



## 14 SOCIAL IMPACT EVALUATION

### CHAPTER SUMMARY AND CONCLUSIONS:

- Townsville's population is expected to grow by around 42,500 people over the next decade and up to around 288,500 people by 2036. Local, State and Federal Governments have in place a range of planning to support the economic and urban development of the region.
- Townsville has grown around the Port of Townsville (PoT), with urban and industrial land uses co-located in the city centre. As the city continues to grow, these uses become increasingly incompatible as amenity related impacts, such as noise, dust and potential safety hazards from hazardous cargo, impact urban land uses.
- Rail freight access to the PoT is currently via the existing North Coast Line, which runs through urban areas of Townsville such as Idalia, Oonoonba, Railway Estate and South Townsville. Some dwellings are located within 50 metres of the railway in these suburbs.
- Urban amenity has a significant bearing on the liveability, urban development opportunity and competitiveness of a city. Currently, freight movements to and from the port are through urban areas that results in amenity impacts and limits the opportunities for urban renewal and uplift.
- The existing rail freight network in Townsville is subject to time delays and capacity constraints. These inefficiencies increase costs for industry and reduce their competitiveness. The network is also constrained to shorter train lengths which impacts efficiency, increases cost and limits future opportunities.
- Current master planning for the PoT seeks to consolidate port activities to core areas in the eastern and southern precincts, while allowing for transition zones towards the Townsville CBD.
- While the North Coast Line would remain operational with Townsville Eastern Access Rail Corridor (TEARC) in place. The implementation of TEARC would reduce the number of trains using existing rail network which would reduce current amenity and safety related impacts and limit future amenity 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 TEARC alignment is located largely in undeveloped, unpopulated areas, however it is recognised that some areas of Cluden and South Townsville may experience new rail related amenity impacts, though dwellings in these areas are 350 – 400 metres from the proposed TEARC alignment.
- TEARC is expected to strengthen direct employment opportunities associated with port related industries. TEARC will also positively impact indirect employment opportunities in the wider Townsville region, contribute to a stronger economy and act as a catalyst for further private and public sector investment in the region.
- Construction related impacts such as noise, dust etc. would be managed via a suitable environmental management plan.
- Ongoing stakeholder and community engagement with the Townsville community will continue as TEARC moves into future project phases.



## 14.1 Purpose and Overview

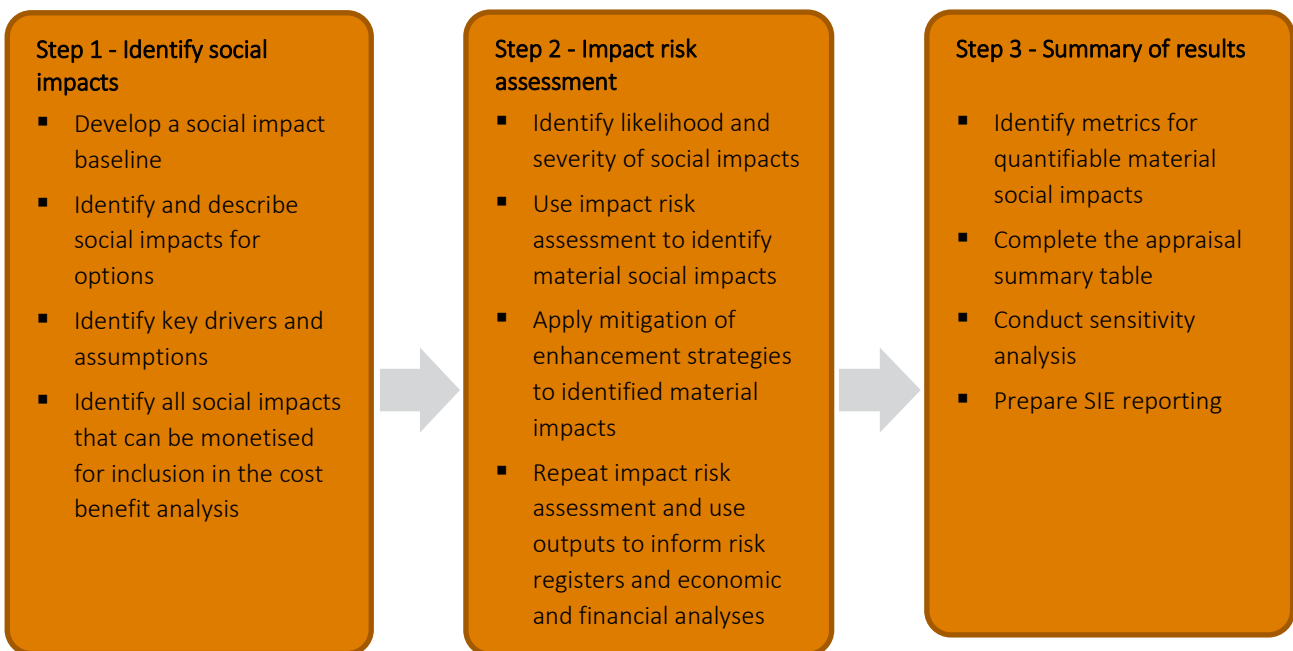
Implementation of the Townsville Eastern Access Rail Corridor (TEARC) has the potential to impact the social environment. This chapter provides a Social Impact Evaluation (SIE) of the TEARC project. The SIE assesses the social impacts of the TEARC project that cannot be monetised to ensure that social impacts and benefits are clearly identified and accounted for in the decision-making process.

The SIE includes a social baseline that provides an overview of the current social environment in and around the TEARC project area and an assessment of potential social impacts (positive and negative) against the identified baseline conditions. Where social impacts are deemed to be material, mitigation and management actions have been proposed to reduce social impacts as much as possible.

### 14.1.1 Methodology

The SIE has been developed in accordance with Building Queensland's Social Impact Evaluation Guide (2016) which includes the SIE three step process as shown in Figure 14.1.

Figure 14.1 The SIE three step process (Building Queensland, 2016)



The approach to the SIE is described in the following sections which address:

- TEARC project service needs.
- Study areas.
- Data sources.
- Scenarios.
- Stakeholder and community engagement.

#### Project Service Needs

To ensure the SIE addresses relevant aspects of the social environment, the SIE has been structured to address the project service needs defined for the TEARC project. These are:



- improve urban amenity for Townsville
- cater for increased demand on rail and port network
- reduce bottle necks within the Port of Townsville
- facilitate longer trains.

### Study Areas

A number of study areas have been identified for use in the SIE. These areas utilise relevant Australian Bureau of Statistics (ABS) 2016 Census geographic structures to approximate areas relevant to the TEARC project. These include:

- TEARC project area: A combination of nine ABS Mesh Block areas that approximate the TEARC project corridor, shown in red in Figure 14.2.
- SIE study area: The area comprises 39 Statistical Area 1 (SA1) areas that includes areas around the existing North Coast Line (North Coast Line) and the proposed TEARC corridor alignment, shown in blue in Figure 14.2.
- Local government area: Defined by the ABS as the Townsville Local Government Area. The TEARC projects sits within the Townsville Local Government Area (LGA). LGA level data will be used for comparative purposes and to provide context about the broader region, shown in green in Figure 14.4.
- State: Defined by the ABS as the State of Queensland. State level data will be referenced for comparative purposes, shown in orange in Figure 14.3.

