2019
Queensland Major Projects Pipeline

A JOINT INITIATIVE

QMCA

QUEENSLAND MAJOR CONTRACTORS ASSOCIATION

25 YEARS IAQ

AT A GLANCE

Major Projects Pipeline – Breakdown

$41.3 billion total (over 5 years)

Unlikely
37
projects valued at
$3.13bn

Prospective
39
projects valued at
$6.61bn

Credibly proposed
15
projects valued at
$4.03bn

Unfunded $13.77 billion

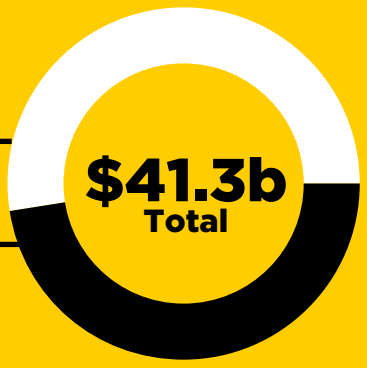
Total Pipeline Value

$41.3b

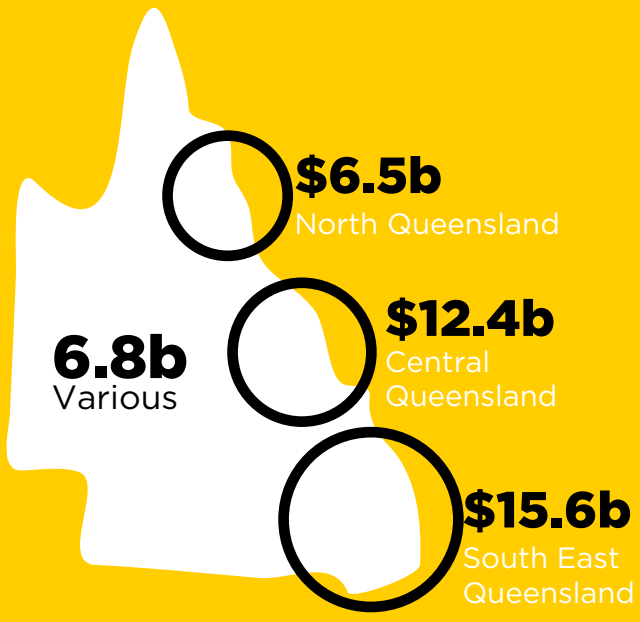
Funding split

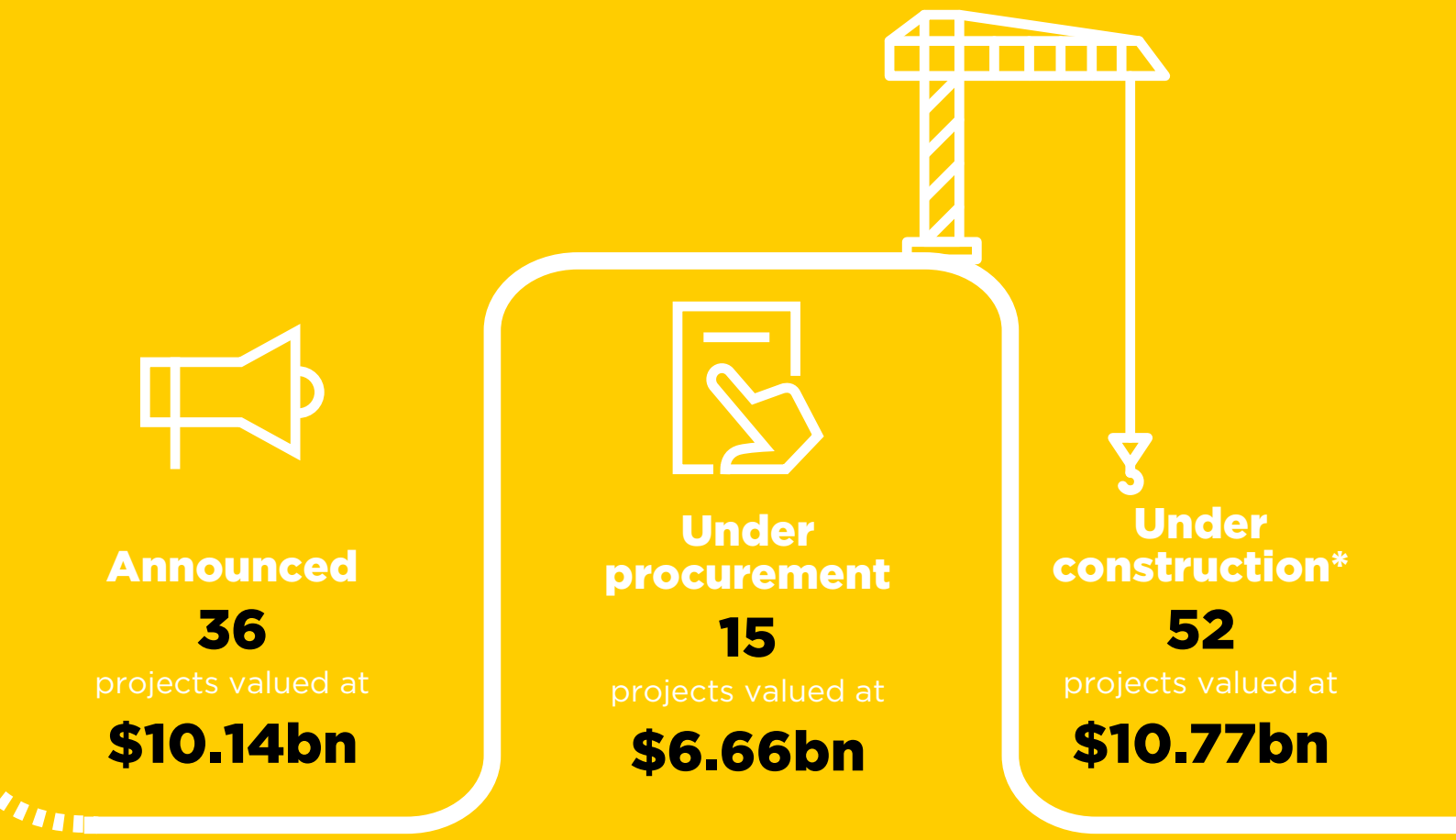
$23.4b
Public Projects

$17.9b
Private Projects



Major Project Activity





Announced
36
projects valued at
$10.14bn

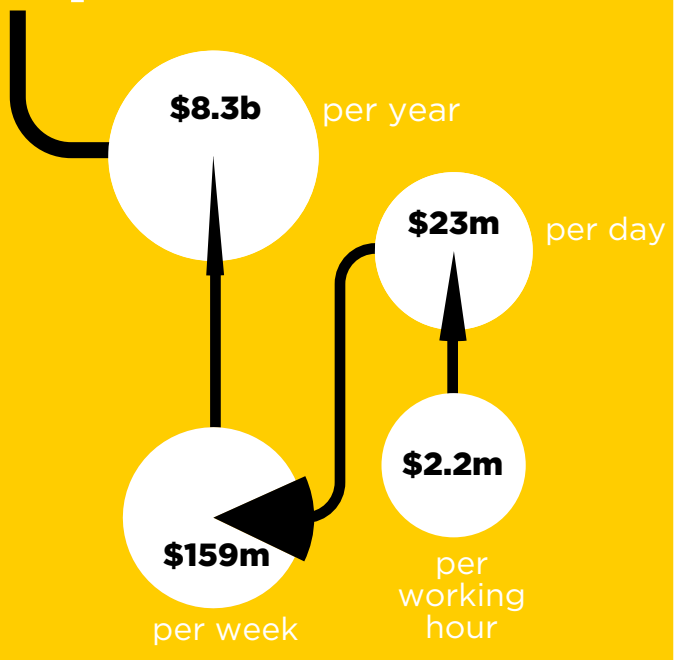
Under procurement
15
projects valued at
$6.66bn

Under construction*
52
projects valued at
$10.77bn

Funded $27.57 billion

*Under construction or completed in 2018/19

Scale of Recurring Expenditure



Major Projects Jobs

The funded pipeline will support
11,900 workers
each year on average

Fully-funding the pipeline will support an extra
5,000 workers
each year on average

A JOINT INITIATIVE

QMCA · QUEENSLAND MAJOR CONTRACTORS ASSOCIATION · 25 YEARS IAQ

CONTENTS

FOREWORD 1

SPONSORS 2

EXECUTIVE SUMMARY 4

THE PIPELINE 2019 14

REGIONAL BREAKDOWN 28

ECONOMIC DRIVERS 46

IMPLICATIONS FOR THE CONSTRUCTION SECTOR 60

CHALLENGES, RISKS AND OPPORTUNITIES 68

CONCLUSION AND RECOMMENDATIONS 90

2019 MAJOR PROJECTS LIST 98

FOREWORD

We are proud to introduce the 2019 Queensland Major Projects Pipeline Report to you - an initiative of the Queensland Major Contractors Association (QMCA) and the Infrastructure Association of Queensland (IAQ).

The Pipeline Report captures early stage information enabling our members and wider market to plan for their future including resourcing and capacity. For government and private sector infrastructure proponents, this ensures healthy and sustainable competition in the market and successful delivery of major infrastructure.

A unique aspect of the Pipeline is that the data is sourced directly from both government and the private sector, providing state wide visibility and awareness of Queensland's economic infrastructure plans. The report provides a pipeline of projects around a set of six standardised stages through the project lifecycle. As projects move through the defined stages, from inception to business case, investment decision, procurement and then construction, the report ensures the market is kept informed and up to date. Our report also sends a strong signal to potential infrastructure investors that a highly motivated engineering sector exists, with designers, contractors and service providers eminently capable of preparing for and delivering world class major engineering projects.

At time of print, communities in Northern Queensland are recovering from the devastating impacts of recent heavy rains and flooding. Given the scale and financial impact to governments, it is likely that a number of projects listed will be re-prioritised so that affected communities can receive the necessary funding to recover in the shortest time possible. As reconstruction planning unfolds, both our associations will provide their members with updates to any impacted projects and advise of newly created reconstruction packages.

The greatest threats to a sustainable pipeline of projects remain the identification of investable projects, availability of funds and timely investment decisions. This year's report also highlights an unusual concentration of activity emerging in very large major projects above $500m in value, that could also threaten the sustainability of parts of the supply chain. The ability of governments to package projects in a way that maximises local industry participation has assumed even greater importance to the continued short-term sustainability of the major projects sector.

As industry peak bodies we are committed to working hard for our members and to promoting Queensland as a world leading destination for economic development and new infrastructure investment. We look forward to working with all our stakeholders in 2019 to grow the pipeline of major projects in our great State.

Sincere thanks to our partner BIS Oxford Economics for their expert guidance, compilation of the project listings and the detailed independent analysis that underpins the report. We also acknowledge our outgoing partner Construction Skills Queensland for their past contributions to development of the report and for their sponsorship this year along with collaborative partners Accura Consulting, Cbus, Construction Skills Queensland, Dial Before You Dig, Pumps United, and regional partners Plangrid, BMD, Economx and ARTC.

Through the support of our sponsors, it has been possible to improve the report format to enhance the reading experience and provide access to key report data through a dedicated website **qldmpp.com.au**.

JON DAVIES
CHIEF EXECUTIVE OFFICER

QMCA QUEENSLAND MAJOR CONTRACTORS ASSOCIATION

STEVE ABSON
CHIEF EXECUTIVE OFFICER

25 IAQ YEARS

SPONSORS

QMCA and IAQ would like to thank our partners and supporters, without whom production of the 2019 Queensland Major Projects Pipeline Report would not be possible.

COLLABORATION PARTNERS

Accura Consulting

Accura Consulting Accura Consulting provides commercial management, claims consulting, planning support and expert witness services in both time and quantum disciplines.

CBUS

Cbus is the leading industry super fund for the construction, building and allied industries. The Fund is focused on maximising retirement outcomes for members and helping employers manage their business superannuation needs.

Construction Skills Queensland

CSQ assists major projects to access building and construction training to address skills deficiencies that may hold up the project, individuals to become more multi-skilled and productive, or provide career pathway opportunities for the workforce.

Dial before you Dig

Dial Before You Dig is a Not for Profit organisation that delivers a vital national community service designed to assist in preventing damage and disruption to Australia's vast infrastructure networks which provide essential services we use every day.

Pumps United

Pumps United are Australia's leading provider of dewatering, pump rental and environmental services, with over 45 years of experience, we are the dewatering contractors and pump hire suppliers of choice for landmark construction projects, nationwide.

AMRUN JETTY

REGIONAL SPONSORS

BMD

BMD has grown from a small family owned company to become one of Australia's largest privately-owned engineering design, construction and land development contractors.

EconomX

EconomX design and implement leading Local and Regional Content strategies for Major Projects and Contractors. We provide strategy, technology and innovative thinking which cover contracting, employment and stakeholder management.

Inland Rail

The Australian Government has committed $9.3 billion to deliver the once-in-a-generation 1,700km Melbourne to Brisbane Inland Rail. Divided into 13 individual projects, it's the largest freight rail infrastructure project in Australia.

Plangrid

PlanGrid is the leader in construction productivity software that allows contractors and owners in commercial, heavy civil and other industries to collaborate easily from their mobile devices and desktop, managing drawings, specs, photos, RFIs, field reports and defect lists.

EXECUTIVE SUMMARY

Welcome to the third Queensland Major Projects Pipeline Report (the Report) developed by the Queensland Major Contractors Association (QMCA) and the Infrastructure Association of Queensland (IAQ).

This annual Report has become the key barometer of current and future major project activity in Queensland.

It provides a comprehensive list of major project work together with the predicted level of construction activity based on both the completion of existing projects and the likelihood of potential projects proceeding. A complete list of major projects considered for this analysis, and the explicit assumptions for each project regarding work done, are provided at the end of this report. The report is therefore a useful source of data to inform infrastructure policy and guide the timing of investment decisions.

The Report this year contains mixed news. While last year's call for increasing the volume of funded work in the pipeline has been answered, there is still not enough funded work to avoid a decline in major project activity in 2019/20. And while the overall size of the pipeline is roughly the same as last year, much more of the pipeline is weighted towards the latter years of the forecast – and much of this remains unfunded.

Other familiar challenges remain: the appropriate identification of infrastructure initiatives, choosing the most productive projects, and coming up with funding and financing solutions will remain critical if growth in major project activity is to be sustained into the future. There are also challenges regarding industry capacity and capability to deliver major projects in Queensland, given substantial infrastructure investment programs underway in New South Wales and Victoria.

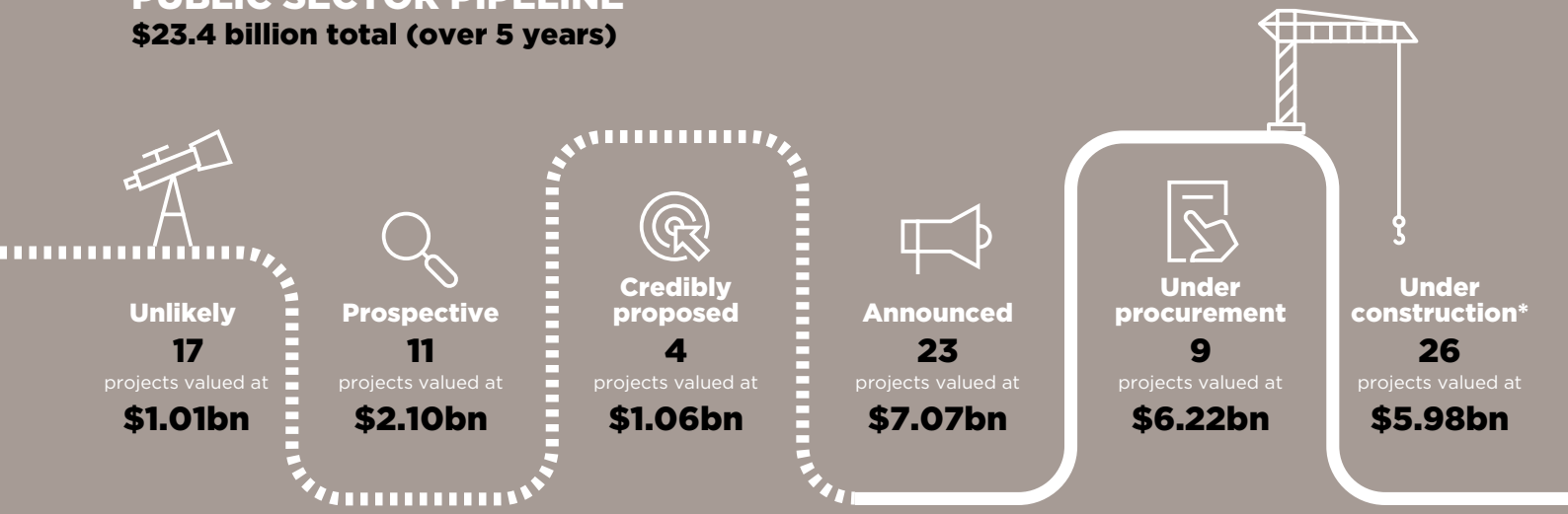
In this year's Report there is a focus on the regional implications of the pipeline. Eleven separate analyses are provided representing diverse regions of the state, with commentary on the outlook for each region. This regional analysis shows that there are significant winners and losers in terms of major project activity over the next five years, with some regions set for substantial volatility in work. Industry and government can use these regional profiles to better plan for the coming phase of major project work – and also use the analysis to see where any emerging latent industry capacity may be tapped.

The Report also provides data and forecasts for the broader economic environment in which major project activity is taking place: for Queensland, Australia and the global economy.

COMING UP WITH NEW FUNDING AND FINANCING SOLUTIONS WILL REMAIN CRITICAL IF GROWTH IN MAJOR PROJECT ACTIVITIES IS TO BE SUSTAINED INTO THE FUTURE

THERE IS GREATER CERTAINTY OF MAJOR PROJECTS BEING DELIVERED BY THE PUBLIC SECTOR, WHICH NOW ACCOUNTS FOR 70% (OR $19.3BN) OF FUNDED WORK

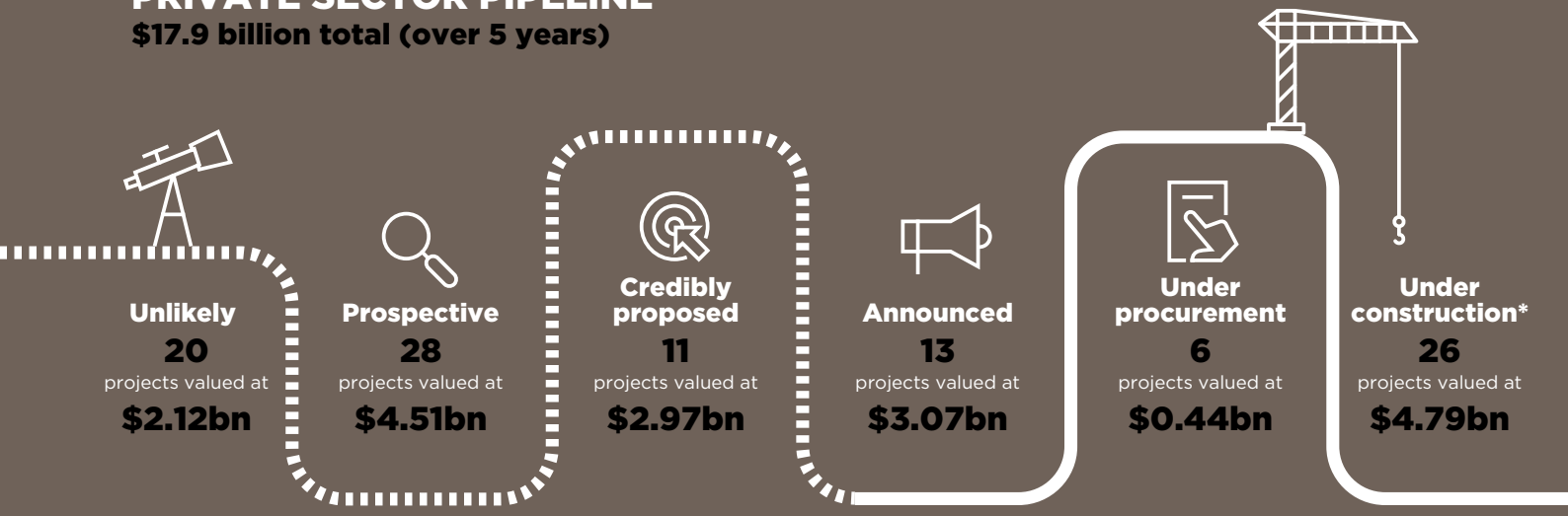
PUBLIC SECTOR PIPELINE
$23.4 billion total (over 5 years)



Unfunded $4.17 billion

Funded $19.27 billion

PRIVATE SECTOR PIPELINE
$17.9 billion total (over 5 years)



Unfunded $9.60 billion

Funded $8.30 billion

*Under construction or completed in 2018/19

KEY FINDINGS

In the 5 years between 2018/19 and 2022/23, the major projects pipeline is valued at $41.3bn. This compares with $39.9bn identified in the 2018 Report between 2017/18 to 2021/22. However, **there is a lower level of total work (funded and unfunded) in both 2019/20 and 2020/21 than previously forecast (see Figure A).**

The share of overall total pipeline value is weighted towards the public sector (57%) – with Inland Rail (Commonwealth funded) and Cross River Rail (State funded) notable contributors to Engineering activity in the Report period (see Figure B).

$27.6bn (67%) of the pipeline value is funded, whilst $13.8bn (33%) is unfunded. Unfunded projects represent between 39% to 44% of the pipeline value in 2020/21, 2021/22 and 2022/23, introducing a normal level of uncertainty associated with business case development and financial investment decisions.

There is greater certainty of major projects being delivered by the public sector, which now accounts for 70% (or $19.3bn) of funded work. Whilst there are notable private sector projects and sustaining capital programs in delivery, the prospects for major greenfield mine and rail infrastructure development in regional areas such as the Galilee Basin remains difficult to predict.

Funded work for 2018/19 is currently on par with total work in 2017/18 – just over $6bn – with any slight growth in activity dependent on several projects securing funding commitments and mobilising in the second half of this financial year.

A decline in major project work is expected in 2019/20, before recovering in 2020/21. Funded roads and bridges work in 2019/20 is 44% lower than 2018/19 as several very large projects reach completion and are not replaced by similar sized new projects. Declines are also expected in electricity (renewables), telecommunications and mining. 2021/22 is predicted to be the strongest year of major project activity since 2014/15 - with a 70% increase from the current 2018/19 financial year, subject to funding commitments.

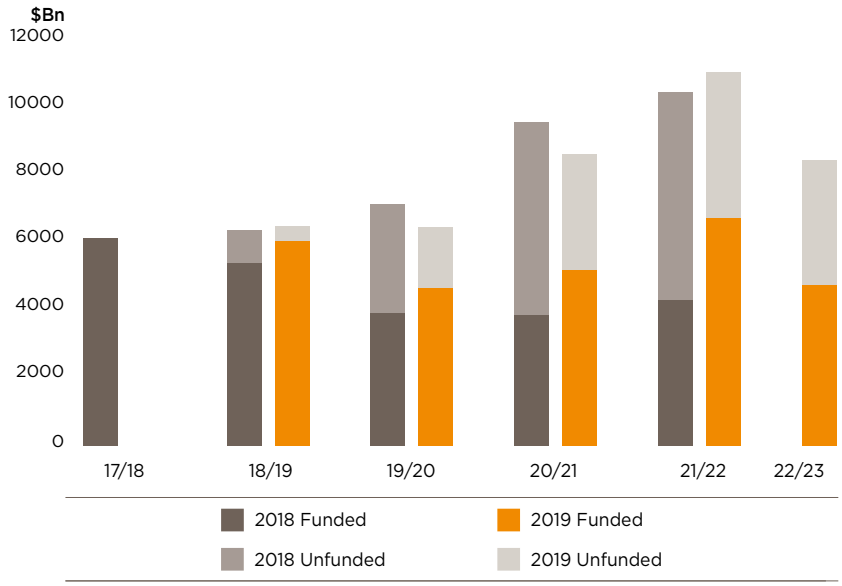
Growing mega-project concentration may have significant implications for industry competitiveness and sustainability. In 2018/19, 19% of project work is in projects valued at $5m to $200m, whilst another 22% is in projects valued at between $200m to $500m. However, **by 2021/22, 89% of major funded project work is in projects with a value of over $500m.**

Around half of all funded work in the pipeline is unsurprisingly focused in south east Queensland. Meanwhile, more of the riskier, unfunded projects lie in central, northern and western regions of the state, as these regions tend to be weighted to investment in mining and large water projects (such as dams) that are typically unfunded.

Queensland is now higher than the trough in 2014/15 but lags New South Wales and Victoria in terms of funding and delivering infrastructure. With investment in these States set to be sustained at very high levels, Queensland may face challenges in competitively procuring construction services for major projects.

According to BIS Oxford Economics, a higher level of major projects activity since 2016/17 has had a broader, stimulatory effect on the Queensland economy. However, any setback in major project work, alongside weaker growth in broader investment and consumer spending, is likely to contribute to a slowing in state economic growth in 2019/20.

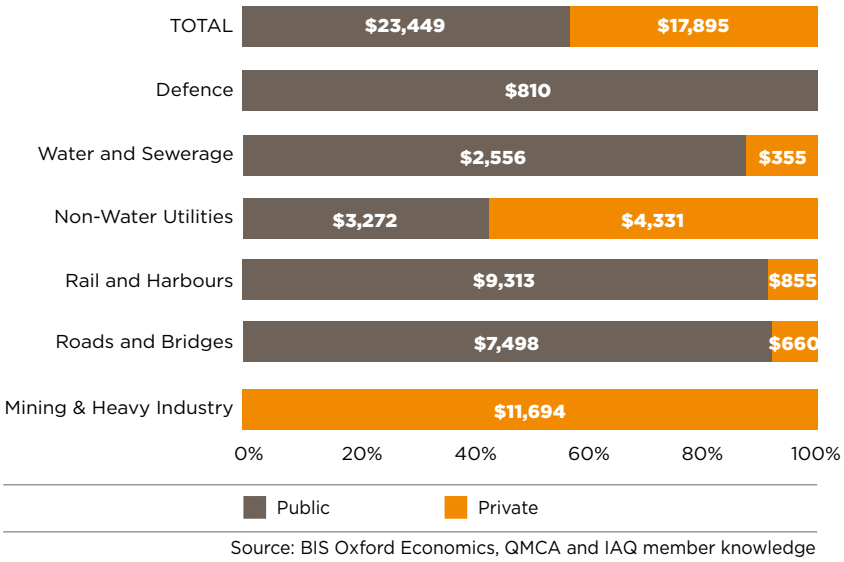
FIGURE A: COMPARISON OF MAJOR PROJECT ACTIVITY: 2019 VERSUS 2018



Source: BIS Oxford Economics, QMCA and IAQ member knowledge

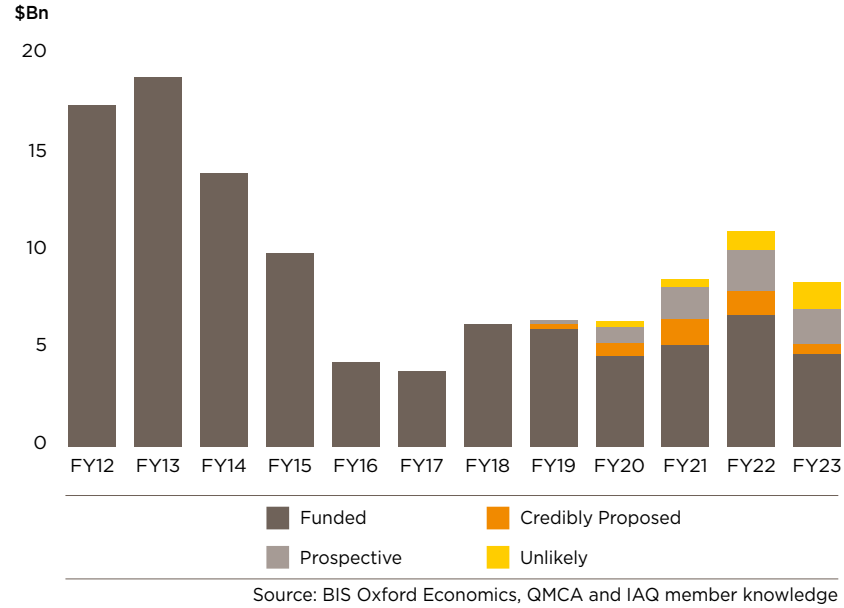
BY 2021/22, 89% OF MAJOR FUNDED PROJECT WORK IS IN PROJECTS WITH A VALUE OF OVER $500M

FIGURE B: FUNDING MIX BY ASSET CLASS, 2019-2023, $MILLIONS, ALL PROJECTS



Source: BIS Oxford Economics, QMCA and IAQ member knowledge

FIGURE C: MAJOR PROJECT OUTLOOK BY ALL SEGMENTS: 2018/19 TO 2022/23



Source: BIS Oxford Economics, QMCA and IAQ member knowledge

THERE IS CONSIDERABLE OPPORTUNITY FOR THE DEVELOPMENT OF WATER PROJECTS IN QUEENSLAND TO SUPPORT REGIONAL COMMUNITIES, AGRICULTURE AND INDUSTRY

TOOWOOMBA SECOND RANGE CROSSING

CHALLENGES AND RECOMMENDATIONS

The key finding of this Report is that in 2017/18 and 2018/19, major project activity has risen out of the trough experienced between 2015/16 and 2016/17 – helping to drive a turnaround in Queensland State Final Demand and employment. **But major project work is likely to suffer a setback of around $1.4bn in 2019/20 (23%), unless funding for new projects is secured.** For the setback not to occur in full, currently unfunded projects such as Nullinga Dam, the Paradise Dam Spillway Improvement, Pacific Motorway Section C and Gold Coast Light Rail Stage 3 require investment decisions and procurement.

Major project activity – mirroring the broader Queensland economy – has been through a large resources-driven cycle over the past decade.

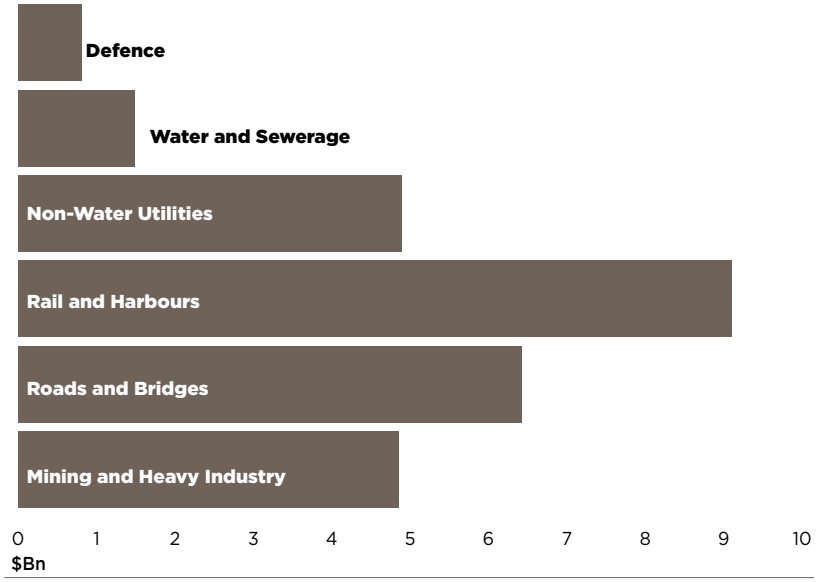
However, the last two years has seen a recovery in major project work, led by new investments in roads and telecommunications (predominantly funded by the public sector), and renewable energy generation and mining (mostly funded by the private sector).

Maintaining this momentum is the core challenge facing Queensland. Funded work in the pipeline for the four sectors of roads, telecommunications, electricity and mining – falls away by 45% in 2019/20, and continues to fall in aggregate through the subsequent 4 years. While other sectors offer replacement growth in funded work – particularly rail, but also water, sewerage and defence – this growth is not enough to offset the severity of the decline.

In this environment, sustaining or growing current levels of major project work into the future will require securing funding and finance for identified unfunded projects, and originating, developing and funding new projects that are currently not identified in the pipeline at all.

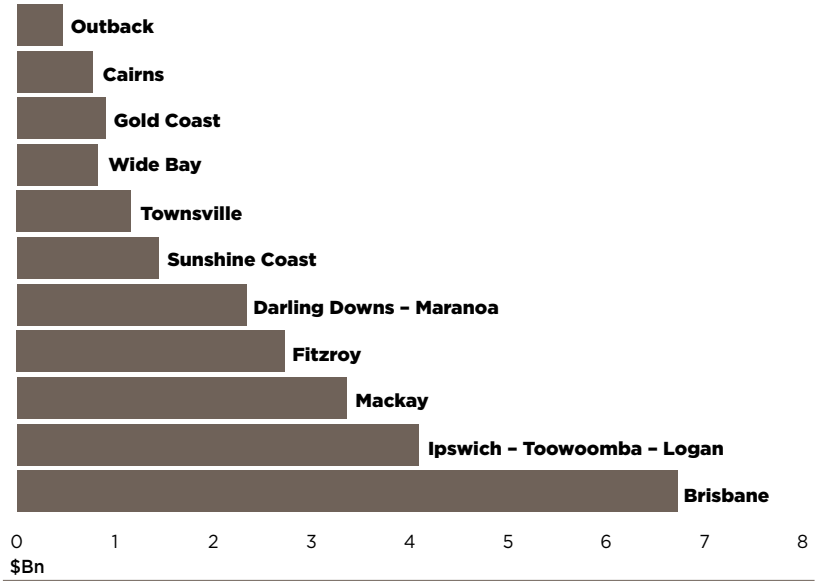
There is considerable opportunity for the development of water projects in Queensland to support regional communities, agriculture and industry. Meanwhile, there are many potential private sector funded renewable energy major projects which did not make the list this year, but could originate in future years. However, this will require stable environmental and energy policies at both the Commonwealth and State level.

FIGURE D: FUNDED MAJOR PROJECT OUTLOOK BY SECTOR: 2018/19 TO 2022/23



Source: BIS Oxford Economics, QMCA and IAQ member knowledge

FIGURE E: FUNDED MAJOR PROJECT OUTLOOK BY REGION: 2019/20 TO 2022/23



Source: BIS Oxford Economics, QMCA and IAQ member knowledge

KEY CHALLENGES IDENTIFIED IN THIS YEAR'S REPORT INCLUDE:

MAJOR PROJECT DECLINE IN 2019/20

The prospect of a 24% decline in major project activity over 2019/20. Overall, funded work in the pipeline falls from $6.1bn in 2018/19 to $4.6bn in 2019/20 before recovering slightly in 2020/21.

SKILLS SHORTAGES

Queensland still faces significant competition for construction skills from other states – particularly New South Wales and Victoria. The infrastructure investment program in other east coast states is unlikely to slow down significantly given projects already underway. To the contrary, there may be an upside to the Commonwealth Government's current Infrastructure Investment Program, to ward off the negative impact of the slowdown in residential building or guard against potential external shocks. This may drive even stronger demand for major project skills.

WHILE THE OVERALL SIZE OF THE PIPELINE IS ROUGHLY THE SAME AS LAST YEAR, MUCH MORE OF THE PIPELINE IS WEIGHTED TOWARDS THE LATTER YEARS OF THE FORECAST – AND MUCH OF THIS REMAINS UNFUNDED

REGIONAL PIPELINE VOLATILITY

There are vast differences in how major project activity will play out by region, by sector and by project size through the forecast period. For many regions and sectors, volatility in the pipeline is set to increase, placing pressure on construction industry contractors and suppliers. The Toowoomba region will transition between the Toowoomba Second Range Crossing (road) and Inland Rail (rail) projects. There is also a strong cycle of work ahead in the Brisbane region that will require careful management. Meanwhile, other regions in the north and the west of the state have very high shares of unfunded work in their pipelines, adding to uncertainty for contractors and industry suppliers.

IN MEETING THESE PIPELINE CHALLENGES, THIS REPORT MAKES THE FOLLOWING RECOMMENDATIONS:

1 INCREASE INDUSTRY COLLABORATION

Aim for a more collaborative approach between government and the construction industry, as is emerging in New South Wales and Victoria. Looming capacity and capability challenges will likely require a greater partnership approach that maximises the legacy of the infrastructure program. Rather than being incentivised to secure the lowest priced work on each and every project, procurement will increasingly need to encourage industry investment in capacity and capability, reward innovation (and hence productivity), and foster the development of critical skills needed to deliver major projects.

2 INCREASE NUMBER OF SHOVEL READY PROJECTS

Governments should consider raising the number of "shovel ready" projects in the pipeline through early identification of infrastructure network challenges and commit to earlier evaluation of solutions and business cases. Similarly, future infrastructure requirements should be informed by a comprehensive review of the quality of the existing infrastructure stock and the development of frequently updated customer metrics that can best indicate where gaps may exist. Increasing the depth of the pipeline would improve its flexibility to help smooth cycles in major project activity – that is, allowing projects to be accelerated within the pipeline to take advantage of any emerging local industry capacity, such as seems likely to occur in 2019/20.

3 SECURE COMMONWEALTH CONTRIBUTION TO RAIL PROJECTS

Resolve Commonwealth funding contributions to passenger rail projects – the State Government's ability to fund infrastructure growth beyond its current budget commitments is challenging. This is likely to hamper its ability to meet contributions required by the Commonwealth per national partnership agreements covering transport and road projects. Securing Commonwealth contributions towards the $5.4bn Cross River Rail project and further contributions to the Beerburrum to Nambour Rail project would liberate funds from the forward estimates to reinvest into other priorities.

IN THE 5 YEARS BETWEEN 2018/19 AND 2022/23, THE MAJOR PROJECTS PIPELINE IS VALUED AT $41.3BN

4 DEVELOP A FUNDING PLAN

Consider asset recycling. Other states, including New South Wales and Victoria, have already established long term plans for infrastructure development, and have made the hard decisions regarding funding and finance. With its traditionally stronger population and economic growth, Queensland needs to develop a strategic plan for funding and financing infrastructure. As noted in previous Major Project Pipeline Reports, Queensland could leverage substantial infrastructure finance through asset recycling strategies.

5 FINALISE A SEQ CITY DEAL

City deals provide a new approach for all levels of government to work together to plan and deliver transformative outcomes for Queensland cities and are a key mechanism of the Commonwealth Government's *Smart Cities Plan* (2016). The Townsville City Deal struck in December 2016 was the first in Australia and an important start. A South East Queensland (SEQ) Regional City Deal has the potential to be the foremost City Deal in the nation involving ten separate Councils. This 'new generation' City Deal could provide a structured, coordinated plan for infrastructure development in south east Queensland supported by all tiers of government.

6 CAPITAL EXPENDITURE

The State Government should maintain the current focus on ensuring committed funds for infrastructure delivery are spent as planned. The gap between committed and actual spending on public investment has narrowed, from a peak of $1.7bn in 2014/15 to $333m in 2017/18. This positive trend should be maintained.

7 IMPROVED NEEDS ANALYSIS

Better identification of infrastructure gaps. Broad economic measures and rules of thumb such as investment/GSP ratios are not ideal determinants of the existence of infrastructure gaps but can show the cyclicality and trend movements in investment over time. The lack of established benchmarks or satisfactory methods of infrastructure gap identification is problematic and perhaps should be addressed in future infrastructure Audits by Infrastructure Australia, as well as future Queensland State Infrastructure Plans.

8 REVIEW PACKAGING STRATEGIES

Provide a diverse range of projects by size. This Report highlights that a very high proportion of funded work in 2021/22 and 2022/23 is concentrated in projects valued over $500m. A sustainable and competitive construction industry requires diverse participation in project tenders and construction work. With this in mind, the State Government should look to review their packaging strategies to support greater participation from the sector.

70%

2021/22 IS PREDICTED TO BE THE STRONGEST YEAR OF MAJOR PROJECT ACTIVITY SINCE 2014/15 – WITH A 70% INCREASE FROM THE CURRENT 2018/19 FINANCIAL YEAR, SUBJECT TO FUNDING COMMITMENTS

ACCURA CONSULTING

Accura Consulting is proud to provide exceptional consultancy services to global leaders in the construction, infrastructure, mining and process industries.

Our team at Accura Consulting understand the pressures and obstacles that come with delivering successful projects. We believe the key to successful project outcomes is excellent commercial management, diligent contract administration and robust project planning.

We stand alongside our clients to obtain the best possible outcome. We have been pivotal in the preparation, defence and settlement of claims and disputes on some of the region's largest construction and engineering projects.

