INFRASTRUCTURE PIPELINE REPORT

JUNE 2016

BUILDING QUEENSLAND

Cover image courtesy of Queensland Rail

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OUR MANDATE

Building Queensland was established as an independent statutory body on 3 December 2015 under the *Building Queensland Act 2015*.

Governed by an eight-member Board, the majority from the private sector, Building Queensland provides independent expert advice to Queensland Government agencies, government owned corporations and selected statutory authorities to enable better infrastructure decisions.

Building Queensland's core functions are to:

- provide strategic advice on infrastructure matters
- assist with the early stage development of proposals
- assist with Business Case development for proposals with a capital value of $50–$100 million
- lead the development of rigorous Business Cases, including cost benefit analyses, for proposals over $100 million
- develop and publish an infrastructure pipeline of priority proposals
- play a role in procurement and delivery of infrastructure projects if directed by the Minister.

Building Queensland is broadly similar to independent infrastructure advisory bodies established interstate, such as Infrastructure NSW and Infrastructure Victoria. These other bodies are also seeking to achieve best practice and drive better infrastructure outcomes in their respective jurisdictions.

CONTENTS

INDUSTRY CALL FOR BUILDING QUEENSLAND

During the public consultation leading up to the establishment of Building Queensland, industry articulated a need:

'Ensuring the state government receives regular and rigorous independent advice as to what ought to be included in a pipeline of priority proposals is an important step towards ensuring the community receives the best return on its investment of scarce funds.

The Institute supports the establishment of Building Queensland and its potential to deliver increased rigour and visibility in infrastructure planning and investment decisions in Queensland.'

Marina Vit
Chief Executive Officer,
Urban Development Institute of Australia

'We support the establishment of Building Queensland as an independent body with a range of powers and obligations—specifically the requirement to develop and publish an infrastructure pipeline, and the centralisation of proposal analysis with Building Queensland.

We encourage the state government to establish a policy that clearly articulates the roles and responsibilities of Building Queensland, Queensland Treasury, and the line agencies in the development and delivery of proposals under the Project Assessment Framework. This is critical to the efficient progress of proposals as it will reduce friction between agencies and encourage private sector participation in projects through a greater visibility of the process.'

Infrastructure Association of Queensland

'The Australian Constructors Association (ACA) and the Queensland Major Contractors Association (QMCA) support the establishment of Building Queensland to provide independent specialist advice and input into the development of a long-term, sustainable process for the development and delivery of proposals in Queensland, and to facilitate arrangements with other Australian governments.

The ACA and the QMCA submit the establishment and operation of Building Queensland is an opportunity for the new Queensland Government to break the nexus between good project planning and development, and the constraints of the electoral cycle.'

Australian Constructors Association and the Queensland Major Contractors Association

'The announcement of Building Queensland represents a change in policy that will provide certainty for business and better value for money outcomes for the taxpayer. This will both build certainty in a pipeline of proposals supporting private sector investment, and trust within the community that infrastructure being considered will meet their needs.

We support the vision that Building Queensland becomes a centre of excellence for the provision of contemporary and relevant advice to government.'

Stacey Rawlings
Queensland Manager,
Consult Australia

CHAIR'S FOREWORD

Queensland is a large, decentralised and diverse state. Over the past decade, there has been a dramatic change in Queensland's social profile in terms of population, age, where we live and what is important to us. In South East Queensland alone, the population is expected to increase by about 1.5 million by 2036, with the total population for Queensland forecast to reach 6.7 million during this period. These demographic changes will increase demand for essential services such as health, education, water and transport.

Queensland's economy is also currently undergoing a period of structural change and diversification as it transitions from the recent surge in resources investment towards broader-based drivers of growth. Beyond Queensland, the world economy is also rapidly changing. The rise of Asia and its growing middle class is creating new opportunities. The provision and maintenance of efficient infrastructure will be critical if Queensland is to capitalise on these opportunities and respond to these changes.

Identifying the best projects in which to invest is the most important factor in achieving optimal outcomes for the community from public infrastructure. Building Queensland is providing strong leadership in developing a consistent longer-term approach to infrastructure proposal development and investment in Queensland.

Building Queensland's Infrastructure Pipeline Report provides an independent appraisal of the Queensland Government's infrastructure proposals currently under development, which Building Queensland considers should be priorities for the state.

In delivering this advice to government, Building Queensland is also providing industry and the community with visibility of infrastructure proposals currently being considered.

Our first Infrastructure Pipeline Report highlights a need for greater rigour in the earliest stages of proposal development to ensure a robust understanding of the issues and challenges to be addressed.

The Infrastucture Pipeline is an important step in encouraging more informed discussion on the pre-procurement stages of proposal development and complements the strategies being proposed by the Queensland Government under the State Infrastructure Plan.

Building Queensland remains committed to facilitating positive infrastructure outcomes for all of Queensland.

Alan Millhouse
Chair,
Building Queensland Board

INSIGHTS FROM THE CHIEF EXECUTIVE OFFICER

The infrastructure investment decisions the Queensland Government makes today will have a significant and lasting impact on our economy and society. Good infrastructure investment decisions depend on good proposal development. We play a role on both fronts— proposal development and prioritisation.

We have conducted an extensive engagement program and received strong support for our best practice frameworks that are now guiding a rigorous and consistent approach to proposal development.

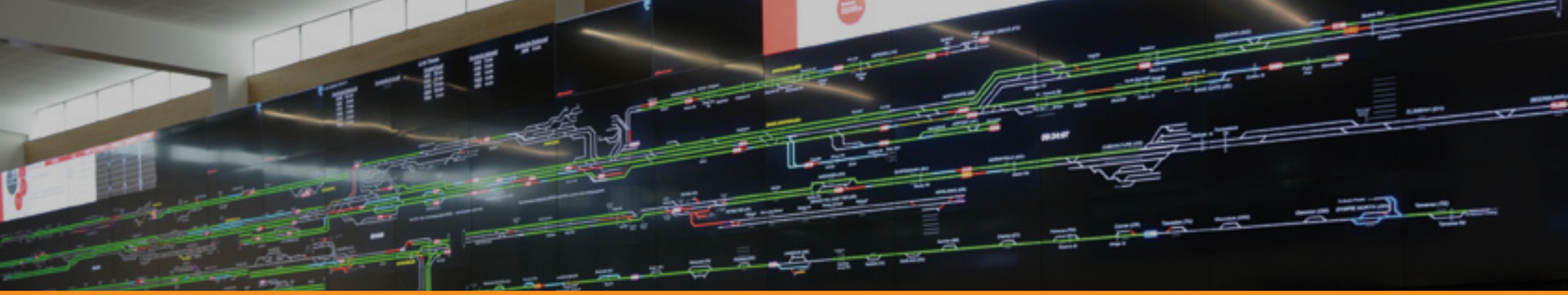
At the same time we have been actively developing proposals and have already completed Business Cases for the European Train Control System (ETCS)–Inner City and Cross River Rail. We are currently leading two other Business Cases, expect to lead a further two in the near term and are assisting with an additional 17 infrastructure proposals.

This Infrastructure Pipeline Report articulates for the first time priorities across all sectors—something not previously done in Queensland.

The process to improve proposal development and investment decision-making will take time. We will continue to work actively with our stakeholders to make this step-change.

Building Queensland is making a unique and important contribution to Queensland's infrastructure development. We see this report as a critical step in this process and we are looking forward to the challenges ahead.

David Quinn
Chief Executive Officer,
Building Queensland



PURPOSE OF THIS REPORT

This report has been developed to assist the Queensland Government in making its major infrastructure decisions.

It presents Building Queensland's independent, expert view of priority infrastructure proposals under development.

Image courtesy of Queensland Rail

INDEPENDENT EXPERT ADVICE ON MAJOR INFRASTRUCTURE

An independent view of major infrastructure in Queensland is vital to ensure that good infrastructure proposals continue to progress beyond normal political cycles.

The Queensland Government recognised this need and established Building Queensland to provide this independent advice.

BETTER PROPOSAL DEVELOPMENT

Building Queensland has created a suite of frameworks to guide the development of quality infrastructure proposals. These frameworks ensure proposals are based on a thorough understanding of the need to be addressed, the range of options to meet the need and a detailed analysis of the preferred option.

Building Queensland's Business Case Development Framework, including the Cost Benefit Analysis Guide and Social Impact Evaluation Guide, reflects best practice and is being rolled out across Queensland Government agencies and entities.

BETTER PRIORITISATION

Proposals in the Infrastructure Pipeline are selected according to the value they can bring to the state—a clear step removed from the political cycle.

