























Andrew Chapman QMCA

























# Agenda

- Pipeline headlines
- Key issues:
  - Costs
  - Capacity
  - Productivity
- Solutions & Recommendations:
  - Productivity Improvements
  - Streamlined procurement (and collaborative)
  - Coordination of works

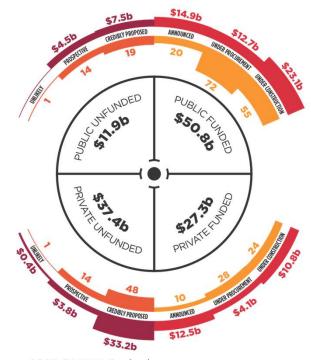




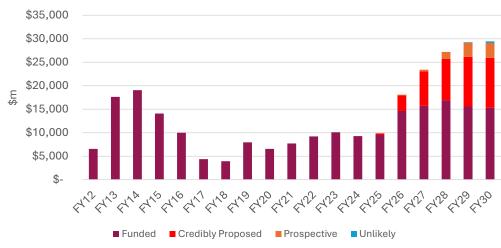


# **QMPPR** Headlines

- Total 5 year pipeline now:
  - \$120b
  - \$127b with the Olympics Infrastructure
- Funded profile on average 2025-2030:
  - \$14.5b/yr (w/o Games)
  - \$15.6b/yr (incl. Games)
- Key issues affecting
  - Procurement & project approvals
  - Labour
  - Industry output (supply chain and productive capacity)