Figure 14.2 TEARC project area (red) and SIE study area (blue)

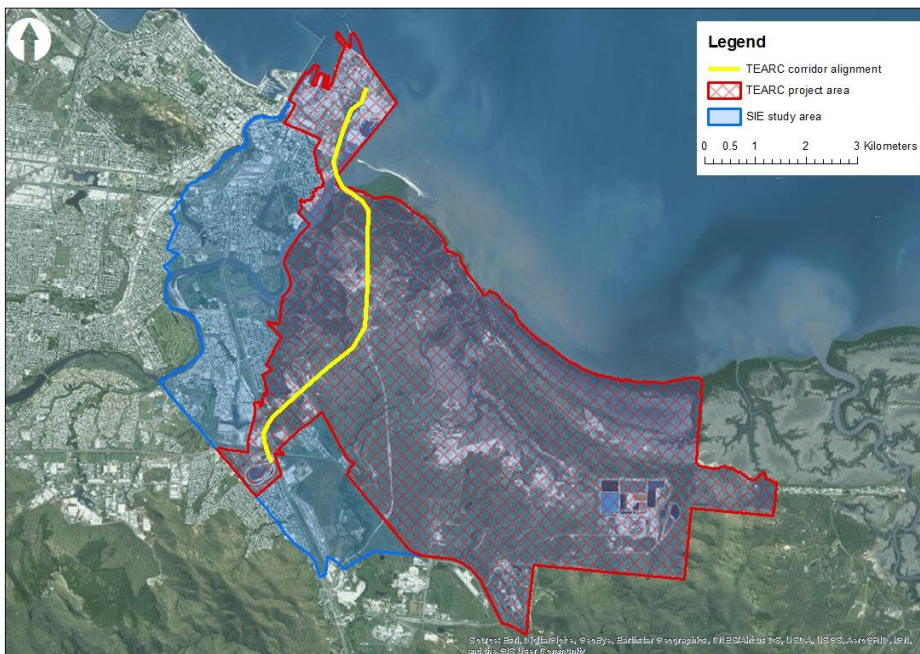
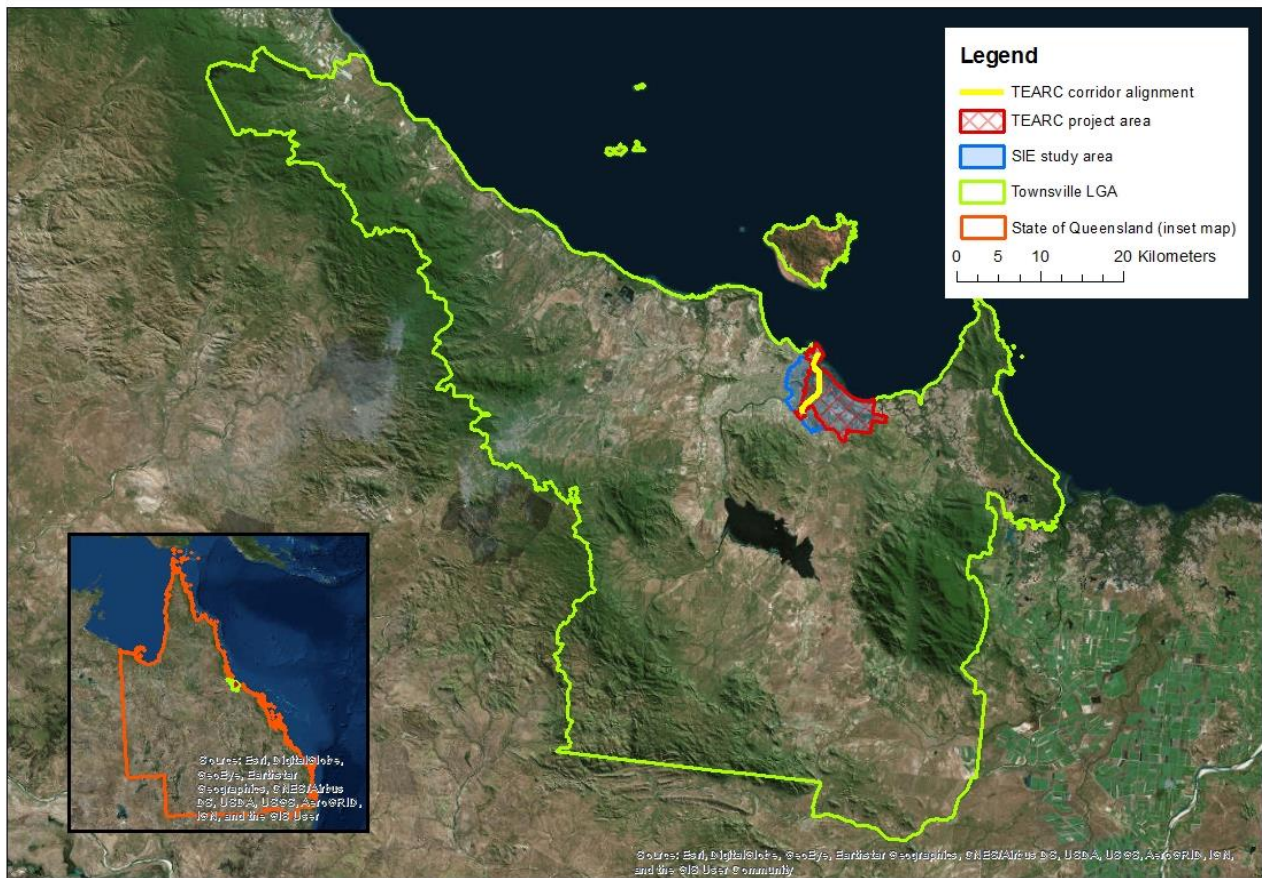




Figure 14.3 Local Government Area and State Area



Data Sources

Information used in this SIE was drawn from a variety of primary and secondary sources. These include:

- Meetings and discussions with Building Queensland and other consultants involved in the preparation of the TEARC Detailed Business Case.
- Australian Bureau of Statistics (ABS) Census 2016 and 2011 and other data publications as relevant.
- Other chapters of this Detailed Business Case.
- Relevant legislation, policy and planning documentation.
- Outcomes of stakeholder and community engagement.

Scenarios

The following scenarios are used in the SIE:

- Base case – existing North Coast Line is used to access the Port of Townsville (i.e. do-minimum, without the project).
- TEARC project – TEARC alignment is used to access the Port of Townsville (i.e. with the project).



## Stakeholder and community engagement

Building Queensland has undertaken a range of stakeholder and community engagement activities for the TEARC project. This includes:

- Community information sessions:
  - 28 June 2017 Willows Shopping Centre
  - 28 June 2017 CastleTown Shopping Centre
  - 29 June 2017 Fairfield Central Shopping Centre
  - 29 June 2017 Stockland Shopping Centre
- 1800 line and project email, with eight emails and five phone calls received.
- Survey (online feedback form), with one response received with the survey open for four weeks from 16 June to 14 July 2017.
- Letters distributed to more than 1,000 properties in close proximity to the project, outlining information regarding the project, and inviting residents to attend the community information session or one-on-one meetings with the project team.
- Webpage providing an overview of alignment, contact details of the team and engagement activities.
- One-on-one meetings offered to adjacent residents in Cluden and South Townsville.
- Key stakeholder briefings attended by:
  - Port of Townsville
  - Department of Defence
  - Maritime Safety Queensland - Harbour Master
  - Townsville City Council
  - Aurizon
  - Great Barrier Reef Marine Park Authority
- Advertisement on the 17 June 2017 in the Townsville Bulletin

Chapter 12, Public Interest Considerations, provides full details of this engagement. Where relevant, the outcomes of engagement activities have been incorporated into the SIE.

## 14.2 Social Impact Baseline

The social impact baseline section describes the base case scenario for the SIE (i.e. the existing North Coast Line continues to be used to access the Port of Townsville).

Table 14.1 provides a summary of the social impact baseline for the proposed TEARC alignment and identifies existing problems, opportunities and key drivers.



