Government is offering to host, in partnership with the Business Council of Australia, the first National Forum in early 2013. It is proposed that the focus of the forum be on priority action two (identified in the executive summary) achieving innovative and commercial solutions through an interactive approach between government and industry during project definition.

(e) Conduct a national review of critical capability and capacity gaps in the sector (focusing on sector demographics, retirement rates etc)

Some state-based agencies (for example the Department of Transport and Main Roads in Queensland) are beginning to take a risk-based approach to capability and capacity planning, based on those high risk / priority areas where skills are considered low or future capacity constraints are considered likely. Within each of the states infrastructure agencies an opportunity exists to review (across the sector) the current and predicted capacity and capability gaps, so that Infrastructure Australia and other policy and strategic bodies can focus on evidence based areas of need.

(f) Develop a comprehensive skills and capability development strategy for infrastructure provision (including recruitment, retention of critical knowledge and staff, training and career pathways and mobile working)

Following the review of critical capability and capacity gaps in the sector, it is suggested that a comprehensive skills and capability development strategy for infrastructure provision is developed. The strategy can target high risk (low capability / capacity areas) and set specific strategies for recruitment, retention, training, career pathways in those areas.

The skills and capability strategy must consider the most effective means of up-skilling and increasing government capability making the best use of existing resources and, where appropriate, more effective engagement and involvement from the private sector.

(g) Support secondments between government and industry and across all levels of government

As identified earlier in this report, the roles of government and industry are distinct; government is primarily responsible for infrastructure strategy, planning, prioritisation and industry is tasked with delivery. To maximise the effectiveness of this relationship requires a good understanding of from each party of the others systems, processes, capabilities, constraints and challenges.

Encouraging and supporting staff secondments between government and industry will broaden this understanding, improve skills and knowledge transfer and facilitate more innovative cost-effective and fit-for-purpose solutions to be developed. Encouraging staff secondments between all levels of government will facilitate the sharing of best practice, up skill the workforce, help to generate consistency in management practices and reduce the duplication and inefficiency that can often hinder project delivery.

In NSW recent changes to the Public Sector Employment and Management Act enable public servants to be seconded within and outside the NSW public sector. It is recommended that, if not already in place, other jurisdictions follow suit to facilitate and support secondments.

6. Reducing the regulatory burden and duplication in environmental planning and assessment

6.1 The importance of environmental planning and assessment

Planning and environmental legislation is important in the allocation of land uses in a way that facilitates economic activity, supports community wellbeing, protects environmental values and separates incompatible activities. Planning and environmental legislation also enshrines principles of accountable, transparent decision-making and opportunities for public participation in the decision-making process. It is important that these principles and outcomes are protected in the context of any initiatives to streamline the assessment and approval processes, even for significant economic infrastructure.

However, our research indicates that the planning and environmental legislative framework is often recognised as one of the most complex of all frameworks in Australia. There are multiple levels of environmental and planning legislation that many infrastructure projects, by virtue of their nature and scale, must currently navigate. Land use planning is primarily the jurisdiction of State and Local governments, although planning for certain types of infrastructure projects can be also governed by Federal legislation (e.g. airports). Environmental protection is, to varying degrees, the responsibility of all three levels of government. In addition, legislation varies between States and Territories.

This complexity is one of the key issues affecting the efficient procurement of infrastructure projects across Australia, as identified in *Section 1.2 BVIP Context – Problem Definition*, leading to project delays as well as uncertainty and adding costs to project delivery. In 1992, in an effort to address this complexity, all levels of Australian government committed to a co-operative national approach to the environment under the *Intergovernmental Agreement on the Environment*, including a national system of environmental policy that promotes efficient and effective administrative and political processes whilst also allowing for regional environmental differences. In relation to environmental assessment:

> *"the parties agree that it is desirable to establish certainty about the application, procedures and function of the environmental impact assessment process, to improve the consistency of the approach applied by all levels of Government, to avoid duplication of process where more than one Government or level of Government is involved and interested in the subject matter of an assessment and to avoid delays in the process." (Schedule 3)*

The implementation of these principles has been an ongoing process, with significant improvements made over the intervening two decades. One of the principal mechanisms by which co-ordination has been improved is via the negotiation of bilateral agreements that allow, wherever possible and appropriate, for the Commonwealth accreditation of State/Territory environmental assessment and approval processes[2]. Another has been the work of the Development Assessment Forum, which was established with the support of all levels of government to examine ways to speed up development assessment without sacrificing the quality of decision-making or the development outcome. It has subsequently published *Principles of Leading Practice in Development Assessment* (1999) and a *Leading Practice Model for Development Assessment* (2005).

