



## EXECUTIVE SUMMARY

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), are priorities of the Australian Government, Queensland Government, Townsville City Council and are significant drivers of economic development in Northern Queensland.

The Queensland Government made a commitment to improving port access with the establishment of the Eastern Access Corridor as a multi-modal road and rail corridor, providing direct access to the port from the Mount Isa and North Coast Lines and the State road network. A further commitment was made to develop a detailed business case investigating the viability of a new freight rail link with greater capacity connecting the Mount Isa line and North Coast line to the PoT—the TEARC Detailed Business Case (DBC).

The TEARC DBC has been prepared by Building Queensland in partnership with the project owner—the Department of Transport and Main Roads (TMR). The business case investigated shortlisted project options and delivery models identified during the preliminary evaluation stage. Changes in domestic policies, urban needs and economic factors have meant the service need for TEARC has evolved. Earlier investigations assessed the feasibility of the project in meeting rail demand forecasts and improving urban amenity. More recent policy developments through the *Townsville City Deal (2016)* have moved the emphasis toward addressing the need to grow the ‘competitiveness’ of Townsville.

The Preliminary Evaluation Report (2011) for TEARC was prepared during the mining boom where the medium to high demand port projections were from 10 to 15 million tonnes per annum (mtpa), excluding coal exports. At the time, an additional 10mtpa of coal export was forecast for the port and considered in the TEARC preliminary evaluation economic sensitivity analysis.

The preliminary evaluation identified several service requirements for TEARC: meet growing demand on the Mount Isa Rail System, facilitate the use of 1,400-metre long trains, reduce bottlenecks in the PoT; and improve urban amenity for Townsville. These needs have been reassessed in this DBC. The Mount Isa Line that was included in the preliminary evaluation, is not included in the Reference Project, as the service need for 1,400-metre long trains is not required.

Actual freight rail volumes accessing the PoT were approximately 8.5mt in 2016, with 3.5mt consisting of general freight, 3.4mt minerals and 1.3mt sugar. The total freight rail volumes were up to 13.1mt in 2015 prior to the closure of the QNI nickel refinery, which at its peak amounted to over 3mtpa through the PoT.

The TEARC DBC adopts the following freight rail and road demand projections for the economic assessment (excluding coal, nickel and magnetite) to 2051:

- 8.3mtpa (2017), declining to 7.6mtpa (2051), peaking at 10.6mtpa (2037) (Scenario 1 – Central demand scenario)
- 8.2mtpa (2017), declining to 5.8mtpa (2051) (Scenario 2 – Low demand scenario)
- 8.8mtpa (2017), increasing to 13.5mtpa (2051), peaking at 14.8mtpa (2037) (Scenario 3 – High demand scenario).