Table 14.1 Summary of social impact baseline

Name of Project/Option	Townsville Eastern Access Rail Corridor (TEARC) Project
<p><b>Problem/opportunity/need</b></p> <p><b>Description</b></p> <p><b>Social Impact Baseline (summary)</b></p>	<p>Address future freight demand on the Mount Isa Rail System and North Coast Line by improving access and reducing bottlenecks into the Port of Townsville.</p> <p>A proposed new freight rail link connecting the Mount Isa Line and North Coast Line, through the Townsville State Development Area (TSDA) to the Port of Townsville.</p> <p>Townsville’s population is expected to grow by around 42,500 people over the next decade and up to 288,500 people. To cater for this population growth, the Local, State and Federal Governments have in place a range of planning to support the economic and urban development of the region.</p> <p>The PoT is a significant economic generator for the region. Rail freight access to the PoT is currently via the existing North Coast Line, which runs through urban areas of Townsville such as Idalia, Oonoonba, Railway Estate and South Townsville. This railway line separates the port from the Townsville CBD.</p> <p>Urban amenity has a significant bearing on the liveability, urban development opportunity and competitiveness of a city. Currently, freight movements to and from the port are through urban areas which results in amenity impacts and limits the opportunities for urban renewal and uplift. Freight rail movements through residential areas exposes residents to noise, dust and potential safety hazards from hazardous cargo. As the city expands around the existing rail corridors, these issues are expected to grow.</p> <p>The existing rail freight network in Townsville is subject to time delays and capacity constraints. These inefficiencies increase costs for industry and reduce their competitiveness. The network is also constrained to shorter train lengths which impacts efficiency, increases cost and limits future opportunities.</p>
Key drivers/ service needs	Problems/opportunities identified in the Social Impact Baseline Key Drivers
<p><b>Urban amenity</b></p> <p><b>Cater for demand</b></p>	<ul style="list-style-type: none"> <li>▪ Current local, State and Federal government strategies and planning documents focussing on strengthening urban development in the Townsville CBD and the Townsville Waterfront PDA.</li> <li>▪ Townsville Port master planning focusing on a transition of port activity to the south away from urban areas – the existing North Coast Line is a key barrier to this transition.</li> <li>▪ Opportunity to improve urban amenity in residential areas along the Abbott Street and existing North Coast Line corridor in suburbs such as Idalia, Oonoonba, Railway Estate and parts of South Townsville.</li> <li>▪ Focus on consolidating industrial development to the TSDA with a dedicated materials transportation corridor for the TEARC alignment. Branching the TEARC alignment from the existing North Coast Line through the TSDA to the Port of Townsville will enable more efficient movement of freight via rail to and from the Port to access wider regional, interstate and overseas markets.</li> </ul> <ul style="list-style-type: none"> <li>▪ PoT has provided economic development opportunities to the Townsville region and beyond through enhanced access to overseas and interstate markets. Opportunity for improved access to and from port.</li> <li>▪ Greater employment demand in Townsville for construction, project management and operational workforces. Opportunity to utilise existing resources within the Townsville population.</li> </ul>



Name of Project/Option	Townsville Eastern Access Rail Corridor (TEARC) Project
Reducing bottlenecks	<ul style="list-style-type: none"> <li>▪ Opportunity for the TEARC alignment to relieve congestion inside the PoT in order to optimise export and supply chains.</li> <li>▪ Existing freight train queuing in residential areas along the Abbott Street corridor.</li> </ul>
Facilitate longer trains	<ul style="list-style-type: none"> <li>▪ Constraints along the North Coast Line and within the PoT to accommodate longer trains up to 1,000m in length.</li> <li>▪ Should longer trains be introduced, the TEARC alignment presents opportunity to enable their use.</li> </ul>

The SIE uses the Project Service Needs to structure the social baseline and subsequent impact assessment. The following sections provide detailed information about the baseline social environment within the TEARC project area and SIE study areas.

### 14.2.1 Urban Amenity

The Port of Townsville is centrally located to the east of the Townsville CBD in close proximity to urban areas such as South Townsville and Railway Estate, and is situated in the southwest of Cleveland Bay between Ross River and Ross Creek. It is situated to serve the North-West Queensland region, and is the terminus for the Mount Isa Line and strategically located to serve the activities of the Townsville State Development Area (TSDA) to the south-east of the port.

The PoT has played a significant role in the development of the city and wider North Queensland region. The port was established in 1864 to service the newly settled rural hinterland, with Townsville developing around the harbour to become the largest urban centre in North Queensland. The PoT plays an important role in the economy in a local, regional and state context, and over time has seen growth in rural/agricultural production to extractive minerals, manufacturing and mineral processing. This has led to increased social and urban development in and around Townsville and its hinterland.<sup>36</sup>

Townsville's urban core is poised for redevelopment in the Townsville City Waterfront Priority Development Area (PDA). The Townsville Waterfront PDA Development Scheme plans for redevelopment of a significant tract of land at Ross Creek adjacent to the Port of Townsville. With expected population growth for the Townsville region, an increased demand for housing will occur. The Townsville City Council Plan<sup>37</sup> seeks to focus new mixed-use developments (e.g. commercial/residential) in the Townsville CBD, with a mix of newer and older housing in suburbs such as Oonoonba, Idalia and Cluden, while new residential developments are planned for the city's outlying areas. In suburbs, such as South Townsville and Railway Estate, there is a focus on the maintenance of existing housing architectural character.

The TEARC alignment seeks to improve direct access to the port, by diverting current freight traffic away from the Abbott Street portion of the North Coast Line to alleviate pressure on the rail network and reduce amenity and safety impacts associated for residents within South Townsville, Oonoonba, Idalia and Cluden.

Improving urban amenity is one of the TEARC project's service needs. The following sections provide details of the current urban environment, and the influence the Port has on this environment, within the SIE study area.

<sup>36</sup> AECOM/WBM BMT/POTL 2013

<sup>37</sup> TCC 2014



## 14.2.2 Urban Areas within the SIE Study Area

### Population

Townsville is the largest city in Northern Australia with a population of more than 190,000 people. Table 14.2 provides an overview of the population at 2011 to 2016, including median ages and the age profile of the population.

Table 14.2 Selected population trends for study area, Townsville LGA and Queensland

STUDY AREA CATEGORY	POPULATION (2011)	POPULATION (2016)	MEDIAN AGE (YEARS) (2016)	ESTIMATED RESIDENT POPULATION (AS AT 30 JUNE 2015)									
				0-14		15-24		25-44		45-64		65+	
				NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
Townsville LGA	180,114	195,914	33.5	40,300	20.8	30,877	15.9	56,317	29.0	45,199	23.3	21,253	11.0

The population is projected to grow by around 42,500 people over the next decade, up to 288,500 people by 2036. This expected population growth is considered to be critical to driving economic development in Australia's north.<sup>38</sup> This anticipated population growth will be driven by economic development associated with the PoT and its associated industry, including minerals and agricultural exports, defence activities and tourism related services and development. The population projections for the region indicate that Townsville LGA is likely to experience an average annual growth rate (AAGR) of 1.9 percent between 2016 and 2036, which is slightly higher than Queensland's AAGR (see Table 14.3).

Table 14.3 Population projections for Townsville LGA and Queensland

STUDY AREA CATEGORY	POPULATION PROJECTIONS			PROJECTED AVERAGE ANNUAL GROWTH RATE (2016 – 2036) %
	2016	2026	2036	
Townsville LGA	199,358	241,872	288,593	1.9
Queensland	4,853,048	5,730,062	6,763,153	1.7

### Suburb profiles

The residential areas of Cluden, Oonoonba and South Townsville are located to the south and west of the TEARC project area. Figure 14.4 shows the locations of the suburbs in close proximity to the study area. Areas directly adjacent to TEARC project area consist of urban and non-urban land uses and major transport corridors including the existing North Coast Line and the Southern Access Road (SAR).

The closest residential properties to the TEARC project area are approximately 350 – 400 metres away from the alignment. However, it is noted for the TEARC project that these dwellings sit within an environment of industrial and transport related activities related to the PoT and the existing North Coast Line.