[2] Council of Australian Governments (1997) *Heads of agreement on Commonwealth and State roles and responsibilities for the Environment*

Nonetheless, it is widely acknowledged by government and industry that there is substantial scope for further harmonisation and streamlining of planning / environmental assessment and approval processes. This is particularly true for the delivery of significant economic infrastructure projects, which by their nature, are often large and complex, stretching over multiple municipal boundaries and requiring multiple planning and environmental approvals from all three levels of government. As the Productivity Commission found in 2011[3],

> *"these different and complex planning [and environmental protection] systems are difficult for businesses and citizens to navigate. They lack transparency, create uncertainty for users and regulators and impose significant compliance burdens, especially for businesses which operate across State and Territory boundaries." (pXXVIII)*

6.2 Key issues

A range of issues associated with current planning and environmental approval processes have been identified and discussed in a number of industry and government reports in recent years. The issues raised in key industry/government reports are summarised below.

Industry reports

Engineers Australia's *Infrastructure Report Card* (2010) calls for governments to "harmonise infrastructure planning and regulation through improved cooperation and collaboration between all levels of government, business and the community". They call for greater integration of planning between State and Territory Governments, Local Government and the Australian Government as well as improvements to timelines for planning processes.

Infrastructure Australia's *Communicating the Imperative to Action* report (2011) and their *Report to COAG* (2008) both identify lack of progress in pursuing regulatory reform - including those relating to environmental assessment and approvals - as one of the most significant challenges facing Australia's infrastructure. Infrastructure Australia calls for a national approach, and for action to simplify the federal environmental approvals process, clarify roles and responsibilities, and review current environmental offset policies and approval conditions. They advocate for agreements between departments and/or tiers of government to help improve integration, coordination and communication. The agency also points to opportunities for regulatory reform on a sector-by-sector basis, particularly in the transport, electricity and water sectors.

Infrastructure Partnerships Australia (IPA) has made similar comments. In its submission to the *Hawke Review of the EPBC Act* (2009), IPA calls for removing duplication in assessment and approvals processes, including: removing overlaps between State and Federal processes, resolving methodological consistencies particularly in listing of threatened species, and harmonising offset requirements. IPA raises additional issues regarding the long timelines for assessment/approvals processes (even for less onerous levels of environmental assessment) and the infrequent use of these less onerous assessments. They also point out that existing bilateral agreements only accredit State/Territory assessment processes, not the approvals processes.[4] IPA raises further concerns with regards to the (real or perceived) lack of flexibility under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) with regards to staging approvals and the ability to modify approvals.

[3] Productivity Commission (2011) *Performance Benchmarking of Australian Business Regulation: Planning, Zoning and Development Assessment*

[4] One limited example does exist for accrediting approvals in accordance with the Sydney Opera House Management Plan.

Government reports

The Final Report of the Hawke Review of the EPBC Act (2009) raised a number of issues with regards to harmonising State and Federal environmental approval processes, including: confusion about the different roles of the Commonwealth and the States/Territories in environmental regulation; room for improvements to the relationship between the Commonwealth and the States/Territories to encourage collaboration in environmental management; and earlier engagement by the Australian Government in the planning process as a means of streamlining environmental regulation. Indeed, "representatives of infrastructure developers held the view that investment in the basic environmental information and skills necessary to support future development should be regarded as a 'national infrastructure building project' in its own right" (p10). The Hawke Review acknowledged that "efficient operation of the regulatory system is important to the wider economy. Investment in the administration and information base supporting the system should be regarded as fundamental to building the national infrastructure and funded accordingly." (p11)