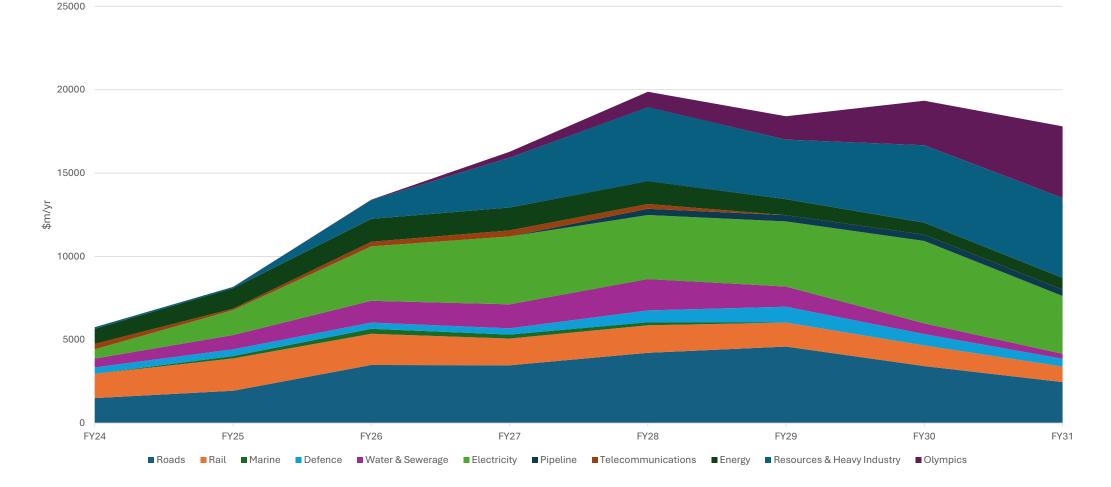
2025 QMPPR Outlook







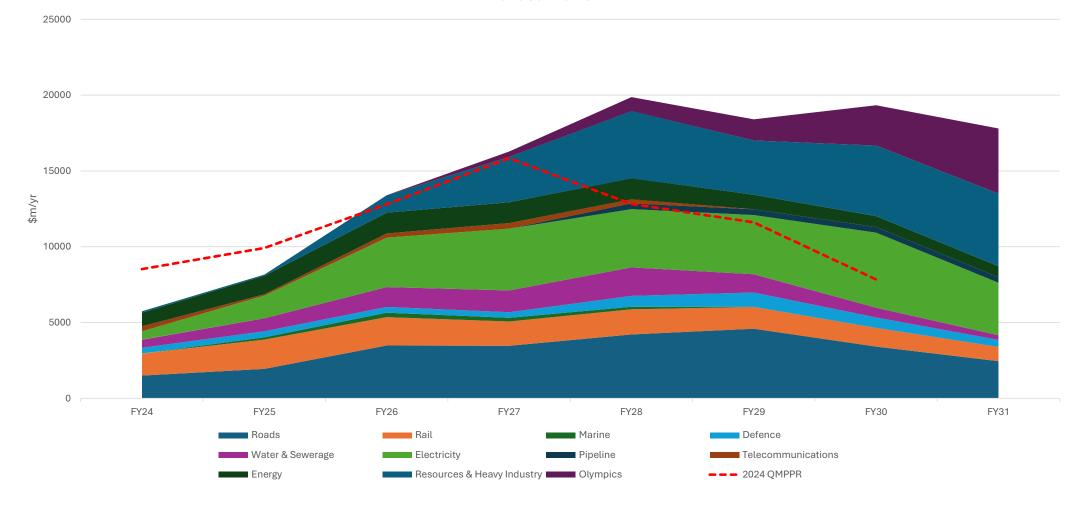
**Funded Works** 







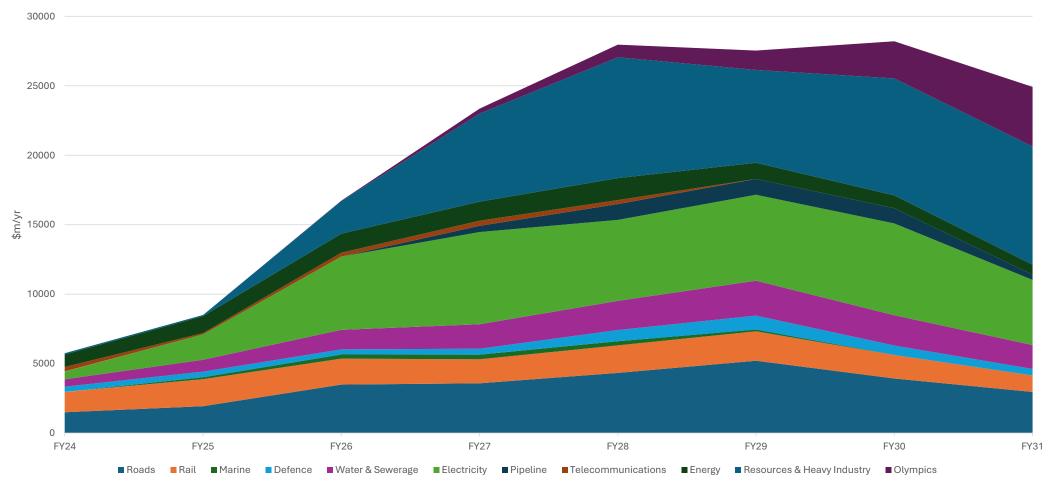
**Funded Works** 







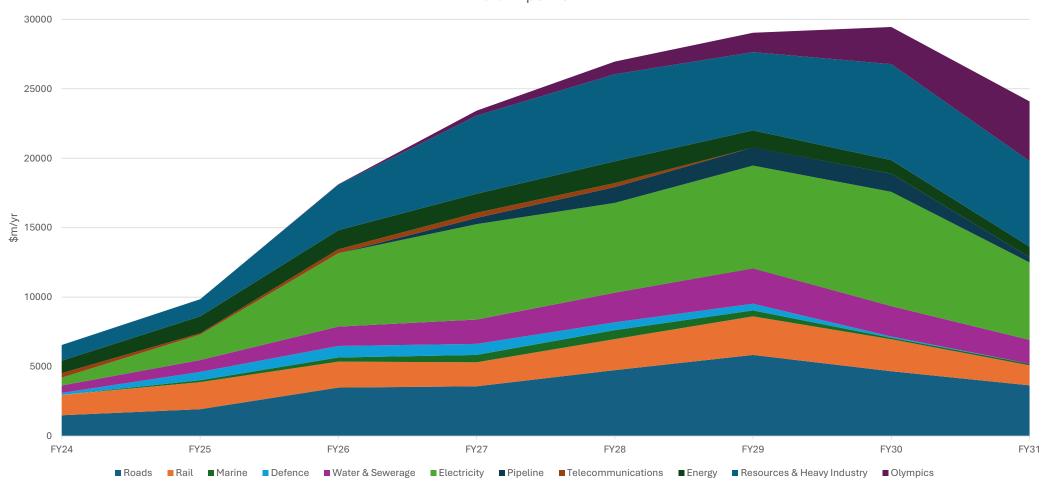
Funded + Credibly Proposed







**Total Pipeline** 





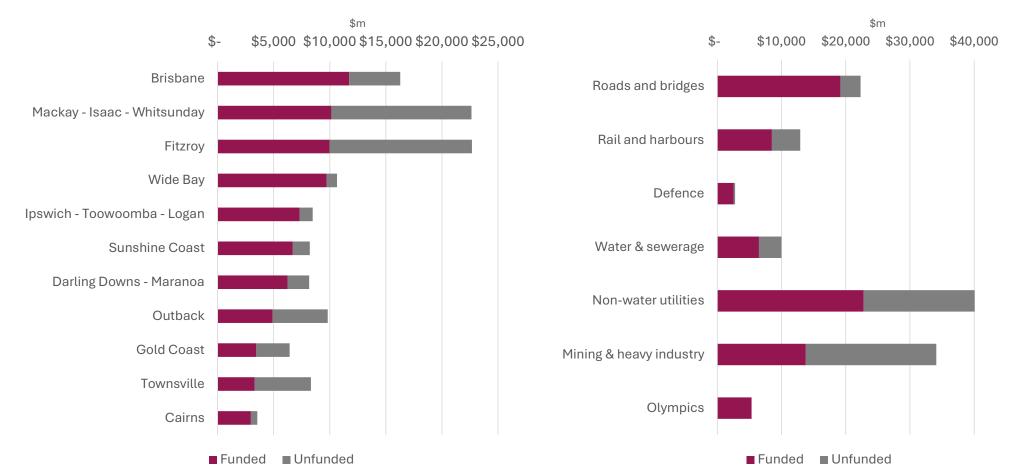


#### Where and What?

#### 2025 QMPPR - Regional Breakdown

#### 2025 QMPPR - Sector Breakdown

\$50,000



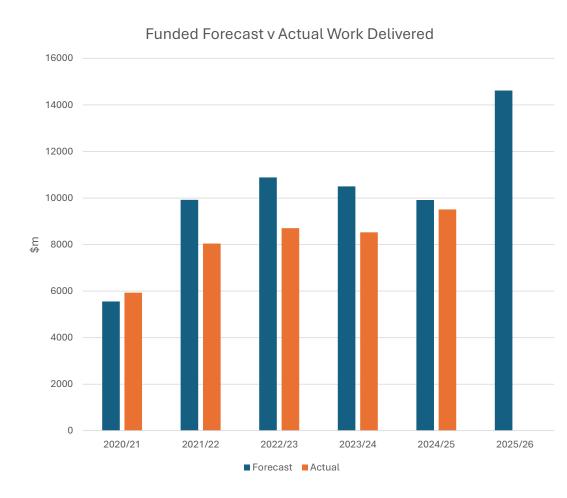






#### What has been delivered

- From FY21-FY24 ~87% of projected work each year was delivered
- FY25 saw close to 12% uplift in delivery
- FY25 delivered 96% of the projected work
- To deliver FY26 will require 53% uplift
- To deliver the average of the total pipeline over the forward 5 years: 167% lift