<sup>38</sup> DPMC 2016





Figure 14.4 Suburbs located within the SIE study area

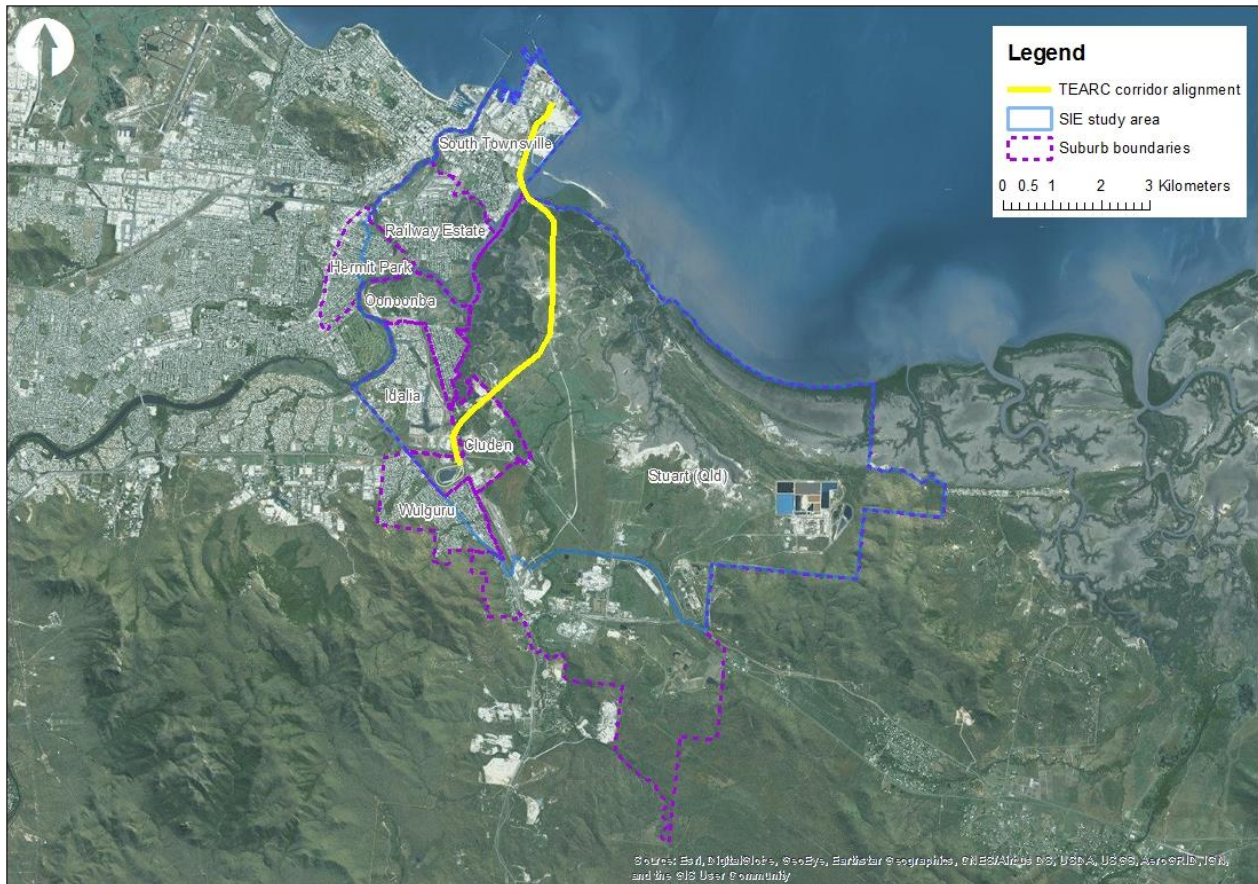


Table 14.4 provides further detail on the suburbs within the SIE study area.

Table 14.4 Suburb profiles

SUBURB	OVERVIEW	POPULATION (2016)	DISTANCE FROM NORTH COAST LINE
<b>SOUTH TOWNSVILLE</b>	<p>South Townsville is located adjacent to the PoT. Originally settled by workers associated with the PoT, the suburb is predominantly residential with commercial and industrial uses.</p> <p>Features many older residences known for their ‘heritage character’ values (1890s and early 1900s).</p> <p>South Townsville acts as a continuation to the Townsville CBD, with hotel accommodation and restaurants located along Palmer Street.</p>	2,353	50 metres
<b>IDALIA</b>	<p>Originally a light-industrial area, situated adjacent to the existing North Coast Line.</p> <p>Recent subdivisions have developed it into a general residential area with a district centre, community facilities and open space.</p>	4,438	120 metres



SUBURB	OVERVIEW	POPULATION (2016)	DISTANCE FROM NORTH COAST LINE
CLUDEN	Located to the east of the Abbott Street corridor and to the north of the recent Bruce Highway interchange upgrade. Features predominately low density residential and light industrial development. Areas within the suburb of Cluden are included in the Townsville State Development Area (TSDA).	427	550 metres
OONOONBA	Onoonba is bounded to the west by the Abbott Street and North Coast Line corridor. Onoonba is a Priority Development Area (PDA) approximately six kilometres south of the Townsville CBD and is predominantly a low density residential area. Onoonba is planned to provide a range of housing choices for the Townsville community.	1,675	50 metres
HERMIT PARK	Hermit Park features a mixture of residential development, commercial and light-industrial businesses. It also contains a number of public services. The eastern most extent of the suburb is located to the west of the existing North Coast Line.	3,414	550 metres
RAILWAY ESTATE	Railway Estate is one of the oldest residential suburbs of Townsville, bounded by Ross Creek to the south-west and Ross River to the south-east. The existing North Coast Line runs through the suburb. The north of the suburb is occupied by railway yards.	2,852	50 metres
STUART	A large suburb with pockets of residential areas, industrial uses and undeveloped land. Areas within the suburb of Stuart are included in the Townsville State Development Area (TSDA). The Partington Rail Yard is located within Stuart.	1,386	50 metres
WULGURU	Wulguru is an older residential area with many Queenslander-style houses. The Partington Rail Yard is located adjacent to Wulguru, approximately 200 metres from residences.	4,570	50 metres

### Community Values

The Townsville Community Plan (2011-2021) outlines the local community vision for the Townsville LGA to be a northern gateway to Queensland, connecting people with their community and encouraging an active lifestyle. The community seeks to be strong and connected, focused on an environmentally sustainable future, seeking sustained economic growth and identifying options to shape Townsville for future generations.

Local communities within close proximity to the Port, such as South Townsville, value their local areas for its access to local recreational areas (e.g. local parks, off-leash dog beach at Benwell Road), close proximity to the Port and employment opportunities in close proximity to the Townsville CBD. In particular, stakeholder consultation undertaken to date indicates that open space areas such as mangrove communities and the recreational dog beach are of value to the local community, particularly given the beach is the only off-leash location in the local area.



Informed by the community themes identified in the Townsville Community Plan, the Townsville Planning Scheme (2014) plans for the strengthening of Townsville's strategic regional position in North Queensland, driven through the port and transport sectors, the North-West Minerals Province and agricultural sectors. The TEARC project aligns with the community values 'connected', 'economic growth' and 'shaping Townsville' and supports the strategic outcomes of the Townsville Planning Scheme by improving transport links to the Port in order to access wider interstate and overseas markets.

In terms of visual amenity values, existing areas of open space and environmental conservation, such as mangrove communities, beach areas and local parklands, are valued by the community.

#### Social infrastructure

A desktop review identified the following social infrastructure within close proximity to the proposed TEARC alignment:

- Townsville South State School, Tully Street.
- Townsville South Preschool, Cannan Street.
- South Townsville Bowls Club, Bell Street.
- Off Leash Dog Exercise Area, Benwell Road.
- Victoria Park, Cnr Boundary Street, Bell Street and Morey Street.
- Unnamed reserve off Cannan Street and Bell Street, South Townsville.
- St John's Anglican Church, Macrossan Street.
- Townsville Fire and Rescue Service, Morey Street.

These facilities are shown in Figure 14.5. It is noted that no education, community or health buildings are located within 500 metres of the TEARC alignment.



Figure 14.5 Community facilities



### 14.2.3 Future Planning for Urban Growth

It is anticipated that economic development associated with the Port of Townsville, including minerals and agricultural exports, Department of Defence activities and the region’s tourism related services and development will drive population growth in the Townsville LGA in the coming years.<sup>39</sup> Many State and local government policies and strategies have been developed to help facilitate and appropriately manage the growth of Townsville. The following section provides a summary of key strategies associated with Townsville’s future urban growth.

#### Townsville City Plan 2017

The Townsville City Plan sets out Townsville City Council’s vision for how Townsville should grow in for the next 25 years, and is council's key document for determining development in the city. While planning and development of the PoT sits outside of Council’s jurisdiction as per the Sustainable Ports Development Act 2015, the City Plan recognises the PoT as a key precinct within the city and aims integrate surrounding areas with compatible and complementary land uses.