The Productivity Commission's recent report on *Performance Benchmarking of Australian Business Regulation: Planning, Zoning and Development Assessments* (2011) raises additional issues. These include: the requirement for businesses to undertake a substantial amount of compliance work under the EPBC Act just to learn they are not required to take any specific actions; a lack of clarity on what constitutes a MNES under the EPBC Act (and what does not); the length of time (over 1 ½ years on average) that it takes between referral under the EPBC Act and a Ministerial decision on a controlled action; and the unnecessary duplication and confusion arising from developers having to consult two lists of threatened species in any one jurisdiction. The Commission also highlighted "significant differences in State and Territory planning systems including the degree of integration between planning and infrastructure plans, and how capably the States manage their relationships with and guidance for their local councils" (pXVIII). Referral requirements within States/Territories and between State/Territory and Federal agencies are also complex and varied.

The Commonwealth and NSW government agencies responsible for planning and environmental legislation undertook an operational review of the ways they interact on the assessment and approvals for threatened species[5]. Their final report identified four key areas for improvement relating to communication and coordination to achieve greater integration and alignment, and the development and implementation of common approaches to environmental offsets, to strategic assessments (and biodiversity certifications), and to threatened species and community listing processes. The findings of this review were considered to be particularly important for future major infrastructure projects and land releases.

Finally, the **Department of Sustainability, Environment, Water, Population and Communities** (DSEWPC) findings from the review of three bilateral agreements (for the Northern Territory[6], for Tasmania[7] and for Western Australia[8]) identify opportunities for improvement that are largely consistent with those already identified above.

[5] Commonwealth of Australia (2009) *Operational Review of the Threatened Species Conservation Act 1995 (NSW), the Environmental Planning and Assessment Act 1979 (NSW), and the Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)*

[6] Department of the Environment and Water Resources (2007) *Review of Australian Government/Northern Territory Government Assessment Bilateral Agreement: Review Report*

[7] Department of Sustainability, Environment, Water, Population and Communities (2010) *Review of the EPBC Act Assessment Bilateral Agreement between the Commonwealth and Tasmania: Review Report*

[8] Department of the Environment and Water Resources (2007) *Review of Australian Government/Western Australian Government Assessment Bilateral Agreement: Review Report*

6.3 Reforms for consideration or in progress

As demonstrated above, there has been a substantial amount of work commissioned over recent years to diagnose key issues with planning / environmental assessment and approval processes. The interaction between the Federal EPBC Act and State/Territory legislation has been a particular focus. A number of key recommendations for reform have been put forward by these reviews for consideration by government, some of which have received a response from government and are underway.

The **Hawke Review** identified five processes that should define the future direction of the EPBC Act – harmonisation, accreditation, standardisation, simplification and oversight – all of which are consistent with efforts to streamline delivery of infrastructure projects. They also proposed a number of areas where the interaction between State/Territory and Commonwealth Governments could be improved:

- Remedy, where possible, inconsistencies between regulatory systems in pursuit of a national approach to environmental regulation.
- Move the Australian Government's focus to landscape scale environmental impact assessments. While it will be necessary to retain single project assessments, real efficiency and environmental benefits could be gained by moving to greater use of strategic assessments and regional planning tools.
- Reduce the amount of regulation by multiple authorities or regulatory agencies.
- Build a suite of suitable standards for environmental assessment and management.

The Hawke Review final report made 71 recommendations in relation to the EPBC Act. Of these, the most relevant to this report are Recommendations 4 to 7, and Recommendation 56. In brief:

- Recommendation 4 promotes greater use of strategic assessments, supports accreditation of State/Territory processes where they meet appropriate standards, recommends the publication of criteria for the accreditation process, and proposes the establishment of joint State/Territory and Commonwealth assessment panels particularly for use where the project has a State/Territory/federal government proponent.
- Recommendation 5 recommends moving to a single list of threatened species and communities through accreditation of State/Territory processes, based on agreed protocols, minimum procedural standards and consistent documentation standards. (This was also supported by the Senate Standing Committee report on the operation of the EPBC Act.)
- Recommendation 6 envisages an expanded and strengthened role for regional planning and strategic assessments under the EPBC Act.
- Recommendation 7 recommends the development and operation of a national biodiversity banking system and standards, with Commonwealth accreditation of State/Territory systems in the interim.
- Recommendation 56 proposes publication of a greater range of environmental information in relation to the Act, including but not limited to reports and outcomes from audits undertaken under the Act (including those of bilateral agreements). (This was also supported by the Senate Standing Committee report on the operation of the EPBC Act.)