A CLEAR NEED

'Australia has a strong record of delivering high-quality infrastructure projects. But incidents of poor planning, project selection and delivery continue to occur.'

Australian Infrastructure Plan
'Australian Infrastructure Plan – Priorities and reforms for our nation's future', Infrastructure Australia Report, February 2016, 11.

'There are numerous examples of poor value for money arising from inadequate project selection, potentially costing Australia billions of dollars. Additional spending under the status quo will simply increase the cost to users, taxpayers, the community generally, and lead to more wasteful infrastructure.'

Productivity Commission Inquiry Report
'Public Infrastructure', Productivity Commission Inquiry Report, Commonwealth of Australia, Vol. 1, No. 71, May 2014, 2.

'There is no substitute for rigorous and transparent cost benefit analysis. In Australia, we have made some progress in this area over recent times through bodies like Infrastructure Australia. Building public confidence in the governance process not only helps ensure that the most pressing projects are selected, but also helps build public confidence that the money is being spent wisely.'

Reserve Bank Governor Glenn Stevens
www.rba.gov.au/speeches/2013/sp-dg-261113.html

The prioritisation process considers proposals across all sectors where a funding decision is yet to be made by the Queensland Government. Each proposal is thoroughly appraised and considers all aspects of its development, including its strategic alignment, economic and financial, environmental and social, and deliverability outcomes.

BETTER VISIBILITY

Increasing visibility of infrastructure prioritisation and decision-making will help keep Queensland's long-term infrastructure vision on track.

Visibility will also help industry plan future capability requirements so they can respond when infrastructure investment decisions are made by the Queensland Government.

The Infrastructure Pipeline will build confidence that public money is being spent wisely. It will also stimulate more informed debate within the community, as all Queenslanders will be able to engage in discussion on future infrastructure needs.

BETTER OUTCOMES

Building Queensland's independent involvement in proposal development will help the Queensland Government be more efficient, innovative and needs-focused rather than asset-focused.

Rigorous proposal development and careful prioritisation leads to quality infrastructure. Ultimately this creates higher service levels and a better quality of life for all Queenslanders, while encouraging financially responsible project delivery.

THE INFRASTRUCTURE PIPELINE

This Infrastructure Pipeline Report represents Building Queensland's view of priority infrastructure proposals under development by the Queensland Government. This is the first edition and will be updated every six months to reflect current infrastructure priorities.

For a proposal to be considered for inclusion in the Infrastructure Pipeline it must:

- have a minimum capital value of $50 million
- be aligned to the sectors and asset classes in the State Infrastructure Plan—arts, culture and recreation, digital, education and training, energy, health, justice and public safety, social housing, transport and water
- be unfunded (i.e. does not have partial or full funding for procurement or delivery).

The ultimate decision about which proposals to fund appropriately rests with the state government.

Image courtesy of Seqwater

STAGES OF DEVELOPMENT

Proposals in the Infrastructure Pipeline are categorised by development stage in line with the Queensland Government Project Assessment Framework (PAF) and the Building Queensland Business Case Development Framework:

1 Strategic Assessment of Service Requirement

IDENTIFY THE NEED

Defines the service need or opportunity to determine the outcome required and then validates it as a priority, relative to other needs.

2 Preliminary Evaluation

ASSESS THE OPTIONS

Assesses the financial, economic, social and environmental viability of options. At the completion of this stage, the state government decides whether to invest in fully developing a Business Case.

3 Business Case

UNDERTAKE DETAILED ANALYSIS

Analyses the preferred option and delivery models identified during the Preliminary Evaluation stage in more detail, including a full cost benefit analysis and social impacts evaluation. This stage identifies the delivery model most likely to achieve the service requirement and provide the best value for money.

MOVING THROUGH THE PIPELINE

Improving proposal development means being prepared to embrace change and make hard decisions.

A proposal's inclusion in the Infrastructure Pipeline is a clear recommendation by Building Queensland to government to progress the proposal. For example, if the proposal is at the end of the Strategic Assessment of Service Requirement stage, we recommend the proposal proceed to the Preliminary Evaluation stage. If it is at the end of the Preliminary Evaluation stage, we recommend the proposal proceed to Business Case. Only proposals with robust and detailed business cases that demonstrate value are recommended to government for funding for procurement and, ultimately, delivery.

As proposal development progresses, those that demonstrate value to Queensland will continue to be eligible for progression through the Infrastructure Pipeline. Once the Business Case stage is completed and the proposal receives approval to commence procurement, Building Queensland recognises a funding decision has been made and no further advice on prioritisation is needed. The proposal is then removed from the Infrastructure Pipeline.

Some proposals may drop out at earlier stages and new proposals may be added at the Pipeline's six-monthly review. Proposals taken out of the Pipeline may be delayed indefinitely if demand/need assessment is revised and the need for the proposal changes.

Other proposals may be removed if alternative non-build solutions or lower capital value solutions are identified (see Figure 1. The Infrastructure Pipeline).

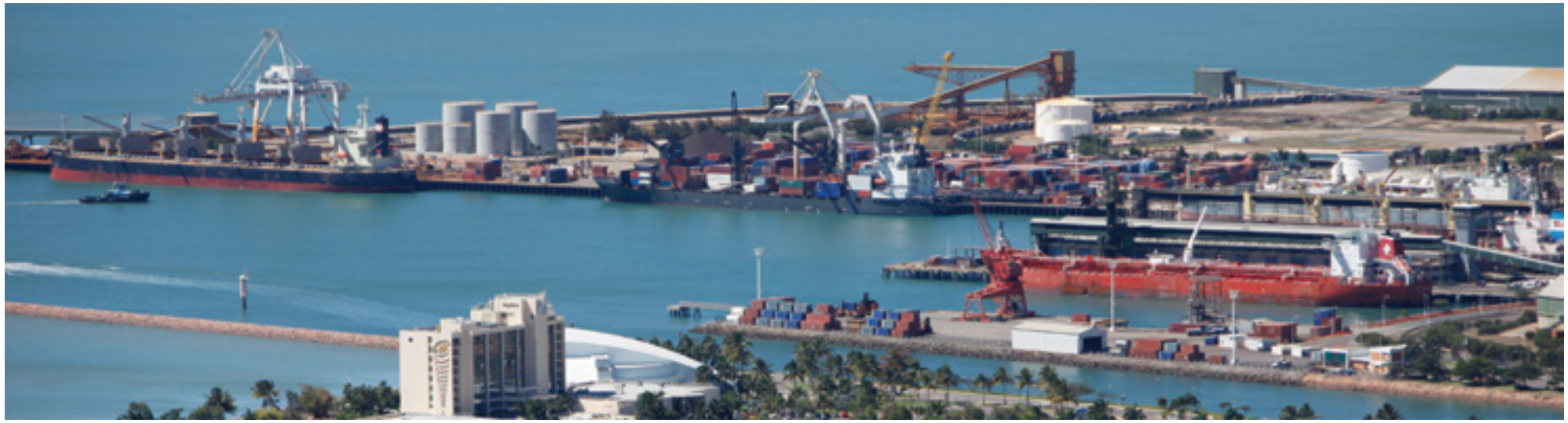


Image courtesy of Townsville Enterprise

RELATIONSHIP TO THE STATE INFRASTRUCTURE PLAN

The future opportunities detailed in the State Infrastructure Plan (SIP) will guide the proposals Building Queensland will develop.

The SIP outlines the Queensland Government's vision for infrastructure policy and planning. It also reports on a committed program of projects for the next 1–4 years across key asset classes, and future opportunities and gaps covering a 15-year timeframe.

The government will use the Infrastructure Pipeline to inform decisions around further proposal development and, ultimately, investment in procurement/delivery. Once a funding decision is made on a proposal, this will be reflected in annual updates to the short-term program (1–4 years) within the SIP and Queensland Treasury Budget Papers.

Figure 1 shows the relationship between the Infrastructure Pipeline and the SIP.

Together, the Pipeline and the SIP provide a holistic view of Queensland's infrastructure priorities under development and in delivery.