Our experienced, hands-on consultants handle complex projects across the globe, both short and long term, at every stage of the project life cycle. Our approach is to always hit the ground running and work collaboratively with multi-disciplined teams.

Accura Consulting can act as your advocate or an independent expert witness in both quantum and time disciplines to provide testimony in litigation, arbitration and mediation proceedings.

We are Australia's only corporate member and only a handful in the world to be inducted into the Chartered Institute of Arbitrators and our consultants are trusted members of the Australian Institute of Quantity Surveyors, the Resolution Institute Australia and the Royal Institute of Chartered Surveyors.

With offices in every major Australian capital city, Dubai and Kuala Lumpur, Accura Consulting provides global experience with local knowledge.

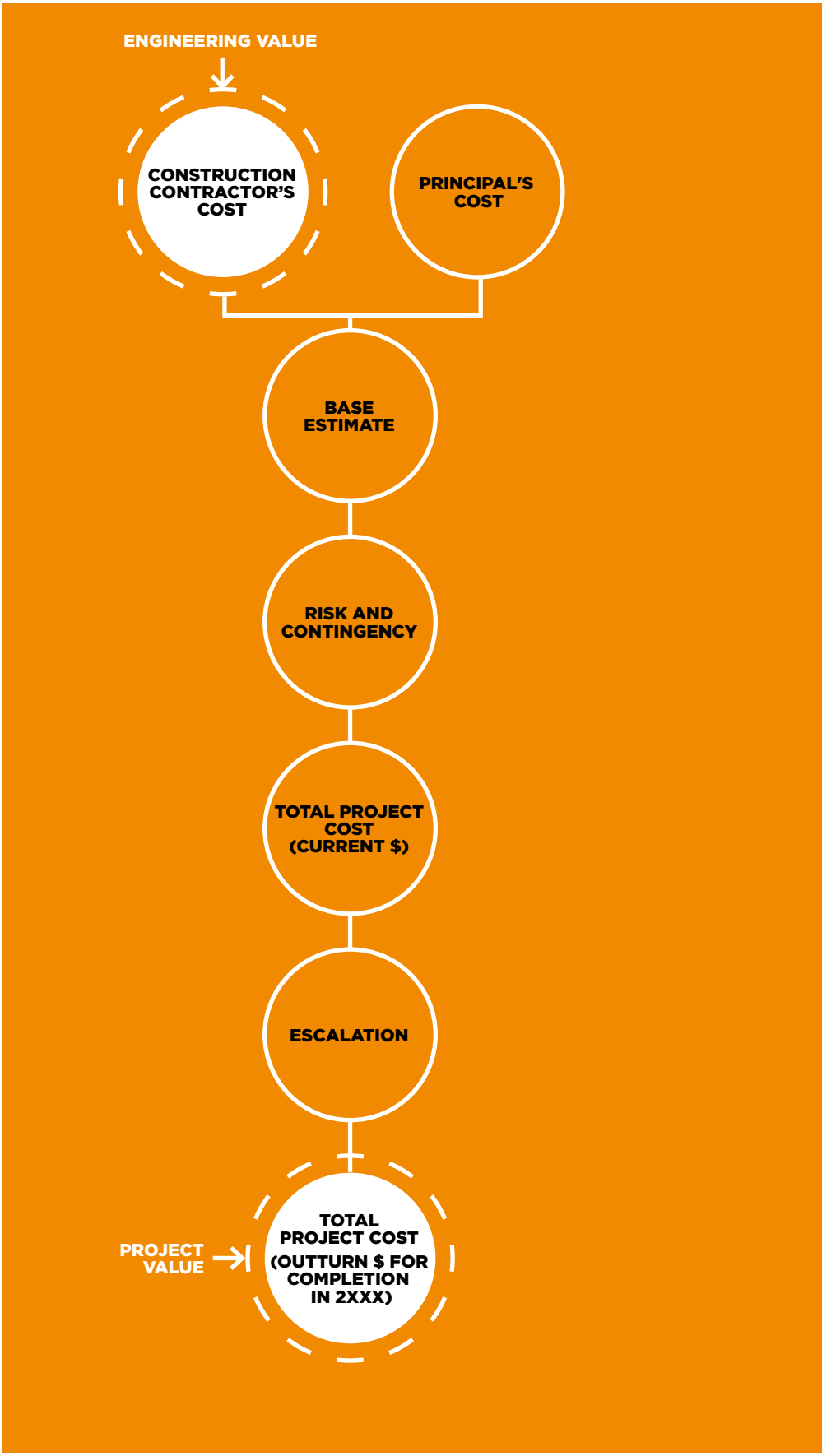
FOR MORE INFORMAITON

07 3058 0030
Level 18, 175 Eagle Street Brisbane QLD 4000
accuraconsulting.com

accura CONSULTING

THE PIPELINE 2019

The 2019 Major Projects List is presented on page 98 of this Report. The Major Projects List includes engineering projects in excess of $50m and was developed by BIS Oxford Economics in coordination with QMCA and IAQ member input throughout November 2018 to January 2019.



OVER 90% OF THE RAIL WORK IN THE PIPELINE IS FUNDED

MAJOR PROJECTS OUTLOOK

Figures 1 and 2 (overleaf) highlight the current activity and projections for major project work for the period 2018/19 to 2022/23 based on the 2019 Major Projects List, as well as historical data to 2011/12.

KEY ANALYSIS

- **Total Major Project activity in the current financial year is expected to reach $6.6bn**, a slight improvement on the forecast in the 2018 MPP Report. Only $474m of this figure is unfunded.
- **A setback to major project activity is now expected in 2019/20**, with total activity falling to $6.5bn from that forecast last year and funded work sliding to $4.7bn. The completion of several very large road projects is expected to coincide with the completion of a host of renewable energy projects and a deceleration in NBN activity – with not enough new projects coming through to sustain activity at current levels.
- **Rail continues to offer the strongest outlook for growth in major project activity.** From just $150m in 2018/19, major project work in rail is expected to balloon to just over $4bn by 2021/22, led by simultaneous work on Cross River Rail, Inland Rail and the European Train Control System, amongst other projects. Over 90% of rail work in the pipeline is funded. Capacity and capability risks for rail remain, however, given the massive wave of rail investment underway nationally.
- **Some sectors simply do not have enough projects in the pipeline** – whether funded or unfunded – to sustain major project work through the next five years. Funded roads major project activity is expected to decline 44% over 2019/20 and fall further in the early 2020s. Non-water utilities activity, comprising mostly electricity and telecommunications work, is also forecast to decline substantially over the same period.
- **The pick up in work from 2020/21 is founded on a relatively small number of large value projects** in south east Queensland such as Brisbane Metro, Cross River Rail and Inland Rail with a sharp drop off in number of projects in the $100-500m range.
- **The value of water and sewerage, and mining and heavy industry major project work in the pipeline rises over time, but much of the increase remains unfunded,** with many projects listed as unlikely to proceed. Water and sewerage major project work in the pipeline rises from $189m in 2018/19 to just under $1bn by 2021/22, with mining and heavy industry activity rising from $1.3bn in 2018/19 to $3.1bn by 2021/22. However, at the 2021/22 peak, 60% of water and sewerage projects (principally dams) and 71% of mining and heavy industry projects remain unfunded. Indeed, outside of rail, more than 50% of the pipeline is unfunded from 2021/22. Consequently, there is considerable risk to sustainable growth in major project work.

WORK UNDERTAKEN IN THE CURRENT FINANCIAL YEAR IS EXPECTED TO REACH $6.6BN, A SLIGHT IMPROVEMENT ON THE FORECAST IN THE 2018 MPP REPORT. ONLY $474M OF THIS FIGURE IS UNFUNDED

TOWNSVILLE RING ROAD

FUNDED VERSUS UNFUNDED PROJECTS

Altogether there is $41.3bn in major project work in the pipeline between 2018/19 and 2022/23 inclusive. Including $756m in now completed projects, the total funded pipeline is $27.6bn. Unfunded projects in the pipeline amount to $13.8bn.

"Funded" project categories include:

Announced: projects which have funding support but have not yet entered the procurement stage (as at January 2019). There are $10.1bn in announced projects in the pipeline.

Under Procurement: projects in a procurement stage but have not yet started construction (as at January 2019). There are $6.7bn in projects under procurement in the pipeline.

Under Construction: projects in flight / under construction. There are $10bn in projects currently under construction in the pipeline.

"Unfunded" project categories include:

Unlikely: projects considered not to occur in the next five years, even if announced. There are $3.1bn in unlikely projects in the pipeline.

Prospective: projects considered likely to occur over next five years but not yet formally proposed. There are $6.6bn in prospective projects in the pipeline.

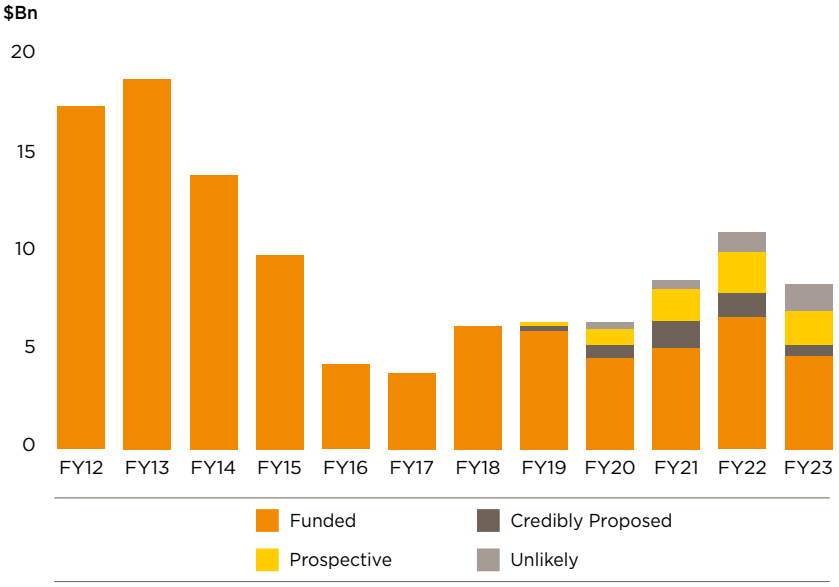
Credibly Proposed: projects that are supported by government and/or the private sector but still in prefeasibility/business case mode and so do not have funding committed. There are $4.0bn in credibly proposed projects in the pipeline.

Figure 1 (over the page) illustrates the outlook for major project activity based on the subcategories of funded and unfunded work.

KEY FEATURES

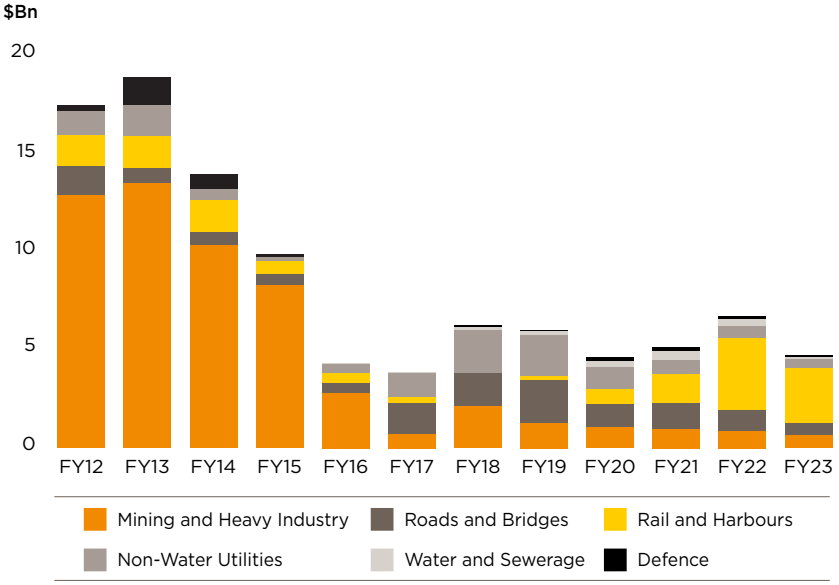
- **Total major project activity is now expected to rise slightly to $6.6bn in the current financial year, surpassing the $6.5bn forecast in the 2018 MPPR.** Only $474m of this remains unfunded.
- **Total major project work (funded and unfunded) is expected to decline in 2019/20, however, to $6.5bn.** This decline is being driven by the completion of many large roads and non-water utilities projects (particularly electricity and telecommunications) which is being only partially offset by rising rail, water, defence and mining major project activity. Total activity forecast for 2019/20 is now approximately $0.7bn less than forecast in the 2018 MPPR – and $1.8bn still remains unfunded compared to the nearly $3bn in unfunded work for 2019/20 previously reported.
- **Both funded and unfunded major project activity is forecast to rise over 2020/21 and 2021/22.** Funded activity in the pipeline rises to $5.2bn and $6.8bn respectively, while the inclusion of unfunded projects sees the value of the pipeline rise to $8.7bn in 2020/21 and then surge above $11bn in 2021/22. Mining – and particularly the announced smaller Galilee Basin coal development from Adani (now included as 'funded') – is a key driver of the upswing, as well as very large rail projects (Cross River Rail and Inland Rail) which are timed to ramp up in this period.

FIGURE 1: MAJOR PROJECT WORK DONE: ALL SEGMENTS



Source: BIS Oxford Economics, QMCA and IAQ member knowledge

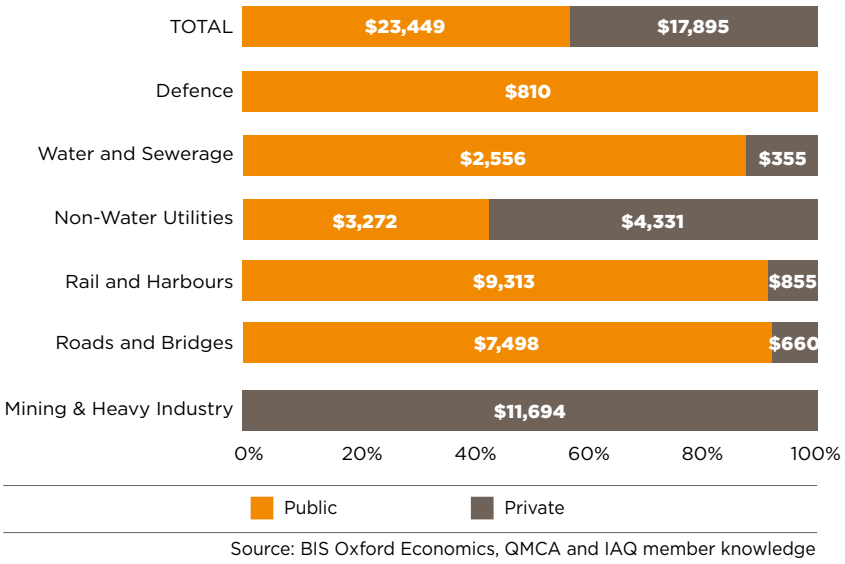
FIGURE 2: FUNDED MAJOR PROJECT WORK BY SECTOR



Source: BIS Oxford Economics, QMCA and IAQ member knowledge

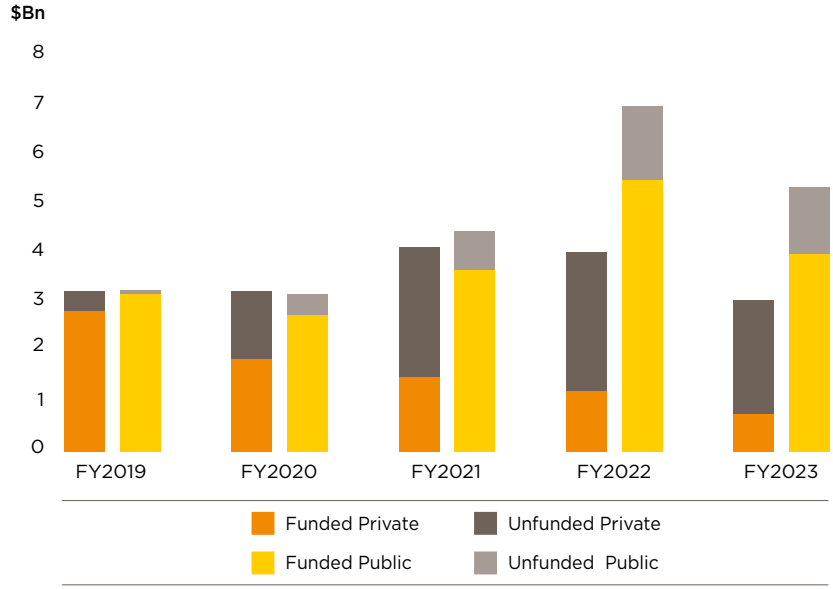
- **Total major project work falls in 2022/23 to $8.5bn, of which a hefty proportion ($3.7bn) remains unfunded, mostly concentrated in mining and roads.** Railways remains the most significant sector for major project work in the year, but funded work declines. The completion of large roads and water projects – without visibility on new projects – is a key driver of the decline in measured major project work in 2022/23.
- **With the exception of 2019/20, total major project activity is expected to move above 2018/19 levels which are themselves an improvement on recent years.** However, the outlook for funded work (incorporating those projects Announced, Under Procurement or Under Construction) is much different, moving below 2018/19 levels in both 2019/20 and 2020/21 and only emerging above 2018/19 levels in 2021/22.

FIGURE 3: PIPELINE FUNDING MIX BY SECTOR AND YEAR



Source: BIS Oxford Economics, QMCA and IAQ member knowledge

FIGURE 4: COMBINED PIPELINE FUNDING MIX



Source: BIS Oxford Economics, QMCA and IAQ member knowledge

- **The funded forecast view is similar to that of a "worst case scenario" outlook, should international developments or public sector finances deteriorate significantly further, or the combination of threats to the Queensland construction industry remain unaddressed.** Maintaining a growing pipeline of major project work requires shifting currently unfunded projects into the funded category, as well as growing the value of the pipeline overall. While the most likely scenario for major project work excludes "unlikely" projects, these are included to show their potential impact on major project work, particularly later in the forecast.

THE DIVERGENCE BETWEEN FUNDED AND UNFUNDED WORK PROFILES MEANS THAT THERE IS STILL SIGNIFICANT UNCERTAINTY IN THE ULTIMATE DIRECTION OF MAJOR PROJECT ACTIVITY IN QUEENSLAND

BOUNDARY ROAD

ROADS AND BRIDGES

After rising to a peak of $2.2bn in 2018/19, major project work for roads and bridges is projected to fall back to lower levels through the forecast period, generally cycling between $1.2bn to $1.5bn in activity per annum. While more major roads projects are expected to commence in coming years, these are generally smaller in size than projects currently underway that will be completed.

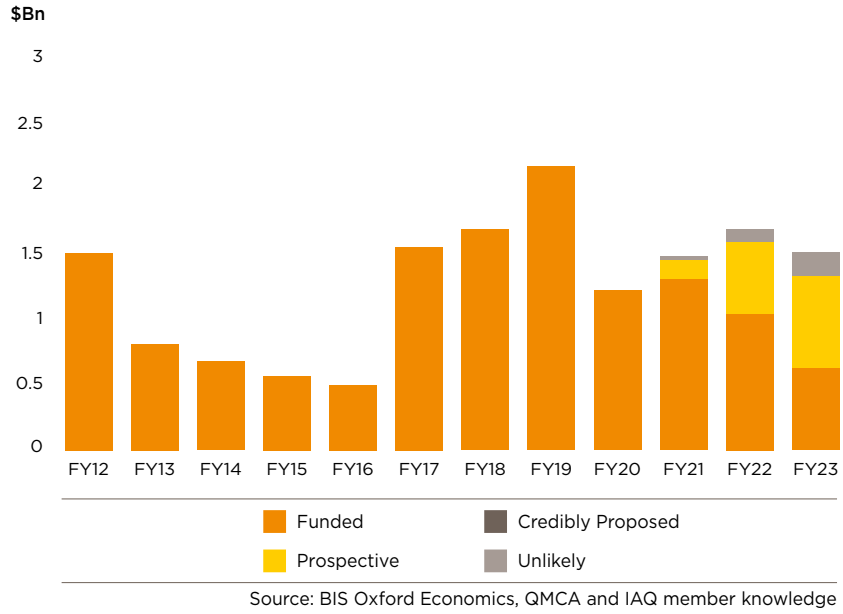
Major projects which have contributed to the stronger levels of activity in 2018/19 but will wind down and move to completion from here include (noting their construction value):

- Toowoomba Second Range Crossing, $1.25bn, completion in 2018/19
- Gateway Upgrade North, $850m, completion in 2018/19
- Logan Motorway Enhancement Project, $420m, completion in 2018/19
- Kingsford Smith Drive Upgrade, $440m, completion in 2019/20
- Brisbane Airport New Parallel Runway, $380m, completion in 2019/20
- Sunshine Coast Airport New East-West Runway, $240m, completion in 2019/20
- Ipswich Motorway: Rocklea to Darra Stage 1, $200m, completion in 2019/20
- Pacific Motorway; Miles Platting Road to Rochedale Road (Gateway Merge), $160m, completion in 2019/20.

While simultaneous works on these large projects have contributed to a significant upswing in roads activity in Queensland, their completion – without replacement by equivalent sized projects – is expected to drive weaker major project activity in this sector. It should be noted that this is not a new outlook for the roads sector in Queensland – MPPR reports in 2018 and 2017 also highlighted the decline in major roads investment inherent in the pipeline from 2019/20.

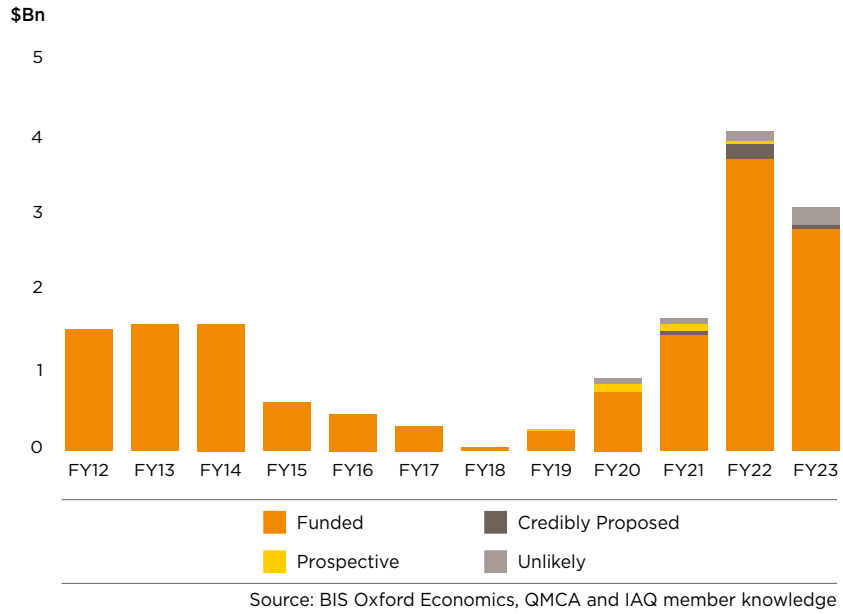
Funded roads activity is expected to cycle between $1.0bn-$1.3bn between 2019/20 and 2021/22. Major projects sustaining activity at these lower levels include the Brisbane Metro ($550m), Pacific Motorway: Eight Miles Plains to Daisy Hill ($374m) and Varsity Lakes to Tugun ($500m) and a range of projects along the Bruce Highway. However, there is also an increasing profile of unfunded work in the pipeline, with unfunded work exceeding funded work by 2022/23.

FIGURE 5: ROADS AND BRIDGES MAJOR PROJECT WORK DONE BY FUNDING STATUS (INCLUDES BRISBANE METRO)



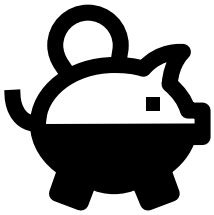
Source: BIS Oxford Economics, QMCA and IAQ member knowledge

FIGURE 6: RAILWAYS AND HARBOURS MAJOR PROJECT WORK DONE BY FUNDING STATUS



Source: BIS Oxford Economics, QMCA and IAQ member knowledge

OUTSIDE OF RAIL, MORE THAN 50% OF THE PIPELINE IS UNFUNDED FROM 2021/22



RAILWAYS AND HARBOURS

Major project work across the railways and harbours segments in Queensland moved to a higher plane in the early 2010s, peaking at over $1.6bn in 2013/14, before falling to just $320m in 2016/17 with the completion of the Moreton Bay Rail Link. While harbours major project construction work has been driven predominantly by the demands of the resources sector, across railways there are also significant contributions from the public sector for passenger and freight projects.

Rail and harbours major project activity is anticipated to remain relatively weak in 2018/19 ($285m), but is expected to ramp up very strongly from here and grow more than 10-fold over the next four years, with funded activity estimated to peak at $3.75bn in 2021/22. This profile is similar to that reported in the 2018 MPPR, although with some differences:

- 2018/19 activity is higher than previously reported due to the inclusion of the European Train Control System Level 2 (worth $589m over 5 years).

- 2020/21 activity is lower than previously reported, mainly due to a lower value and scope ascribed to Adani's smaller Galilee Basin rail project, with the bulk of work ascribed to that year. Due to Adani's announcement in late 2018 that they would fund a smaller Carmichael Coal mine and rail development internally, this project has been shifted to 'announced' in this report.

Overall, the rail sector has the strongest outlook for any engineering construction segment in the pipeline, with very strong growth in activity supported by several key funded projects including:

Cross River Rail, various packages with a construction value of $4.1bn, with early works underway now and work on the Tunnel Stations and Development (TSD) package and the Rail Integration and Systems Package (RIS) to get underway late 2019/20.

Inland Rail includes three major sections valued at $4.45bn in construction work. The largest of these sections – Gowrie to Kagaru – includes complex tunnelling through the Toowoomba Ranges and is anticipated to take place between 2020/21 and 2023/24, with earlier works in 2019/20.

North Galilee Basin Rail, with an assumed construction value of $750m, for Adani's announced Carmichael Coal project, with activity to take place between 2019/20 and 2022/23. While now listed as a funded project, it is noted that Adani's Galilee coal project is still subject to risk and requires satisfaction of several outstanding regulatory hurdles before it can commence.

Beerburrum to Nambour Rail Upgrade, with a construction estimate of $500m, to be undertaken between 2020/21 and 2023/24.

In the long term, another $4bn will likely be needed to upgrade the rail line from Acacia Ridge and the Port of Brisbane itself. However, the timing of construction is likely to fall outside the scope of this report (after 2022/23) with substantial planning required given the urban nature of this project.

The staggered timing of these funded projects combines to produce a strong upswing in funded work over the next four years, with several unfunded projects – notably Sunshine Coast Light Rail and Gold Coast Light Rail Stage 3 – adding potential upside.

The main risk to the rail projects is the strong competition for key rail construction skills nationally given very large investment programs already underway in New South Wales, Victoria, South Australia and Western Australia. According to the Australasian Railways Association's (ARA) Skills Capability Study released in November 2018, approximately 70,000 rail construction and manufacturing jobs will be demanded above existing supply to support national rail infrastructure delivery by 2022/23.[1]

In contrast to rail, harbours major project work is relatively small, and focused exclusively on the 2018/19 to 2020/21 period, with no major harbours projects appearing in subsequent years. With the completion of port facilities for the Amrun bauxite development, work in this segment will be supported by the:

- Brisbane International Cruise Terminal ($130m)
- Townsville Port Expansion Project: Channel Capacity Upgrade ($150m) and the
- RG Tanner Coal Terminal upgrade as part of the Port of Gladstone ($200m).

Other harbour works which could underpin activity are the Port of Gladstone - Second Shipping Lane (Gatcombe and Golding Cutting Channel Duplication Project) and the Port of Townsville - Outer Harbour Expansion (Berths 14+15), although both of these projects remain unfunded.

1 https://ara.net.au/content/rail-sector-skills-crisis-call-action

WATER AND SEWERAGE

Water and sewerage major project work spiked in 2012/13, largely underpinned by new water treatment facilities and pipeline construction projects supporting upstream CSG field development in the Surat Basin. However, as these projects moved to completion, work done weakened substantially, falling under $50m in 2015/16.

Activity has risen in subsequent years, however, with the total value of major project work forecast to be $189m in 2018/19. The outlook for water and sewerage work is highly positive, with funded activity in the pipeline rising almost four-fold to $507m by 2020/21 before easing back in subsequent years. Total major project work done in the pipeline averages just under $600m per annum over the five years to 2022/23, although this figure is boosted by several currently unfunded dam projects including:

- Somerset Dam Upgrade, construction estimate $450m, credibly proposed
- Nullinga Dam, construction estimate $180m, credibly proposed
- Wyaralong Dam Water Treatment Plant Stage 1, construction estimate $150m, prospective
- Urannah Dam, construction estimate $200m, unlikely.

In August 2018, the *CSIRO Northern Australia Water Resource Assessment*[2] mapped three river systems across northern Australia which could potentially be used for irrigated agriculture development. This included the Mitchell river system in far north Queensland, which could drive the development of up to four dams – Pinnacles, Rockwood, Nullinga and near Chillagoe – and which would see an extra 140,000 hectares of year-round crop irrigated. While there is still significant further assessment and investigative work required on specific dam projects before they can be added to pipeline, the harnessing of northern river systems may yet provide longer term opportunities and benefits to the Queensland economy.

The pipeline identifies $670m in funded water major project work between 2019/20 and 2021/22, a substantial increase on the $50m estimated for 2018/19. Driving much of this are projects in central, northern and outback regions of the state to either provide water security or agricultural opportunities:

- Haughton Pipeline Duplication, construction estimate $150m, under construction
- Lower Fitzroy Infrastructure Project, $195m, commencing 2019/20
- Burdekin Falls Dam - Saddle Dam and Monolith Improvement, $210m, commencing 2020/21
- Three Rivers Irrigation Project, $120m, commencing 2020/21
- Beaudesert Water Supply Upgrade Pipeline, $100m, commencing 2020/21
- Lake McDonald Dam Upgrade, $80m, commencing 2019/20.

As with water, major project sewerage works are also increasing in coming years, with funded work rising from an estimated $89m in 2018/19 to a peak of $232m in 2020/21. The major drivers of this are the Gold Coast Council Long Term Water Recycled Water Release (Stages 1 and 2), with a combined construction value of $248m, as well as the Northern (Inner Brisbane) and Southern (Ipswich) Waste Water Treatment Plant works, worth a combined $313m.

THE HARNESSING OF NORTHERN RIVER SYSTEMS MAY YET PROVIDE LONGER TERM OPPORTUNITIES AND BENEFITS TO THE QUEENSLAND ECONOMY

2 https://www.csiro.au/en/Research/Major-initiatives/Northern-Australia/Current-work/NAWRA
3 https://arena.gov.au/about/how-we-are-funded/

ELECTRICITY, PIPELINES AND TELECOMS

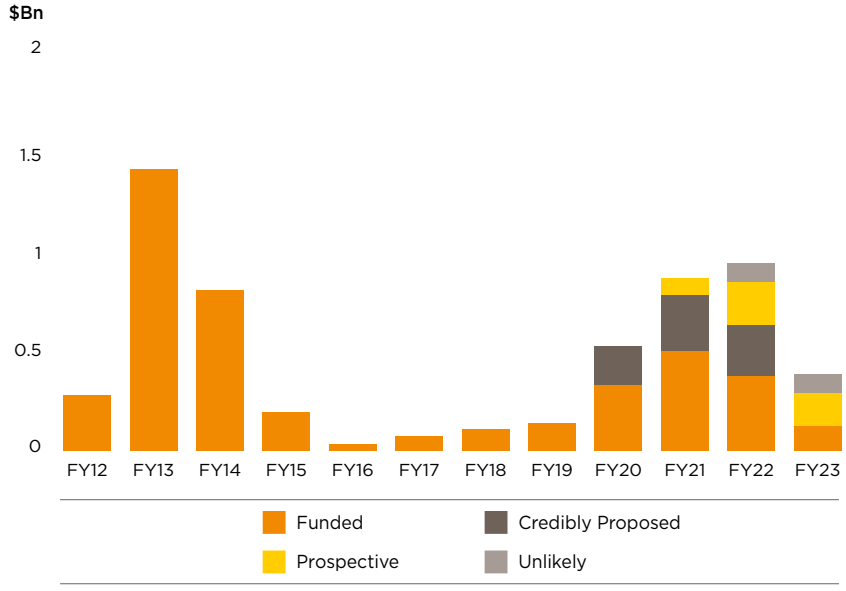
Electricity, pipelines, and telecoms major project work done peaked at a record $1.6bn in 2012/13 driven mainly by booming LNG-related gas pipeline construction. In the electricity sector, a host of new Powerlink distribution and supply projects were a key driver. The completion of these major projects saw work done decline sharply over 2013/14 and 2014/15.

During 2016/17 and 2017/18, electricity, pipelines and telecoms major project work done jumped higher again, driven by surging NBN activity and a host of smaller electricity generation projects getting underway.

In 2018/19 non-water utility major project works across electricity, pipelines and telecoms is estimated to reach an impressive $2.5bn, underwritten by no less than 30 separate renewable energy generation projects valued over the $50m threshold to be included in the pipeline, as well as:

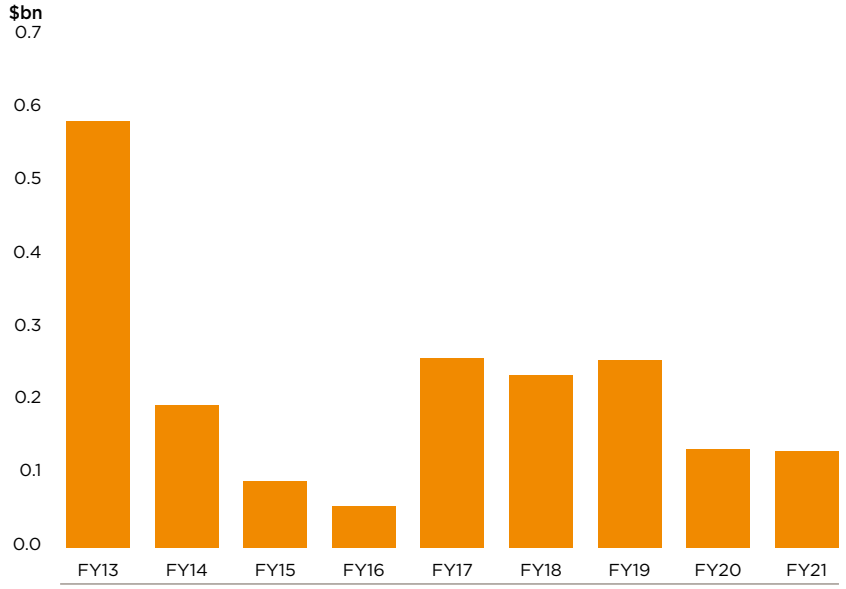
- Transmission projects and substation upgrades,
- A new gas fired power station in the Lockyer Valley,
- Pipelines for the Roma East Gas Project; and
- Over $800m in work delivering Australia's largest public infrastructure project, the National Broadband Network (NBN).

FIGURE 7: WATER AND SEWERAGE MAJOR PROJECT WORK DONE BY FUNDING STATUS



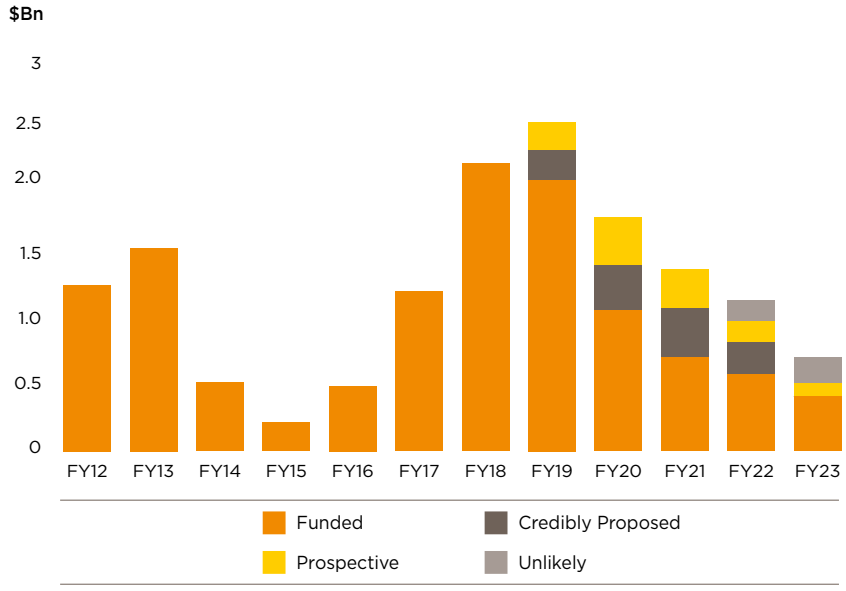
Source: BIS Oxford Economics, QMCA and IAQ member knowledge

FIGURE 8: ARENA'S RELEASE OF $2 BILLION IN CORE GRANT FUNDING FOR RENEWABLE ENERGY PROJECTS[3]



Source: ARENA

FIGURE 9: ELECTRICITY, PIPELINES AND TELECOMS MAJOR PROJECT WORK DONE BY FUNDING STATUS



Source: BIS Oxford Economics, QMCA and IAQ member knowledge

Unlike the rail and water sectors, however, the pipeline for non-water utilities thins substantially beyond the current financial year, with total work done (funded and unfunded) expected to nearly halve over the two years to 2020/21 and remain at lower levels. The decline in funded work is even sharper, falling from an estimated $2.1bn in 2018/19 to under $600m in 2021/22.

Key drivers of the decline include:

High levels of uncertainty over national energy and climate change policy, which, coupled with lower levels of public funding through the Australian Renewable Energy Agency (ARENA) after 2019/20, is constraining sustained investment in renewable energy projects according to the Clean Energy Council.[4] Queensland has been the biggest winner from the current boom in renewable energy investment so far, with nearly $7bn worth of investment in total creating 4,500 direct jobs and adding 5,640MW of new capacity.[5] A lack of consensus on policy and ARENA funding between the major parties at the Federal level is putting further investment at risk.

The winding down of works on the NBN rollout as it targets completion in 2020. While failures associated with the planned use of acquired HFC cable networks saw the rollout partially stalled during 2018, NBN Co has adopted a more construction-intensive solution – Fibre to the Curb (FTTC) – to service affected HFC premises. Overall, construction activity related to the NBN is anticipated to remain high in 2018/19 but fall significantly in subsequent years as the NBN rollout moves towards completion.

Following a surge of work related to the (now completed) North East Gas Connector, gas pipelines major project work has eased back in 2018/19, with activity mostly supported by the Roma East Gas Project. The ongoing development of the coal seam gas fields to feed Queensland's large LNG processing facilities will require continual upstream investment in pipelines (and other infrastructure) over the long term. The Arrow Bowen Pipeline has been identified as a potential major project in this space although it is listed as unlikely.

DEFENCE

Queensland is also benefiting from the latest round of Commonwealth funded defence initiatives. Projects include maintenance infrastructure upgrades and the construction of the new Growler Airborne Attack Capability facilities at South East Queensland's RAAF Base Amberley. Activity should also be boosted by the Australia - Singapore Military training initiative. The Initiative will provide increased access to Australian military training areas for the Singapore Armed Forces, building on Australia and Singapore's existing Defence cooperation. Training facilities will be redeveloped at the Fitzroy's Shoalwater Bay, which will first be remediated, as well as a training facility further north in Townsville.

Combined, the aforementioned projects account for $810m in the pipeline between 2018/19 and 2022/23. On the downside, there may not be as much engineering construction in the defence projects listed in the pipeline than anticipated here.