In its formal response to the Hawke Review[9], the Australian Government agreed to Recommendations 4 and 5 and 56, agreed in substance with Recommendation 6, and agreed in principle with Recommendation 7. Implementation of some recommendations is already underway, with consultation drafts of a Biodiversity Policy, Environmental Offsets Policy and Cost Recovery and invitations for

[9] Department of Sustainability, Environment, Water, Population and Communities (2011) *Australian Government response to the report of the independent review of the Environment Protection and Biodiversity Conservation ACT 1999*

expressions of interest for a new National Centre for Cooperation on Environment and Development recently published.

The **Productivity Commission** benchmarking report[10] makes a number of recommendations that define leading practices in relation to planning and environmental assessments and approvals:

- They advocate early resolution of land use and coordination issues, which could be supported by greater use of strategic planning processes together with effective implementation and support arrangements including streamlined and efficient approval processes.
- They recommend improving development assessment and rezoning criteria and processes, including facilitating the timely completion of referrals and assessment of applications.
- They promote discipline on timeframes, including more extensive use of timeframes in the planning process.
- They support the bilateral agreement approach envisaged under the Heads of Agreement 1997.
- They recommend providing greater clarity for business in respect to environment protection laws (in particular what does and does not constitute a MNES) and the associated referral requirements of both the Commonwealth and States/territories so as to reduce the number of referrals that do not need to be made and to make the most use of the assessment approaches available under bilateral agreements
- They advocate the preparation of a policy directing the application of conditions commonly applied to development approvals (such as environmental offsets).

The **operational review of federal and NSW environmental legislation**[11] recommended actions to implement the following four principles:

- Principle 1 - Routine early notification of proposals potentially requiring referral is needed between agencies and informal early input from DSEWPC on MNES is essential to inform judgments on process options and the optimal timing of formal referral with a view to aligning and streamlining assessment, approval and post approval functions.
- Principle 2 - Agencies should collaborate to align Australian and NSW government policies on offsetting. In matters where the EPBC Act applies, offsetting proposals should be consistent with Australian Government offsetting policy and developed in consultation with DSEWPC.
- Principle 3 - To deliver clarity and certainty for the development and conservation communities, agencies should take a strategic approach to planning for biodiversity and development through the tools of strategic assessments, conservation agreements and biodiversity certification.
- Principle 4 - A nationally consistent approach to scientific assessment and listing processes would enhance public credibility and make them more efficient in delivering timely decisions and optimal conservation outcomes. [underway]

In addition to these major reviews and significant reform packages, **other reviews** are currently in progress that are likely to have a bearing on the streamlining of planning and environmental assessment and approval processes for infrastructure projects. These include:

- In Victoria, the *Environmental Effects Act 1978* has recently been reviewed and a final report was tabled 1 September 2011. At the time of writing the government had not yet published its response. In addition, an advisory committee has been established to review the Victorian Planning System; public submissions closed on 31 August 2011.

[10] Productivity Commission (2011) *Performance Benchmarking of Australian Business Regulation: Planning, Zoning and Development Assessments*

[11] Comonwealth of Australia (2009) *Operational Review of the Threatened Species Conservation Act 1995 (NSW), the Environmental Planning and Assessment Act 1979 (NSW), and the Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)*

- In NSW, the *Environmental Planning and Assessment Act 1979* is currently being reviewed. An issues paper was released on 6 December 2011. Also of relevance, a new system of assessing developments and infrastructure of State significance commenced on 1 October 2011 under revised provisions of the *Environmental Planning and Assessment Act 1979*.
- National infrastructure sector reform agendas currently in progress, for example: the National Aviation White Paper; proposals for national safety regulators for rail, road and maritime industries; implementation of regulatory reform in the water sector; a proposed national rail communication system; and a national set of road rules.