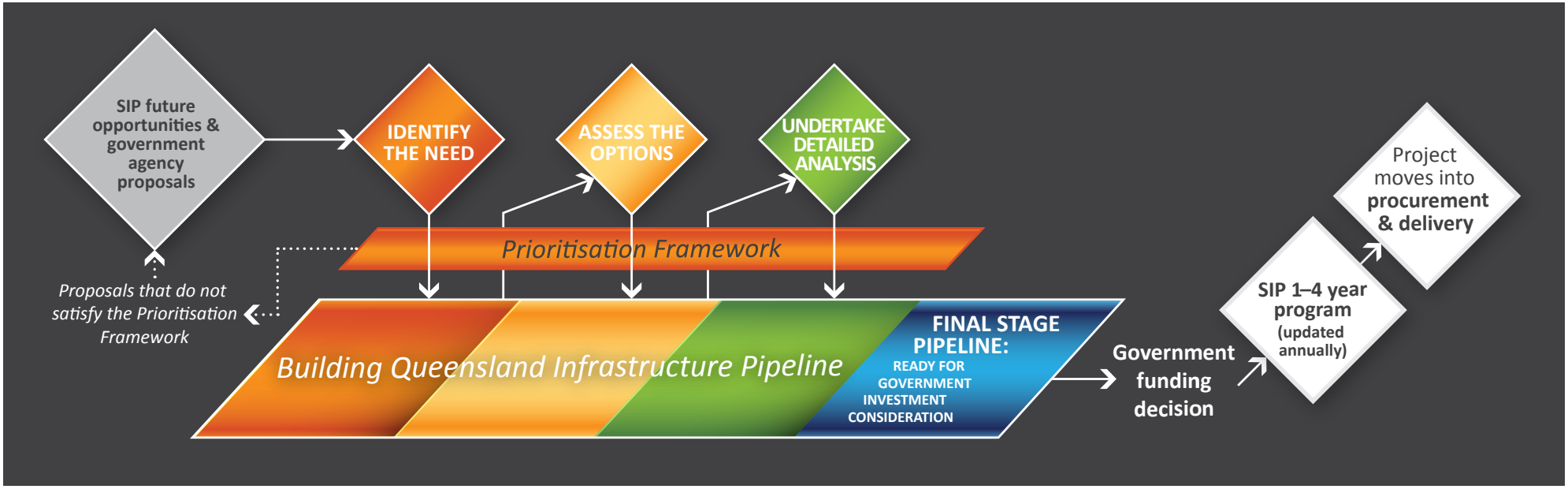
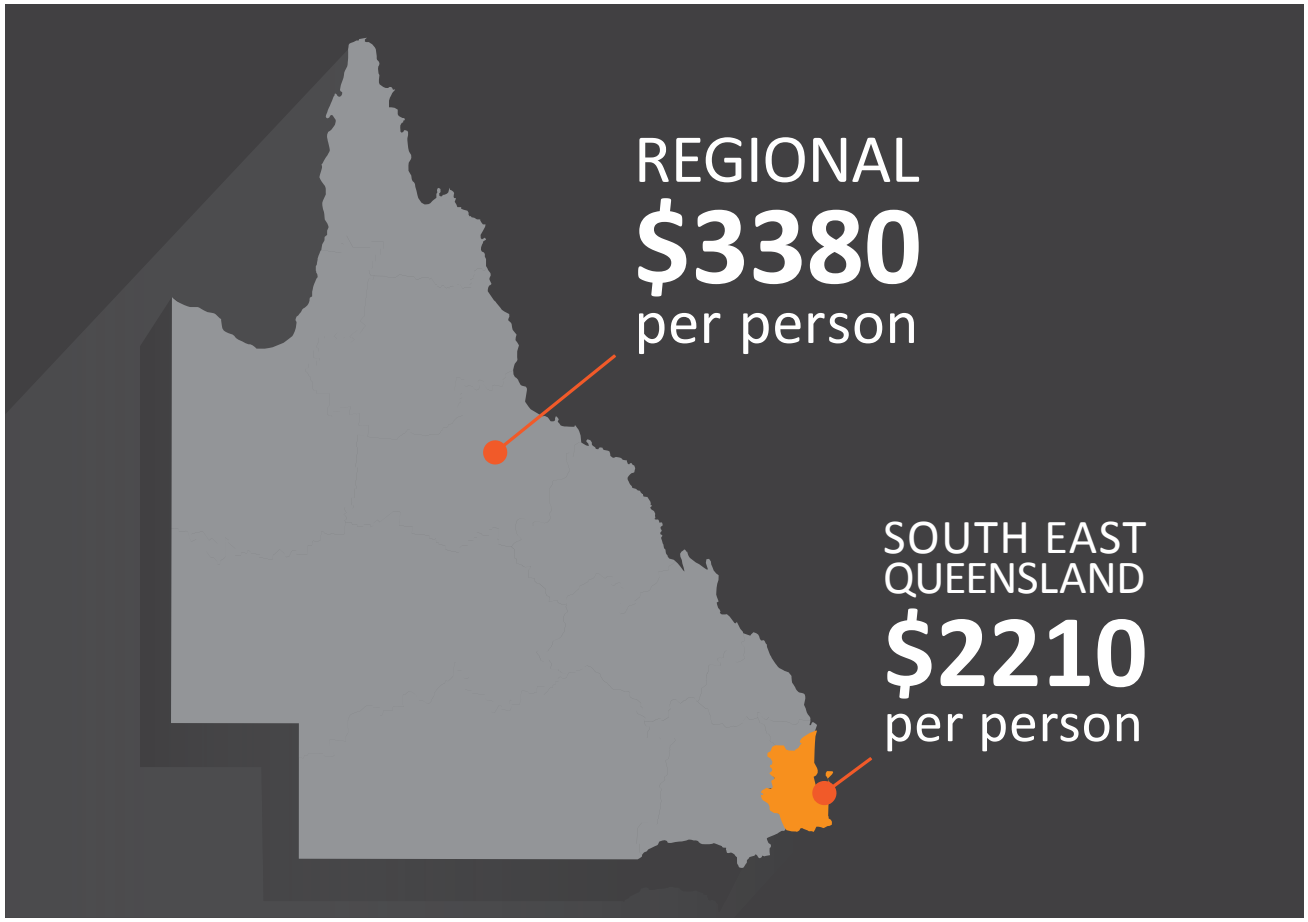


Figure 1. The Infrastructure Pipeline

DID YOU KNOW? AVERAGE SPEND ON INFRASTRUCTURE PER PERSON (2011–2015)



Sources: Queensland State Budget Capital Statement—Capital Outlays by Entity for each Statistical Division, 2011 to 2015.
Estimated resident population by statistical area level 1 (SA1), Australia, 2011 to 2015, Australian Bureau of Statistics.

Decisions on priority proposals are seldom simple. They involve complex technical issues and at times, value judgements for factors that are difficult to quantify.

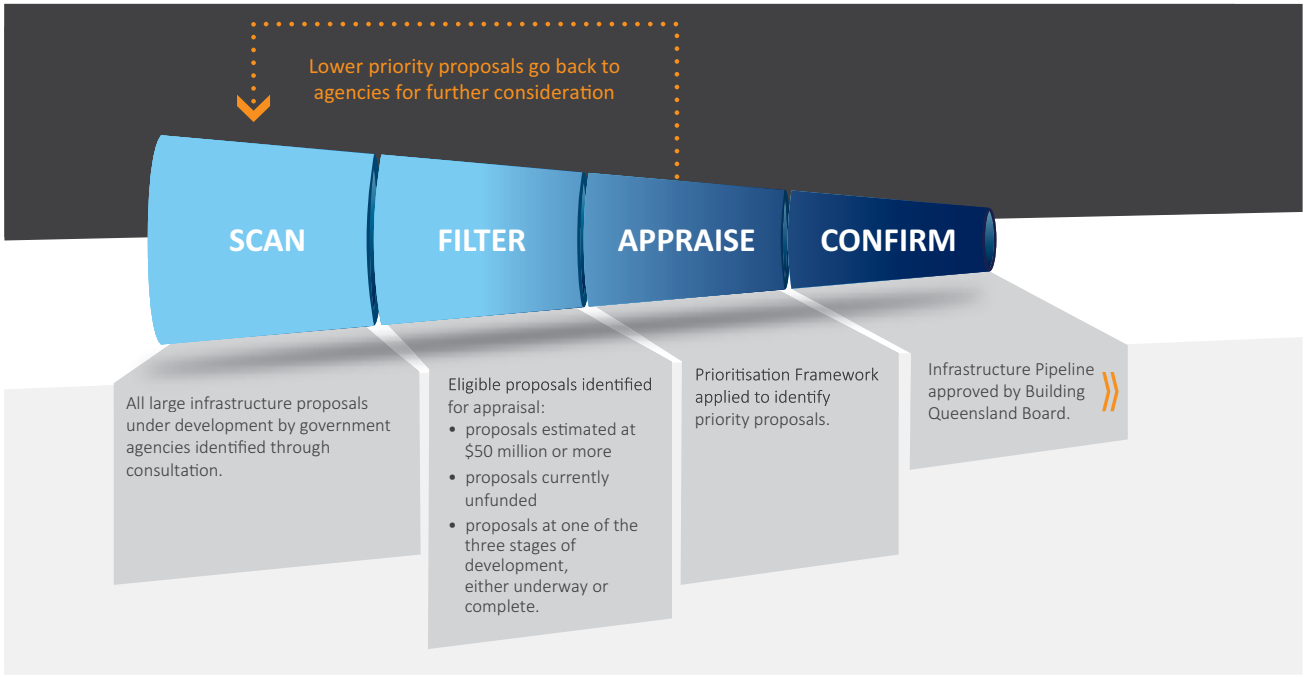


Figure 2. Four-Step Process to Develop the Infrastructure Pipeline

DEVELOPING THE INFRASTRUCTURE PIPELINE

The Infrastructure Pipeline focuses on proposals identified by government agencies. Building Queensland is not responsible for developing an overall strategic plan for infrastructure in Queensland—this remains the responsibility of the Department of Infrastructure, Local Government and Planning and is reflected in the SIP. Building Queensland is however responsible for developing an Infrastructure Pipeline that reflects priority proposals.