QUEENSLAND HAS BEEN THE BIGGEST WINNER FROM THE CURRENT BOOM IN RENEWABLE ENERGY INVESTMENT SO FAR, WITH NEARLY $7BN WORTH OF INVESTMENT IN TOTAL CREATING 4,500 DIRECT JOBS AND ADDING 5,640MW OF NEW CAPACITY

4 https://www.cleanenergycouncil.org.au/news/clean-energy-project-investment-doubles-in-2018-to-top-record-20-4

5 Ibid.

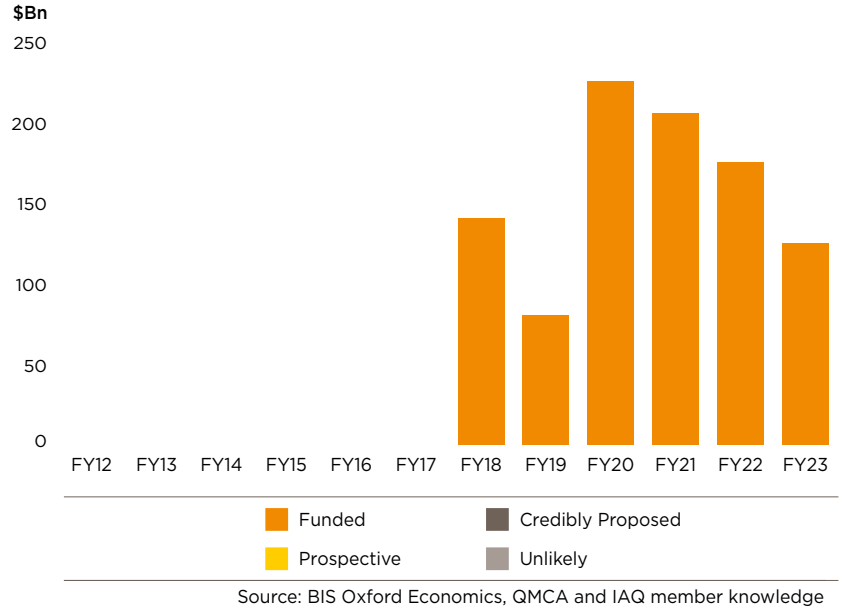
MINING AND HEAVY INDUSTRY

Mining and heavy industry major project work simply boomed between 2010/11 to 2012/13, increasing collectively by over 200% to reach an extraordinary peak of $13.6bn. This represented a second, LNG-focused, phase of the resources boom in Queensland, but there were also substantial coal developments during this time including the construction of the Broadmeadow, Caval Ridge, Daunia and Grosvenor coking coal mines, which also sustained a high level of major project work.

The completion of "once in a generation" large LNG projects in Queensland saw mining and heavy industry major project work collapse to just $700m in 2016/17.

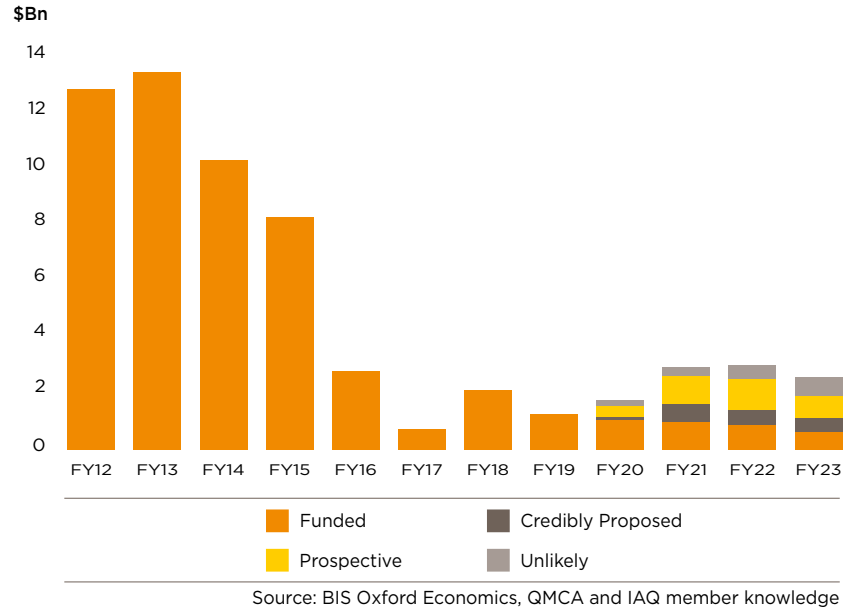
Mining and heavy industry major project work has moved to higher levels over 2017/18 and 2018/19, although in total value terms it remains a mere shadow of the previous boom. In 2018/19, total major project work eased to $1.3bn following just over $2bn in activity the previous year.

FIGURE 10: DEFENCE MAJOR PROJECT WORK DONE BY FUNDING STATUS



Source: BIS Oxford Economics, QMCA and IAQ member knowledge

FIGURE 11: MINING AND HEAVY INDUSTRY MAJOR PROJECT WORK DONE BY FUNDING STATUS



Source: BIS Oxford Economics, QMCA and IAQ member knowledge

UNFUNDED WORK IN THE PIPELINE FOR MINING AND HEAVY INDUSTRY PROJECTS RISES FROM 38% IN 2019/20 TO 75% BY 2022/23

The breakdown in work for 2018/19 includes:

- $374m in gas-related works including $200m in upstream LNG gasfield development, as well as work on the Gladstone LNG, Roma East project and the Atlas Gas Processing Plant and Pipeline;
- $475m in works on major coal projects including Byerwen, the Overland Conveyor System at Caval Ridge (now completed) and Caval Ridge Expansion, the Baralaba Coal Expansion, Jellinbah and Kestral Expansion; and
- $465m in other minerals major project work, mostly related to the (now completed) Amrun bauxite development in the far north of the state.

The easing in mining and heavy industry major project work over 2018/19 can be most attributed to the completion or near completion of several very large projects in 2017/18 including Dugald River Zinc, Capricorn Copper, Bauxite Hills and Phosphate Hills.

While the outlook for total (funded and unfunded) major project work in mining and heavy industry is positive – the value of work in the pipeline rises to a peak of $3.1bn by 2021/22 before easing slightly in 2022/23 – there remains considerable downside risk to this profile.

Unfunded work in the pipeline for mining and heavy industry projects rises from 40% in 2019/20 to 75% by 2022/23 – the highest unfunded share of any engineering construction sector considered in this report. Given that Adani's Carmichael mine in the Galilee Basin is now considered funded in this report given their announcement to finance a smaller scale development internally – but is still subject to significant political and regulatory risks – the outlook for the sector could be considered even more risky than the unfunded project share suggests.

On a funded basis, oil and gas and coal have a reasonably sustained profile to 2022/23. Oil and gas projects are expected to remain underpinned by regular upstream gasfield development works to feed the downstream LNG processing trains, with the Arcadia Gas Project providing a lift over 2019/20 and 2020/21. Ongoing development of Coal Seam Gas (CSG) fields over the operational life of LNG facilities will require continual investment in related field infrastructure, including roads, pipelines and gas facilities, and water. Again, while not as significant as downstream processing and infrastructure projects, in aggregate they will keep the volume of activity high compared to pre-boom times and offer a higher share of work for domestic contractors compared to that which occurred on the LNG trains themselves.

Funded coal works are expected to remain steady through the forecast period, with approximately $370m in work done per annum on average over the five years to 2022/23. Much of this is focused on the Carmichael development (assumed construction value of $900m) from 2020/21, as well as the Olive Downs ($300m) and South Walker Creek ($100m) developments.

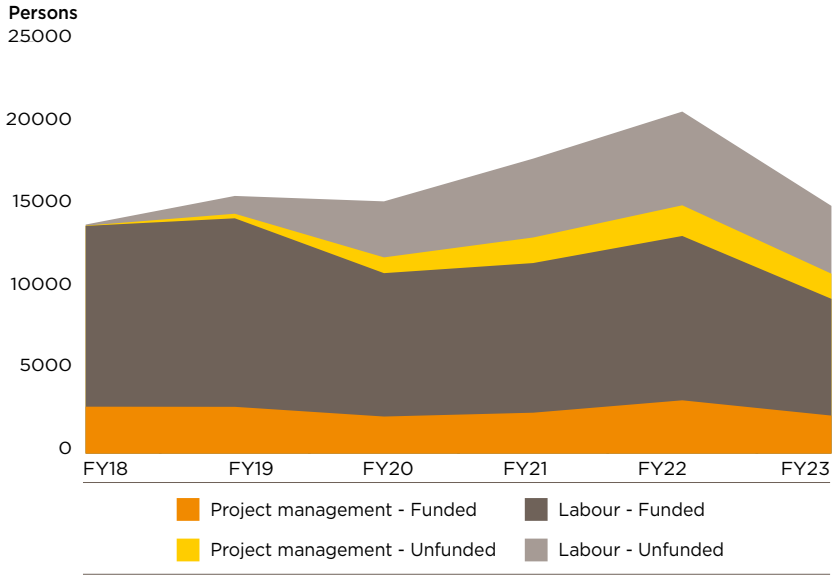
By contrast, all other minerals projects in the pipeline remain unfunded – amounting to approximately $367m per annum on average between 2018/19 and 2022/23 – and many of these are categorised as 'unlikely'. Those that are not considered unlikely include Roseby Copper, Red Dome Mungana, Charters Towers and the North Queensland Bio Energy Ethanol Plant. There are also seven unfunded coal projects in the list categorised as either credibly proposed or prospective which could be developed if Australian dollar prices and global demand remains firm, including Eagle Downs Coking Coal, Maryborough, Peak Downs Expansion, Grosvenor Underground Stage 2, Styx, Middlemount Coking Coal Stage 2 and Wilkie Creek.

MAJOR PROJECT WORKFORCE OUTLOOK

Major project workforces have been rising over the past two years in response to higher levels of major project activity. In 2017/18, we estimate that major project activity catered for just under 14,000 direct full time equivalent (FTE) roles spread across construction labour (approximately 11,000 FTE positions) and white-collar occupations in construction project management (approximately 3,000 FTE positions). The bulk of these positions were in telecommunications, followed by electricity and roads.

Given differences in the typical capital and labour intensity of major projects by sector – and the different projections for major project work by sector – growth in major project workforce demand does not exactly match growth in major project work done. However, as shown in Figure 12, the outlook for major project workforce demand is still similar to the overall major projects outlook. In particular, following a local peak in 2018/19, major project workforce demand is anticipated to weaken in 2019/20 before recovering in the subsequent two years, with the next local peak to be 2021/22.

FIGURE 12: MAJOR PROJECT WORKFORCE PROFILE



Source: BIS Oxford Economics, QMCA and IAQ member knowledge

There is significant variation in the outlook between total (funded and unfunded) and funded major project workforce demand which is implied by the projections in this Report. While the funded workforce profile is fairly benign – albeit with a sharp retreats in 2019/20 and 2022/23 – there is a strong positive cycle which could play out over the next few years if all currently unfunded projects were to proceed. In particular, total major project workforce demand is projected to rise 31% from around 15,600 FTE positions this financial year (2018/19) to a potential peak of over 20,000 FTE positions. Given relatively tight conditions in the major project market nationally,[6] this means that achieving the full major project pipeline of work is likely to come with significant workforce supply challenges.

The sectors with the strongest FTE workforce demand growth potential to the 2021/22 peak are rail (+6,400 FTE positions across labour and project management – most of which is funded), water (+3,000 FTE positions), coal (+927 FTE positions), oil and gas (690 FTE positions). By contrast, the weaker major project outlook for roads, electricity and telecommunications over the same period sees their respective projected total workforce demand shrink by 1,100, 2,900 and 2,000 FTE positions respectively.

In practice, the path for major project work is likely to lie between the totals for funded work (a likely minimum demand) and total work (a potential maximum) although more projects could yet emerge to push workforce demand higher.

6 See, for example, https://www.rlb.com/en/news/2019-01-21-skilled-labour-shortages-across-australia-and-new-zealand-create-further-cost-pressure/

REGIONAL BREAKDOWN

This year's Report provides a more detailed focus on the regional implications of the Queensland Major Projects Pipeline.

One of the key findings of the 2018 MPPR was how disparate the growth in major project work was by broad region, the high volatility and variability of work in regions, and large differences in each region's share of funded and unfunded work which adds to pipeline uncertainty.

For the 2019 MPPR we have examined this issue more closely by moving away from the existing "5 region" perspective in past MPPRs to a more detailed and systematic regional analysis based on the ABS SA4 regions. While there are 19 SA4 regions in Queensland, we have condensed the 5 Brisbane SA4s (East, West, North, South and Inner City) with two Moreton Bay SA4s (North and South) into a Greater Brisbane category. We have also combined Toowoomba with Ipswich and Logan-Beaudesert. The Queensland Outback SA4 region combines Outback North, Outback South and Far North Queensland – essentially an area that covers the bulk of non-coal base metals and minerals mining, and the townships of Mt Isa, Cloncurry and Weipa.

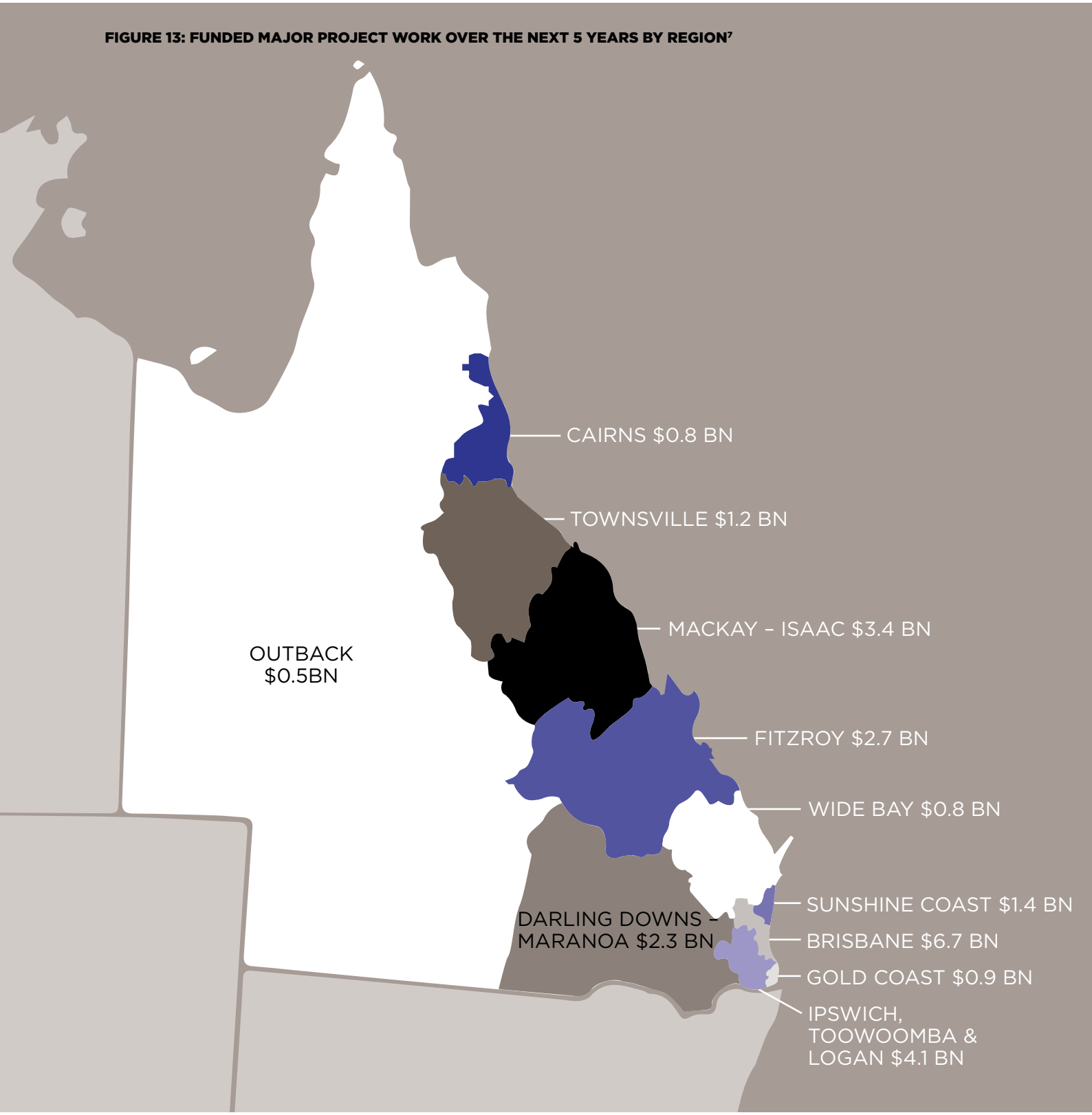
Under such an approach, the regional analysis is now more detailed and includes the following areas:

- Greater Brisbane
- Sunshine Coast
- Gold Coast
- Toowoomba-Ipswich-Logan
- Darling Downs and Maranoa
- Wide Bay
- Fitzroy
- Mackay-Isaac
- Townsville
- Cairns
- Outback

In this Section, separate major project pipelines are provided for these 11 diverse regions of the state, with commentary on the outlook for each region. This regional analysis shows that there are significant regional winners and losers in terms of major project activity over the next five years, with some regions, particularly, set for substantial volatility in work. Industry and government can use these regional profiles to better plan for the coming phase of major project work – and also use the pipeline to see where any emerging latent industry capacity may be tapped.

INDUSTRY AND GOVERNMENT CAN USE THESE REGIONAL PROFILES TO BETTER PLAN FOR THE COMING PHASE OF MAJOR PROJECT WORK

FIGURE 13: FUNDED MAJOR PROJECT WORK OVER THE NEXT 5 YEARS BY REGION[7]



7 Regions may not add to total Queensland due to Multi Regional Projects.

NORTHERN GAS PIPELINE

THERE ARE SIGNIFICANT REGIONAL WINNERS AND LOSERS IN TERMS OF MAJOR PROJECT ACTIVITY OVER THE NEXT FIVE YEARS

KEY POINTS

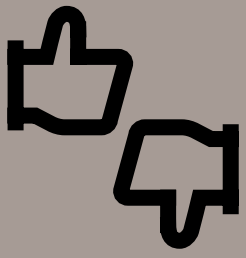
As may be expected given the concentration of the Queensland population in the south east corner, the majority of funded major project work is located here over the next five years. Major projects in Brisbane, the Sunshine Coast, the Gold Coast and Ipswich-Toowoomba-Logan account for $13.2bn or 48% of total funded major project work.

Meanwhile, the fastest growing regions in terms of funded major project work are also located in South East Queensland, and include Brisbane, Gold Coast, Sunshine Coast, Ipswich – Toowoomba – Logan, and Wide Bay. These regions are all expected to see average levels of funded activity over the next five years 150% higher than that of the past five years.

Conversely, unfunded projects are more concentrated in the central and northern regions. Two thirds of the major project pipeline in the Outback region remains unfunded, along with 68% of the pipeline in Townsville, 51% in Cairns and around 47% in both the Wide Bay and Mackay regions.

By contrast Darling Downs-Maranoa, Fitzroy, and Outback regions are facing much lower levels of funded major project work over the next five years compared to the average level of activity between 2012/13 and 2017/18 as previous large projects have moved to completion.

DARLING DOWNS-MARANOA, FITZROY, AND OUTBACK REGIONS ARE FACING MUCH LOWER LEVELS OF FUNDED MAJOR PROJECT WORK OVER THE NEXT FIVE YEARS COMPARED TO THE AVERAGE LEVEL OF ACTIVITY BETWEEN 2012/13 AND 2017/18



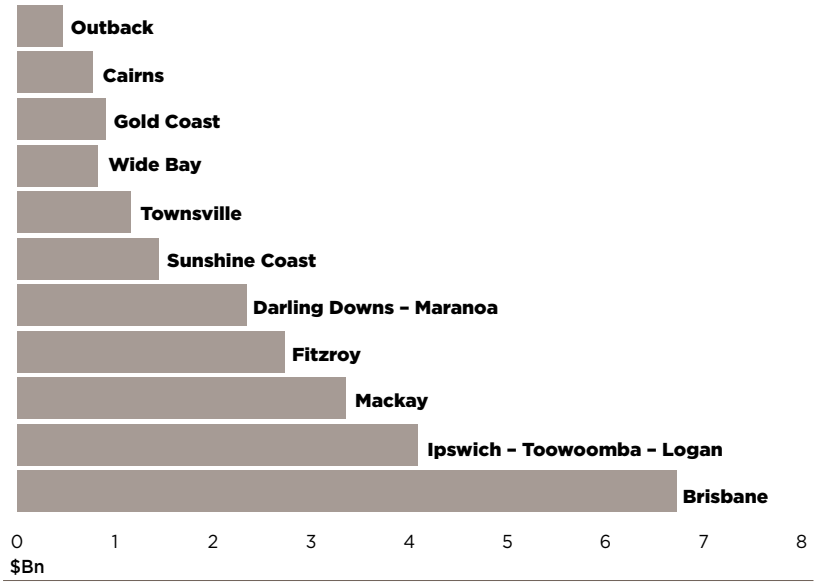
OVERVIEW

By our analysis, funded major project work will average around $5.5bn per annum over the next 5 years, lower than the estimated $7.7bn per annum of the previous 5 years.

This spending is spread across 11 diverse regions each with different drivers and outlooks.

- Large transport projects, notably Cross River Rail and Inland Rail, underpin activity in the more densely populated south east corner of Queensland. These large projects are fully funded and secure a significant level of major work into the medium term. However, the central and northern regions have a significant number of unfunded projects in the pipeline. These projects reflect an upside to activity if they were to secure funding.
- Around 24% ($6.7bn) of the funded major project work in the pipeline over the five years to 2022/23 will be centred in Greater Brisbane, with the major project driving this being Cross River Rail.
- The next biggest region in term of major project work is Ipswich-Toowoomba-Logan, which is responsible for around 15% ($4.1bn) of funded work in the pipeline over the next five years. In 2018/19, the Toowoomba Range Second Crossing is the largest project here, but from the early 2020s this region is heavily supported by work on the Inland Rail project.
- Work in Darling Downs-Maranoa will also be underpinned by work on the Inland Rail project, as well as ongoing coal seam gas work. This region accounts for 8% ($2.3bn) of all funded work.
- The announcement of a smaller scale mine by Adani, as well as other resource, roads and renewable projects is supporting the Mackay-Isaac region. This region has the third strongest funded pipeline in Queensland, valued at $3.4bn, over the five years to 2022/23.
- The Fitzroy region will be supported by Defence spending in Shoalwater Bay, and also water and renewables projects. While accounting for 10% ($2.7bn) of the funded pipeline, average activity over the five years to 2022/23 will remain far lower than the previous five year average.
- Major project work in the Sunshine Coast and Wide Bay regions will be centred around roads and renewables. Together, these regions account for 8% (or $2.3bn) of the funded major project pipeline.
- The Gold Coast region is principally supported by roads activity, as well as a small number of water and sewerage projects, and comprises 3% ($903m) of the funded pipeline to 2022/23.
- Renewables also underpin work over the short run in the Townsville region, but there is also support from a number of roads, water and harbors projects. Funded work in the Townsville region makes up 4% ($1.2bn) of the funded pipeline.
- Activity in the region of Cairns will be supported by a significant amount of renewables work, notably the Kidston project, as well as roads activity. Altogether, the Cairns region has $770m in funded work in the pipeline.
- The Outback region has only one funded project in the pipeline, which was completed in 2018/19 (Amrun), yet there is upside here given that two thirds of the pipeline in this region represents resources-related projects which are currently unfunded.

CHART 14: FUNDED MAJOR PROJECT WORK OVER THE NEXT 5 YEARS BY REGION, $BILLION[8]



Source: BIS Oxford Economics, QMCA and IAQ member knowledge

CHART 15: AVERAGE GROWTH IN MAJOR PROJECT WORK OVER THE NEXT 5 YEARS BY REGION[9]

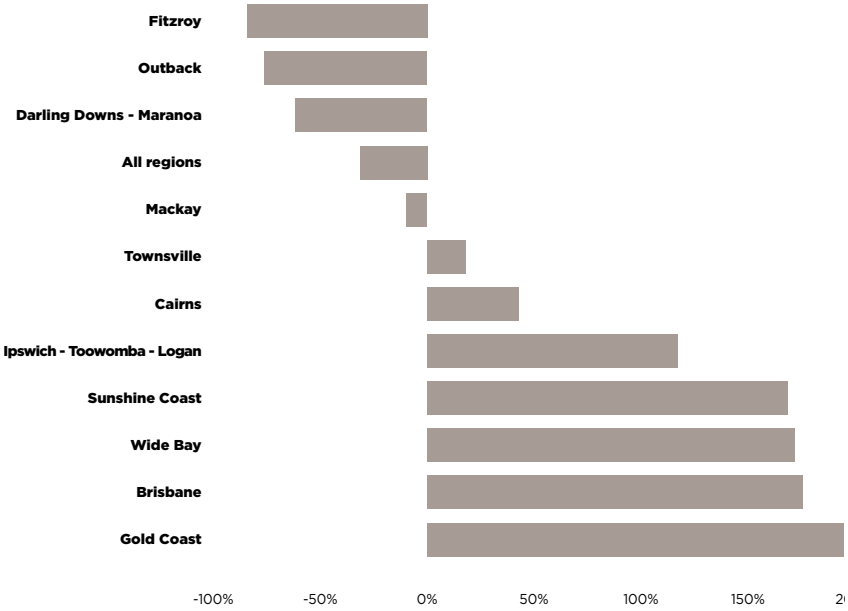
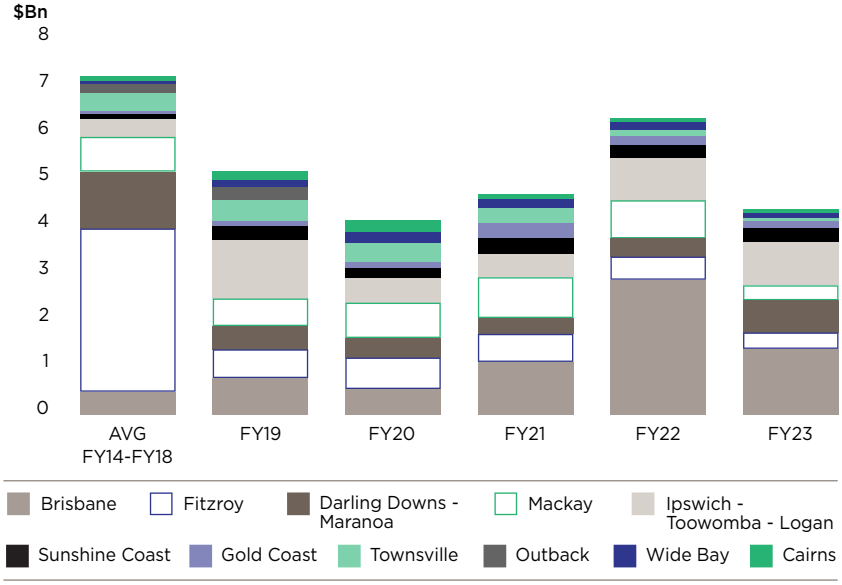


CHART 16: ANNUAL FUNDED MAJOR PROJECT WORK OVER THE NEXT 5 YEARS BY REGION[8]



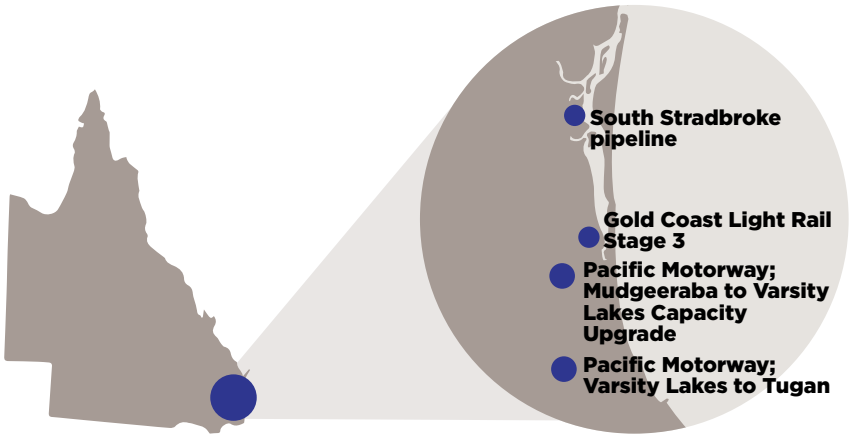
Source: BIS Oxford Economics, QMCA and IAQ member knowledge

8 Regions may not add to total Queensland due to Multi Regional Projects.

9 Figures in this chart represent the ratio of average funded work over the next five years (2018/19 to 2022/23) compared to the estimated average of major project work in the region between 2012/13 and 2017/18 inclusive.

GOLD COAST

"With a fast growing population, major project activity over the next five years is centred around water, sewerage and transport infrastructure"



Population: 622,095

Population growth has averaged 2.3% per annum over the last 10 years.

Sectors Driving Growth:

Roads, water and sewerage. Funded work to average $181m per annum over the next 5 years.

Unfunded Share:

Key Unfunded Projects:

Jabiru Island Bridges (Hope Island Road (Oxley Drive) road duplication - stage 4, $136m), Gold Coast Light Rail Stage 3 ($500m).

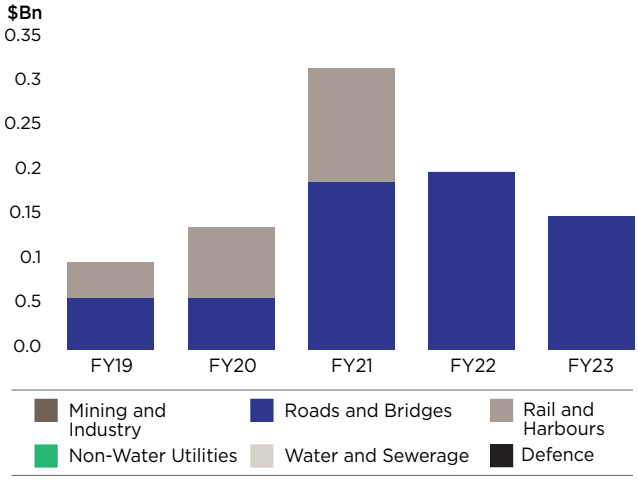
Pipeline health

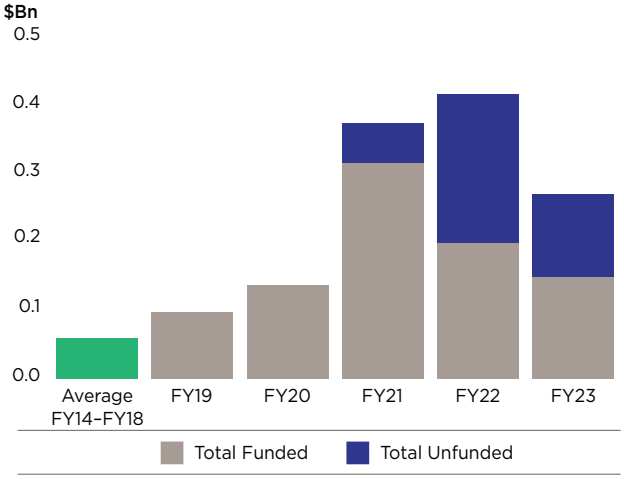
100%

Outlook:

The Gold Coast region has one of the fastest growing populations in Queensland. The State Government has responded to this growth with investment in Gold Coast Light Rail and with an expansion of the region's water and sewerage infrastructure. While Stage 3 of the Gold Coast Light Rail project remains unfunded, major project activity in the region will be supported by road works along the Pacific Highway. At present there is an average of $181m of funded project work per annum over the next five years, a 207% increase from the past five years average.

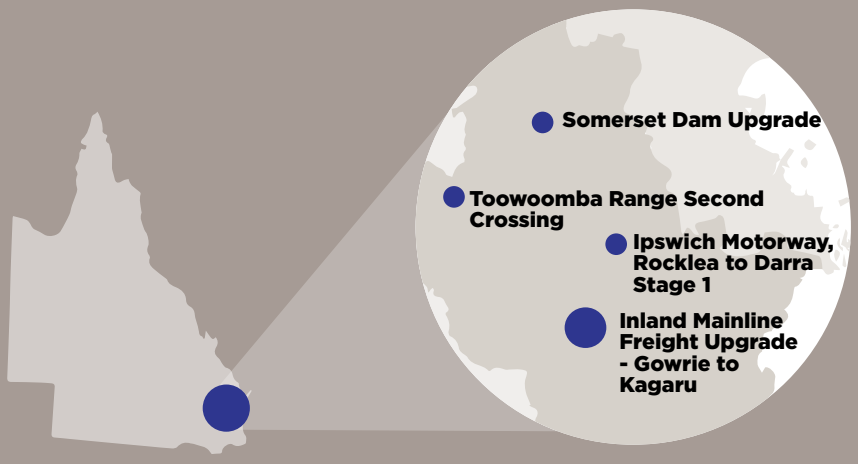
CHART 18: FUNDED MAJOR PROJECT PIPELINE BY SECTOR & FUNDED AND UNFUNDED PIPELINE





IPSWICH - TOOWOOMBA - LOGAN

"Very large road and rail projects to support activity in the region, but with a strong cycle"



Population: 854,939

Population growth has averaged 2.2% per annum over the last 10 years.

Sectors Driving Growth:

Roads, rail, water and defence.

Unfunded Share:

Key Unfunded Projects:

Somerset Dam Upgrade, Pacific Motorway; Section (C) Daisy Hill to Logan Motorway at Loganholme, Wyaralong Dam WTP Stage 1.

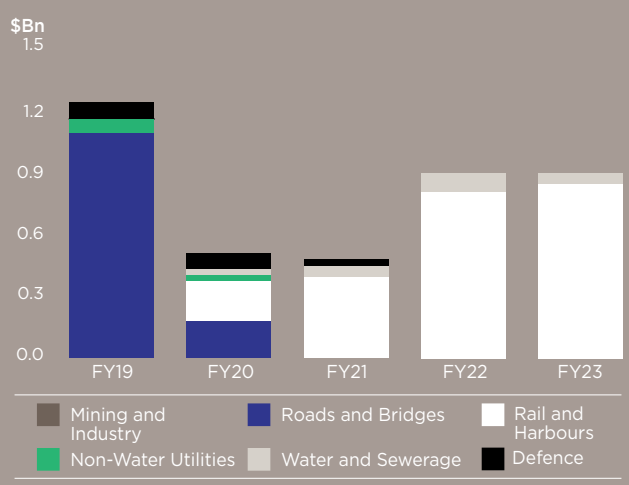
Pipeline health

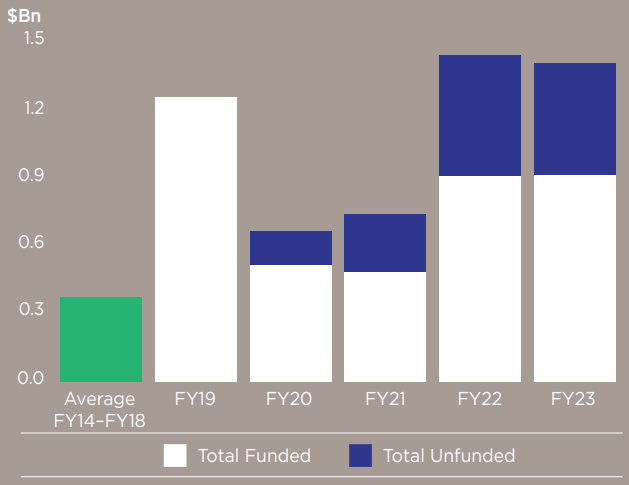
100%

Outlook:

Major project activity in the Ipswich-Toowoomba-Logan region is expected to suffer a setback over the next two years with the completion of several significant projects including the $1.6bn Toowoomba Second Range Crossing, defence-related works at RAAF Amberley and a range of renewable generation projects. Funded major project work is anticipated to rise again from 2020/21 as work on Inland Rail ramps up – involving complex engineering and tunnelling through the Toowoomba Ranges – as well as ongoing water and sewerage activity. Work done is unlikely to surpass 2018/19 levels, however, unless currently unfunded projects proceed. Overall funded major project work is set to average $817m per annum, more than double the previous five years.

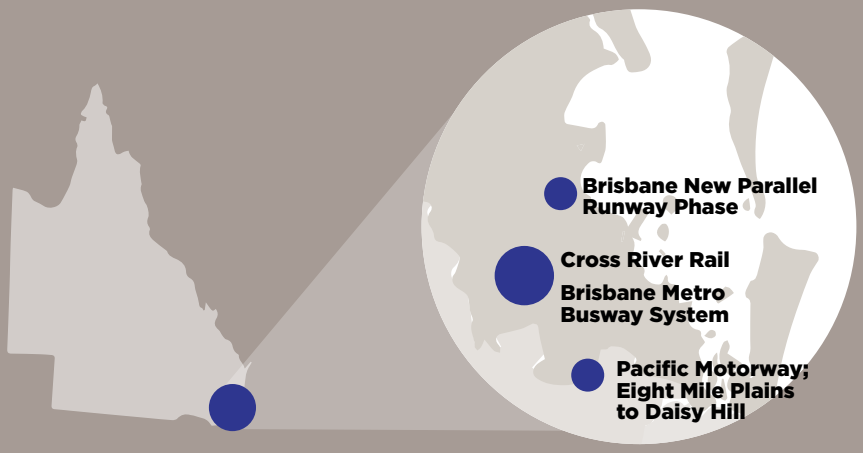
CHART 20: FUNDED MAJOR PROJECT PIPELINE BY SECTOR & FUNDED AND UNFUNDED PIPELINE





GREATER BRISBANE

"Population growth has underpinned the need for publicly funded transport infrastructure"

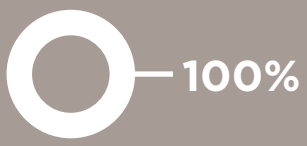


The Greater Brisbane region includes Brisbane and the Moreton Bay statistical areas.

Population: 1,764,220
Population growth has averaged 1.9% per annum over the last 10 years.

Sectors Driving Growth:
Publicly funded transport infrastructure works, notably Cross River Rail.

Funded Share:

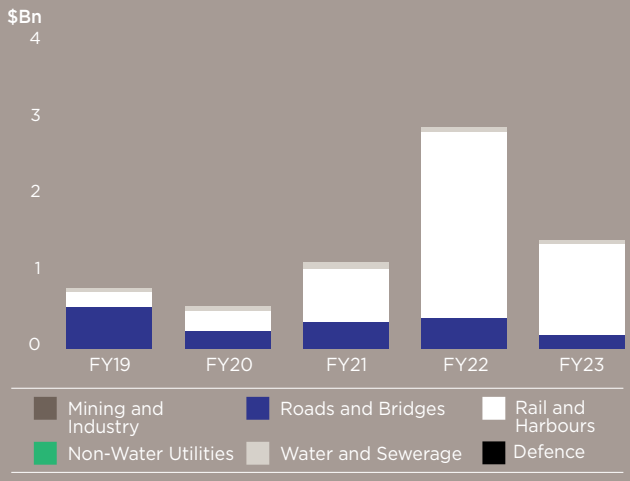


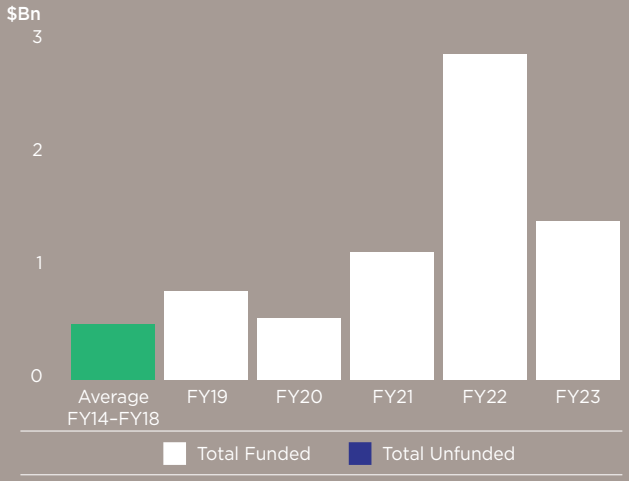
Key Unfunded Projects:
There is no unfunded work in the pipeline.

Pipeline health

Outlook:
There is a strong pipeline of secured publicly funded infrastructure work for Greater Brisbane through the next five years. Funded major project work is expected to average $1.3bn per annum during this period, with the bulk of work expected to be done between 2020/21 and 2022/23. Cross River Rail is the key project underpinning future activity. While work on road projects is expected to decline in the short term as the Gateway Motorway Upgrade North (GUN) and Kingsford Smith Drive Upgrade projects wind down, road activity will be supported in the medium term by works on the Pacific Motorway and Brisbane Metro.