<sup>39</sup> DPMC 2016



### North Queensland Regional Plan

The first North Queensland Regional Plan is currently being prepared by the State Government with input being sought from North Queensland residents. The plan covers five LGAs including Townsville, Burdekin, Charters Towers, Hinchinbrook and Palm Island. The regional plan will focus on:

- protecting the region's unique lifestyle.
- providing well-connected transport, communication and social networks.
- safeguarding the natural environment.
- embracing diversity through a range of community, housing, employment and development styles.

The State government will finalise and release the draft North Queensland Regional Plan for formal notification and community consultation in the mid-late 2017, with a view to finalising the plan in early 2018.<sup>40</sup>

### Priority Development Areas (PDA)

There are two Priority Development Areas (PDA) located within the SIE study area – the Townsville Waterfront PDA and the Oonoonba PDA.

The Townsville Waterfront PDA includes close to 100 hectares of land on both sides of Ross Creek, located between the Townsville CBD and the PoT. The area will be developed into a mixed-use precinct that will accommodate tourist facilities, marine industries and port support services. The PDA aims to also deliver an active public realm and open space network to enhance lifestyle and natural elements of the Townsville CBD.<sup>41</sup> The Townsville Waterfront PDA boundary abuts the North Coast Line in to the south and north of the area as shown in Figure 14.6.

The Oonoonba PDA is an 83-hectare site is an 83hectare site located approximately three kilometres south of the Townsville CBD, bounded by the Ross River to the north and west, the North Coast Line and Abbot Street road corridor to the east, and established residential areas along Riverwood Drive and Viewpoint Terrace to the south (as shown in Figure 14.7).

Development on the site will provide a range of housing choices to cater for the diverse needs of the Townsville community through a mix of densities, types, designs, price points and home ownership and rental options.

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<sup>40</sup> DILGP 2017

<sup>41</sup> POTL, EDQ & TCC 2015



Figure 14.6 Priority Development Areas (PDA)

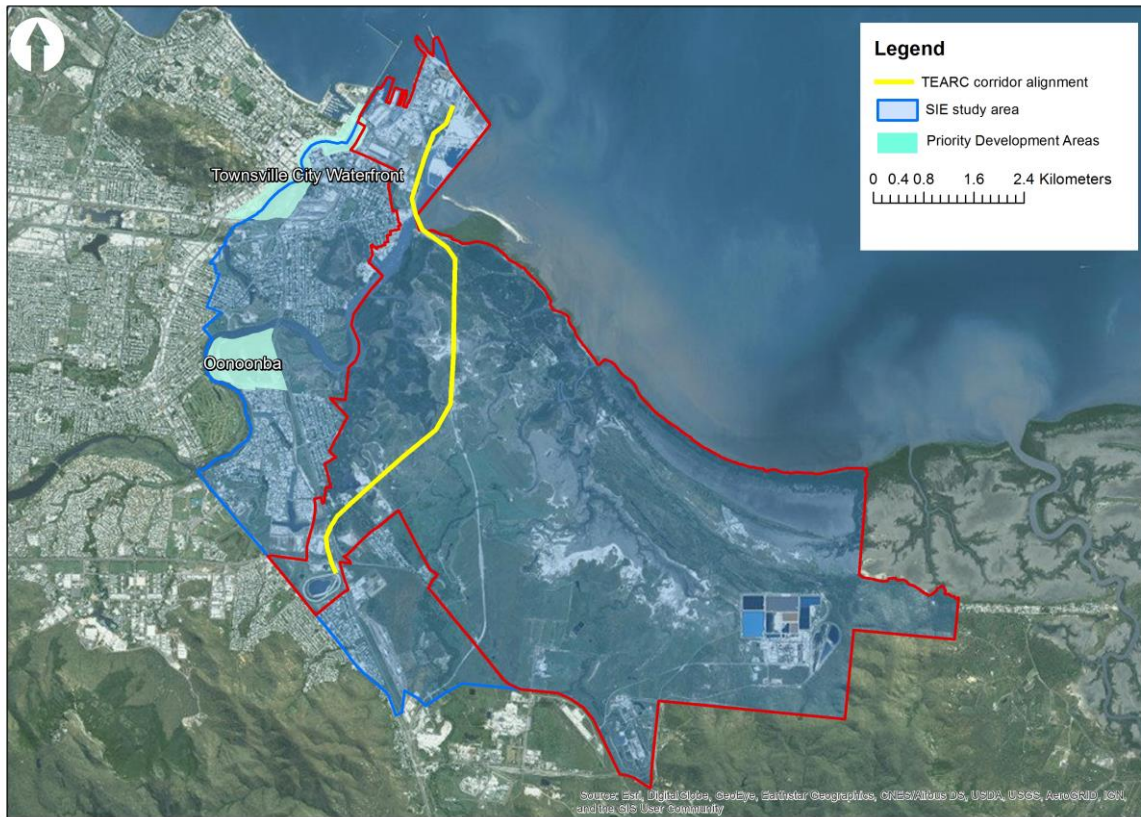
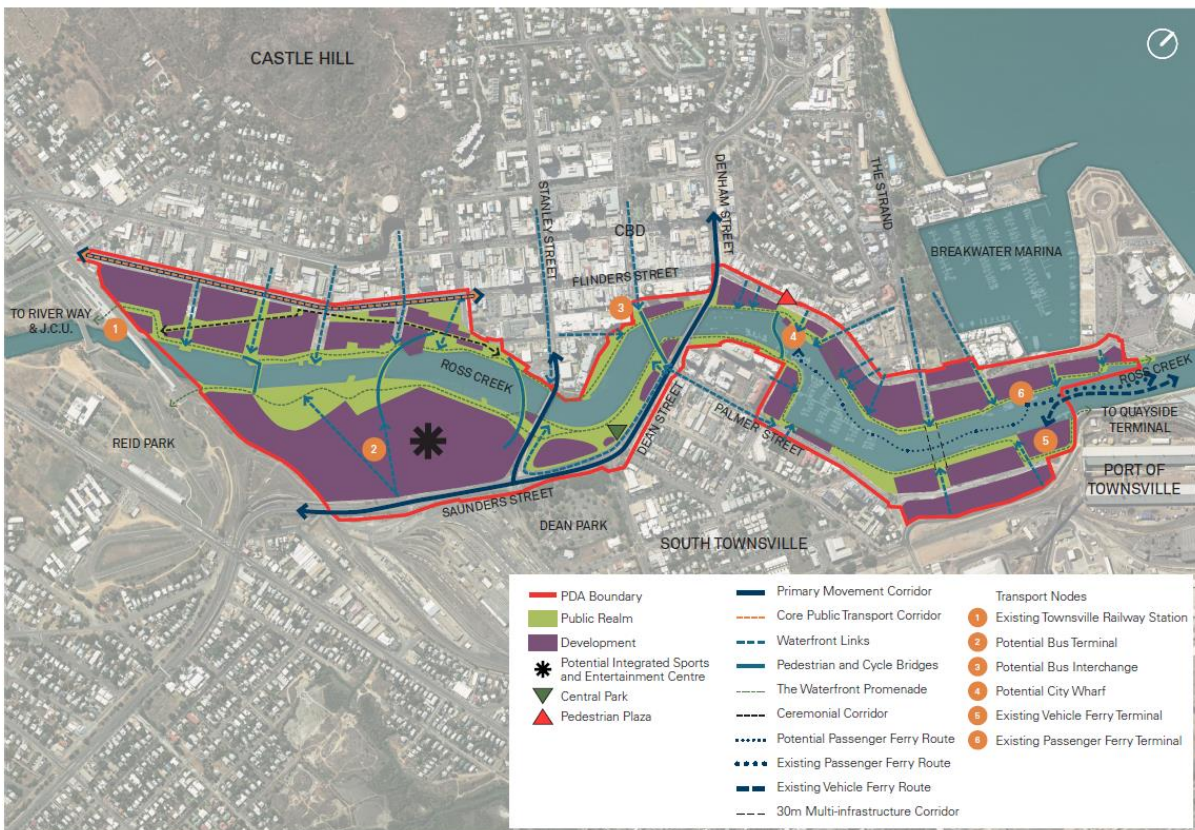


Figure 14.7 Townsville Waterfront Priority Development Area (PDA)





## Townsville Stadium

The proposed Townsville Stadium is a key initiative identified in the Advancing North Queensland: Investing in the future of the north plan.<sup>42</sup> The stadium is proposed to be located adjacent to Ross Creek, which is approximately one kilometre west of the proposed TEARC alignment. The proposed stadium is located within close proximity to the Townsville CBD and will contribute to the urban renewal and revitalisation for the CBD and South Townsville.