# Key Issues that will affect the pipeline

- Input cost escalation
- Market capacity:
  - Labour
  - Supply chain
- Procurement approach
- Industry productivity

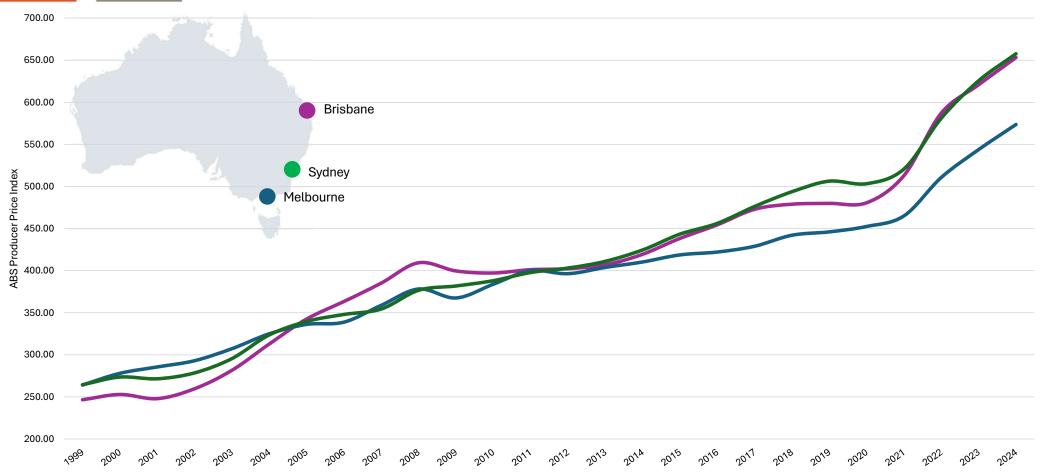








### **Construction Costs**



Source: ABS / Arcadis







### Civil Infrastructure Cost Forecast







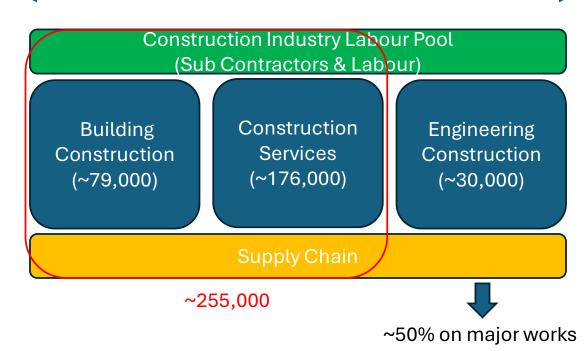
# Capacity



Total labour pool:~285,000

#### • Labour:

- 285,000 currently employed across the entire building & construction industry
- A large proportion of the supply chain, sub contractors and labour pool is shared
- Engineering Construction accounts for ~30,000
- Need up to 41,000 people to deliver the entire pipeline & 25,000 for the funded works
- Currently ~15,500