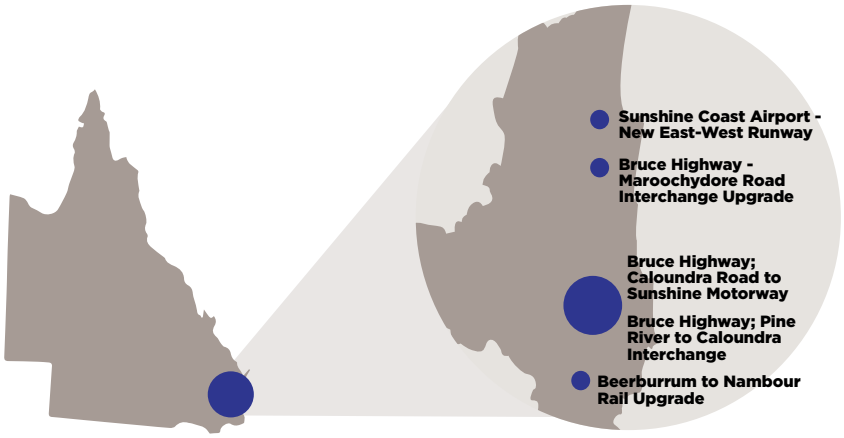
CHART 17: FUNDED MAJOR PROJECT PIPELINE BY SECTOR & FUNDED AND UNFUNDED PIPELINE





SUNSHINE COAST

"Transport investments to support a lift in major project activity on the Sunshine Coast"



Population: 346,520

Population growth has averaged 2.3% per annum over the last 10 years.

Sectors Driving Growth:

Roads (including airport works) and rail.

Unfunded Share:

Key Unfunded Projects:

Sunshine Coast Light Rail ($500m).

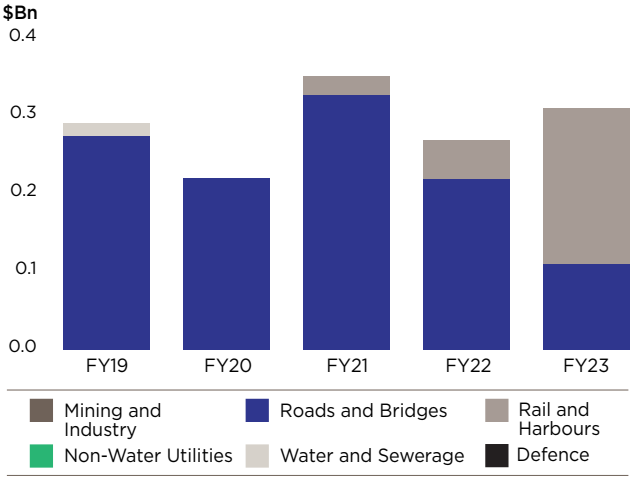
Pipeline health

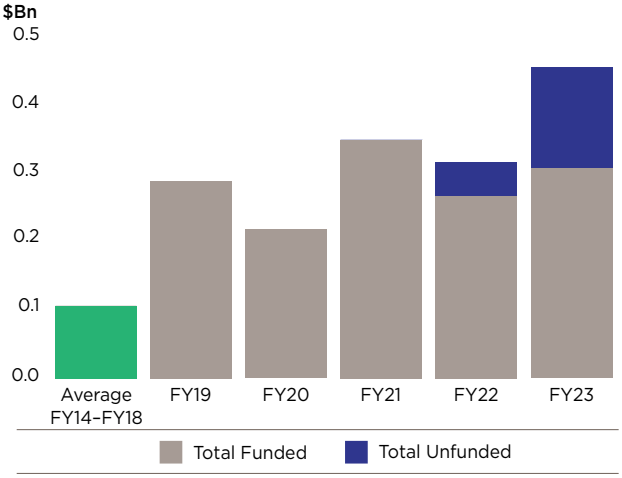
100%

Outlook:

Strong population growth in the region, as well as rising tourism activity, is driving a wave of new investment in transport infrastructure through the next five years including upgrades to roads, rail and airports. Funded work is on track to average close to $290m per annum over the next five years, more than double the average of the previous five years. Work is largely supported by projects along the Bruce Highway, but also by the $780m Beerburrum to Nambour rail upgrade.

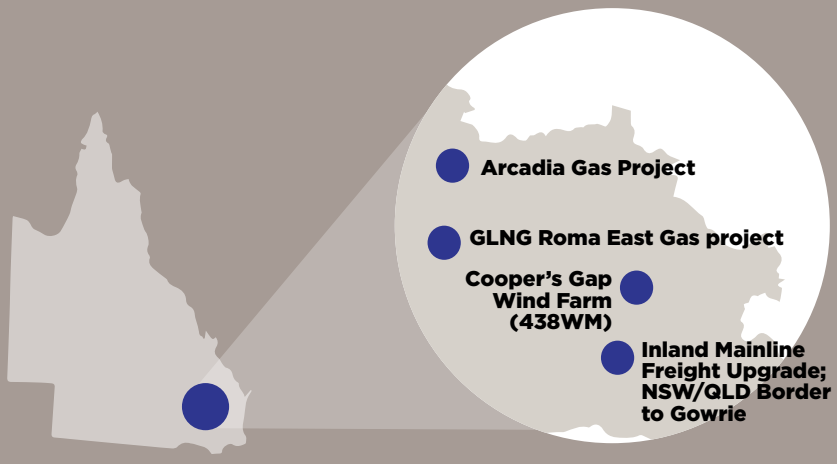
CHART 19: FUNDED MAJOR PROJECT PIPELINE BY SECTOR & FUNDED AND UNFUNDED PIPELINE





DARLING DOWNS – MARANOA

"Upstream sustaining works on gas projects and the Inland Rail to underpin activity"



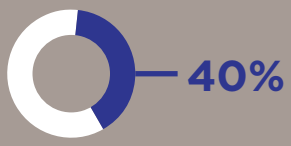
Population: 129,067

Population growth has averaged 0.7% per annum over the last 10 years.

Sectors Driving Growth:

Gas developments, renewables and rail.

Unfunded Share:



Key Unfunded Projects:

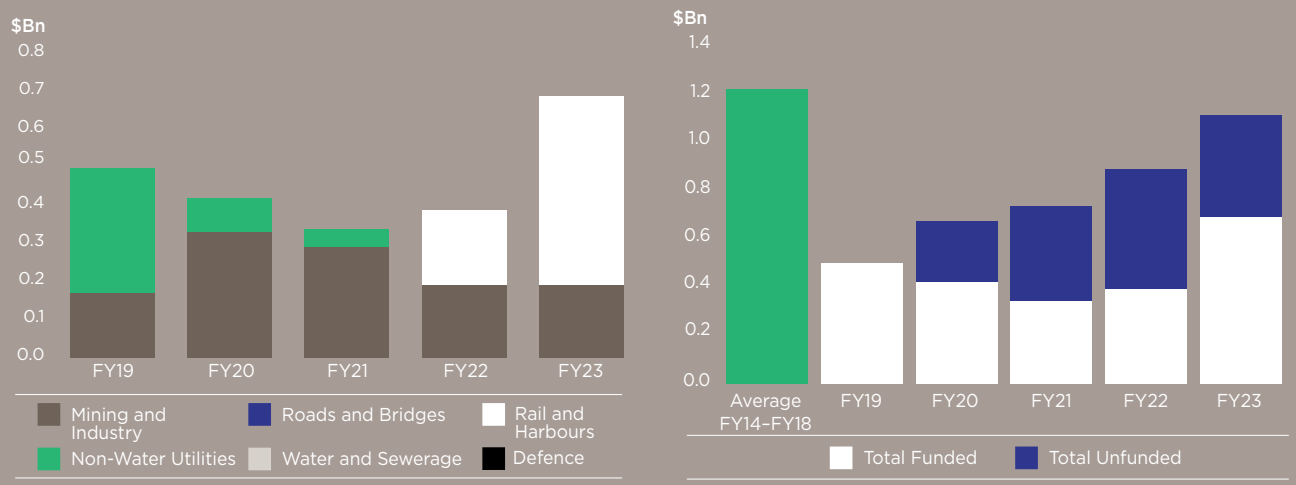
Western Surat Gas Project ($1.5bn), Bulli Creek Solar Farm (>1000 MW, $1.5bn), New Acland Stage 3 Expansion ($350m).

Pipeline health

Outlook:

Work in this region was underpinned by very large coal seam gas projects in the Surat Basin. Activity in 2018/19 is expected to be less than half the annual average level of work for the past five years, with funded work expected to decline further in 2019/20 and 2020/21 as several renewable energy projects move towards completion. While upstream gas related activities should provide a floor to work, the next phase of growth for the region will likely be driven by the Inland Rail project – and in particular, the substantial NSW/QLD Border to Gowrie section. Activity could be higher if currently unfunded projects in renewables, coal and gas were to proceed. Overall, funded major project work is expected to average $468m per annum through the five years to 2022/23, well below the resources boom fueled average of the previous five years.

CHART 21: FUNDED MAJOR PROJECT PIPELINE BY SECTOR & FUNDED AND UNFUNDED PIPELINE



BMD

BMD celebrates 40 years

Since humble beginnings in 1979 as a civil engineering contractor in South East Queensland, BMD has contributed to the growth and development of Queensland as a trusted partner for four decades.

In conjunction with clients and suppliers, BMD delivers a diverse range of infrastructure projects across the state that connect communities including vital upgrades within live operational environments, new and upgraded transport infrastructure, and iconic community spaces.

Our unique structure of integrated companies specialising in civil, industrial and landscape construction as well as design, and urban and property development, come together as a unified whole – sharing knowledge and expertise, and delivering certainty for our clients and the Queensland community.

CONTACT INFO
For more information, visit www.bmd.com.au

BMD

INLAND RAIL – CONNECTING SOUTH WEST QUEENSLAND

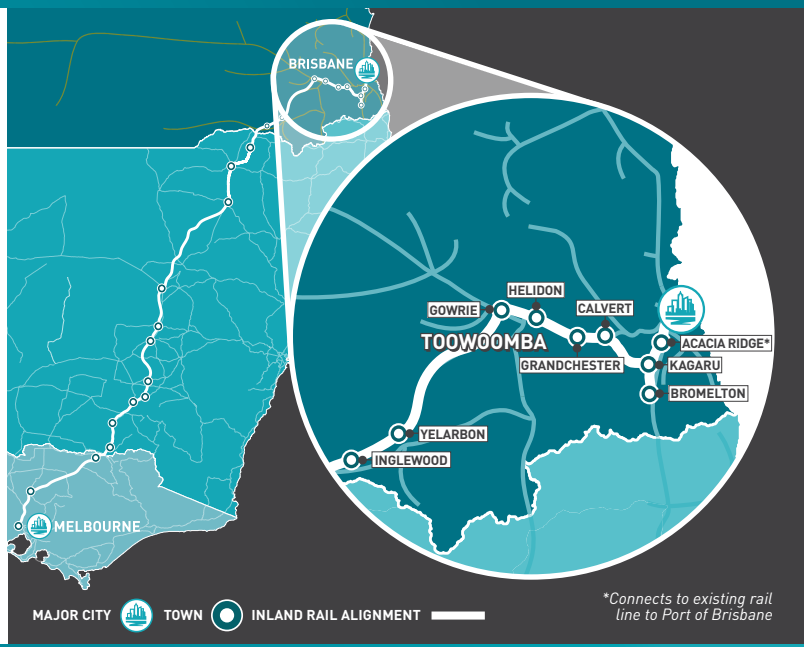
INLAND RAIL

INLAND RAIL IS THE LARGEST FREIGHT RAIL INFRASTRUCTURE PROJECT IN AUSTRALIA AND ONE OF THE MOST SIGNIFICANT INFRASTRUCTURE PROJECTS IN THE WORLD.

The Inland Rail Programme will involve around **$6 billion of capital investment in Queensland** over the construction period to 2025 and will **boost Queensland's Gross State Product by $7.274 billion, including $2.2 billion in the Darling Downs region.**

Toowoomba is a key location on the Inland Rail route. As work on Inland Rail progresses, ARTC will expand its regional presence and capacity.

With Inland Rail committed to using local suppliers and labour where possible, opportunities will exist for many years for local businesses to participate in the delivery of Inland Rail.



1800 732 761
inlandrailqld@artc.com.au

inlandrail.com.au

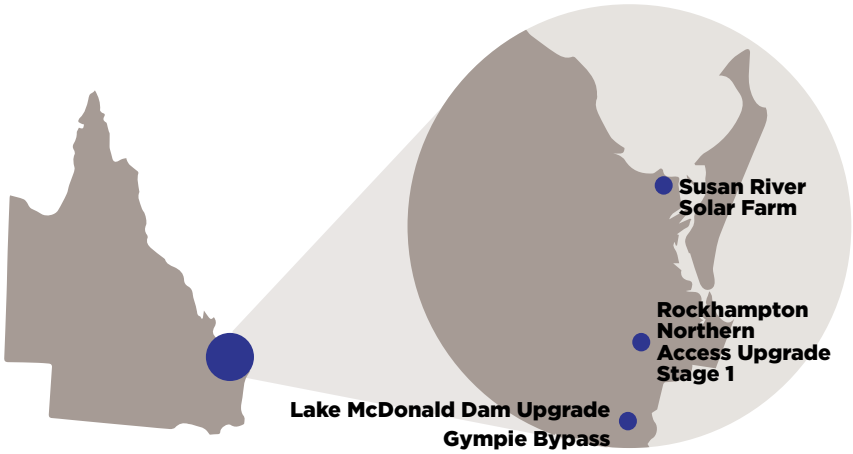
ARTC

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC), in partnership with the private sector.

IR_806

WIDE BAY

"Road works to drive major project activity across the next five years"



Outlook:

While large renewable energy projects are driving the bulk of major project activity in 2018/19, large roads projects along the Bruce Highway should see activity sustained at relatively strong levels through the next five years. There is potentially a large upside to major project work in the early 2020s if currently unfunded projects across roads, water and coal proceed simultaneously.

Population: 297,153

Population growth has averaged 1.1% per annum over the last 10 years.

Sectors Driving Growth:

Roads, defence, water and renewables.

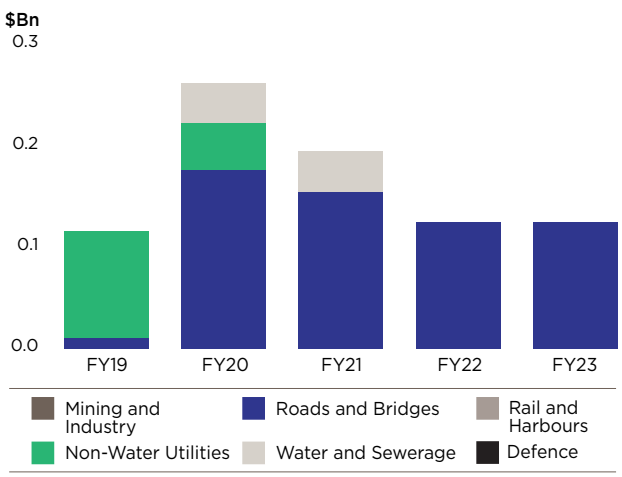
Unfunded Share:

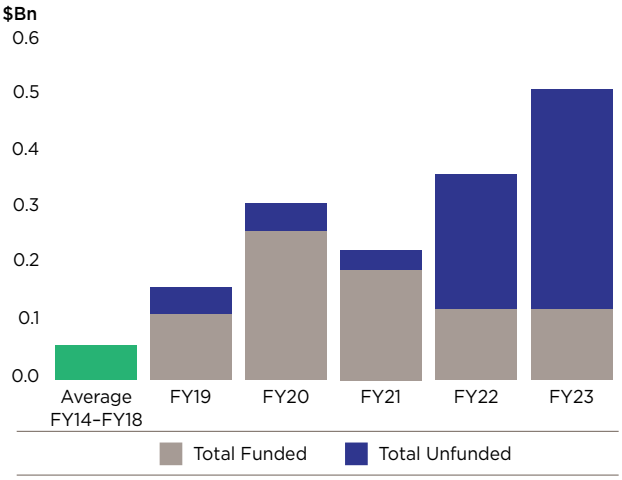
Key Unfunded Projects:

Mooloolah Road Interchange ($450m), Paradise Dam Spillway Improvement Project ($200m), Aramara Solar Farm (140 MW, $280m), Maryborough coal ($300m).

Pipeline health

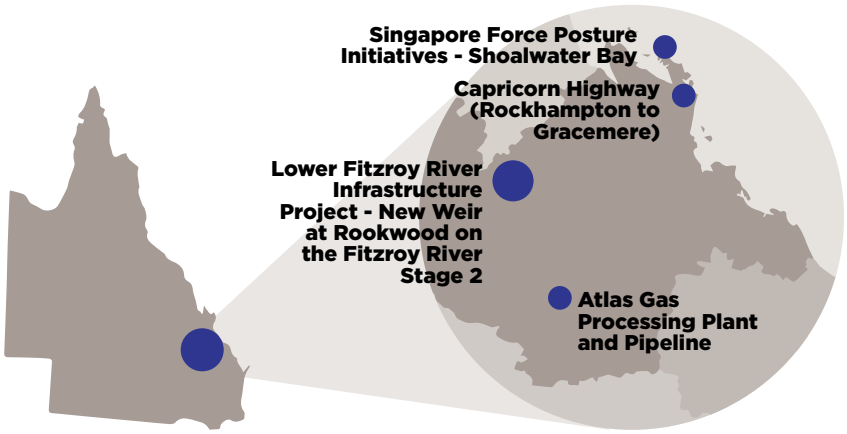
CHART 25: FUNDED MAJOR PROJECT PIPELINE BY SECTOR & FUNDED AND UNFUNDED PIPELINE





FITZROY

"Defence, water and renewables projects will underpin major project activity looking forward, but to a level well below that seen during the LNG-related construction boom"



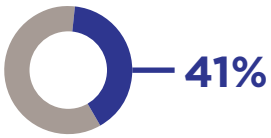
Population: 226,455

Population growth has averaged 0.9% per annum over the last 10 years.

Sectors Driving Growth:

Defence, water, renewables, mining and heavy industry.

Unfunded Share:



Key Unfunded Projects:

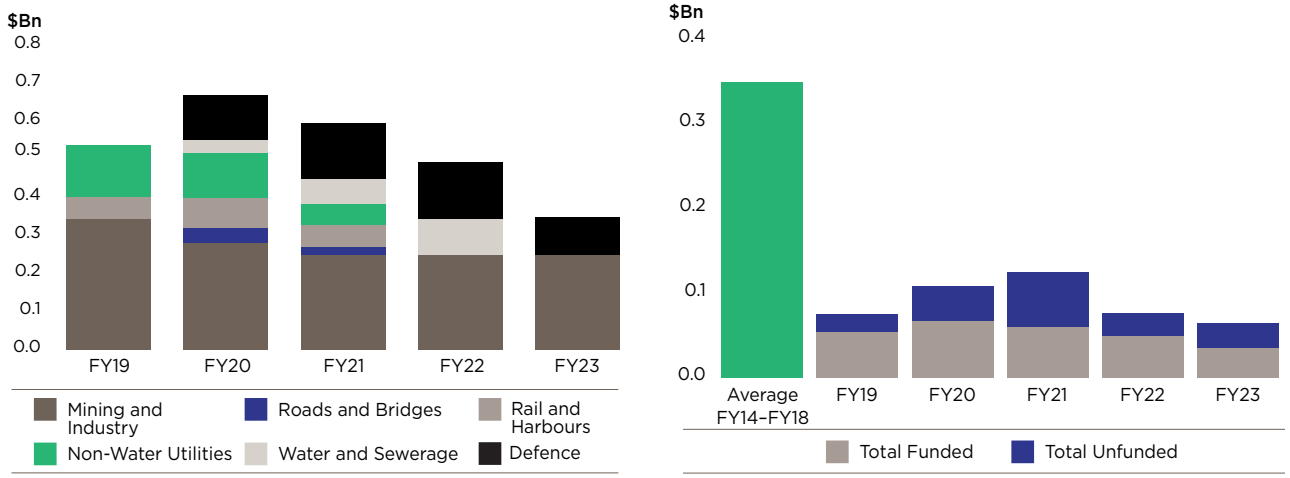
Rockhampton Ring Road ($950m), Port of Gladstone - Second Shipping Lane ($280m), Wandoan South Solar Project (1000MW, $1.2bn), Columboolan Solar Farm (310MW, $300m).

Outlook:

The Fitzroy region boomed during the first half of this decade on the back of a plethora of major projects across LNG and coal. However, the completion of these projects has seen major project activity fall by over 85%. In 2018/19, funded major project activity is expected to be $539m, driven mainly by coal expansions, upstream oil and gas works as well as renewable energy projects. Funded work is expected to oscillate around these levels for the next few years as the completion of coal-related projects is balanced by new initiatives across defence (Shoalwater Bay) and water (Rookwood Weir). However, there is a substantial volume of unfunded work (mostly in coal) which could provide upside to this outlook.

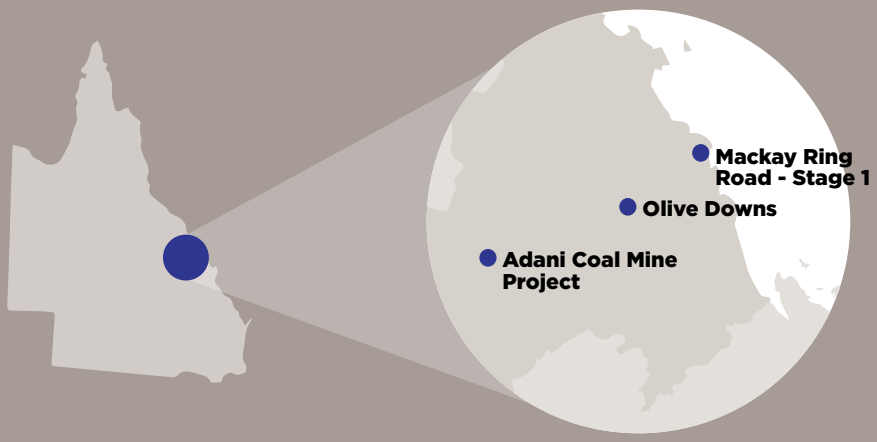
Pipeline health

CHART 22: FUNDED MAJOR PROJECT PIPELINE BY SECTOR & FUNDED AND UNFUNDED PIPELINE



MACKAY – ISAAC

"'Mini' Adani coal project and other resources developments should support activity"



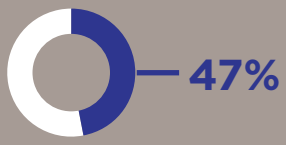
Population: 174,034

Population growth has averaged 0.7% per annum over the last 10 years.

Sectors Driving Growth:

Resources, roads, rail, renewables.

Unfunded Share:



Key Unfunded Projects:

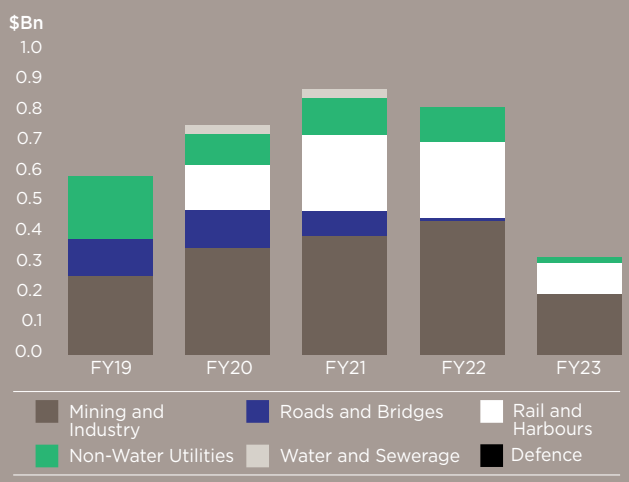
Shell / Arrow Water Treatment Facilities Bowen ($250m), Urannah Dam ($250m), Arrow Bowen Pipeline ($450m), Eagle Downs coking coal ($1.25bn), Peak Downs coal expansion ($460m).

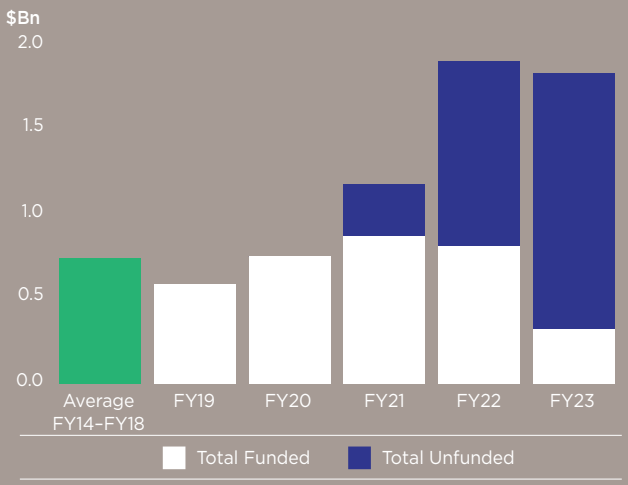
Pipeline health

Outlook:

Major project activity in the Mackay-Isaac region is traditionally supported by significant resources projects, but has been supplemented in recent years with a burst of renewable energy projects including the Daydream, Hayman, Collinsville and Moranbah solar farms. Looking ahead, funded work in the pipeline is now heavily influenced by Adani's announcement to construct a 'scaled down' Carmichael coal mine (10mtpa) and related infrastructure across rail, water and electricity transmission. There is potential upside to major project activity in the early 2020s if coal prices are sustained.

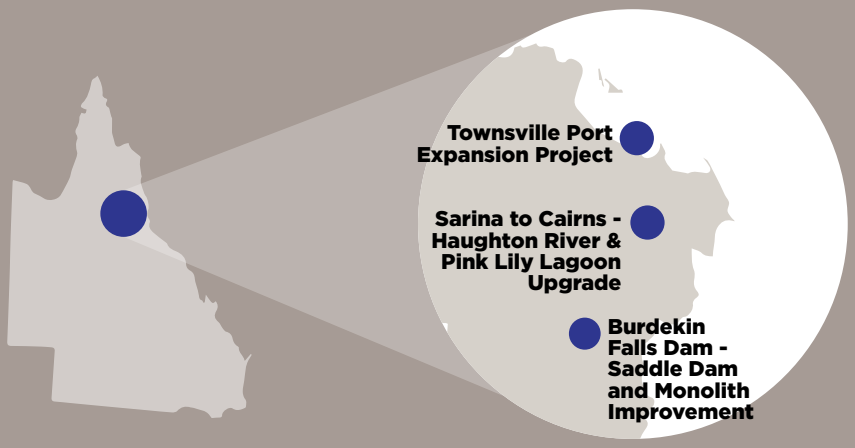
CHART 27: FUNDED MAJOR PROJECT PIPELINE BY SECTOR & FUNDED AND UNFUNDED PIPELINE





TOWNSVILLE

> "Funded defence, water and renewables projects will continue to support the Townsville region, however there is a very large volume of unfunded work in the pipeline"



Population: 238,369

Population growth has averaged 1.2% per annum over the last 10 years.

Sectors Driving Growth:

Defence, water, renewables and harbours.

Unfunded Share:

Key Unfunded Projects:

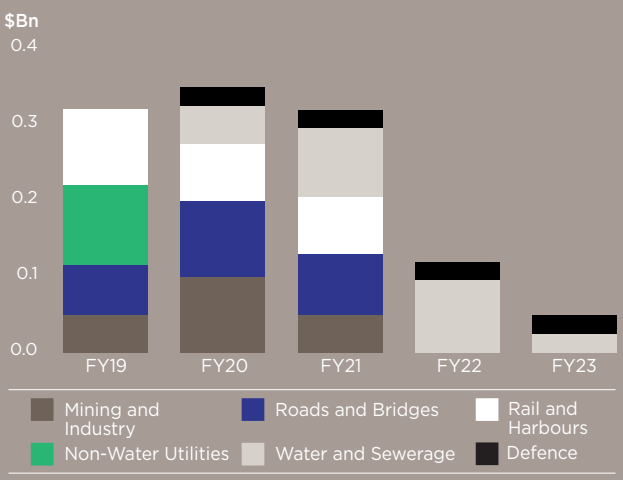
Sarina to Cairns - Saltwater Creek Upgrade ($103m), Townsville Ring Road Stage 5 ($180m), Townsville Port Expansion Project - Outer Harbour Expansion (Berths 14+15, $200m).

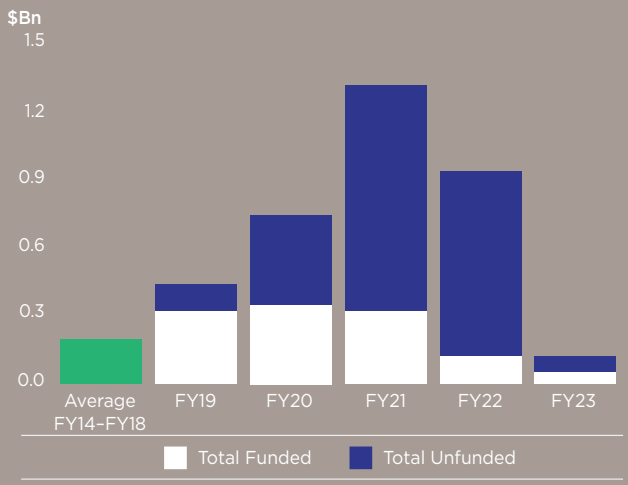
Pipeline health

Outlook:

Major project work in 2018/19 has been underpinned by nearly $300m in renewable energy works, but funded pipeline activity eases in coming years as many of these projects wind down, despite strengthening roads, rail and water works. The key upside for the region remains electricity, with $873m of the $2.4bn in unfunded work in the pipeline associated with further electricity projects, including the credibly proposed North Queensland Power Station. Apart from electricity, there is also over $1.2bn in unfunded minerals and other heavy industry major project work in the Townsville region over the next five years, as well as $180m in unfunded road works (Townsville Ring Road).

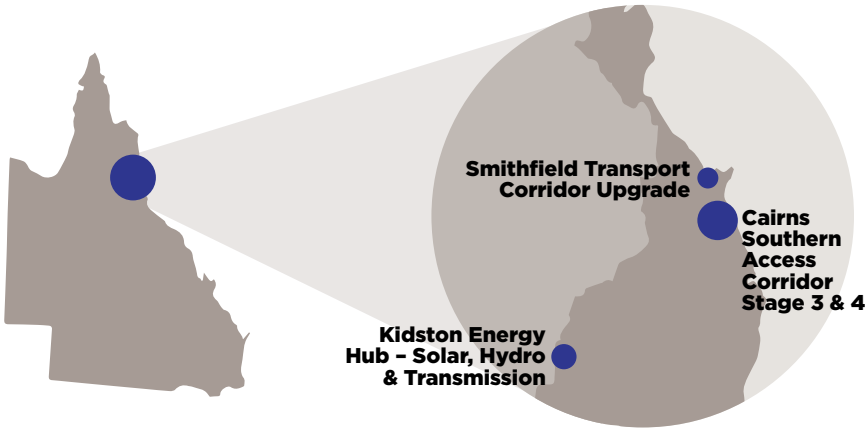
CHART 24: FUNDED MAJOR PROJECT PIPELINE BY SECTOR & FUNDED AND UNFUNDED PIPELINE





CAIRNS

"Roads activity will continue to support Cairns, but this region has a very high proportion of unfunded work in the pipeline"



Outlook:

Funded work is anticipated to be strong in the Cairns region in 2018/19 – well above the average for the past five years – supported by a myriad renewable energy projects. However, major project activity in the Cairns region is easing right through the next five years, despite a pickup in funded roads works, as the current mix of renewables projects wind down to completion. If the Kidston hydro project and transmission link were to proceed, this could result in a large upswing in regional activity in 2019/20 and into 2020/21. The upswing during this period could be even stronger if the $250m Nullinga Dam were to go ahead.

Population: 253,202

Population growth has averaged 1.3% per annum over the last 10 years.

Sectors Driving Growth:

Roads and renewable electricity generation.

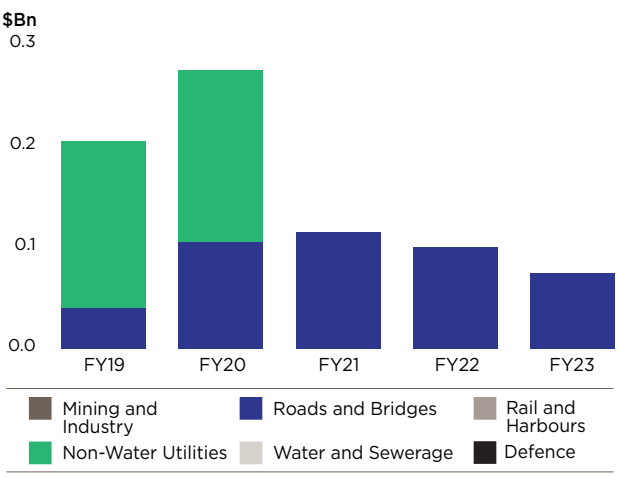
Unfunded Share:

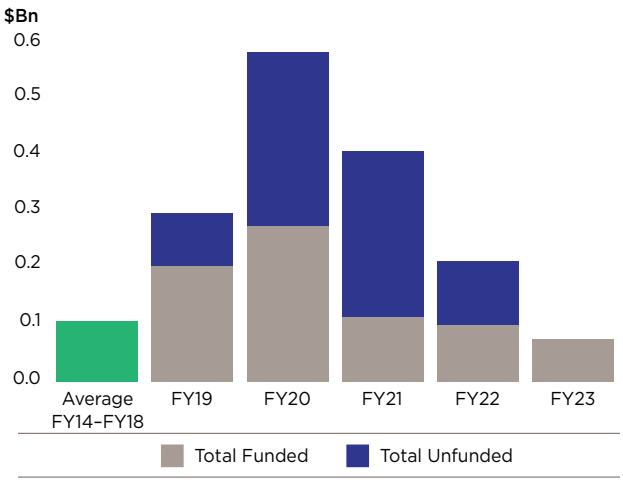
Key Unfunded Projects:

Red Dome Mungana gold ($330m), Kidston Stage 3 Wind Project ($250m), Kidston Pumped Hydro Storage Project ($330m), North Queensland Transmission Line ($150m).

Pipeline health

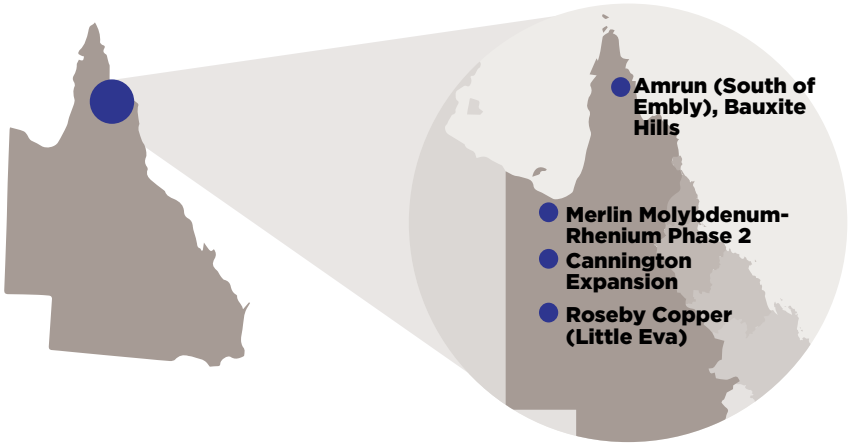
CHART 26: FUNDED MAJOR PROJECT PIPELINE BY SECTOR & FUNDED AND UNFUNDED PIPELINE





OUTBACK

"The resource construction boom in the Outback region is now over and, after 2018/19, all of the major project work in the pipeline is unfunded"



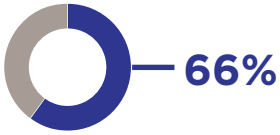
Population: 81,753

Population growth has averaged -0.2% per annum over the last 10 years.

Sectors Driving Growth:

Resources and water.

Unfunded Share:



Key Unfunded Projects:

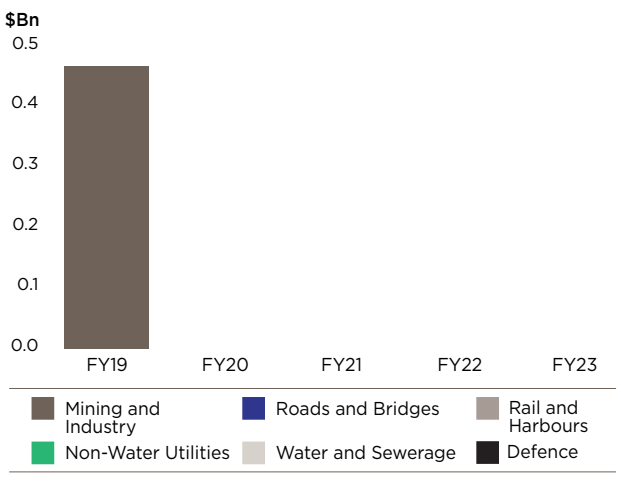
Merlin Molybdenum-Rhenium Phase 2 ($345m), Cannington Expansion ($400m), Roseby Copper (Little Eva, $320m), Ardmore Project -Phosphate Project ($120m).

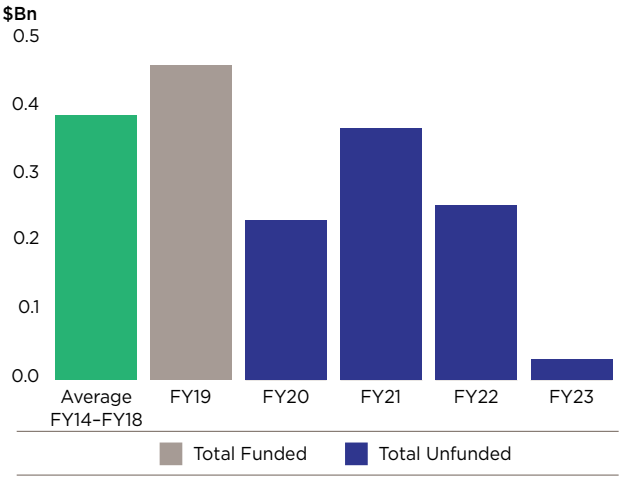
Pipeline health

Outlook:

The Outback region covers approximately two thirds of the Queensland land area. While it represents only a very small fraction of the Queensland population, it does encompass significant minerals resources areas and waterways. After 2018/19, with the completion of the Amrun bauxite project, there are no funded major projects in the pipeline, although there are a significant number of unfunded prospective resources projects across molybdenum, copper, silver-lead-zinc, phosphate and graphite. These projects need to clear hurdles regarding financing and financial viability, remoteness, and the environment. However, while some projects may proceed, it is highly unlikely that total activity over the next five years will match that of the previous five years, which were driven by the very large Dugald River zinc ($1.5bn) and Amrun bauxite ($2.1bn including port works) projects.

CHART 23: FUNDED MAJOR PROJECT PIPELINE BY SECTOR & FUNDED AND UNFUNDED PIPELINE





ECONOMX

Local Content is undertaking rapid evolution. Are you ahead of the curve?

Local Content is evolving. Once upon a time Local Content standards were contained in the distant back waters of Schedule Z and were satisfied through transactional advertising of a handful of procurement packages.

Contemporary Local Content however is a lot different. Local Content is an area of high transparency, high risk and high opportunity and interfaces with numerous stakeholders with numerous needs and requirements which cover contracting, employment and community requirements.

We help our clients design their strategy, to execute their plans and maximise their commercial and social returns from smart Local Content

FOR MORE INFORMATION
www.economx.com – ben.hughes@economx.com

economx

PLANGRID

PlanGrid is the leader in construction productivity software.

Used on more than one million projects in 84 countries, PlanGrid's value extends over numerous phases of construction, building a massive and accurate history of every jobsite through everyday use that creates a data-rich record set at turnover that is essential to long-term operations.

PlanGrid is the first construction productivity software that allows contractors and owners in commercial, heavy civil and other industries to collaborate easily from their mobile devices and desktop, managing drawings, specs, photos, RFIs, field reports and defect lists.

For more information and a free trial, visit www.plangrid.com or email apac@plangrid.com. PlanGrid, recently acquired by Autodesk.
PlanGrid T | 1800 316 406 E | apac@plangrid.com W | www.plangrid.com

PlanGrid

ECONOMIC DRIVERS

The Queensland economy is traditionally one of the stronger state performers in Australia, but has been impacted in recent years by weak investment growth.

While one of Australia's key 'resources' states – and one of the largest exporters of coal (and now gas) – the state economy is actually highly diversified and increasingly linked into global trade networks through tourism, agriculture and education industries.

Overall, Queensland economic growth (as measured by GSP) is expected to slow below 3% over the next two years, before stronger growth in investment and consumer spending pushes GSP higher in the early 2020s.

KEY POINTS

ECONOMIC GROWTH TO SLOW FROM WEAKER PUBLIC AND PRIVATE INVESTMENT

Queensland's economic growth (as measured by Gross State Product or GSP) rose from 2.0% in 2016/17 to 3.4% in 2017/18, after averaging just 2.1% growth since 2012/13. The pick-up in 2017/18 has been underpinned by strong growth in private non-dwelling construction. Economic growth is expected to slow below 3% this financial year however given weaker stimulus from public and private investment.