Opportunities for construction, tourism, retail and hospitality industries are expected as a result of the development. This will also benefit the wider Townsville region through job growth and local skills network development. The development of the proposed stadium is also expected to stimulate development and economic opportunities in the areas surrounding the stadium.

### 14.2.4 Influence of the Port on Urban Areas

The PoT currently operates eight berths and is the largest container and automotive port in Northern Australia. The port handled more than \$10 billion in trade during the 2015/2016 financial year.<sup>43</sup> Further discussion on current port demand is provided below.

#### PoT Land Use Plan and master planning process

The PoT is currently constrained by a congested port layout. The inability to expand operations within the current port footprint means that it cannot accommodate new customers, and is unlikely to meet expected growth in containerised shipments. The current rail alignment to and through the port has numerous at-grade road crossings, leading to potential safety issues both within and outside the port.

While both the Port and the existing railway can continue to operate as they currently are, opportunities for freight network efficiency and synergies are lost, compromising Townsville's competitive export position.

A Priority Port Master Plan is currently being prepared for the PoT. The Department of State Development is leading the master planning process, working with the PoT, Townsville City Council and other key stakeholders. The master planning process is considering land and marine areas critical to the port's sustainable development, economic opportunities and relevant environmental and cultural heritage values.<sup>44</sup> It is also considering the interface with land use planning for the adjacent Townsville Waterfront PDA. As part of the PoT's existing Land Use Plan (LUP), land use planning has sought to concentrate port activities to central core zones, with an interface precinct at the port boundary leading towards the Townsville City Waterfront PDA. The PoT LUP allows for the grouping of compatible land uses to achieve synergies to maximise existing and planned port infrastructure. With future proposed expansions of the Port, core port uses would be concentrated to the east and north-east of the port in areas zoned as Strategic Port Land and Future Strategic Port Land.<sup>45</sup>

#### Townsville Port Expansion Project

The PoT expansion project aims to deliver to the port:

- A new deep water outer harbour.
- 6 additional berths in the new harbour.

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<sup>42</sup> Department of State Development, 2017

<sup>43</sup> POTL 2017

<sup>44</sup> DSD 2017

<sup>45</sup> AECOM/WBM BMT/POTL 2013



- Deepening and widening of existing approach channels.
- Reclamation of 152 hectares of existing harbour for new berths, bulk cargo storage and a rail loop.

The expansion project responds to the immediate need to cater for larger ship sizes in the channel and swing basins as well as address the medium and long-term need for additional berths as trade increases.

An EIS has been prepared and was made available for public comment in 2013. The Queensland Coordinator General is currently finalising the EIS evaluation report.

#### Current rail access to Port

The existing North Coast Line runs adjacent to/through urban residential areas of Townsville including the suburbs of Idalia, Cluden, Oonoonba, Railway Estate and South Townsville.

Based on 2017 data, 4,470 trains use the North Coast Line to access the Port of Townsville each year, resulting in 8,940 train movements (in and out of the Port). The North Coast Line corridor between the suburbs of Cluden, Idalia and Oonoonba is currently constrained due to Open Level Crossings (OLCs), or at-grade road-rail crossings, which intersect key road intersections along Abbott Street, such as Oonoonba Road and Lakeside Drive. It has been anecdotally reported that safety impacts to road users are known to occur along Abbott Street due to the presence of two OLCs, which is further impacted by long freight trains that require longer duration shut-downs of level crossings. Data shows that OLCs in this area are currently 'closed' an average of 3-4 minutes per hour, though it is recognised that train movements are not necessarily spread evenly throughout the day and there are peak activity times, such as sugar crushing season.

Travel time on the road network is impacted by disruptions caused by freight trains accessing the PoT which results in OLCs being closed to road traffic. It is estimated that the road network is disrupted on average for up to 10 hours per week from freight trains activating the OLCs. Between 2017 and 2047 it is forecast that the time the road network will be disrupted will increase by 3 hours 35 minutes due to the growth in railway traffic.

As part of the investigations undertaken for the TEARC attended noise monitoring at four locations within the TEARC project area was undertaken, including near residential properties at Cluden, to determine the existing noise environment (background and ambient noise levels) and to measure noise levels and characteristics of rail traffic operating on the existing rail line. The findings of the noise assessment indicated that while the nearest residential properties to the TEARC project area are approximately 350 – 400 metres away, these properties are currently affected by surrounding industrial activities or transport related noise along the North Coast Line, Abbott Street or at the port.

Current port activity impacts urban amenity in neighbouring residential areas predominantly through rail and road transportation associated with port activity. Activity at the Port is considered to be adequately buffered from residential areas.

#### Southern Access Road

The Southern Access Road (SAR) was developed in response to the increasing trade growth through the PoT and the need for appropriate infrastructure to accommodate increased road traffic from the south and west freight routes into the future.<sup>46</sup> The road was constructed to reduce a growing reliance on the use of Abbott Street (from the south) and Boundary Street into the port. The road enables heavy road transport to directly access the port through the TSDA, avoiding the Townsville CBD and local streets. This

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<sup>46</sup> AECOM/WBM BMT/POTL 2013





has improved the urban amenity in areas such as South Townsville, Oonoonba, Idalia and Cluden, while reducing safety impacts to road users due to less heavy vehicle traffic running along local streets.

Subject to additional need generated from increased trade in bulk commodities, the TEARC alignment is proposed to co-locate with the SAR within a dedicated service and materials transport corridor designated as part of the Townsville State Development Area (TSDA) Development Scheme.

#### Townsville State Development Area

The TSDA was declared in 2003 with a development scheme approved in 2005 and subsequently amended in 2013. The 4,900-hectare industrial area is located approximately six kilometres south east of the Townsville City Centre and targets industries including manufacturing, minerals processing, intermodal freight and logistics and bulk storage. The TSDA features a dedicated service and materials transport corridor in which the SAR and the proposed TEARC alignment runs through.

#### 14.2.5 Cater for Demand

##### Current Port activity

The PoT has played a significant role in the economic development of Townsville and has provided economic development opportunities to the region through enhanced access to overseas and interstate markets.

In the last 14 years, cargo vessel arrivals to the PoT have remained steady, varying from 694 in 2002/03, to a peak of 747 in 2011/12, to 618 cargo vessels in 2015/16.<sup>47</sup> The port imports a range of products including mineral concentrates and refined mineral products, petroleum, nickel ore and general cargo (see Table 14.5). Large volumes of export products through the port include sugar, fertiliser, livestock cattle, mineral concentrates, and refined mineral products.