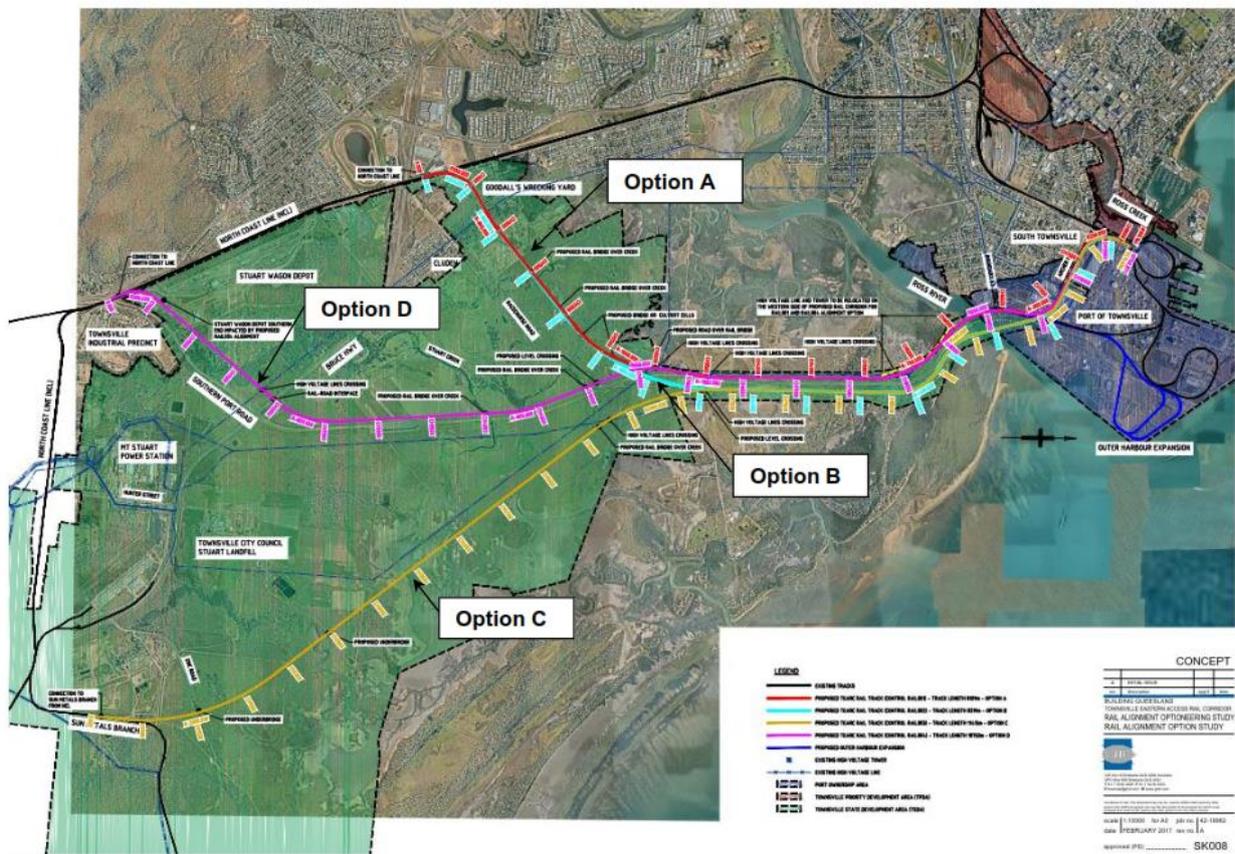
The Base Case scope includes the rail infrastructure from the Sun Metals Branch Line, via the North Coast Line to the Jetty Branch and associated road infrastructure. The Base Case excludes the Mount Isa Line to Townsville, the North Coast Line south of the Sun Metals Branch Line and north of the Jetty Branch. It also excludes the PoT to the port boundary.



Four potential strategic alignment options for TEARC were initially identified for assessment in order to determine the Reference Project. Two of the four options are similar, branching off the North Coast Line at Cluden (Options A and B). The other two options branch off the North Coast Line near the Stuart Industrial Precinct (Option D) and further south near the Sun Metals Branch (Option C) respectively.

- Option A:  
Branching off the North Coast Line at Cluden, traversing the northern part of the TSDA, and broadly following the Southern Port Road alignment to the west of the Southern Port Road.
- Option B:  
Branching off the North Coast Line at Cluden, traversing the northern part of the TSDA, and broadly following the Southern Port Road alignment to the east of the Southern Port Road.
- Option C:  
Branching off the North Coast Line at the Sun Metals Branch and traversing the southern part of Townsville SDA, before linking up to follow on the eastern of the Southern Port Road.
- Option D:  
Branching off the North Coast Line near the Stuart Industrial Precinct and broadly following Flinders Highway and the Southern Port Road alignment.

TEARC Alignment Options A to D



Following a full assessment of the four options, the preferred option for alignment for the Reference Project was determined to be Option B, branching off the North Coast Line at Cluden, traversing the northern part of the Townsville State Development Area (TSDA), and then broadly follows the Southern Port Road alignment to the east of the road and the Ross River bridge connecting into the port minerals loops. TEARC will



comprise 8.3 kilometres of single narrow-gauge track with one passing loop to accommodate a 1,000-metre train, with the capacity to be expanded to provide for up to 1,400-metre trains in the future.

TEARC has been designed to minimise the interaction between the road and rail network to maximise network efficiency and safety outcomes. TEARC is largely aligned with the existing transport corridor through the TSDA previously established to support the Southern Port Road. Some land acquisitions at the Cluden Y-junction, along Racecourse Road and within the port precinct are likely to be required.

A detailed economic analysis was undertaken for TEARC that comprised of a Cost Benefit Analysis (CBA). The CBA measured the incremental direct benefits associated with the TEARC Project against a base ('without' project) case. The CBA for TEARC produced a benefit cost ratio (BCR) of 0.16 with a corresponding net present value (NPV) of negative \$226.3 million using a 7 per cent real discount rate.

The increase in activity has a positive impact on job creation, with an average of 207 direct full-time equivalent (FTE) jobs supported for five years because of the TEARC project during planning, design and construction.

The total P90 risk-adjusted project capital and operating costs are \$457.7 million in nominal terms and \$369.6 million in net present value (NPV) terms.

The delivery model analysis consisted of a three-phased approach:

- high-level Value for Money (VfM) assessment was conducted
- workshop which identified evaluation criteria and weightings for shortlisted delivery models
- workshop where those models were evaluated.

It was determined that the works were best delivered as a single package—Construct Only (CO) and Design and Construct (D&C) traditional delivery models. A Public-Sector Comparator assessment is not required as the delivery of the project via a PPP is unlikely to deliver value for money.

Subject to technical assessments, referral of TEARC under the *Environment Protection and Biodiversity Conservation Act (1999) (Cth) (EPBC Act)* is recommended to provide certainty for TEARC, including providing protection from a future listing event. Regulatory approvals may be required for the construction, delivery and operation of TEARC. Apart from the EPBC Act approval, the approvals are likely to be required as construction proceeds.

While the North Coast Line and Jetty Branch would remain operational with TEARC in place, the implementation of TEARC would reduce the number of trains using the existing rail network which would improve current amenity and safety related impacts and limit future impacts associated with rail traffic growth. This would also limit the amount of time that open level crossings are closed, reducing delays for road traffic.

The DBC recommends that the TEARC Project - Reference Project Alignment Corridor land is preserved and protected for rail access to the PoT and the Port Expansion Project through the following measures:

- amending the existing community infrastructure designation so that it applies to the corridor
- gazettal of the corridor as "future railway land" under the *Transport Infrastructure Act 1994* (Qld)
- ensuring the part of the corridor within the PoT is included in the master plan and port overlay for the PoT once made under the *Sustainable Ports Development Act 2015* (Qld).



The DBC noted that the TEARC Project is not economically viable. On this basis, the DBC recommended that the implementation of the TEARC project be placed on hold pending demand for the project or other requirements determined by the Australian and Queensland Governments.

In addition to the recommendations, the DBC suggested the relevant Queensland Government agencies consider implementing the following activities to facilitate future development of TEARC:

- Ongoing review of TEARC to inform a freight infrastructure investment program for the region as well as ensuring the future development of the Townsville State Development Area and PoT.
- Progress PoT's critical enabling infrastructure in the Eastern Reclamation Area to connect existing and new customer infrastructure arrangements in preparation of TEARC.
- Progress PoT Infrastructure development planning consistently with the findings of the *Port Infrastructure Layout and Land Allocations Study (2016)* and the TEARC DBC.
- Progress with legal and regulatory approval processes to facilitate transition to the TEARC Reference Project Alignment and Port Expansion Project infrastructure arrangements for the PoT existing and potential new customers.
- Progress transport planning activities to capture end to end (North West Minerals Province to PoT) transport supply chain infrastructure considerations and implementation.
- Integrate TEARC Project implementation plans, PoT Port Expansion Project Plans and Queensland Rail Infrastructure Plans to include:
  - the removal of the existing Jetty Branch, upon implementation of the TEARC Project
  - Capture land value uplift in the Townsville City Waterfront Priority Development Area.