QUEENSLAND ECONOMY RECOVERING BUT SUSTAINABLE GROWTH STILL YEARS AWAY

Queensland State Final Demand (SFD) grew to 3.6% in 2017/18. SFD growth in 2017/18 has been driven by strong increases in private investment (up 5.2%) – in turn led by private non-dwelling construction (up 16%) and investment in plant and equipment (up 7.6%) – as well as government consumption expenditure (up 5.6%). Unlike private investment, however, public investment fell 0.9% in 2017/18, presenting a drag on state economic growth.

QUEENSLAND ECONOMIC PERFORMANCE SYNCHRONISING WITH OTHER STATES

Queensland's economic growth is gradually syncing back in line with other states following the large boom and bust in public and private investment. While economic growth (GSP) will be supported by growth in net exports, SFD is expected to slow this financial year as weaker growth in investment, wages and consumer spending take their toll, despite higher population growth.

GLOBAL ECONOMY HAS BEEN POSITIVE TO QUEENSLAND BUT IS SET TO SLOW

Global economic growth is estimated to have peaked in calendar 2018, but will likely moderate in coming years, presenting risks and challenges to the Queensland economy. World Gross Domestic Product (GDP) growth accelerated to 3.7% in calendar 2018. From here, the world economy will begin to slow, with growth forecast to average 3.5% over the next five years, with significant downside risks emerging.

KEY POINTS – FURTHER ANALYSIS

ECONOMIC GROWTH TO SLOW FROM WEAKER PUBLIC AND PRIVATE INVESTMENT

Private residential investment fell 4.1% in 2017/18, following a four year upswing, and further modest falls in new dwelling building activity are likely over the next two years due to oversupply (particularly in the unit segment), with higher population growth helping to limit the housing decline. The falls in new dwelling buildings work will be partially offset by higher alterations and additions activity. The reduced drag from falling mining investment has helped the turnaround in state economic growth. Mining investment is now rising, led by increases in mining equipment purchases and exploration, with a recovery in mining-related engineering construction expected to get underway from 2020/21. However, after resource exports made a significant contribution to GSP over recent years (and helped keep economic growth positive), export growth has stalled as the Gladstone LNG plants have finished ramping up and as some export gas has been diverted back to the domestic market. There have also been some disruptions to coal and other resource exports.

Non-mining business investment is now recovering, particularly in the trade-exposed sectors (which are being boosted by the more competitive Australian dollar). Equipment and intellectual property products investment is expected to rise further over the next two years, before strengthening again through the early 2020s. Private non-residential building rebounded in 2017/18 and is forecast to exhibit robust increases over the next two years, before easing.

Private infrastructure construction (non-mining engineering construction) has also lifted recently, boosted almost entirely by a near 7-fold increase in electricity generation (mostly renewables) construction activity. However, this "renewables boom" is at risk of reversing this financial year and next as work on a range of renewables projects winds down.

The trend decline in new public investment in Queensland has stabilised somewhat over the past two years, after falling by a third over the previous six years, although new public investment did fall slightly again in 2017/18. Publicly funded engineering construction actually rose in 2017/18 – led by roads and water projects – as did public non-residential building, but was offset by lower public investment in equipment and intangibles. Public investment is expected to edge higher this financial year and next, led by roads, rail, water and sewerage, electricity and non-dwelling building projects, although the completion of the NBN will mute the overall improvement.

After strong export growth over the four years to 2016/17, export growth stalled in 2017/18. However, the Australian dollar is expected to remain in a competitive band, boosting the tradeable sectors of agriculture, tourism (including parts of retail trade), manufacturing and mining, with export growth expected to recover over the medium term.

STATE FINAL DEMAND (SFD) IS EXPECTED TO SLOW THIS FINANCIAL YEAR AS WEAKER GROWTH IN INVESTMENT, WAGES AND CONSUMER SPENDING TAKE THEIR TOLL, DESPITE HIGHER POPULATION GROWTH

BRISBANE AIRPORT – INTERNATIONAL TERMINAL

QUEENSLAND ECONOMY RECOVERING BUT SUSTAINABLE GROWTH STILL YEARS AWAY

The Queensland economy, as measured by State Final Demand (SFD), has staged a recovery over the last two years, turning from contraction in 2014/15 and 2015/16 to solid growth of 3.6% in 2017/18. That's ahead of the pace of domestic demand growth for Australia of 3.3%. Gross State Product (GSP) growth also rose to 3.4%, bettering national GDP growth of 2.9%, albeit Queensland's growth was coming off a low base.

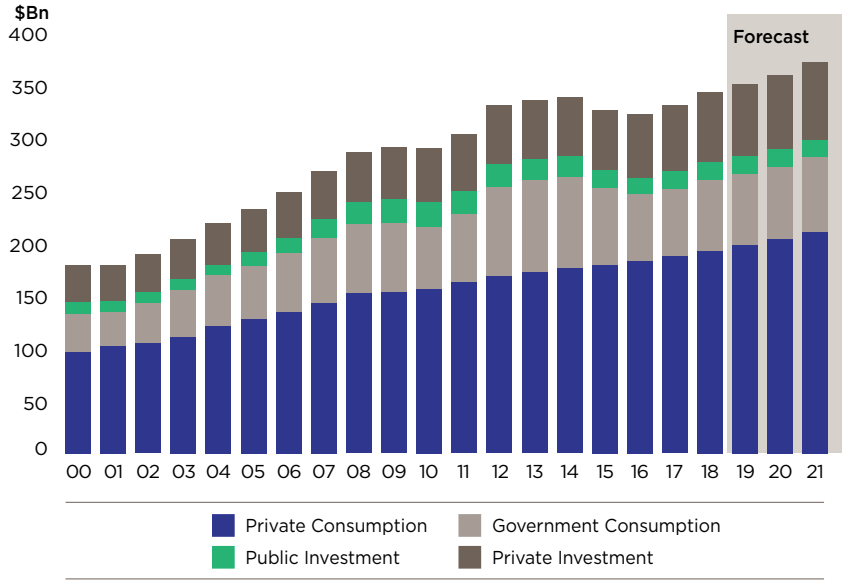
Reflecting the economic improvement, employment growth in Queensland strengthened through 2017/18. However, much of the growth came through the first six months of 2017/18, with employment growth falling back near zero in the first half of calendar 2018, and well below the national pace of growth. At 6.4% Queensland's unemployment rate remains well above the national average (5.1%) at the end of 2018.

While the Queensland economy is now improving, it will still be another 3 years before stronger, sustained growth returns. Indeed, growth in SFD is forecast to slow to an average of 2.6% over the next two years.

As in other states, investment cycles are not synchronised across the different sectors, while there will be a mixture of drivers and drags on growth over the next 2 years

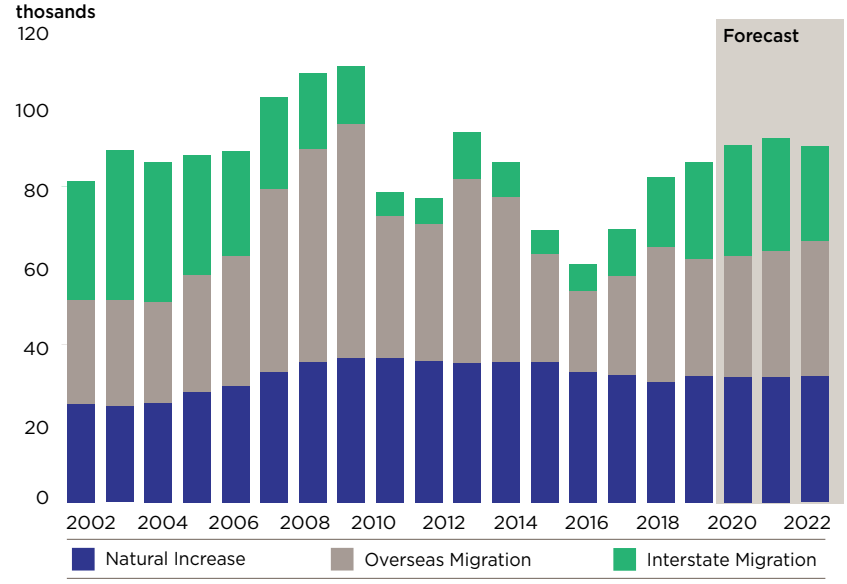
Population growth is now re-accelerating toward 1.8%, after slower population growth over recent years (with a low of 1.2% in 2014/15) limited spending growth. Accelerating population growth is being driven by higher interstate and international migration inflows (see Figure 29 on page opposite). The rising population will provide some support to aggregate household spending, although weak wages and slower employment growth will continue to constrain consumer spending over the next two years.

FIGURE 28: QUEENSLAND ECONOMY – COMPONENTS OF STATE FINAL DEMAND



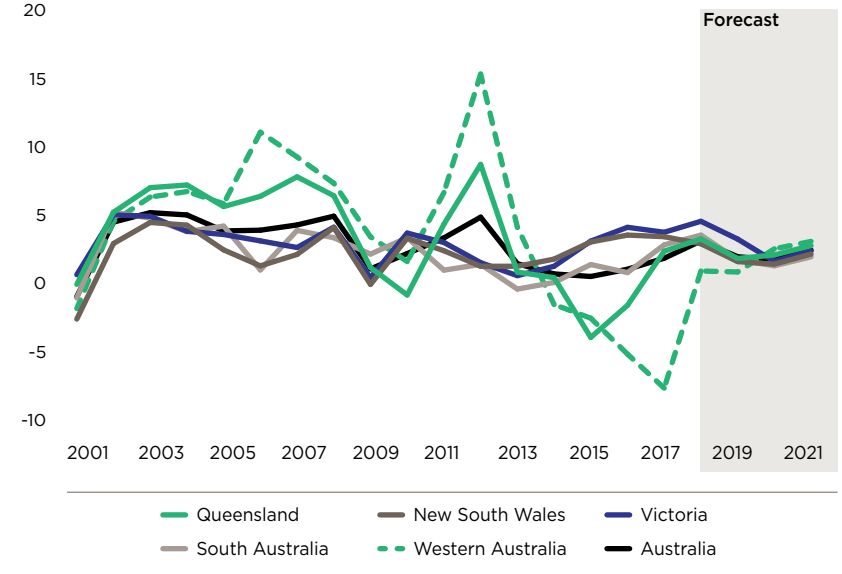
Source: BBIS Oxford Economics, ABS data

FIGURE 29: QUEENSLAND ANNUAL POPULATION INCREASE BY SOURCE, THOUSANDS OF PERSONS



Source: BBIS Oxford Economics, ABS data

FIGURE 30: GROWTH IN STATE FINAL DEMAND (STATES) AND GROSS NATIONAL EXPENDITURE (AUSTRALIA), 2001-2021, ANNUAL PERCENT CHANGE



Source: BIS Oxford Economics, ABS data

Private residential investment fell 4.1% in 2017/18, following a four year upswing, and further modest falls in new dwelling building activity are likely over the next two years due to oversupply (particularly in the unit segment), with higher population growth helping to limit the housing decline. The falls in new dwelling buildings work will be partially offset by higher alterations and additions activity. The reduced drag from falling mining investment has helped the turnaround in state economic growth. Mining investment is now rising, led by increases in mining equipment purchases and exploration, with a recovery in mining-related engineering construction expected to get underway from 2020/21. However, after resource exports made a significant contribution to GSP over recent years (and helped keep economic growth positive), export growth has stalled as the Gladstone LNG plants have finished ramping up and as some export gas has been diverted back to the domestic market. There have also been some disruptions to coal and other resource exports. Non-mining business investment is now recovering, particularly in the trade-exposed sectors (which are being boosted by the more competitive Australian dollar). Equipment and intellectual property products investment is expected to rise further over the next two years, before strengthening again through the early 2020s. Private non-residential building rebounded in 2017/18 and is forecast to exhibit robust increases over the next two years, before easing.

Private infrastructure construction (non-mining engineering construction) has also lifted recently, boosted almost entirely by a near 7-fold increase in electricity generation (mostly renewables) construction activity. However, this "renewables boom" is at risk of reversing this financial year and next as work on a range of renewables projects winds down.

The trend decline in new public investment in Queensland has stabilised somewhat over the past two years, after falling by a third over the previous six years, although new public investment did fall slightly again in 2017/18. Publicly funded engineering construction actually rose in 2017/18 – led by roads and water projects – as did public non-residential building, but was offset by lower public investment in equipment and intangibles. Public investment is expected to edge higher this financial year and next, led by roads, rail, water and sewerage, electricity and non-dwelling building projects, although the completion of the NBN will mute the overall improvement.

After strong export growth over the four years to 2016/17, export growth stalled in 2017/18. However, the Australian dollar is expected to remain in a competitive band, boosting the tradeable sectors of agriculture, tourism (including parts of retail trade), manufacturing and mining, with export growth expected to recover over the medium term.

QUEENSLAND ECONOMIC PERFORMANCE SYNCHRONISING WITH OTHER STATES

The economic performance of Australia's states is becoming increasingly synchronised. The mining states – Queensland and Western Australia – have borne the worst of the investment downturn, and all states are benefitting from the lower Australian dollar (via trade exposed service and goods industries) and the improvement in the broader domestic non-mining sector.

Western Australia will be propped up by the ramp up in LNG production, while growth in South Australia is expected to remain modest. Momentum is also set to moderate slightly in the Australian Capital Territory after their recent strong performance.

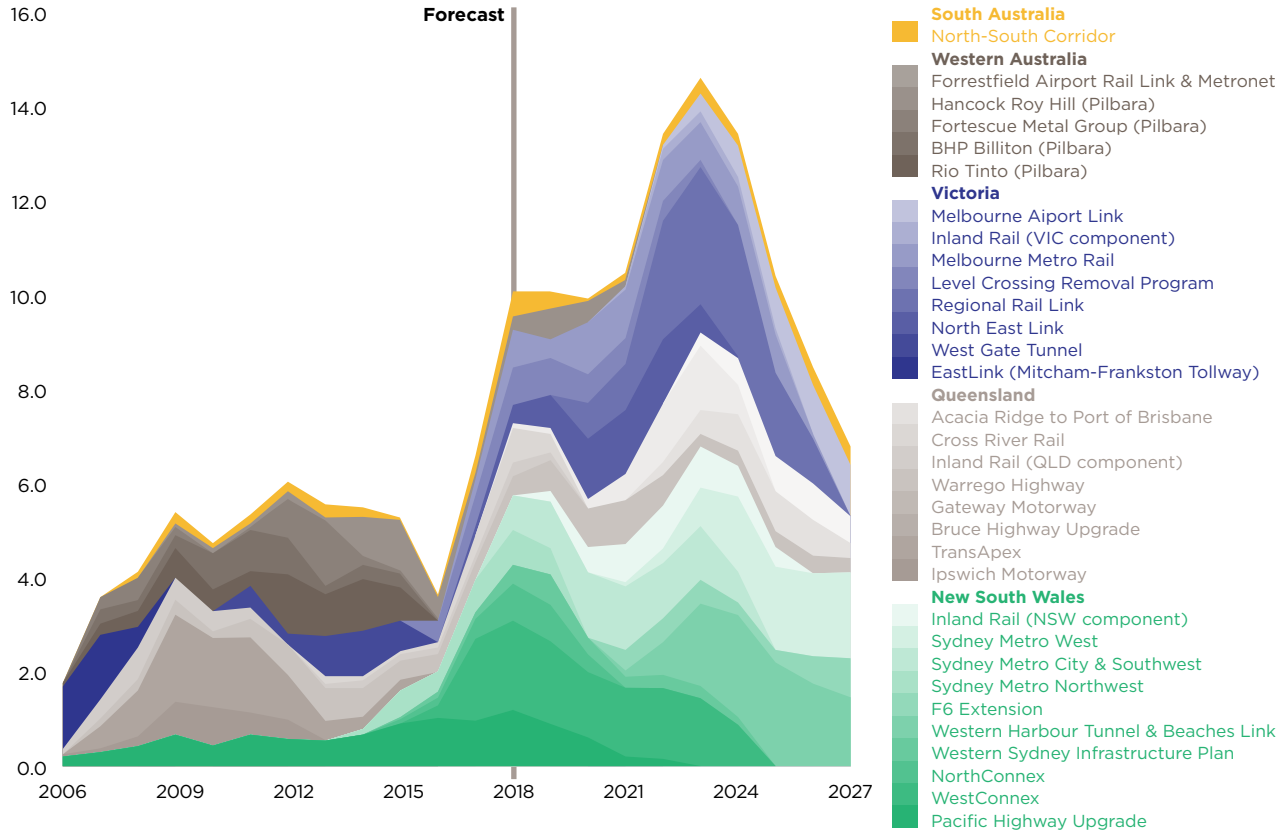
Figure 30 (previous page) shows how regional economic performance shifted to service the mining-resource rich states of Western Australia and Queensland during the two phases of the resources investment boom (2003-08, and again in 2010-13), and allowed these states to capitalise on any latent construction capacity from other jurisdictions.

Growth in New South Wales and Victoria has been underpinned by strong levels of migration and continued buoyancy in construction. But these drivers will ease back in coming years, and growth is expected to decelerate from 2017/18 levels. Queensland's economy is also expected to decelerate in line with investment growth, despite rising migration and net exports.

Victoria was the strongest performing large state in 2017/18, benefiting from strong population growth and dwelling construction, as well as strength in a range of services and construction related to public infrastructure investment. However, the state's economic performance will moderate as migration and construction fall back.

Similarly, New South Wales was an outperforming state, but momentum has slowed recently - the state lagged the national average in 2017/18. Growth will continue to decelerate in line with the downturn in residential construction and lower levels of migration.

FIGURE 31: MAJOR TRANSPORT PROJECTS OVER $2BN, AUSTRALIA, VALUE OF WORK DONE



Source: BIS Oxford Economics

On top of the east coast building boom, however, the state governments in Victoria and New South Wales were already planning for "catch-up" infrastructure investment that had been delayed through the resources boom years – including port and electricity long term asset leases that would provide critical finance for large, generational infrastructure investments.

As population growth and housing activity returned to these states post resources boom, the resultant surge in property revenues augmented the finance from the asset leases, turbo-charging a long – and likely sustained – infrastructure cycle.

Overall, Australian Gross National Expenditure (or GNE, the national corollary of SFD) accelerated to 3.3% in 2017/18, led mainly by a pickup in private investment (particularly non-dwelling construction and purchases of plant and equipment).

However, slowing dwelling building and consumer spending, along with generally weaker investment growth is expected to see GNE growth weaken in coming years.

However, over the last few years, this situation has reversed. Resources and skills have progressively flowed into the New South Wales and Victorian economies to service the growing infrastructure and building boom taking place there.

LAKE MANCHESTER DAM UPGRADE

TRANSPORT INFRASTRUCTURE

New South Wales

Transport infrastructure construction surged to $11.3bn in 2017/18, already up 70% from the 2014/15 trough. Given new projects such as Inland Rail, Western Sydney Airport, Sydney Metro Stage 2 City and Southwest, Sydney Metro West and the Western Harbour Tunnel and Beaches Link, BIS Oxford Economics is forecasting New South Wales transport infrastructure investment to surpass $14bn in 2022/23 alone.

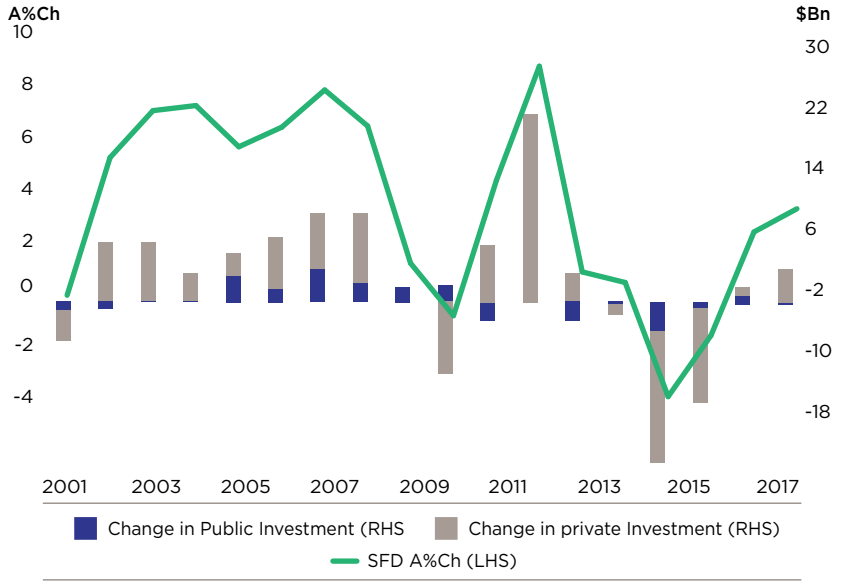
Victoria

The situation is similar with transport infrastructure construction already having risen 107% since the 2013/14 trough (to $7.3bn) and, with new investments in the Melbourne Metro as well as major road projects such as the North East Link, activity will be sustained at a high level, before edging higher again in the early 2020s.

Queensland

Transport infrastructure construction has risen only 37% from $4.1bn in 2015/16 to $5.6bn in 2017/18. However, with further large projects taking place across the Bruce Highway, Pacific Motorway, Inland Rail and Cross River Rail projects, this figure is expected to rise above $7bn, albeit not until the early 2020s.

FIGURE 32: NET ANNUAL CHANGE IN INVESTMENT AND STATE FINAL DEMAND, QUEENSLAND



Source: BBIS Oxford Economics, ABS data

FIGURE 33: WORLD ECONOMIC GROWTH, ANNUAL PERCENT CHANGE

	Calendar year, real							
Year Ended December	**GDP**	**US**	**Japan**	**Euro area**	**China**	**India**	**Developing Asia**	**World GDP**
2009	-3.5	-2.8	-5.4	-4.3	9.5	5.1	4.4	-0.5
2010	3.0	2.5	4.2	2.1	10.6	10.9	4.8	5.3
2011	2.0	1.6	-0.1	1.7	9.5	6.9	4.3	4.1
2012	1.4	2.2	1.5	-0.4	7.8	5.5	4.2	3.3
2013	1.5	1.7	2.0	0.3	7.8	6.2	3.8	3.4
2014	2.2	2.6	0.3	1.8	7.3	7.1	4.0	3.5
2015	2.5	2.9	1.4	2.2	6.9	7.5	4.5	3.2
2016	1.8	1.6	0.6	1.9	6.7	7.9	6.3	3.3
2017	2.5	2.3	1.8	2.4	6.9	6.2	4.2	3.7
Forecast								
2018	2.5	2.8	1.7	2.2	6.4	7.5	4.1	3.9
2019	2.0	2.0	0.9	1.8	6.0	7.0	4.0	3.6
2020	1.6	1.5	0.0	1.6	5.7	6.9	4.0	3.5
2021	1.6	1.5	0.9	1.5	5.4	6.6	3.9	3.4
2022	1.6	1.5	0.9	1.4	5.2	6.4	3.8	3.3
2023	1.7	1.9	0.8	1.2	5.0	6.4	5.0	3.4
Average Growth Rates								
2004-2008	2.8	2.4	1.2	2.1	11.6	8.5	9.5	4.8
2009-2013	2.0	1.1	0.4	-0.4	9.0	6.9	7.6	3.1
2014-2018	2.1	2.4	1.0	1.9	6.9	7.2	6.3	3.5
Forecast								
2019-2023	1.8	2.0	0.8	1.4	5.5	6.8	5.3	3.4
2024-2028	1.5	1.9	0.6	1.0	4.6	6.1	4.6	3.2

The most significant infrastructure investments undertaken by New South Wales and Victoria have focused on urban solutions to unlock greater efficiencies and productivity in Sydney and Melbourne, mirroring concerns from Infrastructure Australia that more investment here was required to avoid an emerging infrastructure gap. Combined with the Commonwealth Government's own large Infrastructure Investment Program (IIP) and its interest in revolutionising east coast freight links (through the $10bn+ Inland Rail project) as well as another direct equity investment in building the Western Sydney Airport, the infrastructure construction boom along Australia's east coast is unlikely to subside anytime soon, and dominates the outlook for major transport project construction nationally as highlighted in Figure 31 (previous page). Indeed, the peak of the "major projects" transport investment cycle across road and rail infrastructure is not expected until the early to mid-2020s based on current projections, and the perceived 'slump' in investment post 2023/24 once current projects run their course may not eventuate if these states continue to use asset recycling strategies, debt finance, or private public partnerships to extend infrastructure investment further. Figure 31, for instance, does not include potential rail links to the Western Sydney Airport, nor Victoria's recent announcements of a potential $30bn+ development of an outer suburban rail network.

With stronger state finances, much of the infrastructure investment boom in New South Wales and Victoria is being publicly funded, albeit with plans to 'recycle' funds from long term asset leases. By contrast, Queensland public investment has actually fallen in real terms for 7 of the past 8 years, with only a 2.6% increase in 2016/17 breaking a sequence of falls since 2010/11. A 0.9% fall in public investment in 2017/18 sees activity a cumulative $7.2bn (or 31%) below the very high 2009/10 peak, but still well above the levels of (likely under) investment during the 1990s and early 2000s.

GLOBAL ECONOMY HAS BEEN POSITIVE TO QUEENSLAND BUT IS SET TO SLOW

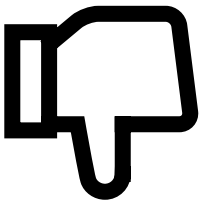
The Australian and Queensland economies have been supported by a relatively positive global economy in calendar 2017 and 2018. Despite a number of risk factors, global economic growth over calendar 2018 will likely have been the strongest since 2010. However, recent quarters of growth have been less spectacular and growth is expected to slow further in coming years, presenting challenges for resources-heavy trade-exposed economies such as Queensland.

Global economic growth is estimated to have peaked at 3.7% in calendar 2018 (GDP, US$ prices, PPP exchange rate), as developed economies move towards full employment and China continues its steady transition to a slower, more sustainable growth trajectory. Concerns over protectionism, a weak Chinese yuan, rising US interest rates, economic instability in emerging markets as monetary settings revert to more 'normal' levels, and the growing risk of a hard Brexit present key economic risks in the short to medium term.

The US economy is currently growing at its fastest pace in four years, but with capacity constraints starting to bite, growth is expected to slow as the fiscal boost from tax cuts dissipates and US interest rates rise. Chinese growth will continue to decelerate as the economy proceeds with its own structural transformation toward domestic led growth. Momentum is also expected to ease in Japan and Europe as they return to full employment.

On the other hand, solid growth is expected to continue in India and most of east Asia (excluding China and Japan), which augers well for Queensland exports. Nevertheless, rising US interest rates will pose a risk for a number of emerging economies given their high levels of foreign debt and the depreciating impact of US rate rises on their currencies.

Of more concern is rising protectionism in the form of tariffs imposed by the US and reciprocal responses from China and Europe. Although our current view is that the trade war itself will have a relatively small impact on overall global growth, downside risks have increased. Much of the risks relate to uncertainty and their effects on business and consumer confidence. Already there has been a correction to commodity prices, and we expect trade uncertainties to weigh on prices for the next 1-2 years. However, by the early 2020s, the tightening supply-demand balance in a number of commodity markets is expected to initiate a recovery in prices, which will likely fuel the next round of mining investment.



THE RISK OF A SHARPER SLOWDOWN IN CHINESE GROWTH (AND DEMAND FOR QUEENSLAND COMMODITIES) WOULD PUT THE STATE IN A MORE VULNERABLE POSITION

WHILE THE QUEENSLAND ECONOMY IS NOW IMPROVING, IT WILL STILL BE ANOTHER THREE YEARS BEFORE STRONGER, SUSTAINED GROWTH RETURNS

SWING STAGE GANTRY

KEY RISKS TO THE ECONOMIC OUTLOOK

The authorities are committed to maintaining growth around 6% per annum over the near term. Over the medium term, we expect the government to continue to gradually liberalise the financial system and broader economy, which will allow balance sheets to adjust and for financial risks to ease back.

Escalation of the current trade war

The most obvious external downside risk to Queensland's economic outlook relates to a further escalation of the current trade war between the US and China and Europe (and some other countries that run a trade surplus with the US). So far the US has imposed punitive tariffs of 10% to 25% on a wide range of items, with some higher tariffs on specific items.

These actions have been followed by retaliatory measures from China and Europe. With US President Donald Trump threatening to impose tariffs on more Chinese imports into the US, the downside risks have certainly increased. Analysis by Oxford Economics suggests that while the direct impact on growth is relatively small the indirect effects can be material. There is a risk that uncertainty around how far the shift in US tariff policy will go will weigh on business and consumer confidence and spending plans.

Australia has been a major beneficiary of the significant growth in trade between China and the US, and indeed, China and the rest of the world. If Trump significantly upped the ante (including one of his earlier threats to impose 45% tariffs on China), the resulting retaliatory action would lead to an all-out trade war, with BIS Oxford Economics modelling estimating this would cut between 0.5% and 1% off Australia's economic growth, with potentially even worse outcomes for Queensland, given its close trade links with the Asian region.

The risk of a sharper slowdown in Chinese growth (and demand for Queensland commodities) would put the state in a more vulnerable position – China accounts for over 30% of Australia's exports, and sits at the heart of East Asian supply chains.

The most likely trigger for a downturn is a correction in financial and/or property markets on the mainland, which could be set off by an aggressive tightening of credit lending by the authorities. However, this scenario is unlikely.

Property markets non-mining investment and upcoming election key domestic risks

Domestic risks are centred on property markets, the pace of growth in non-mining investment and the consequences of the next Federal election (due during or before May 2019).

While house prices are expected to achieve a soft landing, there is increasing risk of a more substantial adjustment. BIS Oxford Economics and the RBA still regards this risk as being low, because in aggregate, household debt repayments as a proportion of household income are not at critically high levels. Indeed, many households are ahead in terms of mortgage repayments.

THE ECONOMIC PERFORMANCE OF AUSTRALIA'S STATES IS BECOMING INCREASINGLY SYNCHRONISED

Nevertheless, the housing market was due for a correction and if, as expected, this correction is 'mild', it reduces the risk of high debt in the medium term. Queensland overall remains better placed than New South Wales or Victoria given it has already seen a substantial correction in dwelling building activity (particularly in the inner-city units segment) and, with stronger population growth, will likely outperform other east coast states in terms of house price growth.

There is also an upside risk that non-mining investment comes through sooner and stronger than anticipated, possibly via the tradeables sectors ramping up investment faster than we expect, which may then flow quickly onto other industries. Upside growth potential could also come from a marked acceleration in wages growth, which would underpin stronger household consumption expenditure.

Longer term, the main risk to Queensland – and Australia's growth prospects – relate to the fundamental drivers of growth – lower trend population growth and declining labour productivity growth.

However, we expect relatively high income levels to continue to attract migrants. Furthermore, as the positive benefits of the terms of trade and increased labour supply of the past decade or two start to wane, we expect both governments and businesses to make a more concerted effort to invest to sustain growth in productivity in the long run.

Inconsistent energy and climate change policy

A lack of clarity and consistency in Australia's energy and climate change policies represents both a major short term risk and longer term threat to the Queensland economy, but this may become clearer after the next Federal election, given very different policy stances held by both major parties. Policy failures in energy have seen substantial rises in gas and electricity prices over the past two years, which have stopped energy-intensive investments proceeding and hampered the competitiveness of manufacturers – with some major businesses threatened with closure and/or relocation overseas. Once lost, these industries are unlikely to return.

Meanwhile, the related abandonment of a coherent, market-based carbon-reduction scheme in 2014, and replacement with an inferior scheme, is hampering efforts to reduce Australia's greenhouse gas emissions and target larger reductions – with Australia's current target of 26-28% below 2005 levels by 2030 unlikely to be achieved. This means the economy will – at some stage over the medium to longer term – need to undertake some harder structural adjustments with larger negative economic impacts on potential growth, in order to reduce emissions.

The beneficial flipside to the development of a coherent energy and climate change policy – as well as further funding for clean energy – is that it would likely provide the certainty needed to stimulate further investment in renewable energy generation projects. As outlined in this Report, renewable energy generation and transmission works has been a major driver of growth in privately funded engineering construction in Queensland recently, with electricity engineering construction activity rising five-fold to $1.85bn in 2017/18.

CBUS

A Role for Superannuation Funds in Financing Major Queensland Projects

Leveraging additional private sector investment is a key objective of public sector policy to support the development of major Queensland projects, which will ultimately boost economic growth in the State. Superannuation funds are a natural investor in infrastructure assets, which provide long-term, stable cashflows that align with the long timeframes of members through their accumulation and retirement phases. Superannuation investment has historically focused on "brownfield", established operating assets that generate proven cashflows. However, superannuation funds have also invested in Australian "greenfield" new development projects through debt and equity investments with fund managers and there is an increasing focus from a number of larger funds on direct investments.

Greenfield investments in suitable projects can improve diversification, offer an attractive risk return profile and provide access to alternative revenue sources such as availability payments from highly rated Governments. These complement traditional GDP-linked assets such as ports and airports. According to Diana Callebaut, Head of Infrastructure at Cbus "For an industry super fund like Cbus, investing in greenfield assets also has a strong alignment with our membership base in the building and construction industry. From the perspective of governments as procuring authorities for new projects, Australian superannuation funds are responsible custodians of infrastructure assets, with returns funding the retirement savings of members."

As an example, Cbus has total funds under management of circa $46.5 billion at 31 December 2018, with circa $5.3 billion invested in diversified infrastructure assets. The majority of the infrastructure portfolio is invested through fund managers, IFM Investors and Morrison and Co, and associated co-investments.

Callebaut notes Cbus is invested in major Queensland projects through IFM's Australian Infrastructure Fund, which acquired shares in Brisbane Airport in 1997 and the Port of Brisbane in 2010. Cbus has also developed commercial and residential projects in Queensland, including 1 William Street Brisbane, through its wholly-owned subsidiary Cbus Property.

In addition, Cbus has an increasing allocation to both greenfield and brownfield direct investments as part of its Next Generation Investment Framework. In 2018, Cbus directly invested alongside the Dutch Infrastructure Fund and Synergy in a portfolio of wind and solar renewable generation assets in Western Australia known as Bright Energy Investments, as well as taking a stake in UK ports group Forth Ports. Superannuation funds like Cbus are actively monitoring the pipeline of major public private partnership and other key projects in Queensland.

There are a number of measures that Callebaut believes governments have been and can continue to implement to provide greater certainty to superannuation funds and other private sector investors. These include developing a committed and steady pipeline of investable projects, bid processes that are as efficient as possible to minimise costs, ensuring appropriate risk allocation between the public and private sectors and providing clear direction on key policy issues such as energy policy. For their part, superannuation funds can continue to maintain discipline and rigour in evaluating opportunities, invest in specialist teams, continue to innovate and consider other alternative procurement processes such as unsolicited proposals where it makes economic sense.

This information has been provided by United Super Pty Ltd (ABN 46 006 261 623 AFSL 233792) as trustee for Cbus (ABN 75 493 363 262) and contains general information. It doesn't take into account your specific needs, so you should look at your own financial position, objectives and needs before making any financial decisions. Read the relevant Cbus Product Disclosure Statement and related documents to decide whether Cbus is right for you. Call 1300 361 784 or visit www.cbussuper.com.au for a copy.

IMPLICATIONS FOR THE CONSTRUCTION SECTOR

Booms and busts in investment cycles – across mining, economic and social infrastructure, and housing – have had a profound impact on Queensland's construction industry.

Since the mid-2000s, measured construction activity in Queensland has been dominated by the tremendous cycle in resources investment, primarily coal and LNG related projects. Construction activity tripled between 2002 and 2014 before collapsing 40% in subsequent years.

The volatility in work, high competition for resources, and sharp variations in costs and prices continue to challenge the sustainability of the construction industry in Queensland. While total construction activity in Queensland is likely to stabilise around current levels for the next few years, this masks wide variations by construction segment – across housing, non-residential building and engineering construction – as well as within the engineering construction segment itself. Construction costs, which had flatlined in the wake of the investment bust – are growing at the fastest pace for several years, with sustained, high levels of construction activity in New South Wales and Victoria likely to continue to provide resourcing challenges for Queensland projects.

KEY IMPLICATIONS

CONSTRUCTION ACTIVITY

- Has risen a modest 6.7% over the past two years, following a 40% collapse over 2014/15 and 2015/16.
- From a peak of $65.3bn in 2013/14, annual construction work done (encompassing residential building, non-residential building and engineering construction) now sits at just over $42bn.
- Much of the boom and bust in construction activity in Queensland was driven by the engineering construction segment (including Major Projects).
- Total engineering construction work done fell from an official peak of $47bn in 2013/14 to $18.6bn in 2015/16, but has risen marginally to $21.4bn in 2017/18 on the back of roads, electricity, telecommunications (NBN) and mining projects.

CONSTRUCTION EMPLOYMENT WAGES AND PRODUCTIVITY

- Employment growth was strong during the first phase of the resources boom, but did not rise significantly again post GFC during the more LNG-intensive boom phase.
- There has been a solid construction employment recovery through 2017/18, although the modest outlook for construction work from here remains a key risk.

CONSTRUCTION COSTS

- The boom in construction activity in Queensland over the past decade produced large increases in construction costs.
- Overall construction costs have not fallen substantially since the boom and are again rising strongly, placing pressure on industry margins.

KEY IMPLICATIONS – FURTHER ANALYSIS

CONSTRUCTION ACTIVITY

Strong government revenues from the boom and surging population growth drove a twin cycle in public investment, particularly where infrastructure gaps become apparent in transport (roads and ports particularly, but also rail), utilities and social and institutional non-residential building (education and health). While public investment was sustained early on in the subsequent resources investment bust, sharply falling revenues eventually drove a retreat in public investment – amplifying the effect of the downturn in private investment on the Queensland economy.

Total construction activity (including residential building, non-residential building and engineering construction) peaked at $65.3bn in work done through 2013/14, almost 140% higher than 2004/05 levels.

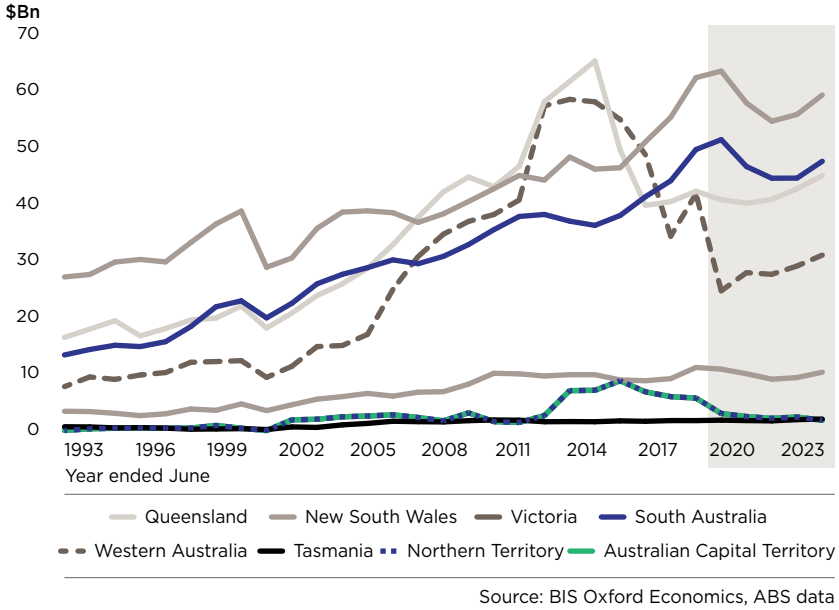
Over 2014/15 and 2015/16, however, the value of total construction work done fell by 40% as several multi-billion dollar LNG projects reached or neared completion and investment in coal projects continued to decline sharply.

Over the past two years, total construction activity has more or less stabilised in Queensland, with work done settling at just over $40bn. However, cycles continue to play out under this steady exterior, with residential building activity falling 6.4% in 2017/18, offset by a pickup in non-residential building and engineering construction work.

Over the next two years, total construction activity in Queensland is forecast to edge lower, with weaker residential and engineering construction activity offsetting modest growth in non-residential building.