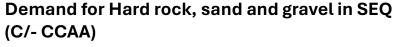




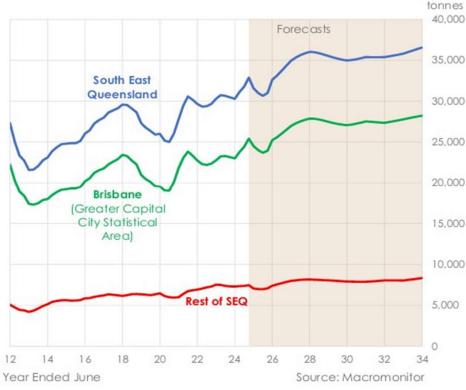


# Capacity

- Labour: Need up to 41,000 people to deliver the QMPPR
- Supply chain:
  - Steel (reinforcing, structural & fabricated)
  - Concrete
  - Aggregates (hard rock, sand & gravel)
  - Pre cast elements (bridge units, culverts, concrete pipe etc)
- Aggregate supply for SEQ is a big challenge



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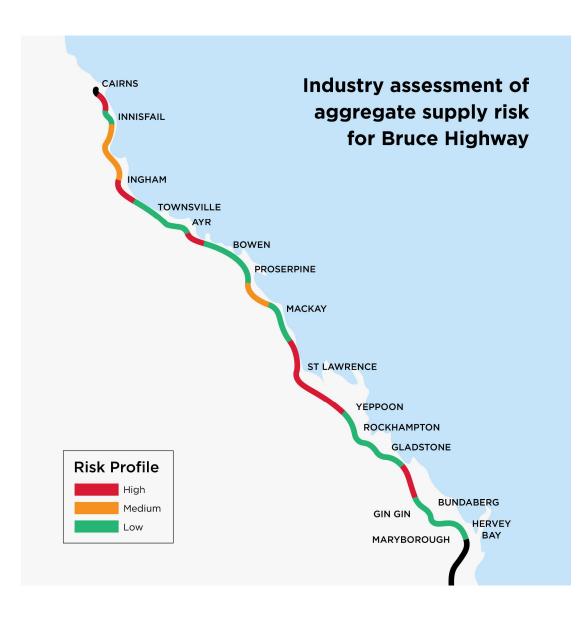
Source: CCAA





# Capacity

- Labour: Need up to 41,000 people to deliver the QMPPR
- Supply chain:
  - Steel (reinforcing, structural & fabricated)
  - Concrete
  - Aggregates (hard rock, sand & gravel)
- Regional aggregate supply will also be massively challenged
- Other issue: housing







#### Procurement

- To ensure delivery of the pipeline, projects need to move efficiently through the procurement process and commence works
- Over the past 5 years procurement activities have become more complex and time consuming:
  - Construct only projects up to 80% increase in time
  - D&C projects similar increase of up to 50% in time
- QMCA analysis has indicated an increase in procurement timeframes of up to 4.5 months over the past 5 years. The impact on the work rate to be delivered is:
  - Full pipeline: Increases by 6% from \$2.1b/m to \$2.23b/m
  - Funded pipeline: Increases by 7.7% from \$1.3b/m to \$1.4b/m