6.4 Proposed priority actions

In light of this extensive list of proposed reforms, COAG resolved at its meeting on 19 August 2011 to develop options for a national agenda for reform of environmental regulation to reduce regulatory burden and duplication for business and achieve better environmental outcomes. As part of the process, COAG established the cross-jurisdictional **Working Group on Environmental Reform** to progress the national reform agenda for environmental regulation. The priority actions listed below align with those currently under development by the group.

Statement of intent	Proposed Actions	Outcomes	Benefits to government
Objective: Reducing the regulatory burden and duplication in environmental planning and assessment			
Establish new administrative arrangements to support state led environmental assessments	(a) Continue to work towards Commonwealth agreement of state environmental assessment processes to avoid duplication across levels of Government	• Transparency in processes • Improved assessment quality • Single assessment and approval process where practicable • Consistency in assessment and approval • Greater efficiencies in project delivery	• Reduces duplication of effort • Clear roles and responsibilities • Decision making delegated to appropriate level • Lift standards of assessment across States/Territories
Investigate opportunities to make greater use of strategic environmental assessment under section 146 of the EPBC Act 1999 for infrastructure plans or strategies	(b) Develop a methodology that allows the Commonwealth's strategic assessment of state policies, plans or programs under the EPBC Act to be completed within 12 months (c) Explore options for accreditation of state strategic planning and policy processes	• Early resolution of planning and environmental issues • Certainty of pipeline projects • Clarity of role of differing levels of government	• Australian Government able to provide input / oversight early in planning process, and at landscape scale • Certainty for State/Territory Governments • Anticipated reduction in cost of infrastructure project delivery as a result of greater certainty

6.4.1 Establish new administrative arrangements to support state led environmental assessments.

(a) Continue to work towards Commonwealth agreement of State environmental assessment processes to avoid duplication across levels of Government

Section 6.2 and 6.3 above provide a broad overview of industry submissions and government-commissioned reviews that all identify opportunities for improving the interaction of State/Territory and Federal Government environmental protection legislation. Whilst the EPBC Act contains provisions for assessment (and approval) through bilateral agreements, and whilst such agreements are in place with all

States/Territories, it is suggested that the practical use and implementation of these agreements could be improved. This might be achieved by, for example:

- **Improving the transparency of the process to develop, amend and audit bilateral agreements**

  This report recommends greater transparency in the negotiation of bilateral agreements between the Australian and State/Territory governments, including public notification of changes to their status (for example when they may be suspended or under review). This report also supports the establishment of a more rigorous and transparent audit process, with broader and more extensive consultation requirements and whose scope also investigates and reports on 'operational' issues such as that undertaken between the Australian and NSW Governments in 2009.

- **Undertaking operational reviews with all States/Territories and developing and implementing working agreements to improve efficacy of bilateral agreements**

  Operational reviews of working arrangements between State/Territory and Federal planning and environment agencies, similar to that undertaken in NSW, are undertaken for all other States/Territories, may provide a useful basis for improved administrative agreements between the two levels of government. These should be re-visited on a regular basis, to be determined by the DSEWPC in the discharging of their responsibilities under the EPBC Act.

6.4.2 Investigate opportunities to make greater use of strategic environmental assessment under section 146 of the EPBC Act 1999 for infrastructure plans or strategies.

(b) Develop a methodology that allows the Commonwealth's strategic assessment of state policies, plans or programs under the EPBC Act to be completed within 12 months

Our research shows that there is widespread support for greater use of regional planning approaches and strategic environmental assessment as a mechanism to secure greater certainty in the infrastructure project pipeline whilst also addressing potential environmental impacts early. Such an approach could also facilitate more genuine consideration of alternatives *to* and *of* infrastructure projects. This approach has been shown to deliver significant benefits to the delivery of major infrastructure initiatives in Victoria, where the $5 billion Regional Rail Link project was assessed as part of the Strategic Assessment of Melbourne's Urban Growth Boundary, thereby negating the need for a project specific assessment during the design phase.