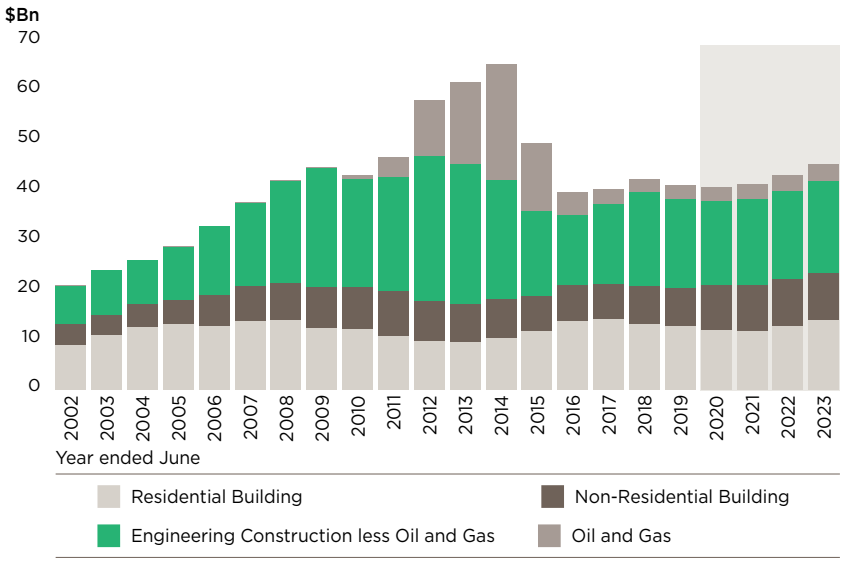
Since the end of the resources boom, Queensland's construction market has been overtaken by both New South Wales and Victoria, with activity in those states supported by a strong turnaround in economic and population growth driving surging social and economic infrastructure construction. In turn, skills and other construction resources such as plant and equipment have moved from the former resource boom states into the new growth states. While New South Wales and Victoria are near the peak of their current construction cycle, construction activity is still expected to remain at very high levels, presenting capacity and capability challenges if Queensland is to sustainably grow its own construction market.

FIGURE 34: TOTAL CONSTRUCTION WORK DONE BY STATE $BILLION, CONSTANT 2015/16 PRICES



Source: BIS Oxford Economics, ABS data

FIGURE 35: QUEENSLAND CONSTRUCTION WORK DONE BY SEGMENT $BILLION, CONSTANT 2015/16 PRICES



Source: BIS Oxford Economics, ABS data

CONSTRUCTION ACTIVITY – RESIDENTIAL BUILDING

After five consecutive years of growth, residential work done in Queensland eased back in 2017/18 (-6.4%). High density residential construction focused in inner Brisbane pulled back 21% in 2017/18.

Total dwelling activity is set to fall by a further 6% over 2018/19 and 2019/20, despite the pickup in population growth, with detached house and attached dwelling segments contributing to the fall. The oversupply of apartments in the Brisbane market is projected to see high density work done drop significantly over the forecast horizon. Houses are expected to fare better, holding at a relatively strong level, as regional areas including the Gold Coast and Sunshine Coast benefit from solid population inflow. North Queensland is also set to bounce back after underperforming for several years.

While stronger growth in residential building is expected late in the forecast period as excess stock of housing is absorbed, it is unlikely to surpass the previous peak in work in 2016/17.

QUEENSLAND CONSTRUCTION ACTIVITY HAS RISEN A MODEST 6.7% OVER THE PAST TWO YEARS, FOLLOWING A 40% COLLAPSE OVER 2014/15 AND 2015/16

NEW OPPORTUNITIES MAY EMERGE WITH THE COMMONWEALTH GOVERNMENT'S INFRASTRUCTURE INVESTMENT PROGRAM (IIP)

LOGAN ENHANCEMENT PROJECT

CONSTRUCTION ACTIVITY – NON-RESIDENTIAL BUILDING

In 2016/17, non-residential building work done eased back by 5% as work on a number of major projects came to an end. Health building declined sharply with the completion of the $950m Sunshine Coast University Hospital while office building also fell as projects like the $265m 480 Queen Street and $320m 1 William Street were completed. However, with improving economic conditions and stronger population growth, non-residential building work done rose 8.5% in 2017/18 and is expected to move to a higher plane over the next five years. Large defence projects helped drive the rise in work in 2017/18, along with rising commercial and industrial activity.

Looking ahead, a number of hospitality developments, including the $1+ billion New Brisbane Casino, along with education, accommodation and health projects – including the second stage of the Sunshine Coast University Hospital – is driving a strong surge in social and institutional building. Combined with further increases in defence work, total non-residential building work done is forecast to move above $9bn per annum, compared to the average of $7.4bn over the five years to 2017/18. Here, Queensland is joining the strong upswing in non-residential building activity nationally, although this is principally being driven by commercial and industrial development in New South Wales and Victoria.

CONSTRUCTION ACTIVITY – ENGINEERING CONSTRUCTION

A boom in mining and heavy industry construction, combined with elevated levels of transport-related construction, drove roaring engineering construction activity over the first half of this decade. Activity in 2012/13 was more than double the levels seen only a few years earlier, although this figure was heavily driven by work on three simultaneous LNG projects which saw oil and gas work done rise from just $232m in 2008/09 to a peak of $23.3bn by 2013/14. While engineering construction activity has fallen dramatically from the 2013/14 peak, it has settled at a level higher than the pre-resource boom years, supported by public investment in roads and telecommunications (the NBN) and private investment in renewable electricity generation and resources.

As reflected in the outlook for work in the Major Projects Pipeline in this Report, total engineering construction activity in Queensland is expected to track lower in coming years as key drivers supporting current strength begin to reverse. In particular, engineering construction activity is expected to ease as major roads projects move to completion, as uncertainty in renewable energy and climate change policy impacts on electricity investment, and as the rollout of the NBN begins to wind down. This will be partially offset by rising activity in rail, water and recreation.

A mild recovery in engineering construction activity is expected in Queensland in the early 2020s, led predominantly by large rail projects as well as further resources investment. Overall, total engineering construction activity is expected to average $20.7bn per annum through the next five years to 2022/23.

CONSTRUCTION EMPLOYMENT, WAGES AND PRODUCTIVITY

EMPLOYMENT

Queensland construction industry employment has surged 14.7% over the past two years, following a long period of decline since 2009/10. While there was a substantial surge in measured construction activity during the second phase of the resources boom in Queensland (between 2010 and 2014), construction employment remained relatively steady at around 228,000 persons during this period. This was due to the bulk of the increased activity being focused in LNG facilities, where much of the recognised value of construction work was actually fabricated offshore and only assembled locally.

Construction employment rose 14.7% to 239,000 persons over the two years to 2017/18, rebounding from declines experienced over 2014/15 and 2015/16.

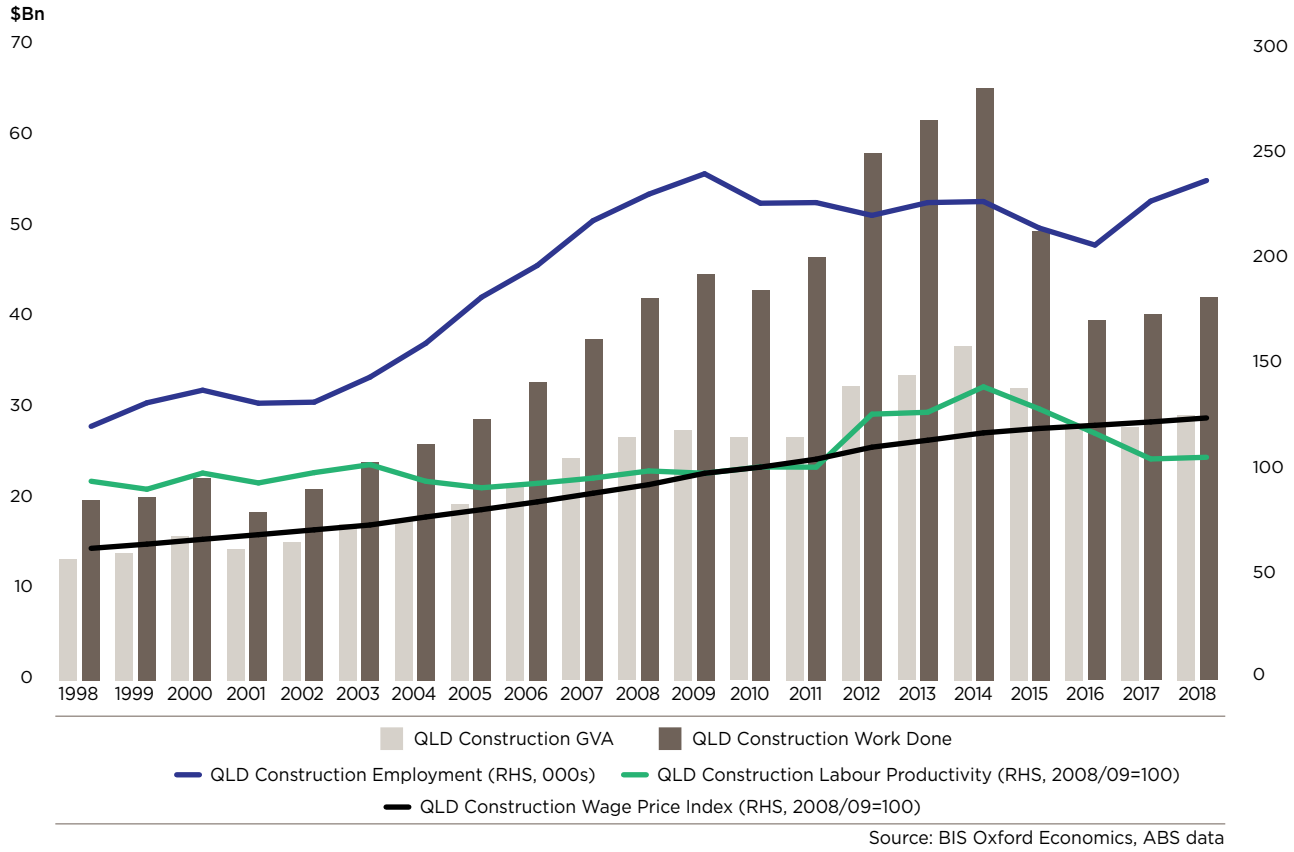
Higher levels of residential building activity – a major employer of construction labour – was a key driver of the employment rebound, along with an uptick in engineering construction work from lower levels. However, more recent quarters show that the upswing in construction employment is now reversing – in line with the near-term outlook of falling total construction work done. Looking ahead, construction employment is likely to ease further as residential building and engineering construction fall back, followed by a mild recovery in the early 2020s.

WAGES

Queensland construction wages (measured by construction industry Wage Price Index data) grew significantly through the 2000s construction boom – rising over 40% between 2003 and 2012 at an annual average pace of 4.5% per annum. However, the slowdown in growth in domestic construction work (excluding fabricated LNG imports) post boom saw construction wage growth slow significantly. Annual average construction wage growth slumped to 1.8% in 2014/15, before falling further to 1.2% through 2015/16 and 2016/17. Over the 2018 calendar year, wages growth in the construction industry has accelerated to 1.8% and is expected to accelerate further in 2019.

ENGINEERING CONSTRUCTION ACTIVITY IS EXPECTED TO EASE AS MAJOR ROADS PROJECTS MOVE TO COMPLETION

FIGURE 36: QUEENSLAND CONSTRUCTION INDUSTRY INDICATORS



Source: BIS Oxford Economics, ABS data

PRODUCTIVITY

Queensland construction labour productivity growth has historically been near zero between the mid-1980s and mid-2000s, reflecting international trends.[10] However, data from the ABS on Construction Gross Value Added (i.e. the output of the domestic construction industry in Queensland, as opposed to "work done") versus employment revealed growth in labour productivity during the second, post-GFC, phase of the resources boom (2009/10 and 2013/14).

However, this productivity surge is likely to have been overstated given the likely *understatement* of employment growth in the industry between 2009 and 2013 (as Queensland construction workers may have been misclassified as mining employees in the official statistics) coupled with unusually large increases in construction industry GVA as heavily offshore fabricated LNG projects were rolled out.

While construction labour productivity declined sharply again between 2014/15 and 2016/17, it has settled at a level some 10% above the decade average preceding the boom, indicating some structural improvements to labour productivity in the industry have taken place but this growth lags significantly compared to other industries such as manufacturing.

10 McKinsey Global Institute (2013) "Infrastructure Productivity: How to Save $1 Trillion a Year", McKinsey and Company.

QUEENSLAND CONSTRUCTION COSTS

Along with much higher volumes of Queensland construction activity during the 2000s, there was also a marked acceleration in the costs of delivering construction projects. High and rising construction costs are an important issue for the major projects industry as well as the broader economy as:

- It limits the quantum of publicly funded projects that can be delivered against given State and Commonwealth budgets. Where unplanned increases in construction costs occur, it can effectively reduce the funding available for further work.
- It worsens the competitiveness of developing private sector industrial projects (e.g. in mining or manufacturing) in Australia relative to the rest of the world, in turn potentially impacting on decisions to invest in Australian projects.

Rapid increases in construction activity can go hand in hand with accelerating construction costs is not surprising. High (and rising) levels of demand (i.e. construction activity) places pressure on the existing supply of inputs, boosting local input prices. Where capacity constraints exist, rising construction activity can lead to strong increases in local input prices as investment in new capacity is itself costly and takes time to come on stream.

But construction costs may also vary due to changes in input prices determined in global markets (for example, steel and oil products such as bitumen and diesel fuel). These price changes may occur independently from domestic construction activity.

COST TRENDS

The ABS publishes two broad price series which are pertinent to and provide an insight into the cost trends experienced in Queensland's engineering construction sector (see box below).

Given the use of similar construction materials, equipment and skilled labour, the trend for costs in engineering construction can be extended to broader cost trends in the building and construction industry.

The history of both of these construction cost measures since 2010/11 is shown in Figure 37. Construction costs fell in 2008/09 following the onset of the GFC, but this proved to be temporary, as the large Chinese stimulus program and the fall in the Australian dollar cushioned the domestic economy and improved the prospects for the major resources projects. Costs resumed their upward trend from 2009/10, as the LNG sector joined the construction boom. The sheer size of the LNG boom had the potential to overwhelm the local construction industry, however, the heavy use of imported pre-fabricated modular structures helped take pressure off local supplies.

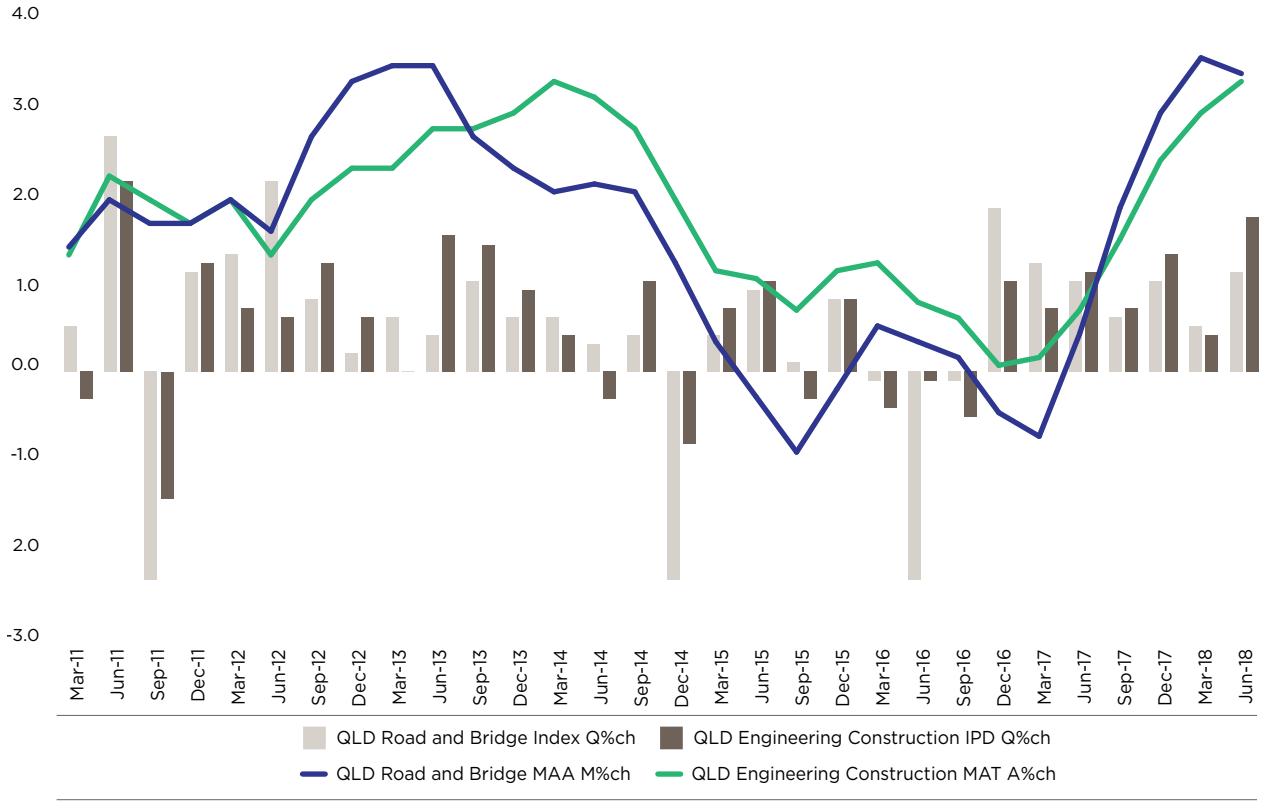
Implicit price deflator (IPD) for engineering construction work done

Is derived by dividing current price (nominal) engineering construction data from the Australian Bureau of Statistics by its corresponding constant price (real) data series. This effectively isolates changes in the price of construction, as opposed to changes in activity.

The Road and Bridge Index (RBI)

As part of the Producer Price Index at the state level, the RBI is an output price index measuring changes in the prices (revenues) received by businesses undertaking road and bridge construction less any direct tax paid. Being an output index, the RBI takes account of contractor margins, and is available at the national level as well as for the five largest jurisdictions in Australia: New South Wales, Victoria, Queensland, South Australia and Western Australia.

FIGURE 37: GROWTH IN ENGINEERING CONSTRUCTION PRICES, QUEENSLAND



Source: BIS Oxford Economics, ABS data

With construction activity falling sharply in Queensland (and also declining at the national level) from 2014/15, growth in engineering construction prices slowed sharply, as captured by both the RBI and the engineering construction IPD. Construction prices actually *declined* between 2014/5 and 2015/16 according to the RBI and fell close to zero for the engineering construction IPD during 2016/17. While falling construction activity certainly played a part in slowing down the growth in construction costs – particularly through its impact on slowing growth in construction wages and the pricing of local equipment and materials – it was also likely influenced by international factors.

In particular, slowing global demand for commodities coupled with rapid increases in supply courtesy of the resources investment boom in Australia and elsewhere resulted in a commodities glut and substantial falls in prices for those commodities used in the construction process (particularly for oil and related products – such as bitumen and fuel – as well as steel).

By contrast, over the past year, construction costs have re-accelerated sharply, with readings for both the RBI and engineering construction IPD surging back to resource-boom highs close to 4% in moving annual average growth terms.

While this has been largely due to sharply higher oil prices (feeding through to diesel fuel for construction plant and vehicles, as well as bitumen prices), other industry costs are also starting to reaccelerate, albeit from a weak base. Given the number of construction projects already in flight at contracted prices, the prospect of persistent, higher growth in construction costs is likely to presents risks and challenges to industry sustainability and the financial health of contractors and projects.

CHALLENGES, RISKS AND OPPORTUNITIES

Within this year's pipeline there are a number of challenges, and risks but also opportunities.

MAJOR PROJECTS DECLINE IN 2019/20

Overall, funded work in the pipeline falls from $6.1bn in 2018/19 to $4.6bn in 2019/20 before recovering slightly in 2020/21 with a 24% decline in major project activity over 2019/20. Figure 38 (over leaf) compares last year's MPPR five-year outlook to the present forecast (note 2017/18 is now historical rather than forecast, and 2022/23 is added to this year's pipeline). As per the 2018 MPPR, we include all major engineering construction projects in Queensland above $50m, as well as significant programs of work in utilities and mining.[11]

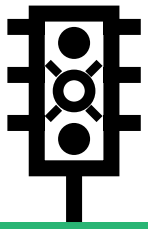
PUBLIC AND PRIVATE INVESTMENT

Queensland's historical economic performance is heavily influenced by large, long investment cycles – with major projects funded by both the public and private sector playing an important role. Over the past decade, the resources investment boom and bust (and the public investment it helped finance) drove a boom and bust in the Queensland economy. More recently, however, Queensland's economic performance has been driven by other investment cycles across residential building as well as infrastructure (both publicly and privately funded).

While investment has picked up in Queensland in recent years, the outlook for growth in investment, employment and the broader economy is not exactly spectacular over the remainder of the decade.

11 Programmed work includes estimates of the rollout of the National Broadband Network – Australia's largest single infrastructure project – as well as works in water, sewerage and upstream oil and gas development to feed Queensland's LNG processing trains.

THIS REPORT'S OUTLOOK FOR FALLING MAJOR PROJECT ACTIVITY IN 2019/20 – AND LOW LEVELS OF FUNDED WORK EXTENDING INTO 2020/21 – REPRESENTS A RISK TO SUSTAINING STRONGER GROWTH IN THE QUEENSLAND ECONOMY



REGIONAL PIPELINE VOLATILITY

There are vast differences in how major project activity will play out by region, by sector and by project size through the forecast period. For many regions and sectors, volatility in the pipeline is set to increase, placing pressure on construction industry contractors and suppliers. The Toowoomba region will transition between the Toowoomba Second Range Crossing (road) and Inland Rail (rail) projects. There is also a strong cycle of work ahead in the Brisbane region that will require careful management. Meanwhile, other regions in the north and the west of the state have very high shares of unfunded work in their pipelines, adding to uncertainty for contractors and industry suppliers.

SKILLS SHORTAGES

Queensland still faces significant competition for construction skills from other states – particularly New South Wales and Victoria. The infrastructure investment program in other east coast states is unlikely to slow down significantly given projects already underway. To the contrary, there may be an upside to the Commonwealth Government's current Infrastructure Investment Program, to ward off the negative impact of the slowdown in residential building or guard against potential external shocks. This may drive even stronger demand for major project skills.

ADANI'S CARMICHAEL COAL DEVELOPMENT ACCOUNTS FOR $1.6BN OR 6% OF THE FUNDED MAJOR PROJECTS PIPELINE

6%

MAJOR PROJECTS DECLINE IN 2019/20

Opportunity

As forecast in the previous Report, major project work is expected to rise slightly in the current financial year (2018/19). Funded work for 2018/19 is currently on a par with total work in 2017/18, with overall growth in activity in 2018/19 now dependent on several currently unfunded projects proceeding.

Opportunity and challenge

The total value of projects in the pipeline has remained relatively steady. This year, the major projects pipeline is valued at $41.3bn, compared to $39.9bn in the 2018 pipeline. Importantly, however, the total value of work in the pipeline (funded and unfunded) is lower in 2019/20 and 2020/21 compared to the projections in last year's MPPR, driven by falling construction value estimates / scope on existing projects, as well as the removal of highly unlikely projects from the list. Sustaining the project pipeline above $40bn is mainly due to the $8.3bn in work (funded and unfunded) projected for 2022/23 – $2.1bn or 34% above the $6.2bn work for 2017/18. We note, however, that only $4.8bn of major project work for 2022/23 is currently classified as funded.

Opportunity

The value of funded work in the pipeline has risen to $27.6bn, up from $23.8bn last year. A significant component of this increase is the inclusion of Adani's smaller scale Carmichael coal development as funded in the 2019 pipeline (totalling $1.6bn in activity to 2022/23) which remains subject to commercial, regulatory and political risk. The other key contributor is rail, where funded work in the final year of the projection (2022/23) remains very high, supported by the Inland Rail packages.

Challenge

A setback in major project work is expected in 2019/20. The total value of major project work in the pipeline for 2019/20 is $6.5bn, down on the $6.6bn estimated for 2018/19. Funded work in 2019/20 currently rests at $4.6bn, 24% lower than the estimate for 2018/19, representing significant downside risk. The decline in funded work for 2019/20 is being driven by both public and private sectors. Funded roads and bridges work in 2019/20 is 44% lower than 2018/19 as several large projects – including the Gateway Upgrade North, Toowoomba Range Second Crossing and the Logan Motorway Enhancement – reach completion and are not replaced by similar sized new projects.

Telecoms (NBN) activity is also projected to be lower, while privately funded electricity (renewables) and mining activity is also expected to fall from previous levels. By contrast, funded work in rail, harbours, water, sewerage and defence is expected to move higher.

Risk

A higher level of major projects activity since 2016/17 has had a broader, stimulatory effect on the Queensland economy but the setback projected in 2019/20, along with weaker growth in broader investment and consumer spending, is likely to contribute to a slowing in state economic growth. Major project work of the type presented in this report is a key contributor to public and private investment, which is an important driver of the Queensland economy. While very large falls in major project work in 2014/15 and 2015/16 drove a decline in Queensland State Final Demand (SFD), a rise in major project activity in 2017/18 was a key driver of stronger growth in both SFD and the broader economy in that year. In this respect, this report's outlook for falling major project activity in 2019/20 – and low levels of funded work extending into 2020/21 – represents a risk to sustaining stronger growth in the Queensland economy.

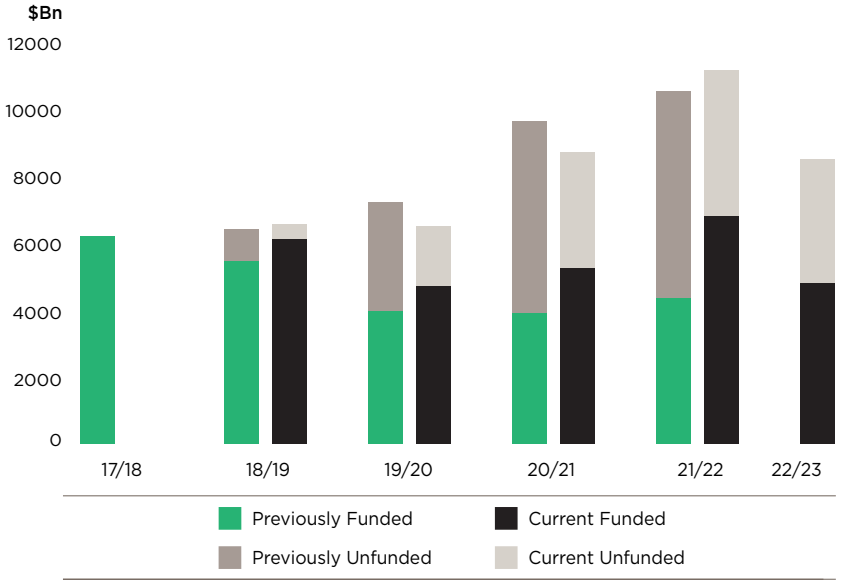
Challenge

The pipeline also highlights a significant shift in the mix of projects by value through the next five years, which is likely to have implications for the competitiveness and sustainability of the construction industry.
In 2018/19, 19% of project specific funded work (i.e. excluding programmed works) is on projects valued at $50m to $200m, whilst another 22% is based on projects valued at $200m to $500m in value. However, by 2021/22, these shares fall to 6% and 5% respectively, meaning that 89% of major funded project work in 2021/22 is based on projects valued over $500m, with this share rising to 94% in 2022/23, as shown in Figure 39.

Risk

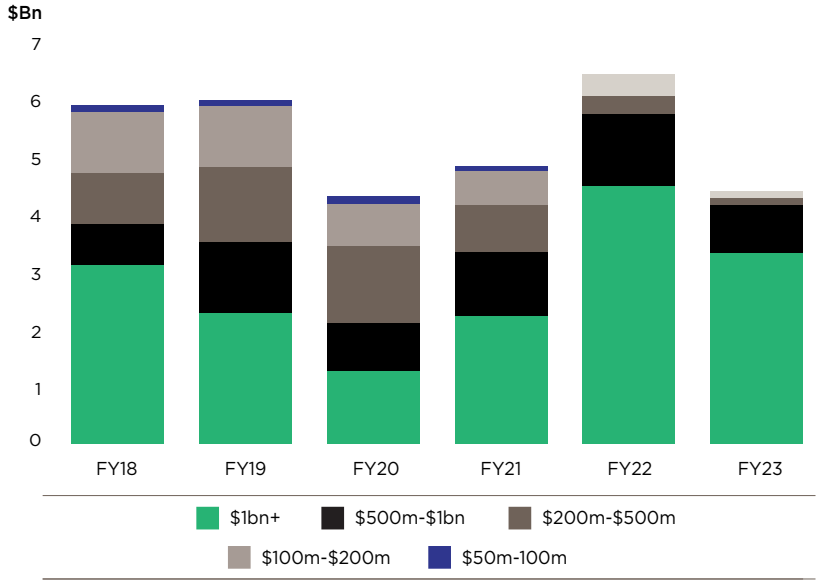
While more complex, larger projects are perhaps more likely to attract earlier indications of funding to ensure timely delivery, the falling share of funded projects in the $50m to $200m range, particularly, is a cause for concern considering that these projects tend to support a large number of highly competitive construction contractors which form the backbone for the industry.

FIGURE 38: MAJOR PROJECT WORK DONE FORECAST: 2019 VERSUS 2018



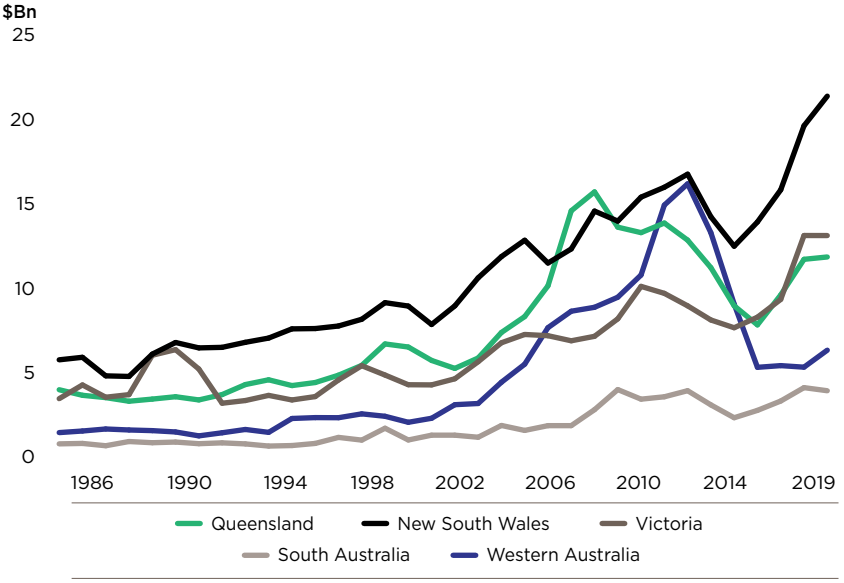
Source: BIS Oxford Economics, QMCA and IAQ member knowledge

FIGURE 39: FUNDED PIPELINE BY SIZE OF PROJECT $BILLION, CONSTANT 2015/16 PRICES



Source: BIS Oxford Economics, QMCA and IAQ member knowledge

FIGURE 40: TRANSPORT AND UTILITIES ENGINEERING CONSTRUCTION BY STATE: 1986-2018 $BILLION, CONSTANT 2015/16 PRICES



Source: BIS Oxford Economics, ABS data

PUBLIC AND PRIVATE INVESTMENT

Challenge

Major project activity has risen in recent years (following the post resources slump) – helping to drive a turnaround in Queensland State Final Demand and employment – but is likely to suffer a significant setback in 2019/20 unless funding for new projects is secured. Major project activity – mirroring the broader Queensland economy – has been through a large resources-driven cycle over the past decade. However, the last two years has seen a recovery in major project work, led by new investments in roads and telecommunications (predominantly funded by the public sector), and electricity and mining (mostly funded by the private sector). Maintaining this momentum is the core challenge facing Queensland. Funded work in the pipeline for the four growth sectors just mentioned – roads, telecommunications, electricity and mining – falls away 45% in 2019/20, and continues to fall in aggregate through the subsequent four years. While other sectors offer growth in funded work from here – particularly rail, but also water, sewerage and defence – this growth is not enough to offset the severity of the decline in other asset classes.

Risk

A high and rising share of unfunded work in the pipeline over time remains a downside risk to major project work. While unfunded work represents just 7% of total activity in 2018/19, this share rises sharply to 40% by 2020/21 and 44% by 2022/23. Excluding the large (and mostly funded) rail segment, the share of unfunded work rises to 57% by 2021/22 and 64% by 2022/23. Sectors with the highest share of unfunded work by 2022/23 include mining and heavy industry (75%), water and sewerage (68%) and, perhaps surprisingly, roads and bridges (52%). While commercial risk for the private sector tends to drive a high share of unfunded work in the resources sector, the high and rising proportion of unfunded work in water and roads by 2022/23 is mainly a public sector phenomenon.

Opportunity

In this environment, sustaining or growing current levels of major project work into the future will require securing funding and finance for existing unfunded projects, or originating, developing and funding new projects that are currently not in the pipeline at all. The 2019 pipeline shows that, despite falling from last year, there is still a substantial volume ($13.8bn) of unfunded work which may yet be tapped. Well over half of this unfunded total are projects championed by the private sector, including $6.8bn in resources-related investment and $2.3bn in electricity – overwhelmingly renewable generation projects of the kind which has helped drive the current rise in work.

Opportunity and risk

While private investment decisions are heavily influenced by commercial factors, there is much that governments at all levels can do to encourage private projects, such as creating a stable policy environment, setting clear and fair policy targets and regulations, and supporting transparent regulatory and approvals processes. Ultimately, increasing certainty in the way government deals with industry can go a long way to fostering future private investment although, in the case of resources projects particularly, much still depends on global factors outside of direct government control.

Challenge and opportunity

The pipeline also includes $4.2bn in unfunded public sector projects through the next five years, including $2bn in unfunded road and rail projects, and $1.4bn in unfunded water projects. This is down from the $4.7bn in unfunded work in last year's pipeline, with the bulk of unfunded work lying in the latter two years of the pipeline projection.

For these projects, it makes sense that governments apply a robust cost-benefit framework in assessing whether these projects should proceed – and, where the projects fail on this criteria, be ready to consider alternative solutions. By definition, only projects that offer positive net economic benefits can possibly help bridge any perceived 'infrastructure gap'.[12]

Even so, the pipeline shows that even if *all* currently unfunded projects were to proceed in 2019/20, major project activity may still end up below the level of 2018/19. However, if all unfunded work were to proceed in subsequent years also, major project work could increase by as much as 70% (exceeding $11bn) by 2021/22. This potential volatility suggests that there is still a challenge ahead if government and industry wish to maintain a relatively stable (instead of highly cyclical) project pipeline which delivers infrastructure in a timely way to meet demand whilst also allowing the construction industry to sustainably build capacity and capability without driving significant cost increases as seen during the resources boom.

In particular, governments should be prepared to be flexible in the delivery of the public sector pipeline, bringing forward projects with positive net economic benefits during periods of pipeline weakness or having the discretion to shift delivery timelines on other projects when these may clash with a surge in major project work. In turn, pipeline flexibility requires pipeline depth (i.e. having projects which can be called upon in weak times) and having the financial capability to fund and deliver. This suggests that project origination – i.e. the generation of actual project opportunities – along with employing appropriate funding and financing mechanisms, remain core challenges.

Opportunity and risk

Public infrastructure investment amongst Australia's east coast states has surged in recent years. The most significant infrastructure investments undertaken by New South Wales and Victoria have focused on urban solutions to unlock greater efficiencies and productivity in Sydney and Melbourne, mirroring concerns from Infrastructure Australia that more investment here was required to avoid an emerging infrastructure gap.[13]

Combined with the Commonwealth Government's own large Infrastructure Investment Program (IIP) and its interest in revolutionising east coast freight links (through the $10bn+ Inland Rail project) as well as another direct equity investment in building the Western Sydney Airport, the infrastructure construction boom along Australia's east coast is unlikely to subside substantially anytime soon – despite near term pipeline risks in Queensland – and dominates the outlook for major transport project construction nationally. Indeed, risks are emerging on the upside to the Commonwealth Government's current IIP and equity infrastructure investments plan.

Expectations of a slowing national economy this financial year and next as residential building activity continues to cool, along with a potential change of Federal Government that may favour increasing public investment rather than cutting taxes as a method of stimulus, could yet lengthen the current upswing in publicly-funded infrastructure construction nationally despite the winding down in NBN-related work.[14]

---

12 Terrill, M. and B. Coates (2016) "*Budget Explainer: does Australia really have an infrastructure deficit?*", The Conversation, April 28th.

13 Infrastructure Australia (2016) Infrastructure Plan.

14 Jericho, G. (2019) "How the drop-off in construction gives Labor an election spending blueprint", Guardian Australia, January 17th, https://www.theguardian.com/business/grogonomics/2019/jan/17/how-the-drop-off-in-construction-gives-labor-an-election-spending-blueprint?CMP=Share_iOSApp_Other

Negative global shocks affecting growth in key trading partners, particularly China, could also have the Federal Government reaching for the fiscal stimulus lever. Having 'shovel ready' projects available (i.e. that have been properly planned and assessed through rigorous cost benefit analysis) would be vital for an investment-driven stimulus program to work and it would be likely that those states with a certified pipeline of productive projects available would be the most to benefit.

Challenge and opportunity

Queensland's historical economic performance is heavily influenced by large, long investment cycles – with major projects funded by both the public and private sector playing an important role.[15] Over the past decade, the resources investment boom and bust (and the public investment it helped finance) drove a boom and bust in the Queensland economy. More recently, however, Queensland's economic performance has been driven by other investment cycles across residential building as well as infrastructure (both publicly and privately funded).

While investment has picked up in Queensland in recent years, the outlook for growth in investment, employment and the broader economy is not exactly spectacular over the remainder of the decade.

Public investment growth has been very weak or negative over 2016/17 and 2017/18, and is anticipated to move lower again over 2018/19 and 2019/20 before recovering – in line with the outlook for publicly funded major project activity in this report. Private investment, meanwhile, while rising 5.2% in 2017/18, is expected to slow in line with housing activity and private non-dwelling building. Consequently, economic growth (as captured by Gross State Product or GSP) is expected to slow back below 3% by the end of the decade according to the State Budget, compared to average growth rate exceeding 4% prior to the resources boom – with deleterious consequences for growth in employment and incomes.

Challenge and opportunity

While the share of public sector investment in total engineering construction is lower in Queensland than in other states such as Victoria and New South Wales due to higher private sector funded mining-related activities, publicly funded projects play a major role in driving the state's economic growth.

Sustained investment in productive infrastructure will remain a critical component of Queensland's broader economic strategy to ensure cities and regional centres offer competitive benefits and help keep cost of living (and cost of business) pressures contained.

It also means investing in critical infrastructure for new growth regions – which are benefiting from the lower post-boom Australian dollar – to 'crowd in' private business investment decisions.

According to the pipeline, the public sector will continue to play a significant role in funding and developing many categories of infrastructure over the coming five years. Over the five years to 2022/23, public sector funded major project work (whether currently funded or not) makes up 56% of the total pipeline value (up from 50% two years ago), but the share is much higher in the transport, water and sewerage, and defence segments of activity.

Interestingly, the pipeline does provide some indication of the level of new funding commitments required to keep annual activity on major projects on a sustained or upward trajectory. According to the pipeline, funded work for 2018/19 is now matching total activity for 2017/18, with some small upside if the remaining unfunded projects in 2018/19 were to achieve funding and proceed.

However, the challenge will be sustaining major project work in 2019/20 and 2020/21, where funded work dips substantially. Currently, the pipeline shows that a further $1.4bn in activity on major projects is still required on top of currently funded work to sustain funded 2018/19 levels of activity into 2019/20.

15 Investment in economics represents the addition to capital stock or productive capacity. It mostly consists of the construction of buildings and structures and purchases of plant and equipment, but also includes growth in livestock, minerals exploration and intellectual property. This is a very different meaning from finance, where investment refers to the purchase or creation of an asset with the expectation of generating financial returns.

While this represents an improvement on the even larger funding gap highlighted in last year's report, this is still a very substantial challenge. By 2020/21, the additional funding requirement is still $900m.

The main issue is that while there is $1.8bn in unfunded major project work in the pipeline in 2019/20 and $3.4bn in 2020/21 – only $425m and $755m of this represents public infrastructure projects. The bulk of unfunded work in these years is held by the private sector in resources and electricity (renewable generation) projects. If these projects do not achieve funding (through either unsatisfactory global economic conditions or, in the case of renewable generation, failures in Australian climate and energy policy that restrict development), there is simply not enough public sector major project work currently available to fill the gap.