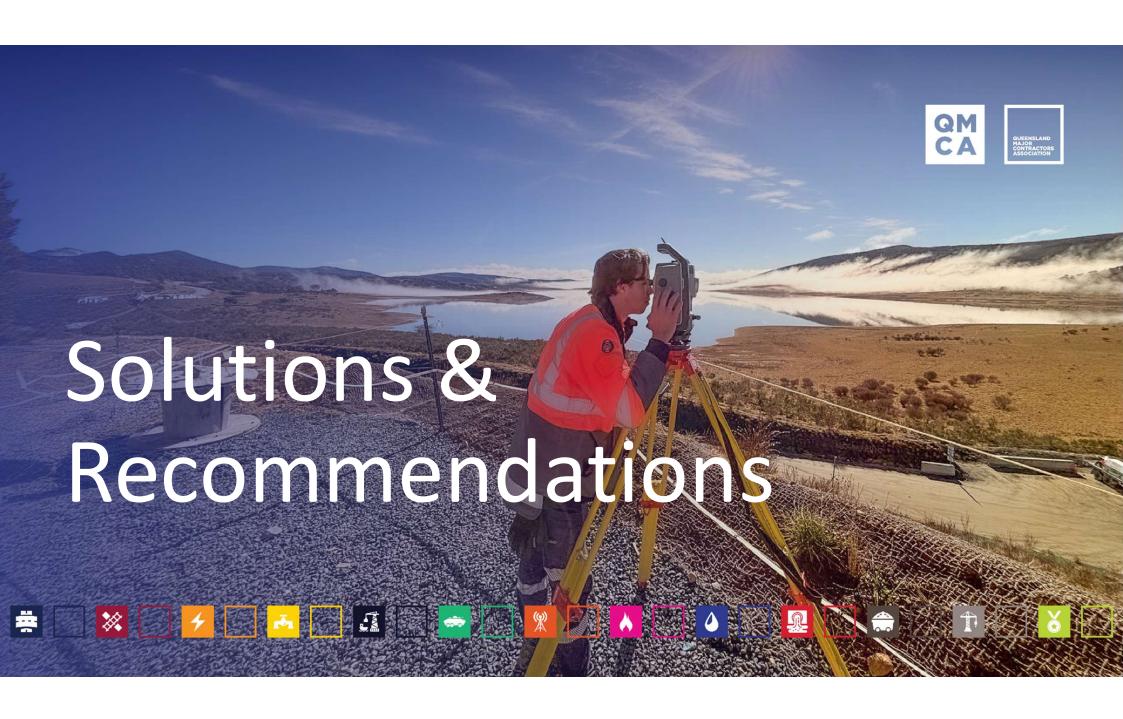




# The Productivity Challenge

	Total Pipeline	Funded Works	Funded + Credibly Proposed
Productive Output			
Average output req'd	\$1.66m/ person	\$1.29m/ person	\$1.54m/ person
Current	\$0.7-\$0.82m/ person		
No. of people			
Low	31,000	19,000	29,000
High	41,000	25,000	38,000
Current	15,400		

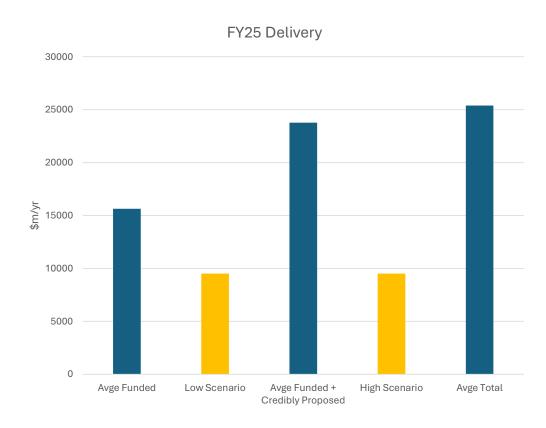
These numbers relate to the major engineering and construction works as laid out in the 2025 QMPPR







• Delivered \$9.51b in FY25



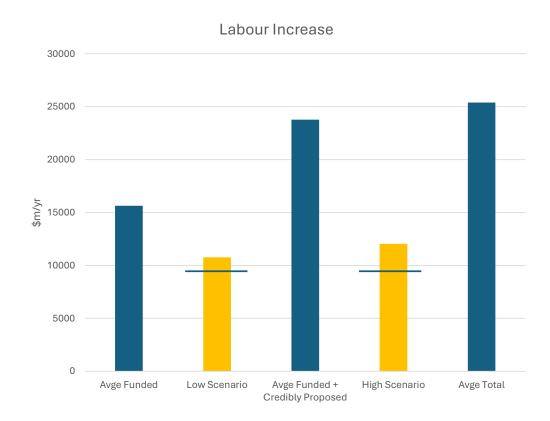




- Delivered \$9.51b in FY25, plus:
  - Increase in labour pool:

• Low: \$1250

• High: \$2500



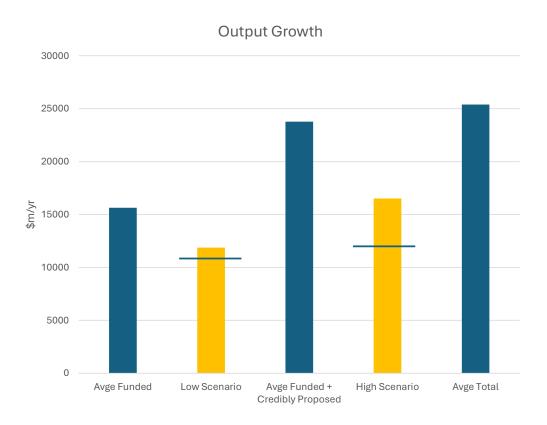




- Delivered \$9.51b in FY25, plus:
  - Increase in labour pool
  - Growth in output from FY25 levels:

• Low: \$1100m

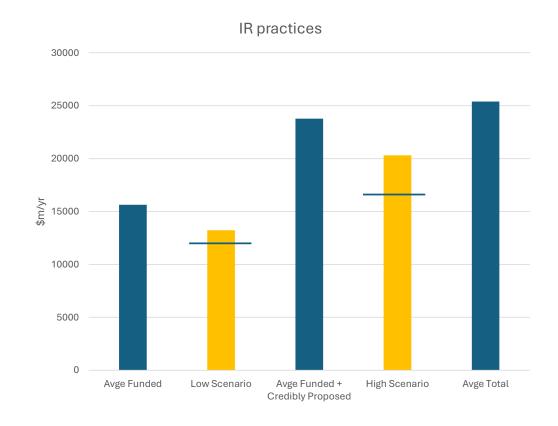
• High: \$4500m







- Delivered \$9.51b in FY25, plus:
  - Increase in labour pool
  - Growth in output from FY25 levels
  - IR practices:
    - Low: \$1350m
    - High: \$3800m



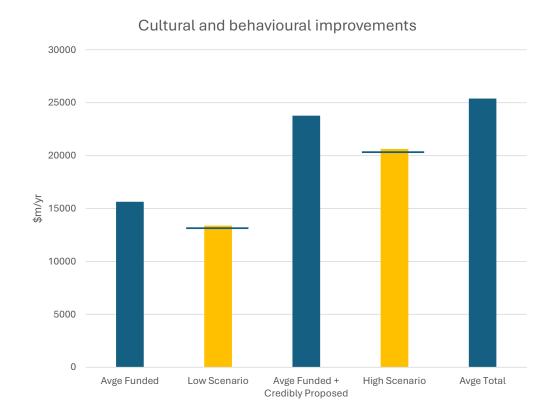




- Delivered \$9.51b in FY25, plus:
  - Increase in labour pool
  - Growth in output from FY25 levels
  - IR practices
  - Culture and behavioural improvements:

• Low: \$160m

• High: \$320m



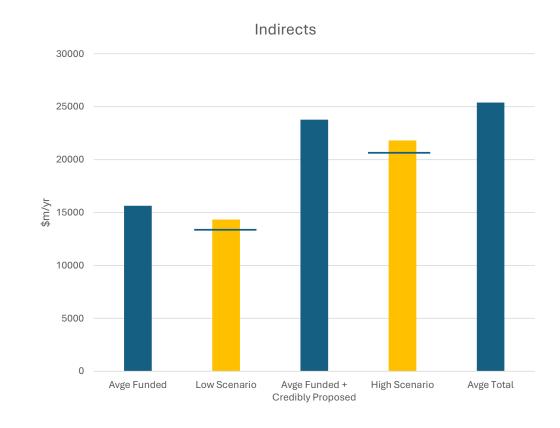




- Delivered \$9.51b in FY25, plus:
  - Increase in labour pool
  - Growth in output from FY25 levels
  - IR practices
  - Culture and behavioural improvements
  - Reduction in Indirects:

• Low: \$950m

• High: \$1200m



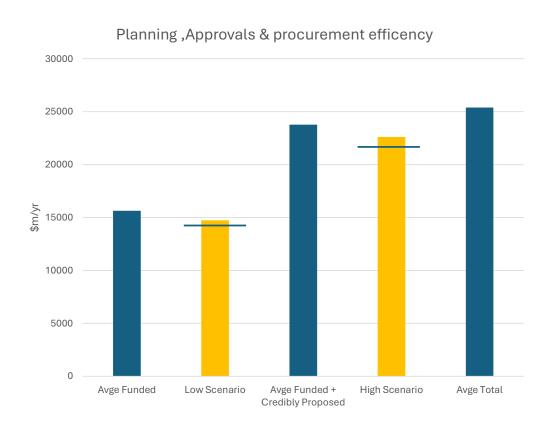




- Delivered \$9.51b in FY25, plus:
  - Increase in labour pool
  - Growth in output from FY25 levels
  - IR practices
  - Culture and behavioural improvements
  - Reduction in Indirects
  - Planning, approvals & procurement efficiency:

• Low: \$390m

• High: \$790m







# Potential Productivity Improvements

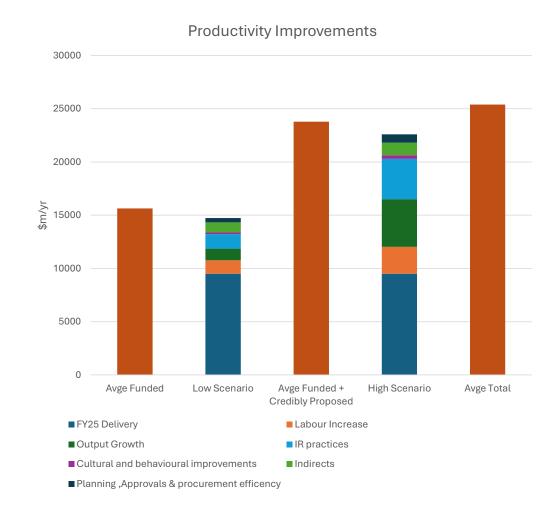
#### Delivered \$9.51b in FY25, plus:

- Increase in labour pool
- Growth in output from FY25 levels
- IR practices
- Culture and behavioural improvements
- Reduction in Indirects
- Planning, approvals & procurement efficiency

#### • Total:

Low Scenario: \$14.7b

• High Scenario: \$22.6b







# Productivity - Innovation & Technology

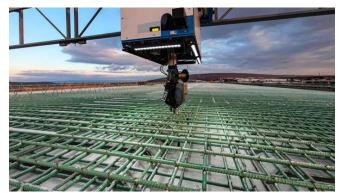
#### • Technologies:

- Robotics
- Autonomous operating earth moving equipment, welding, material handling (cranes, etc)
- Modular assembly
- Digital models
- Business operations
- Artificial intelligence applications
- Applications across QMPPR:
  - Earthworks
  - Concrete works
  - Modularised and prefabricated sections for Olympics, Electricity, Water & Heavy engineering













# **Procurement Streamlining**

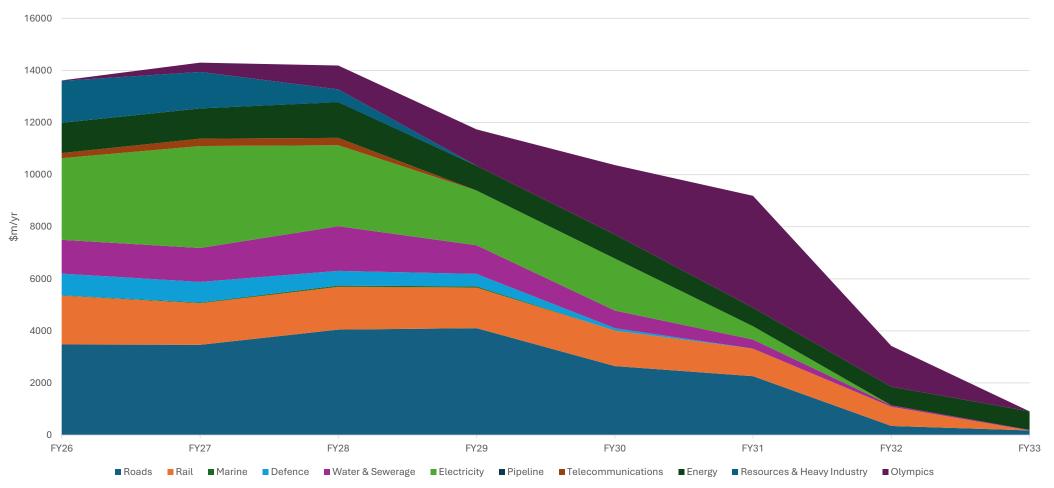
- Early selection of preferred delivery partners is essential to work collaboratively with clients to ensure:
  - Project delivery planning is built into design
  - Technology and innovation
  - Risk understanding, apportionment and management
  - To result in better cost and time certainty
  - Local industry capacity strengthening
- By streamlining the procurement process can save >\$1b across the pipeline in total costs:
  - Moving to a preferred partner on projects early
  - Reducing the "transaction costs" on client and contractor side
  - Engaging the contractor with other parties early (risk, cost, time, approach, innovation etc)





# Coordination of Works- Potential Prioritisation

Prioritised Scenario for 2032







# Coordination of Works – Potential Private Co Investment

- Public sector investment will reach a capped level
- There are further opportunities for either full or part private funding
- Greatest areas where this might be appropriate include
  - Olympics (part funding of venues)
  - Marine (associated with resources)
  - Electricity (generation, transmission & storage)
  - Rail (station upgrades & mass transit)
  - Water & wastewater (treatment)



	Public	Private I	Potential for co funding	
Summary	\$m	\$m	\$m	%
Roads	21,545	776	1,798	8%
Rail	10,923	-	2,044	19%
Marine	1,541	455	554	36%
Defence	2,763	-	-	0%
Water & Sewerage	10,013	-	1,473	15%
Electricity	11,620	22,636	2,719	23%
Pipeline	-	4,206	-	0%
Telecoms	67	867	-	0%
Energy	-	6,519	-	0%
Resources & Heavy				
Industry	9	27,719	-	0%
Olympics	3,858	1,493	1,523	39%