This report recommends further investigation of the combined regional planning / strategic environmental assessment approach under the EPBC Act 1999 to identify potential pathways for infrastructure pipeline projects. As a minimum, the investigation should consider:

- The appropriate scale of planning for infrastructure projects – for example, as part of regional land use plans or as part of state/national sector strategies
- The appropriate stage in the planning process for securing environmental approvals – for example, prior to Infrastructure Australia funding or endorsement, alongside State/Territory Ministerial endorsement of their infrastructure strategy, on a State/Territory sector strategy basis, at the level of groups of projects (e.g. a group of highway upgrades), on a project-by-project basis, or at the planning scheme amendment stage
- Who would be responsible for securing these environmental approvals (especially strategic assessment approvals) – would it be the State/Territory Government (or other government proponent) and what might be the mechanisms for them to recover the associated costs
- The most appropriate process by which this approach would be administered – for example, whether there was merit in expanding the role of Infrastructure Australia (or other agency) to initiate this approach.

A key issue for consideration is the efficiency of the strategic assessment process, which can currently take several years to complete. The Hawke Review identified a range of initiatives that could be pursued to streamline strategic assessments, including:

- Training and development for Commonwealth and State/Territory agencies to assist staff develop tools for strategic assessments.
- Establishing formal guidelines to guide the conduct of strategic assessments that build on the existing Strategic Assessment Endorsement Criteria.

Due to the limited number of strategic assessments that have been undertaken to date, it is also recommended that there be an ongoing review process to capture lessons learned from strategic assessments currently underway or recently completed.

(c) Explore options for accreditation of State strategic planning and policy processes

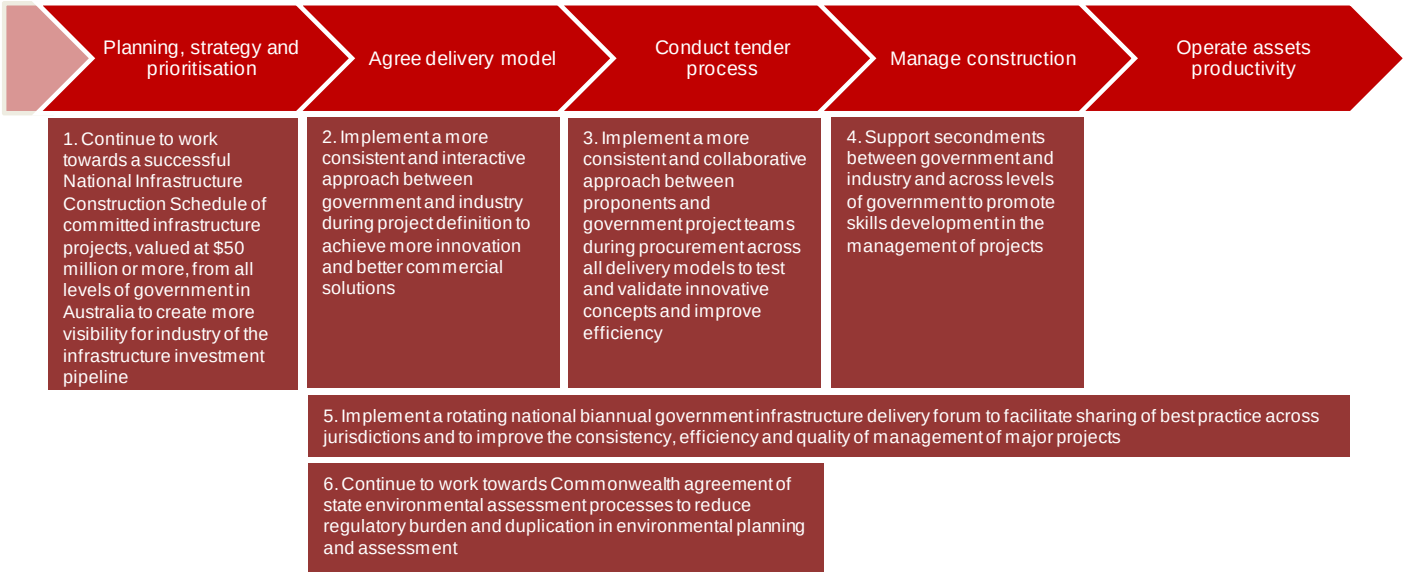
A number of States and Territories have strategic environmental assessment processes incorporated into their environmental protection or land use planning frameworks. There is therefore also an opportunity to explore options to accredit these State/Territory strategic planning and policy processes under the EPBC Act. This is consistent with a desire to see greater use of strategic assessments at the Federal level, and an emphasis on the improved usage of bilateral agreements between Federal and State/Territory governments.