While publicly funded activity has risen in recent years, this gap in public sector major project work has been known for some time and was highlighted in last year's MPPR. Not having enough "shovel ready" projects available over the next two years – while funded work increases significantly in 2021/22 on the back of major rail projects – represents a significant public sector failure which puts the stability of the pipeline at risk and opens up cyclical challenges for industry.

REGIONAL PIPELINE VOLATILITY

Opportunity and risk

The regional analysis presented in this report highlights differences in the outlook in major project work across the state. Unsurprisingly, given the concentration of population in south east Queensland, around half of all funded work in the pipeline is focused here. Brisbane itself is expected to see the strongest growth in work. Meanwhile, more of the riskier, unfunded projects lie in central, northern and western regions of the state, as these regions tend to be relatively more prominent with regards to investment in mining and large water projects (such as dams) that are more typically unfunded in the pipeline.

Challenge and opportunity

The large differences in the outlook for funded major project work by region suggest that governments and industry should give serious consideration to location in guiding new investment or funding decisions.

In 2019/20, the biggest declines in funded work occur in the Ipswich-Toowoomba-Logan and Outback regions, with falls also anticipated in Brisbane, the Sunshine Coast and Darling Downs-Maranoa.

While Brisbane activity is on the increase again in 2020/21, the same cannot be said for the Ipswich-Toowoomba-Logan and Darling Downs-Maranoa (where funded major project work will not recover until the rollout of Inland Rail in the early 2020s) or the Outback region (where there is no funded work at all in the pipeline beyond 2018/19). Furthermore, while funded major project work booms in Brisbane in the early 2020s, for most other regions it begins to decline significantly.

At the very least, falling activity in a region may indicate an emerging surplus in local industry capacity and capability which could be put to use on new works – potentially offering better value for money procurement and delivery – whilst also helping smooth local investment cycles.

SKILLS SHORTAGES

Challenge

While economic infrastructure investment[16] in Queensland is now higher than the trough in 2014/15, Queensland lags New South Wales and Victoria in terms of funding and delivering infrastructure investment as shown in Figure 40 (refer to page 71). As New South Wales and Victoria are likely to continue to ramp up or sustain infrastructure investment over the next five years, Queensland may face challenges in competitively procuring construction services for major projects. To minimise risks of project delays, failures and rising construction costs, Queensland needs to apply a longer-term approach to planning for capacity and capability in the construction industry. Such a plan should cover:

- future workforce requirements and skills
- planning for required construction materials, and
- meeting critical transport and logistics challenges as major projects reach the construction phase.

Challenge

It is in this heated east coast major project environment that the Queensland Government will be rolling out its own $43bn capital works budget over the coming four years, placing further pressure on skills and resources. Even Western Australia is likely to put increasing pressure on key 'in demand' skill sets as infrastructure and mining-related construction rises in that state in coming years, following a long period of decline.

While more research will need to be undertaken to identify Queensland's specific needs, various skills demand and 'workforce gap' analyses recently undertaken for New South Wales[17], as well as the road[18] and rail[19] industries, indicate that the greatest skills risks will revolve around key 'on site' occupations including onsite engineers and surveyors, site supervisors and construction managers, concreters, form workers and steel fixers, mechanical and electrical trades, tunnellers and truck drivers.

Challenge

For the rail industry, there will also be a substantial pull on skills required in manufacturing in support of local content (again, including electrical and mechanical trades) as well as longer term operations and maintenance skills as new lines are commissioned. This is on top of the emerging construction skills task as over $8.6bn in funded rail major project work is rolled out in Queensland through the period to 2022/23 as part of a $44bn program of works nationally.

The major projects workforce analysis presented earlier in this report also highlights potential skills constraints that may present a risk to the pipeline. Overall, total major project activity (funded and unfunded) in the pipeline is projected to raise workforce demand by 32%, with the strongest increases likely to be in rail: an additional 6,400 FTE direct construction positions required for the mostly funded rail pipeline.

16 That is, investment in non-building infrastructure such as transport and utilities.

17 BIS Oxford Economics (2018a) *NSW Construction Delivery Assessment: Capacity and Capability*, for Infrastructure NSW and available online: https://insw-sis.visualise.today/documents/about/NSW_Construction_Delivery_Assessment_Capability_and_Capacity.pdf

18 BIS Oxford Economics (2018b) *Roads Workforce Capability 2017-2027*, Austroads, https://www.onlinepublications.austroads.com.au/items/AP-R574-18

19 BIS Oxford Economics (2018c), *Australasian Railways Association Skills Capability Study, Skills Crisis: A Call to Action.* https://ara.net.au/ara-skills-capability-study

THE 2019 PIPELINE SHOWS THAT, DESPITE FALLING FROM LAST YEAR, THERE IS STILL A SUBSTANTIAL VOLUME ($13.3BN) OF UNFUNDED WORK WHICH MAY YET BE TAPPED

GOLD COAST SEAWAY OUTFALL TUNNEL

CHALLENGES AND RISKS - FURTHER ANALYSIS

COLLABORATION BETWEEN INDUSTRY AND GOVERNMENT REMAINS THE KEY TO MEETING CAPACITY AND CAPABILITY RISKS

In an environment where strong east coast demand for infrastructure construction is likely to be sustained or even increase further, coupled with potential limits on public finance, it remains sensible for governments and industry to seek collaborative solutions to project delivery challenges to ensure value for money.

Capacity and capability risks have been recognised by infrastructure agencies in New South Wales and Victoria. Recent work undertaken by BIS Oxford Economics for Infrastructure New South Wales,[20] for example, points towards several strategies that help reduce risks and leave a positive legacy of infrastructure investment:

- **The provision of a clear and coherent long term project pipeline to give industry the best possible chance of responding**, rather than separate pipelines by governments and the private sector – this is a key feature of this report.
- **Maintain workforce development initiatives** that mandate participation on eligible projects by apprentices and/or trainees and through other workforce training.
- **Develop and maintain a plan for construction materials,** so that the demand and supply balance for scarce quarry products can be quantified, mapped, emerging gaps identified quickly, and strategies put into place to accelerate the development of new supply sources and related logistics where appropriate.

20 BIS Oxford Economics (2018a), p116-117.

- **Search continually for improvements in procurement** that encourage industry participation, innovation and investment in capacity and capability. In particular, processes should be reformed if they:
  - create long term risks to industry sustainability and costs by inadvertently encouraging contractors to take risks on quality
  - take up scarce resources through the tendering process
  - do not provide a sustainable risk/ margins balance that will encourage firms to invest in skilled staff
  - do not encourage the participation of the full spectrum of resources across the construction industry, across all tiers
  - do not encourage innovation or the use of new technologies, ranging from Building Information Modelling (BIM), new resource-saving materials or construction techniques, or appropriate skills development.

Procurement reform requires a more collaborative approach to be adopted between industry and government to encourage maximum participation and investment in capacity and capability; and appropriately manage risks to ensure value for money.

Such approaches – as embodied in the New South Wales Government's recently released *10 Point Commitment for the Construction Industry*[21] – are increasingly becoming seen as "best practice" in this space. Key points of the plan include:

1. Procure and manage projects in a more collaborative way
2. Adopt partnership-based approaches to risk allocation
3. Standardise contracts and procurement methods
4. Develop and promote a transparent pipeline of projects
5. Reduce the cost of bidding
6. Establish a consistent Government policy on bid cost contributions
7. Monitor and reward high performance
8. Improve the security and timeliness of contract payments
9. Improve skills and training
10. Increase industry diversity

While it remains to be seen whether the high ideals of the 10 Point Commitment effectively filter down from the executive level to the working procurement departments within government agencies, the likely risks from capability and capacity pressures over the coming five years suggests that similar plans should be considered by other state governments such as Queensland.

The market for major infrastructure projects is, after all, a national one where decisions by Tier One contractors whether to bid on particular projects are taken on a national rather than State basis.

In this environment, the Queensland Government should be looking at what it now needs to do to achieve value for money procurement and a sustainable construction industry.

PUT POLICIES AND PLANS IN PLACE

Overall, sustaining growth in the Queensland economy requires putting into place plans and policies that will encourage and sustain both private and public investment in the state over the long term.

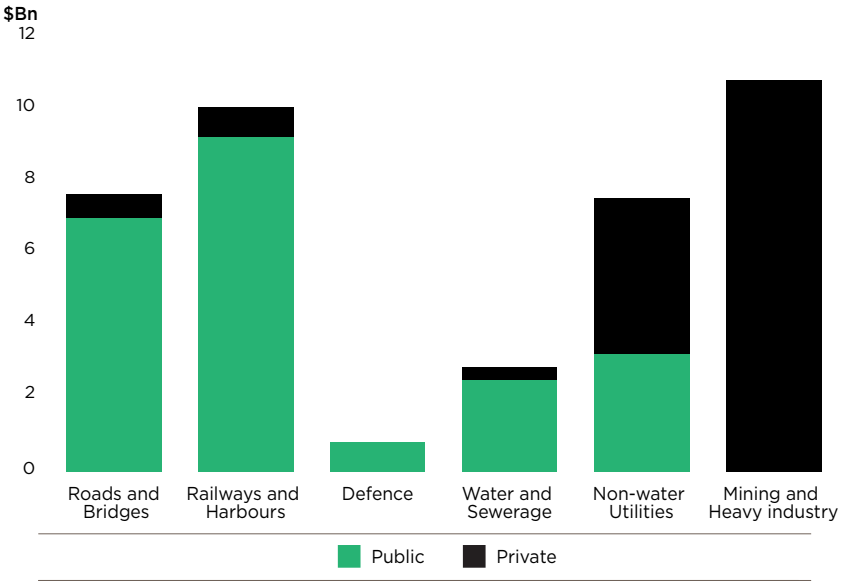
21 NSW Government (2018) NSW Government Action Plan: A ten point commitment to the construction sector, view 2/11/18 http://www.infrastructure.nsw.gov.au/media/1649/10-point-commitment-to-the-construction-industry-final-002.pdf

Queensland's long-term economic strategy should concentrate on leveraging from (or improving) core (or potential) strengths. For Queensland, this includes its vast natural resource wealth, its close proximity to Australia's largest trading partners, its iconic Australian tourism destinations and enviable lifestyle benefits. State Government strategy should continue to focus on boosting programs to create more jobs and attract businesses and enable Queensland's economy to transition to be more balanced, innovative and productive.

ACCELERATE CURRENTLY UNFUNDED PUBLIC PROJECTS

Decisions to fund, or accelerate, the development of currently unfunded public sector projects will assist in stabilising major project work over the next two years – but will not be a complete solution. Ideally, governments at the State and Federal level should also be investigating new projects that will be required to meet Queensland's infrastructure challenges in the coming decade – and be prepared to accelerate these in periods of pipeline weakness.

FIGURE 41: MIX OF MAJOR PROJECT WORK DONE BY FUNDING SOURCE: SECTORS AND TOTAL: 2018/19-2022/23



Source: BIS Oxford Economics, QMCA and IAQ member knowledge

Due to Commence 2019/20:

- Townsville Port Expansion Project - Outer Harbour Expansion (berths 14+15) - $200m
- Nullinga Dam - $323m
- Somerset Dam Upgrade - $600m

Due to Commence 2020/21

- Yamanto to Ebenezer Upgrade - $340m
- Hope Island Road (Oxley Drive) road duplication - Stage 4 - $136m
- Pacific Motorway; Section (C) Daisy Hill to Logan Motorway - $250m
- Sarina to Cairns - Saltwater Creek Upgrade - $103m
- Townsville Ring Road Stage 5 - $180m
- Gold Coast Light Rail Stage 3 - $500m
- North Coast Line Capacity Upgrade (Brisbane to Cairns) - $116m
- Wyralong Dam WTP Stage 1 - $200m
- Paradise Dam Spillway Improvement Project - $200m
- Burdekin Falls - hydro-electric power station (50MW) - $200m

A further $1.3bn and $1.2bn in unfunded public sector major project work is in the pipeline for 2021/22 and 2022/23 respectively, which may be able to be accelerated if weak major project conditions persist in coming years, include:

- Centenary Hwy Bus Lanes - Ipswich Mwy to Toowong - $400m
- Centenary Hwy Bridge Duplication - $150m
- Rockhampton Ring Road - $950m
- Ipswich Rail Line - Darra-Redbank 3rd track - $218m
- Sunshine Coast Light Rail - $500m
- Urannah Dam - $250m

BRISBANE AIRPORT INTERNATIONAL APRON EXPANSION

GOVERNMENTS NEED TO SPEND AS COMMITTED

This analysis assumes that all funded work proceeds as planned: that governments *actually* spend what they have committed to funding in Budgets. Here, the State Government's performance shows some improvement in recent years, with the gap between actual and committed funding on public infrastructure – referred to as purchases of non-financial assets – from that year's Budget falling from around $1.5bn in both 2014/15 and 2015/16, to $333m in 2017/18, according to latest data from the 2018 Mid-Year Fiscal and Economic Review (MYFER) and shown in Figure 42.

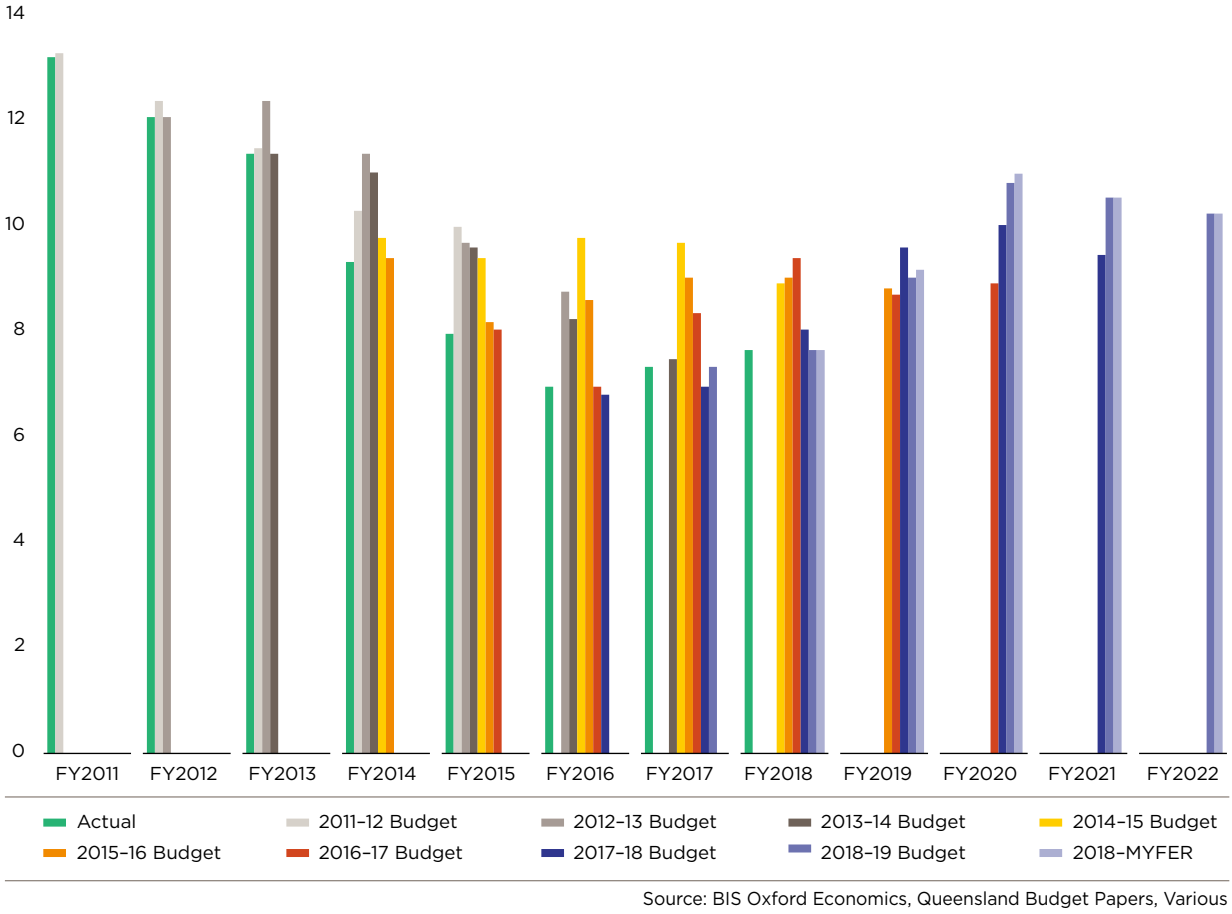
While public investment is projected to rise according to MYFER, it is important to note that this also includes spending on social infrastructure (e.g. hospitals, schools and other non-residential building projects) as well as purchases of equipment (e.g. rollingstock for railways lines, IT and office equipment) and intangibles (e.g. software systems) not considered in this report. Realising this growth outcome, in any case, means continuing to close the gap between actual and committed expenditure.

ENCOURAGING PRIVATE INVESTMENT WILL ALSO BE IMPORTANT

While public infrastructure investment is important, it is not an end in itself. The core aim of public infrastructure investment – and Queensland's broader economic strategy – should be to boost productivity and competitiveness which will also help stimulate local private investment decisions.

As shown in Figure 43 (over the page), the bulk of currently unfunded major project activity, year by year, is actually related to private sector projects.

FIGURE 42: PURCHASES OF NON-FINANCIAL ASSETS, $BILLION NON-FINANCIAL PUBLIC SECTOR, QUEENSLAND



Source: BIS Oxford Economics, Queensland Budget Papers, Various

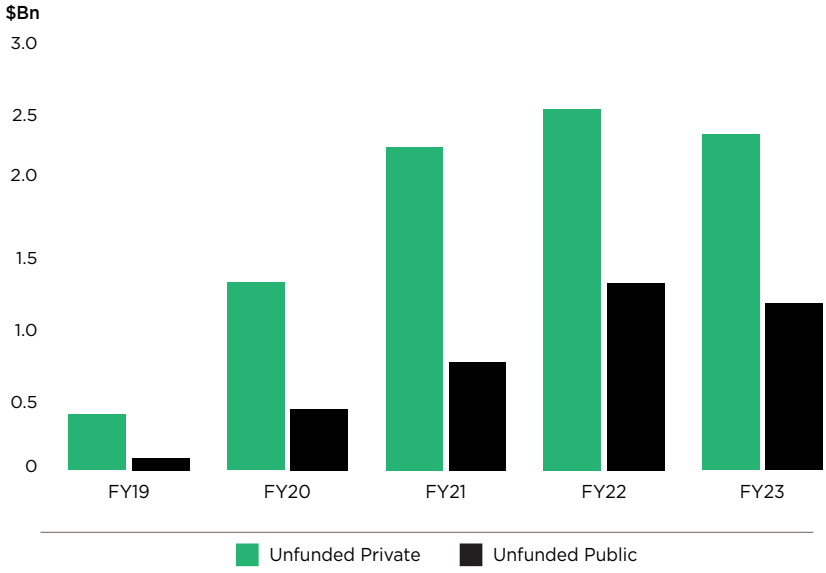
Therefore, another path to avoiding a future slump in major project work requires governments doing what they can to provide the right conditions for these projects to proceed (while recognising that there may also be broader constraints, such as the state of global commodity markets).

The public sector only makes up a very small part of the total Queensland economy (around 25 per cent in expenditure terms) and this is not expected to change substantially in the future. Consequently, achieving long term economic goals will depend crucially on how the public sector can develop policies to stimulate private decisions on where to invest and live.

Beyond public investment itself, State and Federal Governments should also be looking at ways to encourage the return of private investment (by far the bigger part of the investment 'pie') and re-establish the positive growth mindset. While supporting market-led proposals is an important plank here, the overall record of success for getting these projects to the construction phase is not strong. Meanwhile, the Northern Australia Infrastructure Facility (NAIF) was also supposed to encourage private sector projects but few projects have materialised from this initiative.

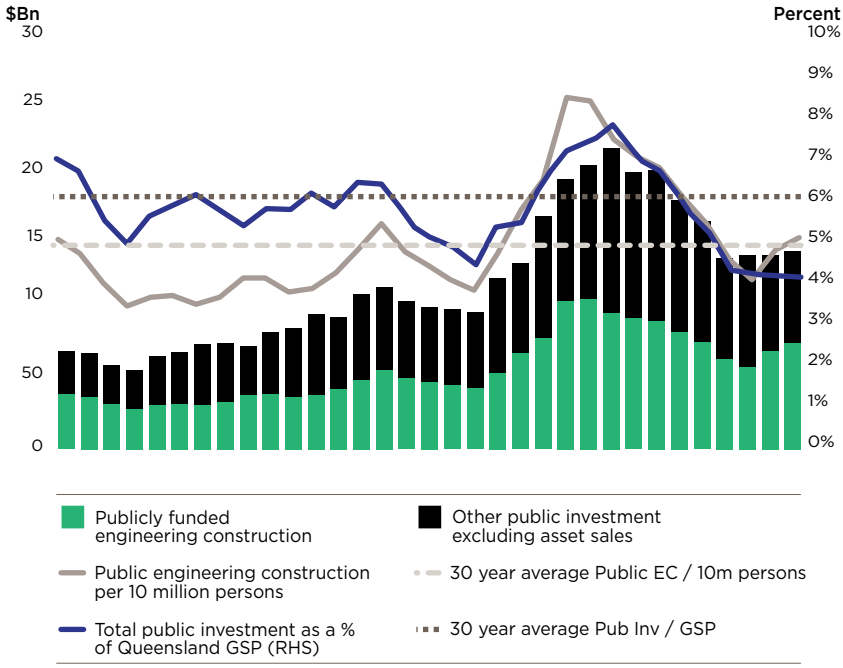
Boosting private sector investment can also be achieved through good public investment choices which 'crowd in' private investment (e.g. building better transport links which encourage broad regional investment by the private sector, or investing in lower cost energy to attract industry and other business). Perhaps more importantly, governments should also set clearer messages about future policy to give the private sector confidence to invest. Unfortunately, the record here has not been consistent, with arguments over energy policy, mining, financing, and tax and spend policies likely to have had a negative impact on business confidence.

FIGURE 43: FUTURE UNFUNDED WORK DONE PROFILE: PUBLIC VERSUS PRIVATE SECTOR, $BILLIONS



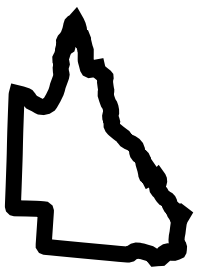
Source: BIS Oxford Economics, QMCA and IAQ member knowledge

FIGURE 44: QUEENSLAND PUBLIC INVESTMENT: 1986-2018



BIS Oxford Economics, ABS data

QUEENSLAND NEEDS TO APPLY A LONGER-TERM APPROACH TO PLANNING FOR CAPACITY AND CAPABILITY IN THE CONSTRUCTION INDUSTRY



ENSURING SUSTAINABLE INVESTMENT IN ECONOMIC INFRASTRUCTURE

Queensland is currently relying heavily on new Commonwealth and private sector funding to drive the upswing in major project work from the 2014/15 trough. Through the next five years to 2022/23, nearly one third of proposed major project work remains unfunded, presenting risks to the sustainability of the project pipeline. For the public sector, only around $3.7bn of the $23bn pipeline of work is unfunded. However, as noted, there is simply not enough projects in the pipeline to sustain major project work over the next two years.

This raises important questions:

- Is Queensland investing in economic infrastructure at an appropriate level – and is the risk of falling major project work over the next two years an indication that an infrastructure gap is re-emerging?
- Are there funding and financing constraints that may prevent Queensland from maintaining an appropriate level of economic infrastructure investment in future?

With regards to the first question, identifying underinvestment in infrastructure and 'infrastructure gaps' in practice is very difficult. While various organisations have attempted to quantify the size of the infrastructure gap in Australia – with estimates typically ranging in the hundreds of billions of dollars – they are invariably based on methodologies which are not publicly available, or 'rules of thumb' (e.g. share of infrastructure spending to GDP) that are not adequately explained or tested.[22] Ideally, specific quality or service indicators such as engineering 'report cards'[23], rising congestion costs, increasing travel times, or number of blackouts for example tend to indicate when infrastructure gaps may be present – but of themselves do not necessarily provide optimal solutions to the infrastructure problem at hand: whether it requires substantial new investment at all, or the quantum of investment required.

Indeed, Terrill and Batrouney (2018) show that Australian cities have already been "remarkably adaptive" in dealing with strong increases in population, potentially reducing the need for infrastructure investment as a solution.[24] Growing population density within cities – and changing behaviours by commuters in where to live and how to travel – means that infrastructure spending does not necessarily need to keep pace with population growth. And rather than requiring "mega" infrastructure solutions, governments should also consider a range of other policies that can help cities adapt to growing populations, including abolishing stamp duties on homes, revisiting zoning laws, introduce demand management policies such as road user charging, and consider smaller projects (including maintenance) with high net benefits.

With these caveats in mind, it is worth comparing Queensland's recent infrastructure investment performance over time, and against other states.

Figure 44 shows the path of public investment in Queensland over the past 32 years, with investment in economic infrastructure reflected in the engineering construction share. This shows a rising trend (in volume terms) over time, with a significant "catch up" cycle in the 2000s as the state invested in large water systems and networks to battle the Millennium Drought and used surging royalty revenue to "catch up" on transport infrastructure spending.[25] On a population basis, public investment in economic infrastructure in 2017/18 was back to its 30-year average, following a dip below this average between 2014 and 2016. While publicly funded engineering construction is still well below the 2008/09 peak, on this basis it seems to be not at critically low levels yet, though there is still a concern that this may drop back in coming years. As a share of GSP, however, public investment continues a trend decline and, as at 2017/18, reached a record low.

22 See, for example, Terrill, M. and B. Coates (2016) for a discussion of such studies.

23 Such as those formerly produced by Engineers Australia – the last Engineers Report card for Queensland was produced in 2010.

24 Terrill, M. and H. Batrouney (2018) Remarkably adaptive: Australian cities in a time of growth, Grattan Institute, October 2018.

25 There was also during this time substantial private investment in road transport infrastructure in Brisbane, including the Clem Jones Tunnel and Airport Link.

The difference in recent behaviour between public engineering construction as a share of population and public investment as a share of GSP measures may be caused by several factors including:

- The broader public investment measure includes investment in social building, equipment and intangibles, which may not be keeping pace with economic growth, or
- The development of highly capital-intensive industries in Queensland, such as mining, gas extracting and processing, and energy, which now deliver substantially higher levels of economic production whilst driving weak (or even negative) employment growth in their operations phase. This may suggest that a lower level of public investment is required to meet a given level of GSP, other things being equal.

Figure 45 shows the share of transport and utilities engineering construction (public and privately funded) to GSP in Queensland has wavered between 2.5-4.5% of GSP over the past 32 years, considerably higher than other states, likely reflecting its stronger rate of population growth, its typically wider distances, and relatively high resources investment intensity which also drives infrastructure investment. Interestingly, it is also well above Western Australia – Australia's other key resources state.

As per Figure 44 (page 82), there is a trend weakening in this ratio during the 1990s before a stronger phase of investment in the 2000s. Again, as per Figure 44 (page 82), there is a significant weakening again between 2014 and 2016, before a recent recovery which places activity close to the long run average as a share of GSP. Unsurprisingly, the "investment premium" between the Queensland transport and utilities construction to GSP ratio and that for New South Wales and Victoria has narrowed in recent years given the large rollout of infrastructure investment in the other east coast states, from an average of 1.1% that existed prior to 2008, to 0.7% over the past decade.

Meanwhile, comparing Queensland against international 'norms' for public investment is challenging given that different countries often use different definitions of both the 'public sector' and 'public investment', and there can also be sharp differences in outcomes across countries given differing stages of economic development, population growth and a range of other factors including the use of the private sector to deliver 'traditional' public sector investment.

Recent analysis by the International Monetary Fund shows that, across advanced economies, average public investment as a ratio of GDP has decreased from 5% in the 1960s to just over 3% in 2012, and was in the 4% range through the mid-1980s.[26] The decline is fairly consistent over the period.

In Queensland, public investment as a share of GSP has fallen from around 7% in the 1980s to around 4% by 2018 but was still very high (around 6.9%) in 2012 due to the surge in public investment that commenced in 2006 which delivered major water security schemes, hospitals and major road projects.

Overall, between 1986 and 2018, public investment as a share of GDP in Queensland has averaged around 6% though it had fallen away in more recent years. Publicly funded engineering construction in Queensland as a share of GSP also shows the same downward trend – from 3.4% in the late 1980s, to 2.3% currently (and rising from a trough of 1.9% in 2015/16).

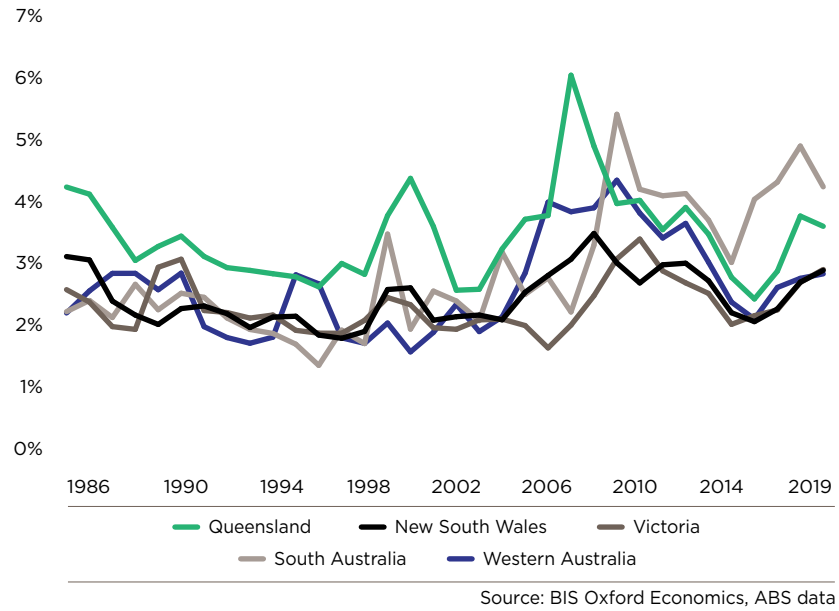
Overall, the trend of declining public investment as a share of GDP in Queensland mirrors that seen for advanced economies globally, with any discrepancies likely explained by timing of local public investment cycles and the impact of (private sector led, and highly capital intensive) resources and mining investment.

26 IMF (2018) World Economic Outlook Database, April 2018.

Research suggests that following strong investment between 2006 and 2012, it is difficult to argue convincingly that Queensland has a major "infrastructure deficit" and the Building Queensland Pipeline and Business Case Framework is providing improved assurance that Queensland is investing in the right projects. However, the lack of established benchmarks or satisfactory methods of infrastructure pipeline assessment may be problematic and perhaps could be addressed in future infrastructure Audits by Infrastructure Australia, as well as future Queensland State Infrastructure Plans.

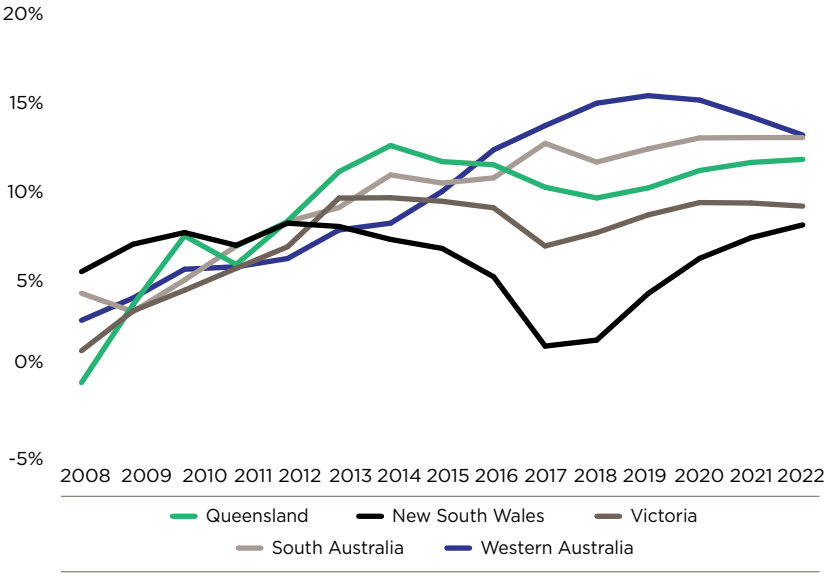
Overall, this analysis suggests that Queensland economic infrastructure spending is just keeping pace with historical norms, but risks remain if activity were to fall away from here; that is, if projects in the pipeline do not proceed. Ideally, a more nuanced analysis of infrastructure gaps in Queensland would be better informed by regular and timely data on the quality of services which infrastructure provides – for example, commute times in major cities, the number of faults reported, or capacity constraints in the provision of utilities services across water, electricity, gas and telecommunications – as well as the structural quality of the infrastructure itself through regular engineering reports to assess how much stock needs to be replaced or renewed.

FIGURE 45: QUEENSLAND TRANSPORT AND UTILITIES CONSTRUCTION AS SHARE OF GSP: 1986-2018



Source: BIS Oxford Economics, ABS data

FIGURE 46: PUBLIC SECTOR NET DEBT AS A SHARE OF GSP



Source: BIS Oxford Economicx, ABS data, Budget Papers (various)

BCC FERRY TERMINAL

While some data is available publicly (for example, commuting times and distances data can be sourced from analysis by the Bureau of Infrastructure, Transport and Regional Economics as well as the Census) there can be lag in the availability of data. In some cases, such as independent analyses of asset quality such as that undertaken in the past by Engineers Australia, there can be a very long time between reviews. This suggests that governments should collect and publish detailed data on asset and service quality frequently to provide a better basis for assessing the existence or risk of future infrastructure gaps emerging – and what the most appropriate solutions may be.

SUSTAINABLY FUNDING PUBLIC INFRASTRUCTURE

Ideally, the availability of funding and finance for sustainable productive infrastructure investment should not derail investment itself – and exploring innovating funding mechanisms remain critical to the outlook for the pipeline and the Queensland economy.

Despite its weakened post-boom financial position, the Queensland Government still has important funding levers available to it. Indeed, recent State Budgets and the 2018 MYFER show that the State Government will be increasing its use of debt finance to help deliver its $43.6bn capital program over the next four years, with net debt[27] rising from $34.2bn in 2017/18 to $51.5bn in 2021/22.[28]

As noted in previous MPPRs, the use of debt finance for long lived infrastructure projects makes sense on both economic efficiency and intergenerational equity grounds, so long as the projects funded are shown to be productive through rigorous cost benefit analysis. And from a financial perspective, the Queensland economy (and more importantly, revenue generation to the State Government) has improved at a rate better than anticipated in recent years. This has helped bring down the public sector net debt to GSP ratio from a peak of 13% in 2013/14 to 10% in 2017/18 – as shown in Figure 46 – and has afforded the State Government the headroom to increase debt to finance productive infrastructure investment.

27 Public sector net debt is defined here as the sum of general government net debt plus the net debt of publicly owned non-financial corporations but excludes the debt of public financial corporations. In State Budgets this is referred to as the net debt of the non-financial public sector.

28 Queensland Treasury (2018), Mid-Year Fiscal and Economic Review, p27.

The debt to revenue ratio for the general government sector in Queensland has also fallen substantially, from a peak of 91% in 2012/13 to 54% in 2017/18.[29] Indeed, over the next four years, Queensland's public sector net debt/GSP ratio is not anticipated to rise back to the 2013/14 peak – even allowing for reduced royalty revenues – and remains in the 'middle range' of indebtedness amongst Australia's five largest states.

Figure 46 shows that Queensland is not alone in using debt to fund infrastructure investment, with Victoria and New South Wales, particularly, using debt now or in the future to deliver large infrastructure investment programs. Western Australia, by contrast, is looking to reduce net debt as a share of GSP in coming years, which suggests there will be constraints to future State borrowing for public infrastructure. At a broader level, the debt levels of Australia's major states are still considered low by international standards, with the net debt to GDP ratio for Australia (19%) comparing favourably to similar advanced economies including Canada (27%), the United Kingdom (78%), the United States (82%) and France (87%), but above Sweden (9%), New Zealand (5%) and Denmark (16%).[30]

However, it remains important that debt is used only to fund capital rather than recurrent expenses, and that provision is made when raising borrowing levels for likely increases in interest rates as monetary policies normalise in the United States and other countries following looser monetary policy settings in the wake of the global financial crisis.

Apart from debt, Queensland still retains significant options in raising finance for higher levels of infrastructure investment. Crucially, asset recycling has not been used to the same degree in Queensland as it has in other states and this remains a potential source of finance for future infrastructure projects, so long as there is effective post-sale regulation of privatised assets to ensure prices remain competitive. Introducing tolling on major roads (possibly to manage peak demands) or more fundamental reform such as a broad-based road user charge, could also help fund future infrastructure projects – as well as potentially pushing out the need for reinvesting in roads networks. And there are other funding options too, as detailed in previous MPPRs, including expanding the number of City Deals (bringing all levels of government to the table for a region), value capture, and implementing genuine tax and expenditure reforms.

Finally, with the notable exception of the Cross River Rail project, Queensland has been able to extract funding from the Commonwealth Government in recent years in helping to fund major public sector projects. The next Federal election (required to take place by May 2019 at the latest) will no doubt see many promises of further Commonwealth infrastructure funding assistance for Queensland, particularly if there is evidence that these projects are productive and have a positive net benefit under rigorous analysis.

However, Queensland will only be able to take advantage of any increases in Commonwealth infrastructure funding if it has a store of such "shovel ready" projects available. With only one 'High Priority' project out of 9 on Infrastructure Australia's current (February 2019) Infrastructure Priority List (Brisbane Metro), and only two 'Priority' projects out of 10 (Beerburrum to Nambour Rail Upgrade, and the Inland Rail project), Queensland has few major projects which have been positively evaluated by Infrastructure Australia. A further 15 projects are listed as Initiatives (including Cross River Rail), meaning that they are still being assessed. This compares to 103 projects nationally.

29 Ibid, p34.
30 IMF (2018) *World Economic Outlook Database*, April 2018.

LEGACY WAY

With the next Federal election on the horizon, securing Commonwealth contributions towards the $5.4bn Cross River Rail project and further contributions to the Beerburrum to Nambour Rail project would liberate significant state capital from the forward estimates to reinvest into other priorities.

Currently, Infrastructure Australia is evaluating the business cases for two projects on the Pacific Motorway which were submitted in January 2019 – the $1.03bn Varsity Lakes to Tugun and the $749m Eight Miles Plains to Daisy Hill sections. These are both listed as funded (announced) in the current MPP, but successful evaluation by Infrastructure Australia could also see a greater share of Federal Funding attracted to these projects.

CRUCIALLY, ASSET RECYCLING HAS NOT BEEN USED TO THE SAME DEGREE IN QUEENSLAND AS IT HAS IN OTHER STATES AND THIS REMAINS A POTENTIAL SOURCE OF FINANCE FOR FUTURE INFRASTRUCTURE PROJECTS

CONSTRUCTION SKILLS QUEENSLAND

CSQ aims to underpin the future prosperity of building and construction in Queensland using evidence and data to plan investment in a skilled workforce to meet industry needs.

Construction Skills Queensland (CSQ) is proud to be a collaboration partner of the QMPPR Report.

CSQ works collaboratively with the industry to future-proof the building and construction workforce and support the economic growth of Queensland.

Reports such as the Queensland Major Projects Pipeline report play an important part in identifying future infrastructure and investment needs and helping to inform planning by industry and government.

For our part, CSQ is here to help the construction workforce connect with the skills they will require through subsidised training delivered by registered training organisations.

We also undertake comprehensive industry research and forecasting to ensure our training investment continues to develop a pipeline of the right skills for Queensland's future building and construction activities.

CSQ programs provide a pathway for eligible new entrants and existing workers in the industry to obtain new skills and qualifications in civil construction.

CSQ assists major projects to access building and construction training to address skills deficiencies that may hold up the project, individuals to become more multi-skilled and productive, or provide career pathway opportunities for the workforce.

CSQ also supports strategic and innovative skilling solutions to respond to emerging issues and to pursue best practice in building and construction.

CONTACT

info@csq.org.au
1800 798 488
www.csq.org.au

CSQ | STRONGER FUTURES IN CONSTRUCTION

CONCLUSION AND RECOMMENDATIONS

This Report shows that major project activity in Queensland is now higher than the very low trough experienced through 2015/16 and 2016/17.

In conclusion there are downside risks to major project activity in the state in the near term, and there are significant challenges ahead if meeting the twin goals of sustainability in infrastructure provision and sustainability in the Queensland construction industry are to be achieved.