Table 14.5 Comparative 2010/11 to 2015/16 cargo trade to Port of Townsville

PRODUCT	IMPORT (T)		EXPORT (T)	
	2010/11	2015/16	2010/11	2015/16
Cement	466,668	364,178 (22% decrease)	0	0
Fertiliser	87,775	94,453 (8% increase)	828,105	964,580 (16% increase)
General Cargo	211,621	233,394 (10% increase)	148,663	141,563 (5% decrease)
Livestock cattle	0	0	51,076	130,776
Meat & By-Products	0	0		7,396
Mineral Concentrates	258,309	415,715 (61% increase)	1,664,714	1,353,357 (19% decrease)
Molasses	0	0	233,710	308,748 (32% increase)

<sup>47</sup> POTL 2017



PRODUCT	IMPORT (T)		EXPORT (T)	
	2010/11	2015/16	2010/11	2015/16
Motor vehicles	19,329	26,247 (36% increase)	0	150
Nickel ore	3,719,507	1,640,915 (56% decrease)	0	0
Petroleum products	941,103	1,064,100 (13% increase)	0	0
Refined mineral products	43,942	35,737 (19% decrease)	827,592	967,485 (17% increase)
Sugar	0	0	958,720	1,345,331 (40% increase)
Sulphur/Sulphuric acid	127,813	91,508 (28% decrease)	0	44,933

Source: POTL 2016; AECOM/BMT WBM 2013

#### Labour force and employment

As shown in Table 14.6, the most recent labour force and unemployment statistics available (March quarter 2017) indicate that of the 92,742 people in the labour force in Townsville LGA, 10,055 people were unemployed, equating to an unemployment rate of 10.8 percent. Compared with the state of Queensland, of the 2,506,666 people in the labour force, 156,627 people were unemployed, equating to an unemployment rate of 6.2 percent.

Table 14.6 Labour force and unemployment

STUDY AREA CATEGORY	UNEMPLOYED	LABOUR FORCE	UNEMPLOYMENT RATE (%)
Townsville LGA	10,055	92,742	10.8
Queensland	156,627	2,506,666	6.2

#### 14.2.6 Reducing Bottlenecks at Port

The PoT has infrastructure to support the import and export of more than 30 different types of cargo and commodities. In 2014/2015, more than \$11 billion in trade passed through the port.<sup>48</sup> Through infrastructure upgrades over the past five years, including the construction of the Southern Access Road and upgrades to berths, it is expected that by 2017 the port's infrastructure capacity will double its existing container movement numbers to more than 100,000 boxes (TEU) per year.

There is a weekly average of 175 train movements on the North Coast Line Branch into the PoT. This figure represents an average weekly number of movements (derived from TEARC BAC demand and rail simulation modelling) and does not reflect the higher peak number of train movements during at peak sugar harvesting

<sup>48</sup> POTL 2017



season. This is projected to increase to an average of about 206 train movements per week by 2017 (an increase of about 17 percent between 2017 and 2047).

Rail access to the PoT is currently subject to time delays and capacity constraints.

#### 14.2.7 Longer Trains

While the Mt Isa line can accommodate trains up to 1,000m in length, there are constraints on the North Coast Line and within the PoT network of customer sidings and loops that cannot accommodate trains at this length. Currently, trains of up to 650m metres can run on the North Coast Line and within the port's rail network.

This means that trains are currently operating at this shorter length along the Mt Isa line, or have to be split at the Partington Yard at Stuart to enable shorter shunt transfer operations.

Inefficiencies of the current rail system, resulting in higher haulage costs, are reducing the PoT's competitiveness, which in turn is suppressing regional economic development opportunities. This has flow on effects to job creation in a region where the unemployment rate is higher than the state average.

### 14.3 Impact Identification

The impact assessment has been undertaken in line with Building Queensland's Social Impact Evaluation Guide and provides a qualitative risk-based assessment of the potential impacts of the TEARC project on the social environment of the study area. This risk-based approach assists in identifying potential measures to mitigate negative consequences, and also identify opportunities to consider the enhancement of social benefits.

Impacts have been assessed against the characteristics of the social environment identified in the social impact baseline. The following sections provide an assessment of the potential social impacts and benefits that may come about because of TEARC's construction and operation.

#### 14.3.1 Urban Amenity

Community and lifestyle

Implementation of TEARC would not directly impact on the population within and adjacent to the TEARC project area, SIE study area or broader Townsville region. This is due to the TEARC alignment being largely contained within the TSDA and existing railway corridors, with some additional, non-residential land potentially required for the alignment. TEARC may have an indirect impact on the local population by enabling economic development associated with the Port, which in turn may help to drive forecast population growth.

People's lifestyles are not expected to be significantly impacted by TEARC given that the alignment is mostly located in non-urban areas. Where the TEARC alignment passes through more urban areas, the closest dwellings are located 350-400m from the proposed railway. Potential amenity impacts during TEARC's construction and operation are discussed below.

The operation of TEARC would remove some traffic from the North Coast Line, resulting in fewer freight trains using this section of the rail network. This is likely to improve amenity for residents, especially in suburbs where dwellings are located within 50 metres of the railway. Table 14.7 provides an overview of the impact of the TEARC alignment on suburbs within the SIE study area.



Table 14.7 Suburb overview

SUBURB	OVERVIEW	PROXIMITY TO TEARC ALIGNMENT	DISTANCE FROM NORTH COAST LINE
SOUTH TOWNSVILLE	The TEARC alignment crosses into South Townsville at the suburb's southern boundary. Dwellings on Eight Avenue would now be the closest dwellings to the railway.	350 metres	50 metres
IDALIA	The TEARC alignment branches off the North Coast Line at the southern corner of the suburb of Idalia.	350 metres	120 metres
CLUDEN	The TEARC alignment would pass through the northern part of the suburb through an undeveloped area.	600 metres	550 metres
OONOONBA	The TEARC alignment would pass to the south of the suburb.	600 metres	50 metres
HERMIT PARK	The TEARC alignment would not impact this suburb.	More than one kilometre	550 metres
RAILWAY ESTATE	The TEARC alignment would not impact this suburb.	More than one kilometre	50 metres
STUART	TEARC alignment is mostly located within the suburb of Stuart, within the TSDA. TEARC would traverse a currently an unpopulated and undeveloped area within this suburb.	More than five kilometres	50 metres
WULGURU	TEARC alignment does not impact this suburb – North Coast Line remains in place.	n/a	50 metres

Impacts to existing social infrastructure due to the TEARC project are also not expected, given that no community, health or education facilities are located within 500 metres of the TEARC alignment.

TEARC supports and aligns with local, State and Federal Government economic development initiatives and strategies for the Townsville region, including the *Townsville City Deal (2016)*.<sup>49</sup> The TEARC project seeks to improve freight rail access and connectivity from the North-West Minerals Province and other regional industries such as agriculture to the Port of Townsville to access import and export markets regionally, interstate and overseas. The TEARC project also aligns with local community values by seeking to consolidate industrial development within the TSDA away from urban residential areas, and improving transport links to the Port from the existing North Coast Line to TEARC alignment via the TSDA.

As a result of the TEARC project, the increased role of the PoT and the development of other projects within the Townsville region, there is the potential for positive indirect economic benefits with potential increased investment in the region. Benefits may be felt in other industries such as tourism development and increased social infrastructure spending to support the projected population growth.

<sup>49</sup>DPMC 2016



### Consolidation of urban development

The North Coast Line currently creates a barrier between the PoT and Townsville's urban areas. While the North Coast Line will remain operational even with TEARC in place, a reduction in freight traffic on this line is expected once TEARC is operational. This would reduce existing amenity related impacts associated with current rail traffic the North Coast Line, such as noise and vibration, reduced air quality and low visual amenity, and mitigate an increase in amenity impacts that would otherwise have come about with increasing rail traffic overtime. With many dwellings currently located within 50 metres of the North Coast Line, a reduction in rail traffic on the North Coast Line will improve amenity for many people.

Improved amenity along the North Coast Line is also consistent with the vision for the Townsville City Waterfront PDA that aims to consolidate urban development in the Townsville CBD and provide a mixed-use precinct with an active public realm and open space network.

Current master planning for the PoT is also seeking to consolidate port activities to core areas in the eastern and southern precincts, while allowing for transition zones in the western portion of the port towards the Townsville Waterfront PDA.

The TEARC alignment approaches the PoT from the south, rather than the existing route to the north of the site. This would assist in centralising core port activities to the east and south of the Port. This enables focused consolidation of urban development to the west of the port closer to the Townsville CBD to preserve urban amenity.

### Community health and safety

#### Construction impacts

With the construction of the TEARC project, there is the potential for increased noise, vibration and dust impacts on nearby residential properties in suburbs such as Cluden and South Townsville. As outlined in Chapter 13, Environmental Assessments and Approvals, an assessment of the environmental impacts associated with the TEARC project has been undertaken. With regard to air quality, emissions are possible from diesel equipment and dust generation due to the distance, exposure and transportation of soils. Air quality impacts are not expected to exceed air quality criteria and are therefore considered to be minor in nature. During construction of the TEARC project, dust suppression and other air quality measures will be implemented to manage potential air quality impacts.