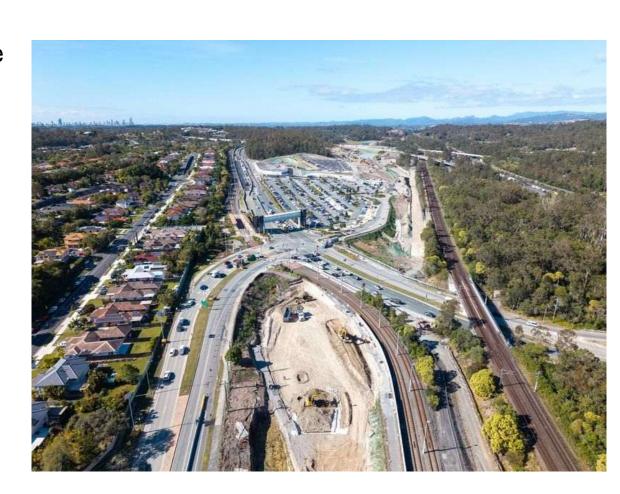
Forward 5 years of the pipeline



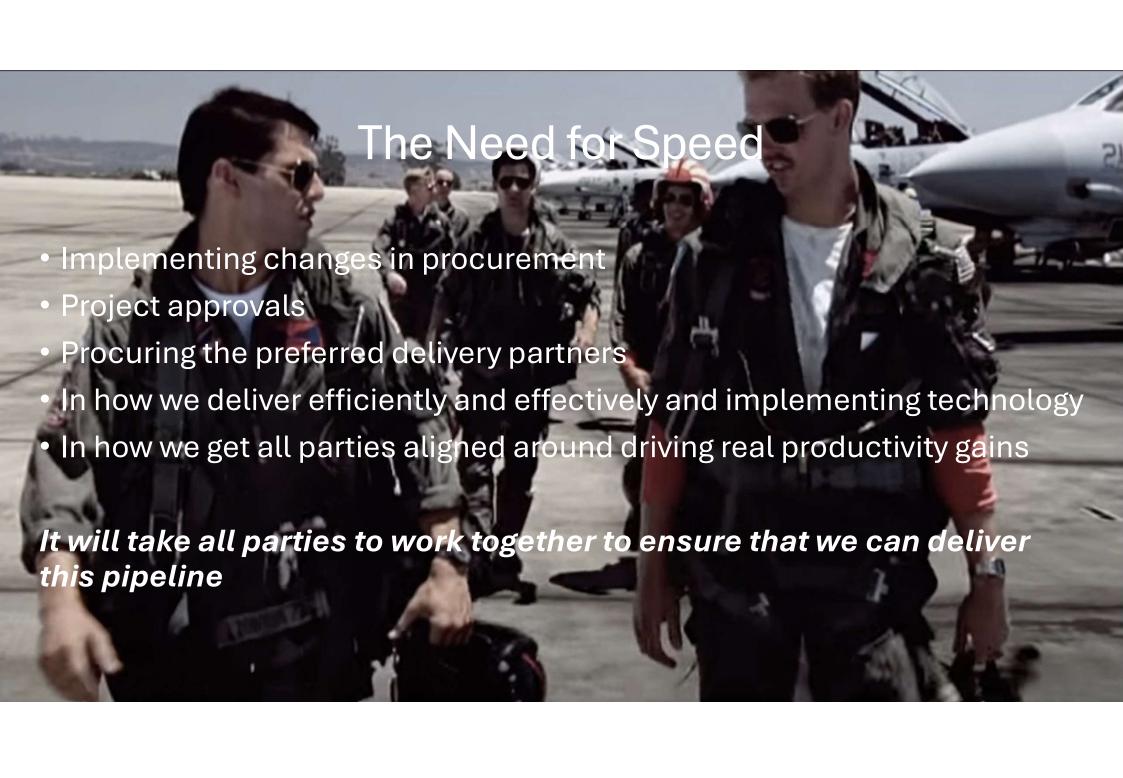


#### Recommendations

- Unlock further opportunity for private sector investment
- Different approaches to increase employment and retention of workforce
- Streamlined procurement and approvals-potential savings:
  - Time (at least 3 months/ project)
  - Cost (at least \$1b across the pipeline)
- Focus on elements that can deliver productivity improvements:
  - Specifications driving in directs
  - Industrial relations conditions
  - Technology & innovation
- Housing for workers











# Thank you to contributing authors:







