



# 1 INTRODUCTION

## CHAPTER SUMMARY AND CONCLUSIONS:

- The planning and development of the Port of Townsville (PoT) and improvements to the Mount Isa Line, including rail access to the port via the Townsville Eastern Access Rail Corridor (TEARC), is a key priority of the Australian Government, Queensland Government, Townsville City Council and a significant driver of economic development in Northern Queensland.
- The TEARC Detailed Business Case (DBC) considers the 8.3 km of new rail corridor and associated works. The Base Case and Reference Project scope includes the rail infrastructure from the Sun Metals Branch Line, via the North Coast Line to the Jetty Branch and associated road infrastructure. The Base Case excludes the Mount Isa Line to Townsville, the North Coast Line south of the Sun Metals Branch Line and north of the Jetty Branch. It also excludes the PoT to the port boundary.
- The TEARC DBC has been prepared by Building Queensland on behalf of the project owner the Department of Transport and Main Roads.
- The DBC has been prepared with direction from a Project Steering Committee (PSC) and Project Control Group (PCG). Key stakeholders involved include the Department of the Premier and Cabinet, Department of Transport and Main Roads (TMR), Queensland Treasury, Department of State Development, the Department of Infrastructure, Local Government and Planning, Queensland Rail, the PoT and the Australian Department of Infrastructure and Regional Development. Infrastructure Australia are engaged as observers.
- The DBC has been developed using endorsed government templates and frameworks, including the Building Queensland Business Case Development Framework and the Queensland Government Project Assessment Framework. It also addresses the requirements of the Infrastructure Australia (IA) Business Case Assessment Framework and Queensland PPP supporting Guidelines.

## 1.1 Introduction

The planning and development of the PoT, including rail access to the Port via the proposed TEARC, is a key priority of the Australian Government, Queensland Government, Townsville City Council and supply chain markets. TEARC is a key commitment of the *Townsville City Deal (2016)*, signed by the Prime Minister, Premier of Queensland and Mayor of Townsville in 2017 to grow the economy of Townsville and the northern region.

The Infrastructure Australia *National Priority List* identified The Mount Isa – Townsville Rail Corridor, including TEARC, as a national priority in 2010. Its significance to economic development was reconfirmed in the 2017 update, and is categorised as “Early Stage - nationally significant issue or problem, but the identification or development of the right solution is at an early stage”.

The PoT plays a significant role in the local, regional and State economy, operating as a freight hub for mining and resources, agriculture, livestock, fuel import, general cargo and supports defence and tourism activities.

In 2016<sup>1</sup> the PoT exported \$5.69 billion (3.46mt) and imported \$1.62 billion (3.26mt) worth of goods. Of the total \$7.31 billion, approximately 80% is transported to and from the port by rail and 20% by road. Rail

<sup>1</sup> Queensland Government Statistician’s Office – Queensland and Australia Trade Data, 2015-16 (2016)



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accounts for \$5.85 billion worth of goods, most which is transported on the Mount Isa Line, with approximately \$0.6 billion (1.4mtpa) of sugar and molasses being delivered from the North Coast line south of Townsville.

The PoT is connected by road and rail corridors. Road access is provided via Boundary Road through Townsville urban core and the Southern Port Road. The existing rail systems servicing the port consists of the North Coast Line which extends north and south of Townsville along the Queensland coast and includes a branch line via the Jetty Branch into the port. The Mount Isa Line connects into the North Coast Line to the Jetty Branch south of Townsville and extends over 1,000 km through north-western Queensland to Mount Isa.

The North Coast Line carries various freight products, including containerised and industrial freight, minerals, livestock, bulk commodities and long-distance passenger services. This includes:

- minerals from the Mount Isa line are transported on the North Coast Line from the Townsville southern suburb of Stuart to the port
- industrial products such as cement and fuel are transported on the North Coast Line from the port to Stuart before joining the Mount Isa Line to Cloncurry and Mount Isa
- sugar and molasses are transported from sugar mills located south of Townsville to the port
- acid is produced and transported from the Sun Metals Refinery located to the south of Townsville to Stuart, before travelling on the Mt Isa Line to the Phosphate Hill fertiliser plant (0.4mtpa)
- in 2016 with the closure of the QNI nickel refinery approximately 3mtpa of nickel laterite ore imports and 15,000tpa of refined nickel have ceased being shipped by rail and the port. This has been taken into consideration in the demand forecast scenarios in Chapter 4.

The Mount Isa Line carries various freight products, including containerised and industrial freight, minerals, livestock and bulk commodities, and long-distance passenger services. The freight (2016 tonnages) consists of:

- copper, lead, zinc, silver and phosphate rock from established mining developments in the North-West Minerals Province of Queensland (2.65mtpa)
- general mining and non-mining related freight (0.8mtpa)
- live cattle transported to the port for export (0.15mtpa)
- acid from Mt Isa to Phosphate Hill (0.7 to 0.9mtpa)
- acid from Sun Metals Townsville to Phosphate Hill (0.4mtpa).

This DBC has reassessed the demand forecast (Chapter 4) for the Mount Isa Line, North Coast Line and the PoT. The Mount Isa Line has sufficient capacity to meet the high demand forecast, the planned upgrade works of the Mount Isa Line has been excluded from the TEARC reference project as the TEARC project does not require extended passing loops as originally envisaged in the PE.

The Queensland Government is currently progressing master planning for the PoT. The PoT has developed their Port Expansion Project (PEP) consistent with the master planning process. The PEP envisages three stages<sup>2</sup>:

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<sup>2</sup> Project Overview – Port of Townsville (2017)



Table 1.1 Port of Townsville Project Expansion Project Stages

STAGE	DESCRIPTION
Stage 1 – Channel Widening	Widening of the channel from 92m to between 120m (at the sea channel) and 180m (at the entrance). Dredge material will be beneficially re-used and placed in the Port’s new reclamation area (152 hectares). This stage also includes the construction of Berth 12.  Planned start date is late 2017 (The State Government has approved the Additional information for the Environmental Impact Statement (AEIS) and partial funding has been committed) <sup>3</sup> with an estimated completion in 2022.
Stage 2 – Swing Basin and Berths	Construction of up to three new berths (14, 15 & 16) and swing basin construction in the Outer Harbour.  This stage is estimated to take five years from commencement.
Stage 3 – Swing Basin and Berths	Construction of an additional two berths (17 & 18) and deepening of the channel.  This stage is estimated to take five years from commencement.  Figure 1.2 shows the expanded port layout following Stage 3 as submitted for the AEIS.  The PoT expansion project is not included in this DBC Reference Project for TEARC. Whilst TEARC will interface with port requirements, the detail of those future requirements is to be developed. Hence TEARC must interface to the current port rail network and infrastructure.  The DBC is based on assessing the service benefits and economics of the 8.3km of new railway line representing TEARC, and will not include future benefits from the Port Expansion Project.

## 1.2 Townsville Eastern Access Rail Corridor

The TEARC is a proposed freight rail line to the south of Townsville through the Townsville State Development Area (TSDA) from the North Coast Line to the PoT.

TEARC has a long history with the Townsville Port Access - Impact Assessment Report from 2000<sup>4</sup>. The objective of this study was:

*...to provide or secure an option to provide environmentally sustainable and socially acceptable landside transport access to and from the Port of Townsville to meet the needs of the Port to the year 2025 and beyond, whilst minimising impact on Townsville’s central and residential areas.*

Many options were studied and the recommendation was for the Eastern Corridor to be reserved for future road and rail access. It was recognised at the time (2000), there was not a “pressing need” to do anything further based on the capacity i.e. demand needs.

Subsequent studies, policies and investigations on the PoT and road and rail access corridors are outlined in Chapter 2. The need for TEARC has been fundamentally based on the forecast demand for imports and exports through the PoT and how best to service the freight task for the port for road and rail. All studies have investigated and assessed the environmental sustainability and social acceptance in recommending the engineering solution.

<sup>3</sup> PoT (September 2017)

<sup>4</sup> Impact Assessment Study – Maunsell (2000)



The *TEARC Preliminary Evaluation: Economics and Market Sounding (2011)*<sup>5</sup> was prepared on behalf of Queensland Rail (QR) and was the last study completed prior to the State Government request to Building Queensland to deliver this DBC. Hence the Preliminary Evaluation (PE) was used as the Preliminary Business Case and starting point for this DBC.

The preferred corridor (Reference Project) as shown in Figure 1.1, is an 8.3 km alignment connecting from Cluden on the North Coast Line and extends north-eastward through the TSDA for approximately 3.5 km, before joining the existing Eastern Access Corridor and running northward parallel to Southern Port Road to the port. This alignment consists of a narrow gauge single-track formation with one passing loop accommodating a 1,000m train (with corridor provision for the future extension of the passing loop to accommodate trains up to 1,400m). The alignment includes eight rail bridges and the following road realignments:

- Abbott Street at Cluden including grade separation and road over rail bridge
- Townsville Port Access Road including grade separation and road over rail bridge
- Racecourse road and road bridge over Stuart Creek
- Boundary Street from Benwell Road to Windlass Crossing.

Various alignment options within the investigation areas were considered as shown in Figure 1.1. From the North Coast Line to the Ross River four options were investigated. North of the Ross River and into the port, a number of alignment options were considered to provide effective port-rail interface and minimise social and environmental impacts.

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<sup>5</sup> Preliminary Evaluation Report – GHD (2011)





Figure 1.1 Townsville Eastern Access Rail Corridor (Reference Design)

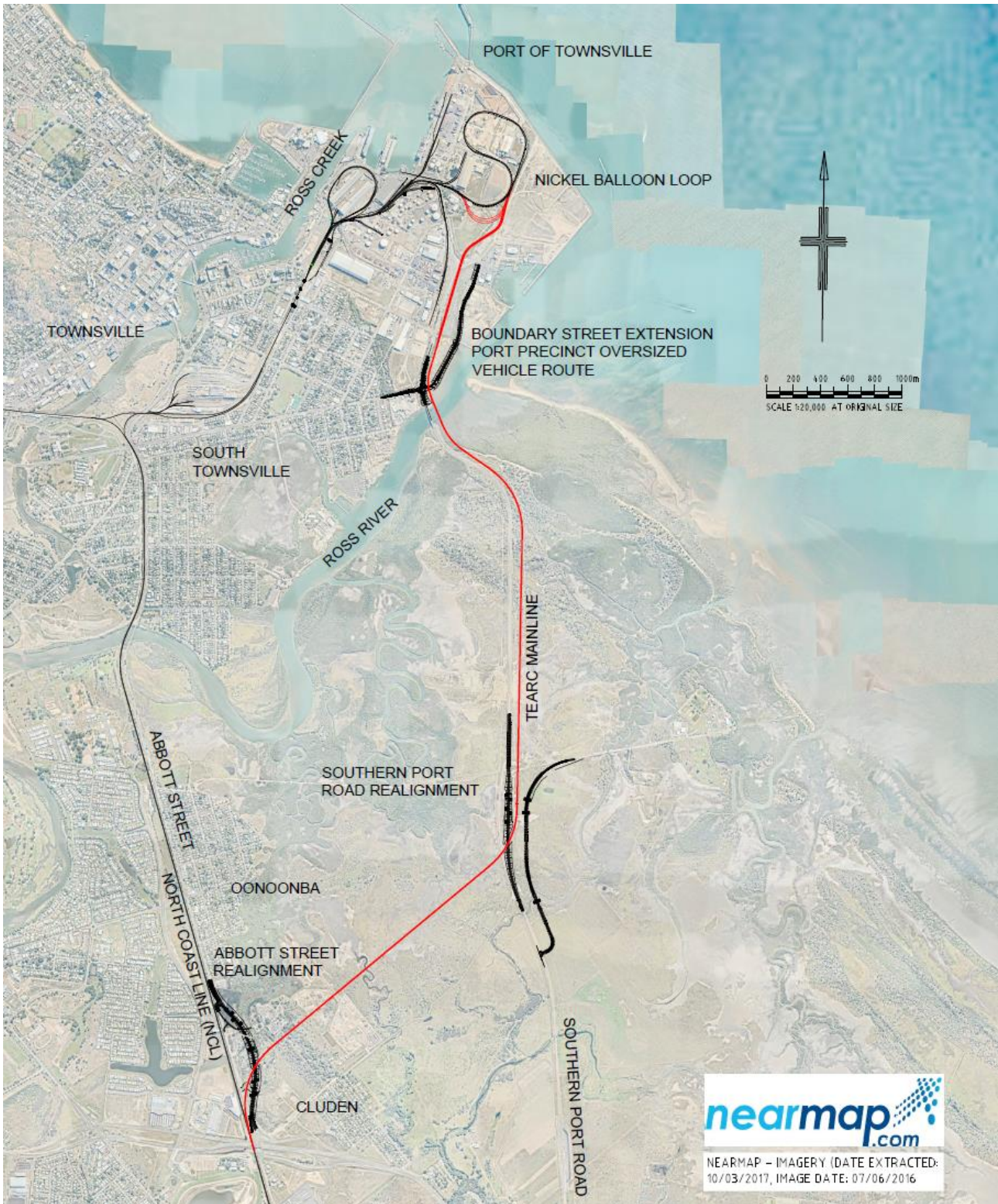
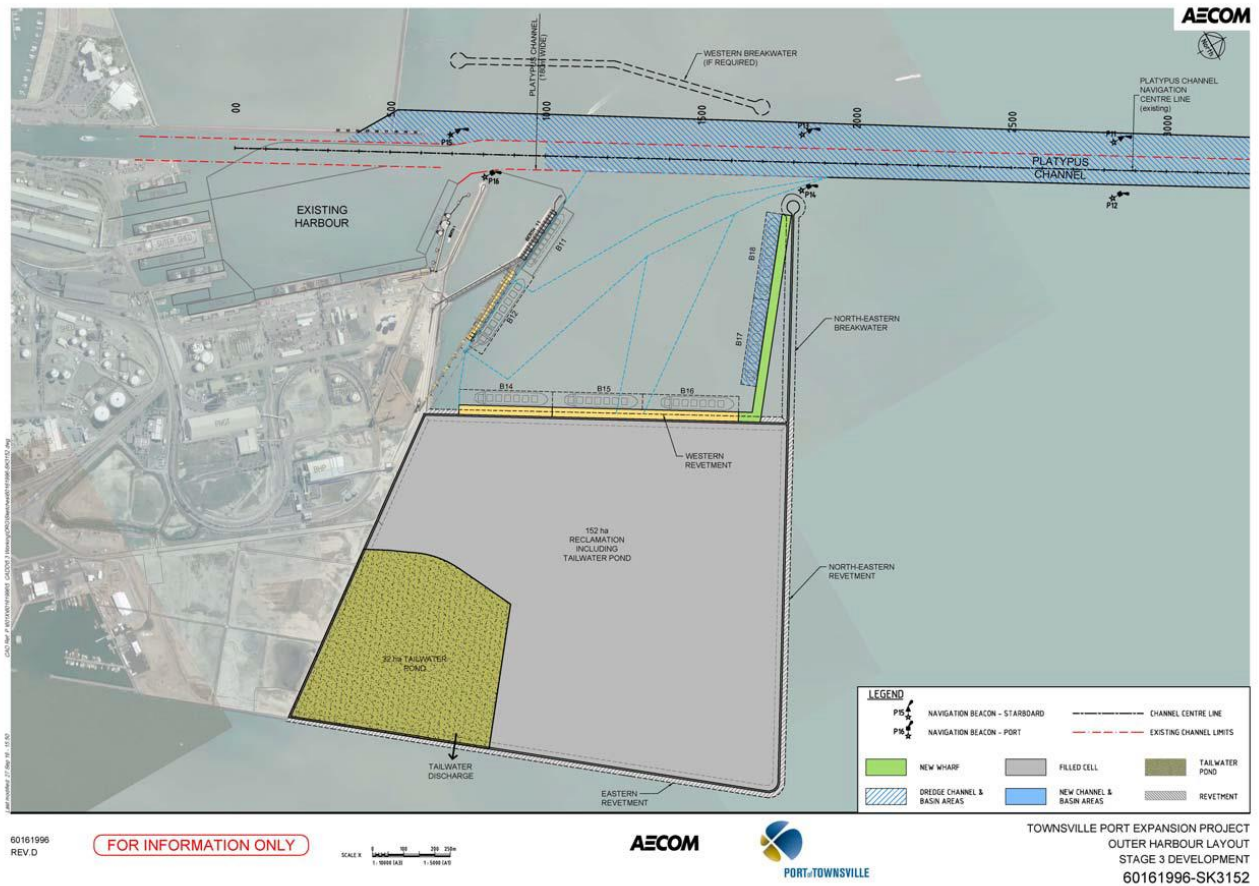




Figure 1.2 Port Expansion Plan AEIS Stage 3 Layout



### 1.3 Project Governance and Management

#### 1.3.1 Project Governance

The TEARC DBC has been prepared by Building Queensland on behalf of the project owner, the Department of Transport and Main Roads (TMR).