In developing the Infrastructure Pipeline, we have worked closely with Queensland Government agencies, government owned corporations and statutory authorities to source proposal information. Figure 2 highlights the four-step process to develop the Infrastructure Pipeline.

Market Led Proposals are not considered for inclusion in the Infrastructure Pipeline as they are appraised by Queensland Treasury under a separate framework.

PRIORITISATION METHODOLOGY

Building Queensland's decisions are based on well-informed analysis. To separate higher priority and lower priority proposals, Building Queensland has developed a methodology based on international and national best practice approaches to analyse needs, strategic alignment and evidence-driven value.

Building Queensland's approach identifies priority proposals across different infrastructure sectors to generate a government-wide pipeline of priority proposals.

The methodology comprises four key criteria:

- Strategic
- Economic and Financial
- Social and Environmental
- Deliverability.

These criteria are used to determine if a proposal is a priority as it progresses through the development stages.

Building Queensland Prioritisation Methodology

STRATEGIC APPRAISAL

- This appraisal examines how a proposal aligns with state and federal government goals and objectives, as well as strategic plans.
- Proposals should present future problems and needs.
- Depending on stage of development, this appraisal considers what other options have been assessed to clearly justify any preferred option.

This is a threshold test. If this test is not satisfied a proposal will not appear in the Infrastructure Pipeline.

ECONOMIC AND FINANCIAL APPRAISAL

- This appraisal considers if a proposal's monetised benefits outweigh its costs.
- Full range of costs and benefits to be presented—the benefit cost ratio is a key indicator.
- Building Queensland looks for a ratio greater than one to confirm a proposal generates a net benefit.

SOCIAL AND ENVIRONMENTAL APPRAISAL

- This appraisal considers if a proposal demonstrates extensive understanding across key social factors, including local and regional settings; impacts on key elements of human and the natural environment and key cultural issues. Social impacts must be appropriately considered where they cannot be incorporated in the cost benefit analysis.
- This appraisal also considers the environmental impact of a proposal, including any associated environmental studies and approvals.

DELIVERABILITY APPRAISAL

- This appraisal evaluates whether the proposal's delivery will realise and preserve its strategic intent and benefits during implementation and into operational phase.
- A proposal's assessment and proposed risk management are examined from many perspectives, including design and technical aspects, procurement, construction and operational risks.
- It considers whether public sector funding is appropriate or private sector participation is needed.

Background image courtesy of SunWater

SIX-MONTHLY PIPELINE PROCESS

Collaboration with government agencies, government owned corporations and statutory authorities will help us to develop the next six-monthly update to the Infrastructure Pipeline.

Building Queensland is committed to improving infrastructure outcomes for Queensland. We will continue to develop our collaborative processes to create the change necessary to improve major proposal development and investment.

We will conduct a six-monthly process to review and update the Infrastructure Pipeline. We will seek new proposal information and make updates to existing proposals before analysing potential inclusions for the updated Pipeline (see Figure 3). The next Infrastructure Pipeline Report will be released in December 2016.

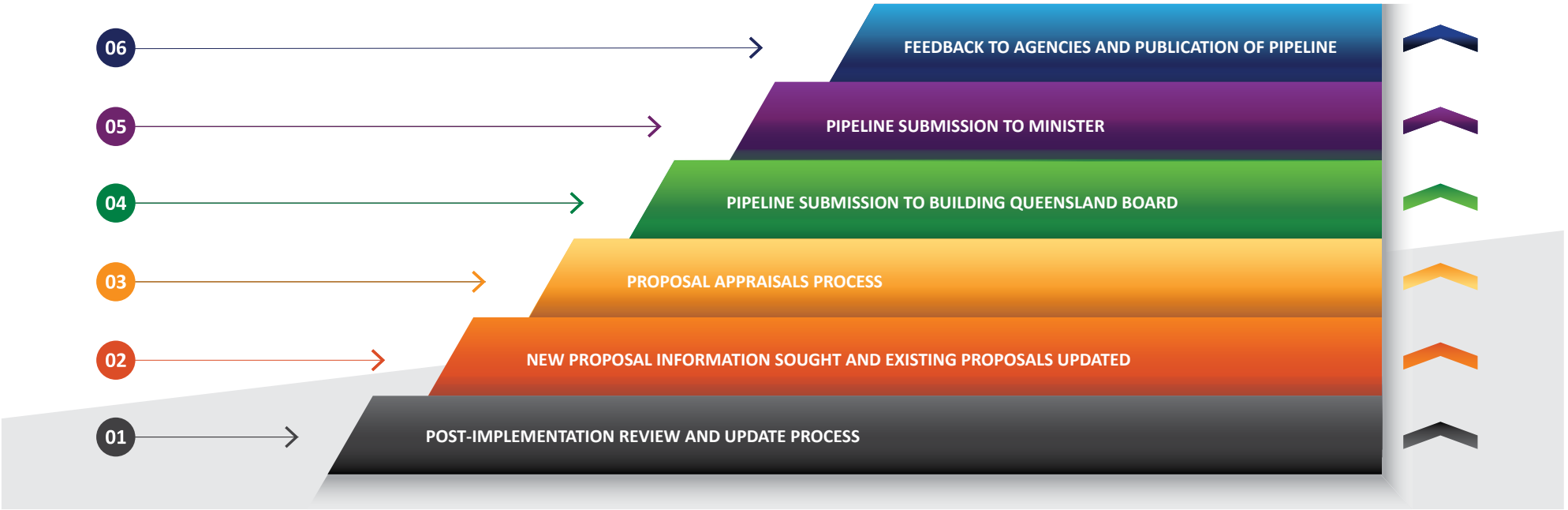


Figure 3. Six-Monthly Pipeline Updating Process

OBSERVATIONS

Without consistently applying a rigorous and staged development process, proposals can emerge from ideas and accelerate past early hurdles without strong challenge. In particular, this can occur when there is an incomplete understanding of a topical problem, which creates a desire for quick resolution. Also, when a gap or constraint is obvious, parties can often jump to a single, preferred solution too quickly, without fully examining all options.

Most agencies have adopted guidance contained in the PAF and are now using the Building Queensland Business Case Development Framework to improve proposal development.

Across government, the level, accuracy and depth of analysis varies. For some sectors where data and evidence is more readily available, the level of analysis is often appropriate for the relevant development stage. Other sectors may not always have access to the best available information, causing proposals to progress without critical economic, financial, social and environmental issues being considered.

LESSONS LEARNT

The following lessons emerged during the development of the Infrastructure Pipeline:

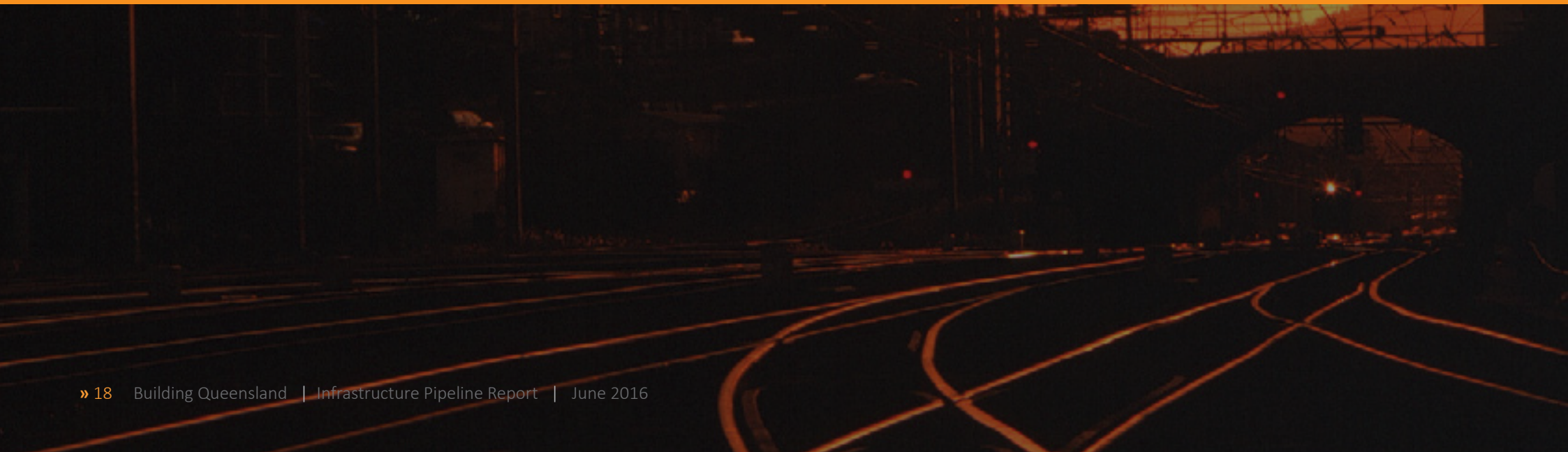
- Proposals should be challenged rigorously at an early planning stage before they gain momentum and progress to more detailed stages of proposal development.
- Proposals that have moved through the early stages of development often gain 'momentum bias' and may become increasingly difficult to stop, even when later stages of assessment show sub-optimal benefit cost ratios.
- Often only minor changes are possible at later stages of development, which can result in investments that don't significantly improve productivity or quality of life for Queenslanders—this money could be better invested elsewhere.
- The fundamentals underpinning a proposal should be progressively and rigorously reviewed throughout the development process and current information should be used to validate demand.
- There is difficulty in monetising benefits for social infrastructure proposals in key areas such as health and education.
- There are opportunities to encourage the use of cost benefit analysis for social infrastructure proposals, including wider economic benefits such as labour market impacts.
- Entities must consider the SIP hierarchy of options (reform, better use, augmentation of existing assets and the development of new infrastructure) when identifying and assessing options. For example, alternative non-build options should be considered as well as build options.
- Information and communications technology (ICT) led investment is a dynamic area with major opportunities to improve service delivery. Programs of ICT projects need to be holistically managed, with post-implementation reviews at key milestones to confirm that anticipated benefits are being realised.

KEY FOCUS AREAS

Building Queensland will focus on two key areas over the next 6–12 months:

1. Implementation of the Building Queensland Business Case Development Framework: help agencies conduct rigorous proposal development.
2. More rigour in the earliest stages of proposal development: help agencies understand the need to be addressed. To support early stage investigations, Building Queensland is using tools like the customised Investment Logic Mapping process which will help agencies thoroughly investigate issues earlier.

MORE RIGOUR IN THE EARLIEST STAGES OF PROPOSAL DEVELOPMENT IS REQUIRED TO ENSURE ROBUST UNDERSTANDING OF THE NEED TO BE ADDRESSED.



SECTOR OBSERVATIONS

While developing the Infrastructure Pipeline, Building Queensland made some key observations of the health, transport and water sectors. These observations can guide continuous improvement.

HEALTH – BUILT

The Department of Health is seeking to become more efficient in planning and delivering built infrastructure to ensure services are targeted to areas of greatest need. The department has developed a consistent and standardised approach to planning and designing health capital infrastructure.

This approach directly links requirements to the solution and promotes the application of contemporary and evidence-based standards. There is also a renewed focus on non-build options including exploring different service delivery models.

HEALTH – ICT

The Queensland Health ICT Portfolio Office has introduced a process for facilitating the definition and development of ICT strategies, plans and roadmaps, and prioritising competing investments against desired outcomes. This addresses the need for external reviews by independant peers, which the Queensland Government Chief Information Officer has identified as necessary at each stage.

Building Queensland acknowledges the advantages in this approach and sees merit in sharing this methodology and learnings across other portfolio management offices.

TRANSPORT – PORTS

Ports are considering economic viability and environmental outcomes when developing new proposals. This is reflected in the standard of port improvement and/or expansion proposals, which are rigorous.

Further improvement can be realised by better understanding the underlying problem. All options should be identified, fully explored and considered along with capital expenditure.

TRANSPORT – RAIL AND ROAD

The Department of Transport and Main Roads has a well-developed planning methodology to identify and consider future challenges to Queensland's transport network. It also has an investment framework that estimates proposal costs and benefits as accurately as possible to show how a proposal can secure the best return from public investment.

Building Queensland acknowledges the effective use of non-build solutions, including using technology to increase network efficiency and safety, such as the European Train Control System (ETCS)—Inner City proposal.

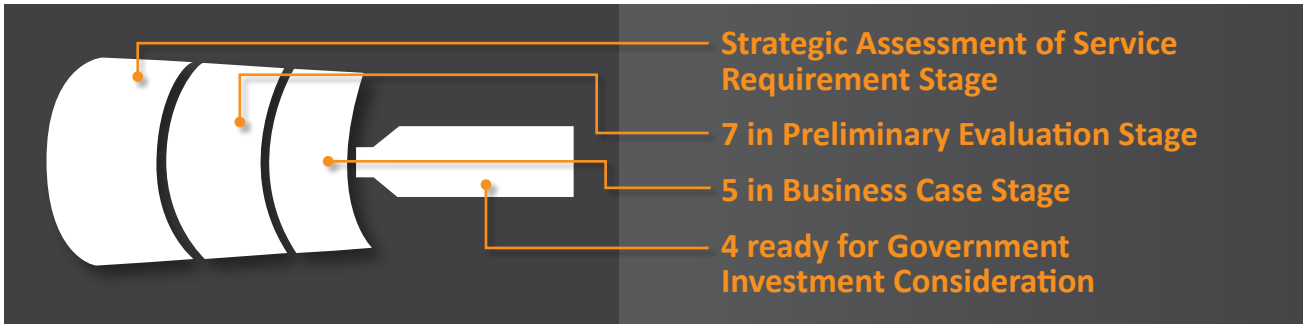
WATER

Water proposals are often subject to detailed technical, financial and delivery risk assessments, with most promoting technically sound investment proposals.

Water supply authorities have been considering recent changes in projected demand. As a result, some future augmentations have been delayed and proposals placed on hold until commercial customer demand materialises.

There are a large number of dam proposals with safety-related components, that are being driven by current regulatory settings. It will be important to integrate the timing and sequencing of investment statewide.

SUMMARY OF PRIORITY PROPOSALS



UNDERSTANDING THE PIPELINE

It is important to understand that the proposals in the Infrastructure Pipeline are in various stages of development. Not all are ready to be considered by government to procure and deliver.

While Building Queensland articulates infrastructure priorities, it appropriately rests with government as to which proposals will be delivered.

During the first half of 2015 Building Queensland was in an establishment phase and therefore proposals that had already commenced Business Case stage continued to be developed by the responsible agency to avoid unnecessary delays or additional costs.

JUNE 2016 PIPELINE OF PRIORITY PROPOSALS

DIGITAL

HEALTH ICT

TRANSPORT PORTS

TRANSPORT RAIL

TRANSPORT ROAD

WATER

For this first Infrastructure Pipeline, no priority proposals have been recommended in the earliest stage of proposal development.

Over time, and through the adoption of the Building Queensland Frameworks, it is anticipated that the Pipeline will evolve to a longer-term view with more proposals in this stage.

- Burdekin Falls Dam—Saddle Dam & Monolith Improvement Project
- Paradise Dam—Primary Spillway Improvement Project
- Paradise Dam—Secondary Spillway Improvement Project
- Patient Administration Program
- Port of Gladstone—Clinton Vessel Interaction
- Sunshine Motorway—Mooloolah River Interchange Upgrade
- Townsville Eastern Access Rail Corridor

- Beerburrum to Nambour Rail Upgrade
- Financial System Renewal
- Laboratory Information System
- Lake Macdonald Dam Safety Upgrade
- Public Safety Regional Radio Communications

PROPOSAL SUMMARIES

The following infrastructure proposals are presented in order of their stage of development, not order of importance. Proposals with completed Business Cases (detailed analysis) and Ready for Government Investment Consideration appear first. These are followed by Business Cases underway and proposals in the Preliminary Evaluation (assessing the options) stage. Proposals listed under each stage are ordered alphabetically.

Cost figures are provided by responsible agencies, with the exception of figures for Business Cases that have been led by Building Queensland. The cost estimates in the Pipeline are indicative. Proposals with a cost range indicate that a number of options are still being considered.