MAJOR PROJECTS DECLINE IN 2019/20

- The likely prospect of a 24% decline in major project activity over 2019/20.
- Overall, funded work in the pipeline falls from $6.1bn in 2018/19 to $4.7bn in 2019/20 before recovering slightly the following year.

PUBLIC AND PRIVATE INVESTMENT

- There may be an upside to the Commonwealth Government's current Infrastructure Investment Program, to ward off the negative impact of the slowdown in residential building or guard against potential external shocks.

REGIONAL PIPELINE VOLATILITY

- There are vast differences in how major project activity will play out by region, by sector and by project size through the forecast period.
- For many regions and sectors, volatility in the pipeline is set to increase, placing pressure on construction industry contractors and suppliers.
- Regions in the north and the west of the state have very high shares of unfunded work in their pipelines, adding to uncertainty for contractors and industry suppliers.

SKILLS SHORTAGES

- Queensland still faces significant competition for construction skills from other states – particularly New South Wales and Victoria.
- The infrastructure investment program in other east coast states is unlikely to slow down given projects already in flight.

This Report makes the following recommendations:

1 INCREASE INDUSTRY COLLABORATION

Aim for a more collaborative approach between government and the construction industry, as is emerging in New South Wales and Victoria. Looming capacity and capability challenges will likely require a greater partnership approach that maximises the legacy of the infrastructure program. Rather than being incentivised to secure the lowest priced work on each and every project, procurement will increasingly need to encourage industry investment in capacity and capability, reward innovation (and hence productivity), and foster the development of critical skills needed to deliver major projects.

2 INCREASE NUMBER OF SHOVEL READY PROJECTS

Governments should consider raising the number of "shovel ready" projects in the pipeline through early identification of infrastructure network challenges and commit to earlier evaluation of solutions and business cases. Similarly, future infrastructure requirements should be informed by a comprehensive review of the quality of the existing infrastructure stock and the development of frequently updated customer metrics that can best indicate where gaps may exist. Increasing the depth of the pipeline would improve its flexibility to help smooth cycles in major project activity – that is, allowing projects to be accelerated within the pipeline to take advantage of any emerging local industry capacity, such as seems likely to occur in 2019/20.

3 SECURE COMMONWEALTH CONTRIBUTION TO RAIL PROJECTS

Resolve Commonwealth funding contributions to passenger rail projects – the State Government's ability to fund infrastructure growth beyond its current budget commitments is challenging. This is likely to hamper its ability to meet contributions required by the Commonwealth per national partnership agreements covering transport and road projects. Securing Commonwealth contributions towards the $5.4bn Cross River Rail project and further contributions to the Beerburrum to Nambour Rail project would liberate funds from the forward estimates to reinvest into other priorities.

4 DEVELOP A FUNDING PLAN

Consider asset recycling. Other states, including New South Wales and Victoria, have already established long term plans for infrastructure development, and have made the hard decisions regarding funding and finance. With its traditionally stronger population and economic growth, Queensland needs to develop a strategic plan for funding and financing infrastructure. As noted in previous Major Project Pipeline Reports, Queensland could leverage substantial infrastructure finance through asset recycling strategies.

5 FINALISE A CITY SEQ DEAL

City deals provide a new approach for all levels of government to work together to plan and deliver transformative outcomes for Queensland cities and are a key mechanism of the Commonwealth Government's *Smart Cities Plan* (2016). The Townsville City Deal struck in December 2016 was the first in Australia and an important start. A South East Queensland (SEQ) Regional City Deal has the potential to be the foremost City Deal in the nation involving ten separate Councils. This 'new generation' City Deal could provide a structured, coordinated plan for infrastructure development in south east Queensland supported by all tiers of government.

6 CAPITAL EXPENDITURE

The State Government should maintain the current focus on ensuring committed funds for infrastructure delivery are spent as planned. The gap between committed and actual spending on public investment has narrowed, from a peak of $1.7bn in 2014/15 to $333m in 2017/18. This positive trend should be maintained.

7 IMPROVED NEEDS ANALYSIS

Better identification of infrastructure gaps. Broad economic measures and rules of thumb such as investment/GSP ratios are not ideal determinants of the existence of infrastructure gaps but can show the cyclicality and trend movements in investment over time. The lack of established benchmarks or satisfactory methods of infrastructure gap identification is problematic and perhaps should be addressed in future infrastructure Audits by Infrastructure Australia, as well as future Queensland State Infrastructure Plans.

8 REVIEW PACKAGING STRATEGIES

Provide a diverse range of projects by size. This Report highlights that a very high proportion of funded work in 2021/22 and 2022/23 is concentrated in projects valued over $500m. A sustainable and competitive construction industry requires diverse participation in project tenders and construction work. With this in mind, the State Government should look to review their packaging strategies to support greater participation from the sector.

BEST PRACTICE INFRASTRUCTURE PROVISIONS

On top of these recommendations, the more general rules of 'best practice' infrastructure provision continue to apply. Governments, particularly, will need to maintain and improve reporting systems to ensure the timely identification of any infrastructure gaps, choose the most productive projects and infrastructure solutions to address gaps, and come up with funding and financing solutions if major project activity is to be matched with Queensland's infrastructure demands over the long term:

IDENTIFY THE GAPS

Better identification of infrastructure gaps. Broad economic measures and rules of thumb such as investment/GSP ratios are not ideal determinants of the presence of infrastructure gaps but can show the cyclicality and trend movements in investment over time. Changing behaviours and a rising population density are increasing the adaptability of cities in meeting infrastructure constraints.

REVIEW THE OPTIONS

Ensure that the best infrastructure solutions are picked. This means that the business cases for short and long-term public investment programs are based on maximising economic benefits through transparent cost benefit analysis (CBA). The creation of Building Queensland (BQ), along with the ongoing work of Infrastructure Australia evaluating business cases submitted for Commonwealth Government funding, has seen far more rigorous analysis undertaken in project evaluation and selection in Queensland than in the past.

FIND THE MONEY

Ensure there is appropriate funding and financing mechanisms in place. Sustainable investment in economic infrastructure for Queensland will involve moving more major projects from 'unfunded' to 'funded' categories in coming years, as well as potentially accelerating developments to take advantage of industry capacity and developing new projects. The high cyclicality of State government revenues create challenges here for publicly funded work as it encourages more spending on infrastructure in the good economic times (at a time when industry capacity to deliver infrastructure is more stretched and costs are higher) and then pull back on infrastructure spending in the bad economic times (when the broader economy could do with the spending boost and costs can be lower). Because of this, governments should continue to look for ways to smooth and increase project finance such as through City Deals, asset leases, market-led proposals, value capture and the judicious use of debt finance. Inevitably, sustainable financing of infrastructure over the long term will require genuine tax and expenditure reforms.

RISKS TO THE OUTLOOK

The outlook contained in this report is subject to significant upside and downside risks. Despite the cyclicality of work projected, there is still the potential for further, more volatile, cycles ahead given Queensland's natural strengths and advantages: increasing connections with the fast growing economies of Asia, traditionally strong population growth, and high quality natural resources.

In this respect, the key risks which will affect the outlook for major project work as identified in this Report, are:

1 HEALTH OF TRADING PARTNERS

The economic outlook for key trading partners, the strategic decisions they make in achieving sustainable growth, and how this will impact on the global trade of resources for which Queensland has a strong supply position, particularly coking coal, thermal coal, and gas.

2 COMMODITY PRICES

The trajectory of commodity prices, particularly for coal (both thermal and coking), as well as oil prices (which can influence returns to LNG projects). Commodity price movements also impact on Queensland Government royalty revenues (as well as business taxes collected at the Commonwealth level) which can influence the future path of public infrastructure investment.

3 CURRENCY FLUCTUATIONS

Movements in the value of the Australian dollar, which not only affect the profitability and competitiveness of resources projects but also helps drive investment in other tradeable sectors of the Queensland economy, including tourism, agriculture, education and manufacturing.

4 GOVERNMENT POLICY

Policy decisions by State and Federal Governments, particularly with regard to the resources and energy and how this may play out in terms of encouraging private investment in resources projects and energy infrastructure.

While most of these risks are outside of the control of those operating in the construction of major projects, it remains important that governments and industry participants focus on what can be controlled to ensure that the Queensland construction industry and economy remains on a sustainable footing. This includes taking on the recommendations in this Report with the aim of mitigating the volatility of the boom/bust investment cycle and achieving high quality, predictable and sustainable outcomes, safe workplaces and decent working conditions.

Maintaining a healthy Queensland economy depends on sustaining an innovative construction industry which is flexible in responding to the challenges ahead, and has the right mix of skills and competencies to meet future demand.

PUMPS UNITED

Founded 45 years ago Pumps United are very proud to have opened our first Queensland branch in Cairns during 2015 and then Sunshine Coast with Gold Coast soon after. We employ local staff most having been in the industry for over 20 years.

With 11 branches and over 130 staff nationally our team are excited to be collaborative partners with the QMCA supporting its members. As the experts in water management specialising in Rental, Dewatering & Enviro solutions, we are driven to exceed expectations within the Queensland market and like most QMCA members Pumps United are optimistic about the upcoming projects detailed within this report.

FOR MORE INFORMATION

1300 137 137
www.pumpsunited.com.au

PUMPS UNITED

DIAL BEFORE YOU DIG

You wouldn't employ an unlicensed electrician or plumber therefore don't take the risk when hiring a locator, ensure he is a DBYD Certified Locator.

DBYD CERTIFICATION LIMITED (DCL) has been set up to offer certification for locators working with asset owners and contractors. The Certification recognises locators who have demonstrated a high level of understanding and practical expertise. Our mission is to deliver training and certification to ensure the location of network infrastructure. Our vision is to have safer communities through training and locator certification.

WHAT IT MEANS TO BE A DBYD CERTIFIED LOCATOR

In recent years the asset owning members of DBYD have voiced their concerns surrounding the inconsistency of skill sets associated with locating, which can lead to damages to their respective assets or more concerning serious injuries to workers or the general public.

DBYD has addressed this concern by developing a rigorous assessment for locating that contains both theory and practical elements.

It is the intention of DBYD and supported by its members that locators will aspire to be a DBYD Certified Locator. Having successfully passed the assessment the locator will have recognition that he/she has met a standard that is endorsed by our asset owning members and will be listed on the DCL website as a DBYD Certified Locator.

DBYD is "The Essential First Step" and we now see engaging a DBYD Certified Locator as "The Essential Second Step".

FOR MORE INFORMATION

Paul Newman
1300 329 375
www.1100.com.au

DIAL BEFORE YOU DIG®
www.1100.com.au

2019 MAJOR PROJECTS LIST As at February 2019

PROJECT DESCRIPTION	SPONSOR	REGION
ROADS, BRIDGES and RUNWAYS		
Kingsford Smith Drive Upgrade	Brisbane City Council	Brisbane Inner City
Brisbane Metro Busway System	Brisbane City Council	Brisbane Inner City
Brisbane New Parallel Runway Phase 2	Brisbane Airport	Brisbane - North
BAC Automall	Brisbane Airport	Brisbane - North
Logan Motorway Enhancement Project	Transurban	Logan - Beaudesert
Yamanto to Ebenezer Upgrade	Qld Government	Ipswich
Centenary Hwy Bus Lanes - Ipswich Mwy to Toowong	Qld Government	Ipswich
Centenary Hwy Bridge Duplication	Qld Government	Ipswich
Jabiru Island Bridges (Hope Island Road (Oxley Drive) road duplication - stage 4)	Qld Government	Gold Coast
Ipswich Motorway; Rocklea to Darra Stage 1 - Between Suscatand Street and Oxley Road Inc. Bridge	Qld Government & Federal Government	Ipswich
Gateway Motorway Upgrade North (GUN) - Single Package	Qld Government & Federal Government	Brisbane - North
Pacific Motorway; Section (C) Daisy Hill to Logan Motorway at Loganholme	Qld Government & Federal Government	Logan - Beaudesert
Coomera Connector - Loganholme to Nerang	Qld Government & Federal Government	Gold Coast
Pacific Motorway; Eight Mile Plains to Daisy Hill	Qld Government & Federal Government	Brisbane - South
Pacific Motorway; Miles Platting Road to Rochedale Road (Gateway Merge)	Qld Government & Federal Government	Logan - Beaudesert
Pacific Motorway; Mudgeeraba to Varsity Lakes Capacity Upgrade	Qld Government & Federal Government	Gold Coast
Sunshine Coast Airport - New East-West Runway	Queensland Airports Limited	Sunshine Coast
Mooloolah Road Interchange	Qld Government	Wide Bay
Pacific Motorway - Varsity Lakes to Tugun	Qld Government & Federal Government	Gold Coast
Rockhampton Ring Road	Qld Government & Federal Government	Fitzroy
Capricorn Highway (Rockhampton to Gracemere)	Qld Government & Federal Government	Fitzroy
Toowoomba Range Second Crossing	Qld Government & Federal Government	Toowoomba
Bruce Highway; Caloundra Road to Sunshine Motorway	Qld Government & Federal Government	Sunshine Coast
Bruce Highway; Pine River to Caloundra Interchange	Qld Government & Federal Government	Sunshine Coast
Bruce Highway; Deception Bay Road Upgrades	Qld Government & Federal Government	Moreton Bay - North
Bruce Highway - Maroochydore Road Interchange Upgrade	Qld Government & Federal Government	Sunshine Coast
Bruce Highway - Burdekin Deviation	Qld Government & Federal Government	Townsville
Bruce Highway - Ingham to Cardwell Range Deviation	Qld Government & Federal Government	Townsville
Bruce Highway - Goorganga Plains Upgrade	Qld Government & Federal Government	Mackay - Isaac

TOTAL VALUE ($M)	ENGINEERING VALUE ($M)	STATUS	18/19	19/20	20/21	21/22	22/23
650	440	Under Construction	106	30			
944	550	Under Procurement		50	200	250	50
830	380	Under Construction	280	80			
89	50	Under Procurement	25	25			
512	420	Under Construction	180				
340	263	Prospective			38	97	128
400	240	Prospective				18	120
150	100	Prospective				50	50
136	102	Unlikely			10	20	72
400	200	Under Construction	50	130			
1142	850	Under Construction	100				
250	188	Prospective			20	100	68
2400	1500	Unlikely					
749	374	Announced			74	120	120
196	160	Under Construction	80	50			
197	165	Under Construction	58	58	39		
297	240	Under Construction	150	40			
450	250	Prospective				50	150
1030	550	Announced			150	200	150
950	750	Unlikely					50
75	60	Under Procurement		40	20		
1606	1250	Under Construction	800				
929	442	Under Construction	125	150	107		
662	430	Announced		20	150	150	110
150	75	Announced		10	40	25	
187	149	Announced		10	70	69	
1400	1050	Unlikely					
460	345	Unlikely					
330	248	Unlikely					

2019 MAJOR PROJECTS LIST As at February 2019

PROJECT DESCRIPTION	SPONSOR	REGION
ROADS, BRIDGES and RUNWAYS		
Cooroy to Curra: (Section D) - Keefton Road to Curra (Gympie bypass)	Qld Government & Federal Government	Wide Bay
Bruce Highway - Rockhampton Northern Access Upgrade Stage 1	Federal Government	Wide Bay
Sarina to Cairns - Cairns Southern Access Corridor Stage 3 - Edmonton to Gordonvale	Federal Government	Cairns
Sarina to Cairns - Cairns Southern Access Corridor Stage 4 - Kate Street to Aumuller Street	Federal Government	Cairns
Sarina to Cairns - Haughton River & Pink Lily Lagoon Upgrade	Qld Government & Federal Government	Townsville
Sarina to Cairns - Mackay Ring Road/Bypass - Stage 1	Qld Government & Federal Government	Mackay - Isaac
Sarina to Cairns - Mackay Northern Access Upgrade	Federal Government	Mackay - Isaac
Sarina to Cairns - Ingham to Cardwell Range Deviation	Federal Government	Townsville
Sarina to Cairns - Saltwater Creek Upgrade	Federal Government	Townsville
Sarina to Cairns - Tiaro Flood Immunity Upgrade	Federal Government	Wide Bay
Townsville Ringroad stage 5	Qld Government & Federal Government	Townsville
Peak Downs Hwy Improvements - Eton Range	Qld Government & Federal Government	Mackay - Isaac
Peak Downs Highway - Walkerston Bypass	Qld Government & Federal Government	Mackay - Isaac
Smithfield Transport Corridor Upgrade	Qld Government & Federal Government	Cairns
Neville Bonner Bridge	Destination Brisbane	Brisbane Inner City
RAIL		
Beerburrum to Nambour Rail Upgrade	Qld Government & Federal Government	Sunshine Coast
Varsity Lakes to Elanora Extension	Qld Government / QR	Gold Coast
Ipswich Rail Line - Darra-Redbank 3rd track	Qld Government	Ipswich
CRR; Early Works - Site Preperation + Demolition	Qld Government	Brisbane Inner City
CRR; Tunnel, Stations and Development (TSD) PPP	Qld Government	Brisbane Inner City
CRR; Rail, Integration and Systems package (RIS)	Qld Government	Brisbane Inner City
European Train Control System Level 2	Qld Government	Brisbane Inner City
Gold Coast Light Rail Stage 3	Qld Government / Private	Gold Coast
Sunshine Coast Light Rail	Sunshine Coast Council	Sunshine Coast
North Coast Line Capacity (Brisbane to Cairns)	Qld Government	
Inland Mainline Freight Upgrade; NSW/QLD Border to Gowrie	ARTC	Darling Downs - Maranoa
Inland Mainline Freight Upgrade; Gowrie to Kagaru	ARTC	Ipswich
Inland Mainline Freight Upgrade; Kagaru to Acacia Ridge & Bromelton	ARTC	Logan - Beaudesert
Brisbane Freight Corridor (POB Connection)	Port Of Brisbane / Government	Brisbane - East
North Galilee Basin Rail	Adani	Mackay - Isaac

TOTAL VALUE ($M)	ENGINEERING VALUE ($M)	STATUS	18/19	19/20	20/21	21/22	22/23
1000	800	Under Procurement		125	125	125	125
121	91	Under Procurement	10	51	30		
481	300	Under Procurement		25	100	100	75
104	60	Under Construction	15	30	15		
515	240	Under Construction	60	100	80		
497	215	Under Construction	120	45			
80	60	Announced		15	35	10	
460	280	Unlikely					
103	77	Unlikely			19	38	21
107	80	Unlikely				40	40
180	90	Prospective			45	45	
189	120	Under Construction					
150	113	Announced		65	48		
150	75	Under Construction	25	50			
110	70	Under Procurement		35	35		
780	500	Announced			25	50	200
859	600	Unlikely					
218	153	Unlikely				70	83
100	100	Under Construction	50				
3700	3400	Under Procurement		50	450	2000	900
900	600	Under Procurement		10	100	300	190
634	589	Under Procurement	100	129	130	130	100
500	300	Credibly Proposed			50	200	50
500	300	Unlikely				50	150
116	70	Prospective			35	35	
1600	1350	Announced				200	500
3500	3000	Announced		200	400	800	800
150	100	Announced				20	60
4000	3250	Prospective					
1000	750	Announced		150	250	250	100

2019 MAJOR PROJECTS LIST As at February 2019

PROJECT DESCRIPTION	SPONSOR	REGION
HARBORS		
Brisbane International Cruise Terminal (including dredging)	Port of Brisbane	Brisbane - North
Port of Gladstone - Second Shipping Lane (Gatcombe and Golding Cutting Channel Duplication Project)	Gladstone Ports Corporation	Fitzroy
Townsville Port Expansion Project - Outer Harbour Expansion (berths 14+15)	Qld Government	Townsville
Townsville Port Expansion Project - Channel Capacity Upgrade	Qld Government	Townsville
Port of Gladstone - RG Tanner Coal Terminal	Qld Government	Fitzroy
Abbot Point Coal Terminal Expansion	Adani	Mackay - Isaac
DEFENCE		
RAAF Amberley - Growler Project	Federal Government	Ipswich
RAAF Amberley - C17 project	Federal Government	Ipswich
Shoalwater Bay - Remediation	Federal Government	Fitzroy
Singapore Force Posture Initiatives - Shoalwater Bay	Federal Government	Fitzroy
Singapore Force Posture Initiatives - Townsville	Federal Government	Townsville
WATER		
Lower Fitzroy River Infrastructure Project - New Weir at Rookwood on the Fitzroy River Stage 2	Gladstone Area Water Board (GAWB)	Fitzroy
Gladstone to Fitzroy River Pipeline	Gladstone Area Water Board (GAWB)	Fitzroy
Three Rivers Irrigation Project	Stanbroke	Outback - North
Shell / Arrow Water Treatment Facilities Bowen	Shell/Arrow/Bow	Mackay - Isaac
Wyaralong Dam WTP Stage 1	SEQ Water	Logan - Beaudesert
Beaudesert Water Supply Upgrade Pipeline	SEQ Water	Logan - Beaudesert
Nullinga Dam	Federal/Queensland Governemnt	Cairns
Somerset Dam Upgrade	SEQWater	Ipswich
Lake McDonald Dam Upgrade	SEQWater	Wide Bay
Haughton Pipeline Duplication	Townsville Council	Townsville
Urannah Dam	Bowen Collinsville Enterprises	Mackay - Isaac
Burdekin Falls Dam - Saddle Dam and Monolith Improvement	Sunwater	Townsville
Hells Gate Dam - Upper Burdekin	Townsville Enterprise	Townsville
Hells Gate Diversion Canal - 240km from Hells Gates to a Delineated Area	Townsville Enterprise	Townsville
Paradise Dam Spillway Improvement Project	Sunwater	Wide Bay
Galilee Basin Water Supply	Adani	Mackay - Isaac
SEWERAGE		
Bulimba Creek - Brisbane	Queensland Urban Utilities (QUU)	Brisbane Inner City
Luggage Point Sewerage Scheme	Queensland Urban Utilities (QUU)	Brisbane - North
Rubyanna WWTP	Bundaberg	Wide Bay
Gold Coast Council Long Term Water Recycled Water Release Stage 1	GCC	Gold Coast
Gold Coast Council Long Term Water Recycled Water Release Stage 2 - South Stradbroke pipeline	GCC	Gold Coast
Northern treatment	Urban Utilities	Brisbane Inner City
Southern treatment	Urban Utilities	Ipswich

TOTAL VALUE ($M)	ENGINEERING VALUE ($M)	STATUS	18/19	19/20	20/21	21/22	22/23
150	120	Under Construction	40	65			
280	196	Prospective	35	100	61		
200	150	Unlikely		75	75		
193	150	Announced		75	75		
225	200	Announced	60	80	60		
		Unlikely					
180	150	Under Construction	60	60	30		
200	120	Under Construction	20	20			
140	120	Under Construction		20	50	50	
1100	400	Announced		100	100	100	100
1100	100	Announced		25	25	25	25
352	195	Announced		35	65	95	
250	120	Unlikely					
250	120	Credibly Proposed			60	60	
250	175	Prospective				90	85
200	150	Prospective			50	50	50
135	100	Announced			50	50	
250	180	Credibly Proposed		50	80	50	
600	450	Credibly Proposed		150	150	150	
100	80	Announced		40	40		
215	150	Announced	100	50			
250	200	Unlikely				100	100
330	210	Announced			90	95	25
313	250	Unlikely					
490	400	Unlikely					
200	145	Prospective			35	80	30
80	60	Announced		30	30		
100	75	Under Construction	10				
600	500	Under Construction	25	25	25	25	25
71	50	Under Construction					
75	53	Under Construction	40	20			
250	188	Announced		60	128		
220	175	Under Construction	12	40	75	37	23
170	136	Under Procurement	2	26	5	40	53

2019 MAJOR PROJECTS LIST As at February 2019

PROJECT DESCRIPTION	SPONSOR	REGION
ELECTRICITY		
North Queensland Power Station	Private / Qld Gov / Feds	Townsville
Mt Emerald Wind Farm (180 MW)	Ratch-Australia Port Bajool JV	Cairns
Cooper's Gap Wind Farm (438MW)	AGL	Darling Downs - Maranoa
Kennedy Energy Park Stage 1 (Wind 40MW, Solar 15MW)	Windlab / Eurus Energy	Townsville
Wandoan South Solar Project (1000MW)	Equis Energy	Fitzroy
Bulli Creek Solar Farm (>1000 MW)	Solar Choice	Darling Downs - Maranoa
Clarke Creek Wind (800MW)	Energy Pacific Vic Pty Ltd	Mackay - Isaac
Raglan Solar (350MW)	Eco Energy Group	Fitzroy
Columboolan Solar Farm (Miles) (310MW)	Luminous Energy	Fitzroy
Bouldercombe Solar Farm (200MW)	Eco Energy Group	Fitzroy
Darling Downs Solar Farm (106.8 MW)	APA	Darling Downs - Maranoa
Kidston Solar Project - Stage 2 (270 MW)	Genex Power	Cairns
150MW Kidston Stage 3 Wind Project	Genex	Cairns
Kidston Transmission Project	Genex/Powerlink	Cairns
Munna Creek Solar Farm Project (120 MW)	Renewable Energy System Technologies	Wide Bay
Kidston Pumped Hydro Storage Project	Genex Power	Cairns
Moranbah Solar Farm (170MW)	Adani	Mackay - Isaac
Clare Solar Farm Project (100MW)	FRV	Townsville
Oakey Solar Farm Stage 2 (55 MW)	Oakey 1 AssetCo Pty Ltd	Darling Downs - Maranoa
Lilyvale Solar Farm (100 MW)	FRV	Toowoomba
Childers Solar Farm (80 MW)	ESCO Pacific	Wide Bay
Stanwell Power Station Works	Qld Government	Fitzroy
Rollingstone Solar Farm (110 MW)	ESCO Pacific	Townsville
Emerald Solar Farm (100 MW)	RES Australia	Fitzroy
Yarranlea Solar Farm (100MW)	Risen Energy	Darling Downs - Maranoa
Whitsunday Solar Farm (57.5 MW)	Edify Energy / Wirsol	Mackay - Isaac
Susan River Solar Farm (100MW)	ESCO Pacific	Wide Bay
Daydream Solar Farm (150 MW)	Edify Energy / BlackRock Real Assets	Mackay - Isaac
Hayman Solar Farm (50 MW)	Edify Energy / BlackRock Real Assets	Mackay - Isaac
Rodds Bay Solar (300MW)	Renew Estate	Fitzroy
Lower Wonga Solar Farm (Stage 1) 350MW	Solar Q	Wide Bay
Haughton Solar Farm 100MW	Pacific Hydro	Townsville
Beelbee Solar Farm 150MW	APA Group	Darling Downs - Maranoa
Clarke Creek Wind and Solar Farm 200MW	Lacour	Mackay - Isaac
Comet Solar Farm 309MW	Hadstone Energy	Fitzroy
Majors Creek Solar Project 400MW	Edify Energy	Townsville
Burdekin Solar Farm 140MW	CleanGen	Mackay - Isaac

TOTAL VALUE ($M)	ENGINEERING VALUE ($M)	STATUS	18/19	19/20	20/21	21/22	22/23
800	600	Credibly Proposed		100	250	250	
380	133	Completed	95				
700	245	Under Construction	170				
160	56	Completed	31				
1200	420	Prospective	125	170	125		
1500	525	Prospective		75	75	100	100
1000	350	Announced	75	100	100	75	
310	109	Announced		54	54		
300	105	Credibly Proposed	52	53			
240	84	Prospective		42	42		
210	74	Under Construction	38				
400	140	Announced	70	70			
250	88	Credibly Proposed	44	44			
200	100	Announced		100			
150	53	Announced	25	27			
330	200	Credibly Proposed		100	100		
200	70	Announced	70				
200	70	Under Construction	25				
106	37	Under Construction	43				
200	70	Under Construction	20				
125	44	Under Construction	25	20			
131	100	Under Construction	60				
210	74	Prospective	40	33			
100	35	Under Construction	15				
160	56	Under Construction	28				
112	39	Under Construction	22				
160	56	Under Construction	56				
300	105	Completed	30				
100	35	Under Construction	12				
350	123	Announced	60	63			
560	196	Prospective					
175	61	Under Construction	50				
240	84	Prospective					
320	112	Prospective					
490	172	Prospective					
640	224	Prospective					
220	77	Prospective					

2019 MAJOR PROJECTS LIST As at February 2019

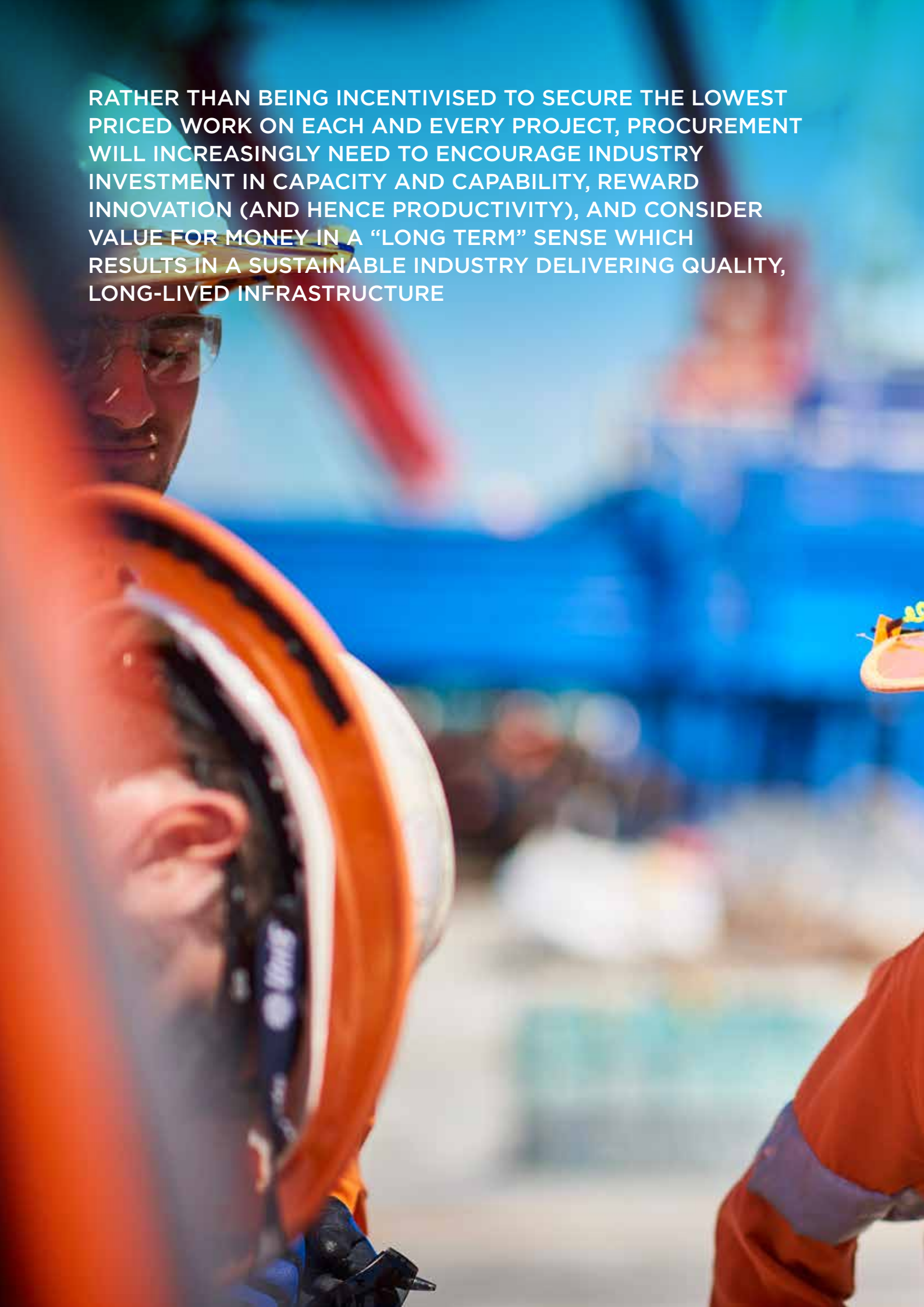
PROJECT DESCRIPTION	SPONSOR	REGION	
ELECTRICITY			
Desailly Renewable Energy Park 1000MW	DP Energy	Cairns	
Archer Point Wind Farm 120MW	Wind Power Queensland	Townsville	
Ingham Bio-Energy Project (110MW)	North Queensland Bio-Energy Corporation	Townsville	
Aramara Solar Farm (140 MW)	Eco Energy World (EEW) Australia	Wide Bay	
Powering North Queensland: Transmission Line	Powerlink	Cairns	
Burdekin Falls - Hydro-Electric Power Station (50MW)	Stanwell	Townsville	
Substation Upgrades at Various SEQ Locations	Qld Government	Multi	Multi
SunCoast Powerline Project - Palmwoods to Maroochydore	Qld Government	Sunshine Coast	
Lockyear Valley Gas Power Station	Quin Brook	Toowoomba	
Galilee Basin Transmission Project	Adani	Mackay - Isaac	
PIPELINES			
Roma East Gas Project (pipeline component)	Santos	Darling Downs - Maranoa	
Arrow Bowen Pipeline	Shell/Arrow/Bow	Mackay - Isaac	
TELECOMMUNICATIONS			
National Broadband Network - Qld component	NBN Co.	Multi	Multi
Public Safety Regional Radio Communication	Qld Government	Multi	Multi
OIL & GAS			
Queensland Curtis LNG Upstream Field Development (Sustaining)	QGC & Shell	Fitzroy	
Gladstone LNG Upstream Field Development (Sustaining)	Santos & Petronas	Fitzroy	
Western Surat Gas Project	Senex	Darling Downs - Maranoa	
Arcadia Gas Project	Santos	Darling Downs - Maranoa	
GLNG Roma East Project	Santos & Petronas	Darling Downs - Maranoa	
Australia Pacific LNG Upstream Field Development (Sustaining)	Origin/Conoco Phillips	Darling Downs - Maranoa	
Arrow - Upstream Field Development (Sustaining)	Arrow/Shell	Darling Downs - Maranoa	
Atlas Gas Processing Plant and Pipeline	Jemena	Fitzroy	
COAL			
Eagle Downs Coking Coal	Aqulia / Vale	Mackay - Isaac	
Byerwen	Qcoal	Mackay - Isaac	
Maryborough (Colton)	Northern Energy (Owned By New Hope)	Wide Bay	
New Acland Stage 3 Expansion	New Hope Corporation	Darling Downs - Maranoa	
Caval Ridge Expansion (part of the gazetted Bowen Basin Coal Growth Project)	BHP Billiton / Mitsubishi Alliance (BMA)	Mackay - Isaac	
Peak Downs Expansion	BHP Billiton / Mitsubishi Alliance (BMA)	Mackay - Isaac	
South Walker Creek	BHP / Mitsui	Mackay - Isaac	
Grosvenor Underground Stage 2	Anglo Coal	Mackay - Isaac	
Styx's Coal Project	Waratah Coal / Queensland Nickel	Fitzroy	

TOTAL VALUE ($M)	ENGINEERING VALUE ($M)	STATUS	18/19	19/20	20/21	21/22	22/23
1600	560	Prospective					
190	67	Prospective					
640	110	Credibly Proposed	80				
280	98	Prospective	48	50			
150	128	Credibly Proposed	50	50	28		
200	120	Prospective			60	60	
110	80	Under Construction	45				
89	69	Under Construction	16				
100	80	Under Procurement	50	30			
100	80	Announced			20	40	20
300	240	Under Construction	50	90	50		
450	360	Unlikely				160	200
6928	4850	Under Construction	830	453	421	400	400
500	300	Announced	75	75	75	75	
	650	Under Construction	50	150	150	150	150
	500	Under Construction	100	100	100	100	100
1500	1200	Prospective		30	60	60	60
400	200	Under Construction		100	100		
750	320	Under Construction	120	80	40	40	40
	650	Under Construction	50	150	150	150	150
	600	Prospective		150	150	150	150
140	84	Announced	54	30			
1250	600	Prospective			158	228	215
300	250	Under Construction	50	100	50		
300	180	Prospective				70	110
350	210	Unlikely			60	90	60
200	160	Under Construction	80	80			
460	345	Credibly Proposed			80	160	105
150	100	Under Procurement		20	40	40	
500	350	Credibly Proposed			70	105	175
300	270	Credibly Proposed		50	220		

2019 MAJOR PROJECTS LIST As at February 2019

PROJECT DESCRIPTION	SPONSOR	REGION
COAL		
Middlemount Coking Coal Mine Stage 2	Peabody / Yancoal	Mackay - Isaac
Hail Creek Extension - Underground	Rio Tinto	Mackay - Isaac
Rolleston Expansion	Xstrata/Glencore	Fitzroy
Yarrabee	Yancoal	Fitzroy
Boundary Hill South Mine Extension	Anglo Coal	Fitzroy
Aquila	Anglo Coal	Mackay - Isaac
Foxleigh Plains Project	Anglo/CAML/Nippon	Mackay - Isaac
Eaglefield Coal Mine Expansion	Peabody	Mackay - Isaac
Monto Coal Mine Further Stages	Peabody / China Huaneng Group	Wide Bay
Yamala (Emerald Project)	Northern Energy	Fitzroy
Olive Downs	Pembroke Resources	Mackay - Isaac
South Burnett Coal Project (Tarong)	MRV Tarong Basin Coal	Wide Bay
Curragh Mine - Next stage Expansion	Wesfarmers	Fitzroy
Jellinbah	Jellinbah	Fitzroy
Kestral Expansion	Kestral Joint Venture	Fitzroy
Wilkie Creek	New Black Energy	Darling Downs - Maranoa
Carmichael Coal Mine Project (Stage 1)	Adani	Mackay - Isaac
OTHER MINERALS		
Mt Elliot	Chinova	Outback - North
Merlin Molybdenum-Rhenium Phase 2	Chinova	Outback - North
Cannington Expansion	BHP Billiton	Outback - North
Roseby Copper (Little Eva)	Altona Resources	Outback - North
Red Dome Mungana	Mungana gold mines	Cairns
Ravenswood Extension Project	Resolute Mining	Townsville
Charters Towers	Citigold Corporation	Townsville
SCONI Scandium Project (Phase 1)	Metallica Minerals	Townsville
Sarsfield	Resoulte Mining	Townsville
Paradise Phosphate South project	Legand International holdings	Outback - North
Ardmore Project - Phosphate Project	Centrex Metals	Outback - North
Highland Plains - Phosphate Project	POZ Minerals	Outback - North
Mt Dromerdary - Graphite Project	Novonix	Outback - North
North Queensland Bio Energy - Ethanol Plant	North Queensland Bio Energy	Townsville
Gladstone Energy and Ammonia Project	Australian Future Energy	Fitzroy
Sun Metals Zinc Refinery Stage 2	Sun Metals	Townsville

TOTAL VALUE ($M)	ENGINEERING VALUE ($M)	STATUS	18/19	19/20	20/21	21/22	22/23
325	284	Prospective				100	184
1100	660	Unlikely				150	310
400	120	Unlikely				70	50
260	150	Unlikely					
100	70	Unlikely					
200	140	Unlikely					70
200	140	Unlikely					70
1500	1200	Unlikely					
265	159	Unlikely					60
350	280	Unlikely					
500	300	Announced		100	100	100	
250	200	Prospective					
200	160	Prospective					
110	90	Under Procurement	70				
120	80	Under Procurement	70				
250	200	Prospective			50	100	50
1100	900	Announced		50	200	300	200
95	48	Unlikely				48	
345	250	Unlikely		75	100	75	
400	120	Unlikely		30	60	30	
320	96	Prospective			21	45	30
330	215	Credibly Proposed		65	85	65	
167	92	Unlikely				38	54
246	135	Prospective		35	80	20	
1300	800	Prospective		80	400	320	
250	100	Prospective					
400	300	Unlikely					
120	100	Unlikely		50	50		
100	80	Unlikely		40	40		
100	80	Unlikely		40	40		
640	200	Prospective		75	75	50	
1000	600	Credibly Proposed			200	200	200
300	200	Announced	50	100	50		



RATHER THAN BEING INCENTIVISED TO SECURE THE LOWEST PRICED WORK ON EACH AND EVERY PROJECT, PROCUREMENT WILL INCREASINGLY NEED TO ENCOURAGE INDUSTRY INVESTMENT IN CAPACITY AND CAPABILITY, REWARD INNOVATION (AND HENCE PRODUCTIVITY), AND CONSIDER VALUE FOR MONEY IN A "LONG TERM" SENSE WHICH RESULTS IN A SUSTAINABLE INDUSTRY DELIVERING QUALITY, LONG-LIVED INFRASTRUCTURE

QLDMPP.COM.AU