The DBC has been prepared with direction from a PSC and PCG involving the following key stakeholders:

- Department of Transport and Main Roads (TMR)
- Department of the Premier and Cabinet
- Queensland Treasury
- Department of State Development
- Department of Infrastructure, Local Government and Planning
- Queensland Rail (QR)
- Port of Townsville
- Australian Department of Infrastructure and Regional Development

Infrastructure Australia were observers to the PSC. Details of the roles of each of the governance bodies is provided in Table 1.2.





Table 1.2 Roles of governance and oversight bodies

GOVERNANCE LEVEL	ROLE
Queensland Cabinet	<ul style="list-style-type: none"> <li>Consider the DBC and determine the nature of any further government consideration required to make a decision on the future of the project</li> </ul>
Cabinet Budget Review Committee	<ul style="list-style-type: none"> <li>Consider the DBC and determine the nature of any further government consideration required to make a decision on the future of the project</li> </ul>
Infrastructure Cabinet Committee	<ul style="list-style-type: none"> <li>Consider Building Queensland's advice provided through the DBC and consider its alignment with the State Infrastructure Plan and other state infrastructure priorities</li> </ul>
Deputy Premier, Minister for Infrastructure, Local Government and Planning and Minister for Trade and Investment	<ul style="list-style-type: none"> <li>Receive the DBC and Building Queensland Board Report on the DBC</li> </ul>
Minister for Transport and the Commonwealth Games	<ul style="list-style-type: none"> <li>Receive the DBC from the TMR</li> </ul>
Minister for Disability Services, Minister for Seniors and Minister Assisting the Premier on North Queensland	<ul style="list-style-type: none"> <li>Receive the DBC from Building Queensland upon approval from the Deputy Premier</li> </ul>
TMR	<ul style="list-style-type: none"> <li>Receive the DBC from Building Queensland upon endorsement from the Building Queensland Board</li> </ul>
TEARC Business Case Stage PSC	<ul style="list-style-type: none"> <li>Provide leadership and direction to the development of the DBC</li> <li>Acting on advice from stakeholder agencies, endorse key elements of the DBC as it is developed</li> <li>Consider major issues and risks associated with the project</li> <li>Review budget and consider variations to budget, outside any delegated thresholds</li> <li>Consider timeframes and approval of material variations to timeframes, outside any delegated thresholds</li> <li>The operations of the PSC will be governed by the PSC Terms of Reference.</li> </ul>
PSC Chair and Senior Responsible Officer (SRO)	<ul style="list-style-type: none"> <li>Liaise with Building Queensland on DBC development</li> <li>Guide consideration and decision-making on matters presented to the PSC</li> <li>In capacity as SRO, attend Building Queensland Board meeting project updates</li> </ul>
Building Queensland Board	<ul style="list-style-type: none"> <li>Provide direction to the development of the DBC</li> <li>Consider the DBC</li> <li>Provide a report on the DBC to the Deputy Premier, Minister for Infrastructure, Local Government and Planning and Minister for Trade and Investment</li> </ul>
Building Queensland Project Director	<ul style="list-style-type: none"> <li>Manage the Building Queensland Project Team</li> <li>Ensure quality and costs are monitored and controlled and deliverables are achieved in expected timeframes</li> <li>Liaise with the PSC Chair on DBC development</li> <li>Escalate matters to the PSC, as required</li> </ul>