PROPOSAL NAME	SECTOR	STAGE OF DEVELOPMENT	LOCATION	PAGE
Cross River Rail	Transport—Rail	**Ready for Government Investment Consideration**	SEQ	24
Cunningham Highway—Yamanto Interchange to Ebenezer Creek	Transport—Road	**Ready for Government Investment Consideration**	SEQ	25
European Train Control System (ETCS)—Inner City	Transport—Rail	**Ready for Government Investment Consideration**	SEQ	26
Pacific Motorway—Mudgeeraba to Varsity Lakes	Transport—Road	**Ready for Government Investment Consideration**	SEQ	27
Beerburrum to Nambour Rail Upgrade	Transport—Rail	Business Case	SEQ	28
Financial System Renewal	Health—ICT	Business Case	Statewide	29
Laboratory Information System	Health—ICT	Business Case	Statewide	30
Lake Macdonald Dam Safety Upgrade	Water	Business Case	SEQ	31
Public Safety Regional Radio Communications	Digital	Business Case	Regional	32
Burdekin Falls Dam—Saddle Dam & Monolith Improvement Project	Water	Preliminary Evaluation	Regional	33
Paradise Dam—Primary Spillway Improvement Project	Water	Preliminary Evaluation	Regional	34
Paradise Dam—Secondary Spillway Improvement Project	Water	Preliminary Evaluation	Regional	35
Patient Administration Program	Health—ICT	Preliminary Evaluation	Statewide	36
Port of Gladstone—Clinton Vessel Interaction	Transport—Port	Preliminary Evaluation	Regional	37
Sunshine Motorway—Mooloolah River Interchange Upgrade	Transport—Road	Preliminary Evaluation	SEQ	38
Townsville Eastern Access Rail Corridor	Transport—Rail	Preliminary Evaluation	Regional	39

CROSS RIVER RAIL

RESPONSIBLE AGENCY	**DEPARTMENT OF TRANSPORT AND MAIN ROADS**
BUILDING QUEENSLAND ROLE	**LED BUSINESS CASE**
PROPOSAL STAGE OF DEVELOPMENT	**BUSINESS CASE COMPLETE**
PLANNED STAGE END DATE	**NOT APPLICABLE**
ESTIMATED COST OF DELIVERY	**$5.4 BILLION***

PROBLEM	Forecast population and employment growth for South East Queensland (SEQ) will increase private vehicle and public transport (rail and bus) congestion. With only one rail connection across the Brisbane River near the CBD (where most of SEQ's employment growth is projected), options to increase rail services to meet projected demand generated outside of Brisbane (where most of SEQ's population growth is projected) are limited. Other proposals (such as the ETCS–Inner City project) will increase the network's efficiency, but an infrastructure solution is ultimately needed.
PROPOSAL	The objectives of the proposal are to: » provide an additional rail crossing across the Brisbane River » boost inner city public transport capacity » reshape the network to unlock sustainable urban development. The proposal will deliver a 10.2 kilometre rail link connecting Dutton Park in the south to Bowen Hills in the north, including twin 5.9 kilometre tunnels under the Brisbane River and CBD. The proposal will enable the delivery of new underground stations at Boggo Road, Woolloongabba, Albert Street and Roma Street and upgrades to existing stations at Dutton Park and Exhibition. It also includes conducting track works at Mayne Yard and repurposes the Exhibition Line from a special use line to a standard link in the rail network.
NEXT STEPS	Queensland Government investment consideration.

*Nominal cost in Australian dollars, Building Queensland Business Case 2016.

CUNNINGHAM HIGHWAY—YAMANTO INTERCHANGE TO EBENEZER CREEK

RESPONSIBLE AGENCY	**DEPARTMENT OF TRANSPORT AND MAIN ROADS**
BUILDING QUEENSLAND ROLE	**NOT APPLICABLE***
PROPOSAL STAGE OF DEVELOPMENT	**BUSINESS CASE COMPLETE**
PLANNED STAGE END DATE	**NOT APPLICABLE**
ESTIMATED COST OF DELIVERY	**$340 MILLION****

PROBLEM	Increases in travel demand and expected developments along parts of the Cunningham Highway are expected to create additional safety considerations and capacity constraints, particularly at the intersection of Ipswich–Rosewood Road.
PROPOSAL	The objective of the proposal is to meet current and forecast travel demand, driven by development in the south-western corridor, including the Aerospace and Defence Support Centre, Ripley Valley and Greater Springfield residential developments. The Cunningham Highway—Yamanto to Ebenezer Creek proposal involves strategic upgrades to a 4.75 kilometre section of the Cunningham Highway between Warwick Road at Yamanto and Ebenezer Creek, to the south west of Ipswich. The proposal will deliver a highway interchange and new alignment connecting the Cunningham Highway, Centenary Motorway extension and the Western Ipswich Bypass.
NEXT STEPS	Queensland Government investment consideration.

*Business Case completed in 2012 by Responsible Agency prior to the establishment of Building Queensland.

**Nominal cost in Australian dollars, Responsible Agency Business Case 2012.

EUROPEAN TRAIN CONTROL SYSTEM (ETCS)—INNER CITY

RESPONSIBLE AGENCY	**QUEENSLAND RAIL**
BUILDING QUEENSLAND ROLE	**LED BUSINESS CASE**
PROPOSAL STAGE OF DEVELOPMENT	**BUSINESS CASE COMPLETE**
PLANNED STAGE END DATE	**NOT APPLICABLE**
ESTIMATED COST OF DELIVERY	**$630 MILLION***

PROBLEM	Large portions of South East Queensland's (SEQ) rail network signalling infrastructure is ageing. Previous assessments have identified several problems facing the rail network and current rail signalling system including: capacity constraints, increasing demand, ageing signalling assets, increased operational costs and changing customer expectations. In particular, capacity assessments have indicated that rail services in the inner city network during peak periods will be nearing capacity by 2021. Without this proposal, the rail network will experience overcrowding of rail services, reduced reliability, increased costs and customer dissatisfaction.
PROPOSAL	The objectives of the proposal are to: » improve network safety » provide additional capacity » deliver operational efficiencies. The proposal will deliver the European Train Control System across the inner city rail network between Northgate and Milton stations. Works will include Automatic Train Protection, replacement of line-side signals with in-cab displays, a new digital wireless communication network and a new traffic management system with automated route setting.
NEXT STEPS	Queensland Government investment consideration.

*Nominal cost in Australian dollars, Building Queensland Business Case 2016. Figures are inclusive of costs expected to be incurred by government departments and Queensland Rail.

PACIFIC MOTORWAY—MUDGEERABA TO VARSITY LAKES

RESPONSIBLE AGENCY	**DEPARTMENT OF TRANSPORT AND MAIN ROADS**
BUILDING QUEENSLAND ROLE	**NOT APPLICABLE***
PROPOSAL STAGE OF DEVELOPMENT	**BUSINESS CASE COMPLETE**
PLANNED STAGE END DATE	**NOT APPLICABLE**
ESTIMATED COST OF DELIVERY	**$220 MILLION****

PROBLEM	The existing Pacific Motorway (from Mudgeeraba to Varsity Lakes) transport infrastructure lacks sufficient capacity to accommodate the current traffic volumes, resulting in significant congestion. This section of motorway also has a motor vehicle incident rate above the state average and higher than any other highway in Queensland. With increasing traffic volumes, both congestion and the motor vehicle incident rates will increase.
PROPOSAL	The objectives of the proposal are to: » reduce the number and severity of motor vehicle incidents » improve the capacity and efficiency of road freight » upgrade infrastructure to meet current highway design standards » improve travel time reliability » minimise social impacts of traffic issues on parallel local roads. The proposal will widen 5 kilometres of the Pacific Motorway (M1) to 6 lanes (a 50 per cent increase in capacity) between Mudgeeraba and Varsity Lakes and an additional northbound auxiliary lane between Robina and Mudgeeraba.
NEXT STEPS	Queensland Government investment consideration.

*Responsible Agency completed Business Case in 2013, update undertaken in mid-2015.

**Nominal cost in Australian dollars, Responsible Agency Business Case 2016.

BEERBURRUM TO NAMBOUR RAIL UPGRADE

RESPONSIBLE AGENCY	**DEPARTMENT OF TRANSPORT AND MAIN ROADS**
BUILDING QUEENSLAND ROLE	**LEAD BUSINESS CASE**
PROPOSAL STAGE OF DEVELOPMENT	**BUSINESS CASE UNDERWAY**
PLANNED STAGE END DATE	**Q1 2017**
ESTIMATED COST OF DELIVERY	**$600–$700 MILLION***

PROBLEM	The number of passenger and freight trains operating between the Beerburrum and Nambour Stations on the North Coast Line is approaching full capacity. This is limiting the ability to provide additional passenger and freight services. It also introduces inefficiencies in the movement of freight during passing movements and decreases service reliability.
PROPOSAL	The objectives of the proposal are to: » improve the level of service of rail to the Sunshine Coast » improve rail freight efficiency and service reliability. The proposal will duplicate the North Coast Line between Beerburrum and Landsborough (approximately 20 kilometres in length) and upgrade the existing infrastructure between Landsborough and Nambour. The proposed upgrade is 39 kilometres in length. The proposal is forecast to deliver: » travel time savings for passengers between Beerburrum and Nambour » increased capacity for additional rail services » increased rail patronage » a reduction of vehicles on the Bruce Highway » increased service reliability » increased efficiency for freight services.
NEXT STEPS	Complete Business Case.

*A range is provided by Responsible Agency as a number of options are still being considered. An estimate will be provided once the Business Case is complete.

FINANCIAL SYSTEM RENEWAL

RESPONSIBLE AGENCY	**QUEENSLAND HEALTH**
BUILDING QUEENSLAND ROLE	**LEAD BUSINESS CASE**
PROPOSAL STAGE OF DEVELOPMENT	**BUSINESS CASE UNDERWAY**
PLANNED STAGE END DATE	**Q4 2016**
ESTIMATED COST OF DELIVERY	**$110 MILLION***

PROBLEM	The Financial and Materials Management Information System (FAMMIS) currently used by Queensland Health is a legacy system experiencing performance and stability issues. In addition to the cost of mitigating the technical risk associated with a legacy system, the impacts on business practices include ineffective processing of transactions and the inability for Hospital and Health Services (HHS) to operate as independent statutory bodies.
PROPOSAL	The objectives of the proposal are to: » eliminate the risk of operating a legacy system » automate business processes to achieve efficiencies, improve compliance and controls » improve system integration, workflow, data quality, reporting capability and access to information. The proposal is to implement a modern financial management system. The project is being planned in stages, with the major activity component being change management. Finance staff across Queensland Health will need to be trained in the new system, which will encompass standard accounting functions as well as inventory, warehousing, asset management and procurement.
NEXT STEPS	Complete Business Case.

*Nominal cost in Australian dollars, 2016 estimate provided by Responsible Agency.

LABORATORY INFORMATION SYSTEM

RESPONSIBLE AGENCY	**QUEENSLAND HEALTH**
BUILDING QUEENSLAND ROLE	**ASSIST WITH BUSINESS CASE**
PROPOSAL STAGE OF DEVELOPMENT	**BUSINESS CASE UNDERWAY (IN PARALLEL WITH PROCUREMENT)***
PLANNED STAGE END DATE	**Q3 2017 (PROCUREMENT)**
ESTIMATED COST OF DELIVERY	**$40–$60 MILLION****

PROBLEM	The Queensland Government Information and Communications Technology Audit 2012 lists the current Laboratory Information System as the third highest at risk application to the state that requires an upgrade or replacement. Over the past decade, there have been significant advances in technology that can be used for the tracking and ordering of pathology testing. To meet its needs into the future and support its customers, Queensland Health requires a modern Laboratory Information System that is responsive and adaptive.
PROPOSAL	The objectives of the proposal are to: » deliver modern, efficient and cost-effective pathology and forensics services » make service provision more collaborative and cost effective » deliver better patient outcomes » deliver future innovation around 'in or near-home care'. The proposal will deliver a system to be accessed statewide by Queensland pathology services, doctors, hospitals and other medical service providers.
NEXT STEPS	Complete concurrent Business Case and Procurement.*

*Concurrent Business Case and Procurement to validate Business Case options, which will then inform an investment decision.
**A range is provided by the Responsible Agency as a number of options are still being considered. An estimate will be provided once the Business Case is complete.

LAKE MACDONALD DAM SAFETY UPGRADE

RESPONSIBLE AGENCY	**SEQWATER**
BUILDING QUEENSLAND ROLE	**ASSIST WITH BUSINESS CASE**
PROPOSAL STAGE OF DEVELOPMENT	**BUSINESS CASE UNDERWAY**
PLANNED STAGE END DATE	**Q4 2016**
ESTIMATED COST OF DELIVERY	**$80 MILLION***

PROBLEM	Lake Macdonald Dam on Six Mile Creek on the Sunshine Coast requires an upgrade to meet modern standards and the performance requirements of the Queensland dam safety regulations into the future. The upgrade will allow the dam to better manage severe weather and earthquake events.
PROPOSAL	The objective of the proposal is to ensure the dam can meet performance standards into the future. This includes improving the spillway discharge capacity and earthquake stability while maintaining water supply security. Studies have considered a range of options including decommissioning of the dam, retrofit of strengthening works and new build options.
NEXT STEPS	Complete Business Case.

*Nominal cost in Australian dollars, 2016 estimate provided by Responsible Agency.

PUBLIC SAFETY REGIONAL RADIO COMMUNICATIONS

RESPONSIBLE AGENCY ..... **DEPARTMENT OF SCIENCE, INFORMATION TECHNOLOGY AND INNOVATION**
BUILDING QUEENSLAND ROLE ..... **LEAD BUSINESS CASE**
PROPOSAL STAGE OF DEVELOPMENT ..... **BUSINESS CASE UNDERWAY**
PLANNED STAGE END DATE **Q1 2017**
ESTIMATED COST OF DELIVERY ..... **$400 MILLION–$600 MILLION***

PROBLEM	Outside of South East Queensland, Public Safety Agencies (PSAs) rely on outdated analog networks that are not secure and do not allow for cross-agency communication. They are unreliable and congested (i.e. nearing network capacity), and have limited or non-existent coverage in some areas. In addition, equipment is nearing end-of-life and needs replacing and upgrading.
PROPOSAL	The proposal will deliver a new digital public safety radio network for Queensland Fire and Emergency Services (QFES), Queensland Ambulance Services (QAS) and Queensland Police Services (QPS) along the eastern seaboard, and a refresh of the QAS and QFES networks in the rest of Queensland. This would result in significantly improved operations for the PSAs and see 96 per cent of the state's population covered by a consolidated digital network. The area outside of the eastern seaboard and South East Queensland would be complemented by a digitally refreshed QAS and QFES network, and by the existing QPS analog network. The proposal is expected to improve: » safety for PSAs and members of the public » incident management and response » security of PSA radio communications » efficiency in public safety services delivery » value for money.
NEXT STEPS	Complete Business Case.

*A range is provided by Responsible Agency as Business Case development is underway. An estimate will be provided once the Business Case is complete.

BURDEKIN FALLS DAM—SADDLE DAM & MONOLITH IMPROVEMENT PROJECT

RESPONSIBLE AGENCY ..... **SUNWATER**
BUILDING QUEENSLAND ROLE ..... **LEAD BUSINESS CASE**
PROPOSAL STAGE OF DEVELOPMENT ..... **PRELIMINARY EVALUATION COMPLETE**
PLANNED STAGE END DATE ..... **NOT APPLICABLE**
ESTIMATED COST OF DELIVERY ..... **$190 MILLION***

PROBLEM	Burdekin Falls Dam is located 210 kilometres south east of Townsville on the Burdekin River. The dam is owned and operated by SunWater and comprises a mass gravity main dam and three earth and rock-fill saddle dams. Since its construction in 1987, there have been changes to the dam safety standards and hydrological information. To reflect these changes, the dam needs improving to continue to meet current best practice standards.
PROPOSAL	SunWater proposes to undertake improvement works to the saddle dam and monoliths so the dam continues to meet current best practice standards. The works will address the saddle dam capacity and improve stability in the monoliths to improve performance in extreme weather, such as high rainfall. SunWater regularly conducts dam improvement projects in line with national industry guidelines to maintain safe and efficient dam operation.
NEXT STEPS	Commence Business Case.

*Nominal cost in Australian dollars 2015, estimate provided by Responsible Agency.