7. Conclusion and implementation

The BVIP has analysed, by design, a broad range of initiatives across the value chain to identify four interlinked objectives, eight statements of intent and twenty actions. Four objectives have been identified to maximise the involvement and gain best value from the private sector:

1. Creating more visibility and continuity of the infrastructure investment pipeline
2. Adopting a more consistent and smarter approach to infrastructure delivery
3. Improving capability and cross-jurisdictional knowledge and skills transfer
4. Reducing the regulatory burden and duplication in environmental planning and assessment

Given the breadth and depth and number of actions, to aid successful implementation and maximise the impact of this work a number of priority actions are proposed for immediate implementation.



Focussing effort in these areas of priority for industry will maximise the achievement of better value from our infrastructure investment. It is proposed that COAG adopt the priority actions proposed in the Plan and govern their implementation. In doing so, for each priority action we note the work that has been completed to date or is in progress, providing a valuable platform to build upon.

No.	Priority Action for Industry	Work to Date
1	Continue to work towards a successful National Infrastructure Construction Schedule of committed infrastructure projects, valued at $50 million or more, from all levels of government in Australia to create more visibility for industry of the infrastructure investment pipeline	A National Infrastructure Construction Schedule (NICS) has been developed by the Commonwealth Department of Infrastructure and Transport. The NICS will be a publication of a national pipeline of committed infrastructure projects over $50m and major contracts over $25m. Queensland's three year rolling pipeline of committed infrastructure projects has been recognised as best practice by industry

2	Implement a more consistent and interactive approach between government and industry during project definition to achieve more innovation and commercial solutions	Industry noted the success of Western Australia's model that allows interaction between proponents and government to discuss the most appropriate delivery model and project brief.
3	Implement a more consistent and collaborative approach between proponents and government project teams during procurement across all delivery models to test and validate innovative concepts and improve efficiency	Through the Infrastructure Working Group, guidelines have been or are being developed on best practice in procurement and delivery of infrastructure, including PPP Guidelines, Alliance Guidelines and Design and Construct Guidelines
4	Support secondments between government and industry and across levels of government to promote skills development in the management of major infrastructure projects	In NSW, recent changes to the Public Sector Employment and Management Act enable public servants to be seconded within and outside the NSW public sector to stimulate innovation and improve skills and knowledge.
5	Implement a rotating national biannual government infrastructure delivery forum to facilitate sharing of best practice across jurisdictions and to improve the consistency, efficiency and quality of management of major projects	Currently there is not a national platform for state and Commonwealth government officials to share knowledge, experience and learnings relating to the delivery of infrastructure projects. NSW is offering to host the first National Forum in early 2013. It is proposed that the focus of the forum be on Action 2 above - achieving innovative and commercial solutions through an interactive approach between government and industry during project definition.
6	Continue to work towards Commonwealth agreement of state environmental assessment processes to reduce regulatory burden and duplication in environmental planning and assessment	As part of the Seamless National Economy Reforms, COAG has agreed to develop reforms for environmental regulation in order to avoid duplication of regulations and regulatory burden. This reform agenda is being developed by the COAG Working Group on Environmental Regulation Reform. The Working Group is currently working towards Commonwealth accreditation of state environmental assessment processes that meet the agreed national standards.