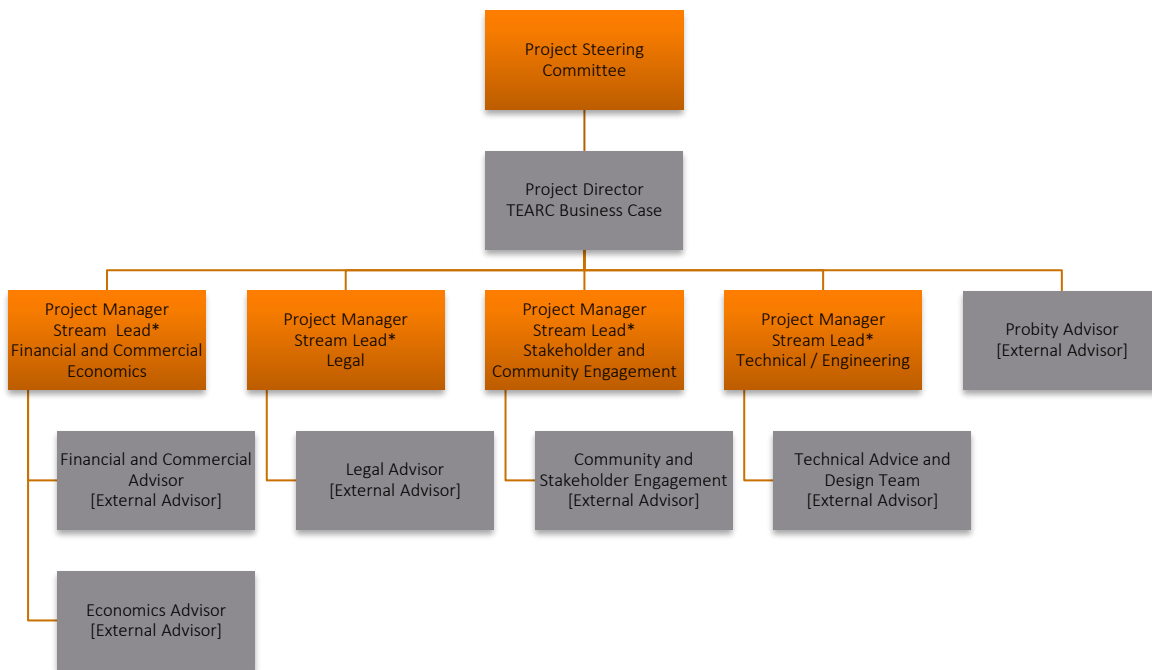


GOVERNANCE LEVEL	ROLE
	<ul style="list-style-type: none"> <li>Develop the DBC in accordance with Building Queensland frameworks and policies and any direction provided by the PSC and Building Queensland Board</li> <li>Provide information to the Building Queensland Board, Building Queensland Chief Executive Officer, Building Queensland Group Director Business Case and the PSC for information, direction or approval/endorsement, as required</li> </ul>

### 1.3.2 Project Management

A dedicated project team was established combining resources of Building Queensland, TMR, QR and advisors. Resources required from TMR were discussed and agreed between Building Queensland and TMR at the commencement of the project.

Figure 1.3 Project management structure



Business case advisors were engaged by Building Queensland at the commencement of the DBC stage and managed by Building Queensland throughout the development and delivery of the DBC.

### 1.4 Stakeholder Engagement

A range of traditional and online engagement activities were used to inform community members and key stakeholders about the proposed alignment for the TEARC reference project. The Project Team liaised directly with potentially impacted landowners and residents, key stakeholders and the Townsville community, and provided information where possible to mitigate issues.

A communication and stakeholder management roadmap was established and followed to inform and seek feedback on the project. Chapter 12 Public Interest Considerations provides the findings.





## 1.5 TEARC Detailed Business Case

This document details the outcomes of the DBC stage of the TEARC project and:

- reviews the preferred project solution investigated in the PE and the Base Case
- documents the scope of the Reference Project and its contribution to achieving government policy
- documents the economic, social, environmental and financial viability of the Reference Project to enable the decision maker to decide whether to invest in the project.

The TEARC DBC advances the findings of the *TEARC Preliminary Evaluation (PE): Economics and Market Sounding Report (2011)* prepared by QR. It presents a detailed comparative analysis of the shortlisted options, with the objective of identifying and robustly assessing the project scope and delivery options most likely to achieve a value for money outcome.

The key activities undertaken in the development of the TEARC DBC include:

- re-confirmation of the problem and outcomes sought, as identified in the PE project stage
- a reassessment of the current demand serviced by the rail, road and PoT, and the role of TEARC in this supply chain
- comparative analysis of the shortlisted options from the PE stage
- determination of a recommended option (Reference Project) for detailed analysis
- consultation with key stakeholders, including the local community to ensure that their interests and concerns were effectively understood and incorporated, where possible
- development of a concept reference design
- Reference Project assessment including analysis of a wide range of issues that may impact on the delivery of the project, including policy, legal, regulatory, environmental, market, public interest, social, economic, sustainability, risks and benefits
- consideration of delivery models and packaging and staging options
- assessment of the affordability and value for money of the Reference Project.

Development of a detailed implementation plan (including governance arrangements and budget) for progressing to the next stage of the Project Assurance Framework (PAF).