PARADISE DAM—PRIMARY SPILLWAY IMPROVEMENT PROJECT

RESPONSIBLE AGENCY	**SUNWATER**
BUILDING QUEENSLAND ROLE	**LEAD BUSINESS CASE**
PROPOSAL STAGE OF DEVELOPMENT	**PRELIMINARY EVALUATION COMPLETE**
PLANNED STAGE END DATE	**NOT APPLICABLE**
ESTIMATED COST OF DELIVERY	**$260 MILLION***

PROBLEM	Paradise Dam is located approximately 80 kilometres south west of Bundaberg on the Burnett River. It is a key component of the Bundaberg Water Supply Scheme—holding up to 300,000 megalitres of water for the city of Bundaberg and farmland irrigation. During the 2013 floods, extensive scour occurred downstream of the primary spillway. SunWater immediately repaired the scour and downstream toe and investigated options to prevent scour occurring in future extreme weather events. This investigation identified necessary improvements to the primary spillway. Improvement works are being proposed to maintain efficient and safe operation of the primary spillway during extreme weather events.
PROPOSAL	SunWater proposes improvements to the primary spillway to prevent significant scour occurring downstream of the toe of the dam in major flood events. Improvement works will address energy dissipation in the primary spillway and improve the primary spillway apron and dissipater. These works will ensure the dam continues to function as intended in line with best management practices for large dams. Works are not expected to impact landholders adjacent to the dam, irrigation customers or recreational users wanting to access boat ramps, picnic areas and other dam amenities.
NEXT STEPS	Commence Business Case.

*Nominal cost in Australian dollars 2015, estimate provided by Responsible Agency.

PARADISE DAM—SECONDARY SPILLWAY IMPROVEMENT PROJECT

RESPONSIBLE AGENCY	**SUNWATER**
BUILDING QUEENSLAND ROLE	**LEAD BUSINESS CASE**
PROPOSAL STAGE OF DEVELOPMENT	**PRELIMINARY EVALUATION COMPLETE**
PLANNED STAGE END DATE	**NOT APPLICABLE**
ESTIMATED COST OF DELIVERY	**$160 MILLION***

PROBLEM	Paradise Dam is located approximately 80 kilometres southwest of Bundaberg on the Burnett River. It is a key component of the Bundaberg Water Supply Scheme—holding up to 300,000 megalitres of water for the city of Bundaberg and farmland irrigation. During the 2013 floods, extensive scour occurred downstream of the primary spillway. SunWater immediately repaired the scour and downstream toe, and investigated options to prevent scour from occurring in future extreme weather events. This investigation identified necessary improvements to the secondary spillway. Improvement works are being proposed to maintain efficient and safe operation of the secondary spillway during extreme weather events. This project represents the highest priority for this storage beyond the works currently under construction.
PROPOSAL	SunWater proposes improvements to the secondary spillway to prevent significant scour in major flood events. Upgrades will include constructing a concrete apron and training wall in the secondary spillway, addressing the potential for scour. This will ensure the dam continues to function as intended in line with best management practices for large dams. SunWater regularly conducts dam improvement projects in line with national industry guidelines to maintain safe and efficient dam operation.
NEXT STEPS	Commence Business Case.

*Nominal cost in Australian dollars 2015, estimate provided by Responsible Agency.

PATIENT ADMINISTRATION PROGRAM

RESPONSIBLE AGENCY	**QUEENSLAND HEALTH**
BUILDING QUEENSLAND ROLE	**ASSIST WITH PRELIMINARY EVALUATION**
PROPOSAL STAGE OF DEVELOPMENT	**PRELIMINARY EVALUATION UNDERWAY**
PLANNED STAGE END DATE	**Q2 2017**
ESTIMATED COST OF DELIVERY	**TO BE DETERMINED***

PROBLEM	The Queensland healthcare system is evolving. Increased demand for services is being driven by the ageing population; increasing consumer expectations; growth in per capita use of health services; and the growing burden of chronic conditions. Increasingly, healthcare models are shifting focus from episodic and provider-centric service delivery to patient-centric and accountable health management. The current patient administration system in use in Queensland cannot support this evolving model of care and a modernised solution is under investigation.
PROPOSAL	The objective of the proposal is to deliver an efficient and cost effective system that supports patient-centric care. The proposal aims to: » provide more comprehensive, up-to-date and accurate information about the care a patient has received » work in a more integrated way with specialised scheduling systems, clinical information systems and clinical support systems » enable a patient to actively participate in, and control, their care » support new models of care and care delivery » improve efficiency of resource usage and support more accurate costing of activity and billing. The proposed Patient Administration Program will deliver modernised solutions for registering patients, billing, managing patient flow and tracking activity in all Queensland public hospitals.
NEXT STEPS	Complete Preliminary Evaluation.

*An estimate will be provided once the proposal has been developed further.

PORT OF GLADSTONE—CLINTON VESSEL INTERACTION

RESPONSIBLE AGENCY ..... **GLADSTONE PORTS CORPORATION**
BUILDING QUEENSLAND ROLE ..... **ASSIST WITH PRELIMINARY EVALUATION**
PROPOSAL STAGE OF DEVELOPMENT ..... **PRELIMINARY EVALUATION UNDERWAY**
PLANNED STAGE END DATE **Q3 2016**
ESTIMATED COST OF DELIVERY ..... **$50–$100 MILLION***

PROBLEM	The movement of larger vessels (draft over 14 metres) through the Clinton Channel at the Port of Gladstone is resulting in interaction of forces between the passing vessel and vessels berthed at the RG Tanna Coal Terminal. These forces impact on the safe mooring and operations at the terminal.
PROPOSAL	The objective of the proposal is to create a safe environment for vessels berthed at the RG Tanna Coal Terminal when larger vessels using the Clinton Channel pass by. Options being assessed are: » controlling transit speed and utilising tugs to control vessels berthed at time of transit » introducing a new mooring system » deepening of Clinton Bypass Channel » widening of Clinton Channel.
NEXT STEPS	Complete Preliminary Evaluation.

*A range is provided by Responsible Agency as a number of options are still being considered. An estimate will be provided once the Business Case is complete.

SUNSHINE MOTORWAY—MOOLOOLAH RIVER INTERCHANGE UPGRADE

RESPONSIBLE AGENCY	**DEPARTMENT OF TRANSPORT AND MAIN ROADS**
BUILDING QUEENSLAND ROLE	**LEAD BUSINESS CASE**
PROPOSAL STAGE OF DEVELOPMENT	**PRELIMINARY EVALUATION COMPLETE**
PLANNED STAGE END DATE	**NOT APPLICABLE**
ESTIMATED COST OF DELIVERY	**$430 MILLION***

PROBLEM	The existing Sunshine Motorway, Nicklin Way and Kawana Way transport infrastructure lacks capacity to accommodate forecast travel demand, resulting in significant congestion and potential increases in motor vehicle incidents.
PROPOSAL	The objectives of the proposal are to: » improve safety by reducing motor vehicle incidents and weaving at the Mooloolah River interchange » increase capacity on the Sunshine Motorway between the Kawana Way interchange and the new Mooloolah River interchange » better connect Sunshine Coast University Hospital, Maroochydore, Kawana and Caloundra via a new Mooloolah River Crossing. The proposal will deliver a range of roadworks in the area of the Mooloolah River interchange of the Sunshine Motorway, including: » expanded lane connections » river crossings » intersection upgrades.
NEXT STEPS	Complete Business Case.**

*Nominal cost in Australian dollars 2015, estimate provided by Responsible Agency.

**The Responsible Agency has advised that the completion of the Business Case is subject to Queensland Government consideration.

TOWNSVILLE EASTERN ACCESS RAIL CORRIDOR

RESPONSIBLE AGENCY ..... **DEPARTMENT OF TRANSPORT AND MAIN ROADS**
BUILDING QUEENSLAND ROLE ..... **LEAD BUSINESS CASE**
PROPOSAL STAGE OF DEVELOPMENT ..... **PRELIMINARY EVALUATION COMPLETE**
PLANNED STAGE END DATE ..... **NOT APPLICABLE**
ESTIMATED COST OF DELIVERY ..... **$500–$700 MILLION***

PROBLEM	Infrastructure constraints and inefficiencies limit the use of longer trains on the existing rail network to the Port of Townsville, impacting freight throughput.
PROPOSAL	The proposal is investigating the delivery of an 8 kilometre rail line from the North Coast Line, near Cluden, through the Townsville State Development Area to the Port of Townsville. It includes a double-track configuration, a bridge over the Ross River and road-over-rail infrastructure. The objectives of the proposal are to: » enhance regional development, and state and national economic prosperity by effectively moving increasing volumes of primarily export freight » eliminate supply chain constraints and bottlenecks affecting Australia's ability to expand its productive capacity » manage community amenity, safety, sustainability and congestion-related conflicts and impacts associated with future increases in rail freight moving through the Townsville urban area » protect freight corridors for current and future uses. The proposal seeks to facilitate the movement of up to 1,400-metre mineral freight trains to the Port of Townsville.
NEXT STEPS	Commence Business Case.

*A range is provided by Responsible Agency as a number of options are still being considered. An estimate will be provided once the Business Case is complete.

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