It was noted that while residential areas in Cluden and South Townsville may experience local noise, vibration and dust impacts during construction of the TEARC project, it was considered that these residential areas are currently subject to existing industrial and port related uses that may also generate noise, vibration and dust. During construction of the TEARC project, it is envisaged that noise, vibration and dust will be managed through the adoption of environmental management measures.

During project construction, there is the potential for temporary disruptions to local accesses around worksites. Also, the construction and operation of the TEARC alignment would impact on publicly accessible recreation areas such as the off-leash dog beach at Benwell Road. It is recommended that regular consultation with affected stakeholders and local communities are undertaken with regard to appropriate traffic management procedures and consideration of options for re-instatement of recreation areas if possible at completion of the TEARC project.



## Operation impacts

Once TEARC is operational, residents in suburbs such as Idalia, Oonoonba, Railway Estate and parts of South Townsville would experience improved amenity due to less freight rail traffic along the North Coast Line. With TEARC, potential amenity impacts may occur near Cluden and South Townsville with the introduction of the TEARC alignment in existing open space and environmental conservation areas to the east. Recent community consultation activities have indicated that South Townsville and Cluden residents are particularly concerned about the TEARC project's impacts to them, such as operational noise, dust, safety, property values and flooding. (Refer Chapter 15 Sustainability Assessment).

Residences nearest to the proposed TEARC alignment located approximately 350 – 400 metres away are expected to have an obscured view of the TEARC project, as they are buffered by either industrial uses or remnant vegetation that separates the alignment from residential areas. As outlined in Chapter 13, Environmental Assessments and Approvals, these properties are currently affected by surrounding industrial activities or transport related noise along the North Coast Line, Abbott Street or at the PoT. There is the potential for increased noise, vibration and dust impacting Cluden and South Townsville residents, however, it was found that impacts are considered to be minimal as follows:

- There is the potential for an increase in local air emissions due to the operation of trains along the TEARC alignment such as diesel train engine exhausts. However, adverse air quality impacts are not expected to exceed applicable air quality criteria due to the separation distance from the TEARC alignment to the nearest residential area (approximately 350m away).
- Predictive modelling of rail noise levels near sensitive receivers at Cluden and South Townsville indicated that the Queensland Rail target of 65 dB(A) LAeq 24hr is met outside of the sensitive receptor boundaries.
- Once further Low Impact Industry (light industrial) land use associated with the TSDA is established between the TEARC materials transportation corridor and residents at Cluden, the light industrial development is expected to further mitigate adverse impacts from the rail air and noise emissions.

### 14.3.2 Cater for Demand

#### Stimulate economic development

With the development of the TEARC project, a more direct route to connect freight traffic to the PoT will enable increased throughput of bulk goods and minerals from the North-West Minerals Province and agricultural industries to wider interstate and overseas markets. The placement of the TEARC alignment within a consolidated infrastructure corridor in the TSDA acts as a catalyst for future industrial development surrounding the corridor leading towards the Port. In addition, the TEARC alignment has been located to efficiently connect the PoT to the existing North Coast Line.

It is envisaged that the TEARC project will result in the stimulation of import and export markets within the Townsville region, and lead to potential indirect stimulation of the services industry due to the strengthening of the Port's economic position in North Queensland. From this, it is likely that increased employment opportunities will be generated.



## Employment opportunities

Strengthening of direct employment opportunities associated with port-related industries as well as indirect employment opportunities in the wider Townsville region is likely to positively contribute to a stronger economy and act as a catalyst for further private and public sector investment in the region.

The TEARC alignment is envisaged to enhance regional development and wider state economic prosperity by moving increasing volumes of freight, while improving urban amenity and congestion impacts associated with future increases in rail freight moving through the Townsville urban area.

During TEARC's construction, 207 full time equivalent positions are expected to be created each year (2017 – 2022). Given the current labour force availability in Townsville (e.g. unemployment rate of 10.8 percent in Townsville LGA), there may be an opportunity to use existing resources within the Townsville population. Alternatively, people from outside of Townsville may be attracted to the region in search of employment given the TEARC project and other wider economic opportunities in Townsville anticipated in the future.

On its own, the TEARC project's requirement for construction workers is unlikely to require additional housing for workers, as it is assumed that the construction workforce would be sourced from local resources already in Townsville.

### 14.3.3 Reduce Bottlenecks

#### Access and connectivity

With the plans to divert some of the current rail freight traffic away from the Abbott Street portion of the North Coast Line, the TEARC project would assist in alleviating pressure on the rail network, and reduce safety impacts to residents and road users within the South Townsville area. The TEARC alignment will enable improved access and connectivity to the PoT via a dedicated corridor through the TSDA. It would also assist in facilitating improved processing and circulation of freight within port boundaries.

With the re-direction of freight trains along the TEARC alignment, this would see a reduction in train queuing and shunting through urban areas, thereby benefiting local residential areas along the Abbott Street corridor and in the vicinity of the Partington Rail Yard. In addition, there would be fewer freight trains along the North Coast Line which would result in reduced OLC closure times. This would result in safety benefits to road users by reducing interaction of rail freight with OLCs.

It should be noted that without the TEARC alignment, but with ongoing port development, there is the potential for increased bottle necks and queuing along the Mt Isa Line and the North Coast Line. This has the potential for flow-on effects to the existing North Coast Line through Townsville's urban areas in terms of noise and to OLCs in terms of train queuing.

The TEARC alignment would directly contribute to improvements in access to the PoT via the North Coast Line and the Mt Isa Line. Stakeholder consultation undertaken as part of the TEARC project has indicated that stakeholder believe the TEARC alignment would relieve congestion inside the Port of Townsville in order to optimise export and supply chain opportunities.

As an enabler for accommodating future demand through the port, the TEARC alignment would allow for improved access and processing of freight volumes to port via a dedicated freight rail line, rather than the current situation where freight rail shares the North Coast Line with passenger trains through Townsville CBD.



### 14.3.4 Longer Trains

As part of the State Infrastructure Plan (DILGP 2016), the North Coast Line Capacity Improvement Project seeks to increase the productivity and efficiency of freight transport along the corridor and accommodate growth in demand. As part of increasing productivity and efficiency of freight transport, the requirement for longer freight trains has been considered by the Queensland Government.

As part of the rail modelling undertaken for the TEARC alignment, the design has allowed for the project to facilitate longer trains of 1,400m to cater for potential increased rail freight capacity. During stakeholder consultation for the TEARC project, it was identified that the use of longer trains will be at the discretion of operators and customers. The development of the TEARC alignment does not preclude the option to cater for longer 1,400m trains in the future.

The existing North Coast Line is constrained in its ability to support the introduction of longer trains. Should the use of longer trains be instigated on the wider freight network, it will enable greater freight capacity with faster transport times to/from port. Given the uncertainties with regards to the introduction of longer freight trains in the wider freight network, the TEARC alignment has been designed so that it will not preclude the introduction of longer trains in the future.

It should be noted that if longer trains are introduced to the freight network in the future, and the TEARC alignment has not been constructed, the existing North Coast Line along the Abbott Street corridor into the Port would likely experience an increase in road user wait times at OLCs and greater duration of noise impacts to residents along the North Coast Line due to shunting operations. Therefore, the TEARC project would support the introduction of longer trains and encourage the re-direction of freight rail from the North Coast Line through Townsville to the TEARC alignment.

### 14.3.5 Summary of Social Impact and Benefits

Table 14.8 provides an overview of the social impact and benefits associated with the TEARC project.

Table 14.8 Identified Positive and Negative Social Impacts with Codes and Brief Descriptions

IMPACT AREA	SOCIAL IMPACT	SIE CODE (P = POSITIVE, N = NEGATIVE)	DESCRIPTION
<b>Urban Amenity</b>			
Community and lifestyle	Contribution to community and economic growth objectives for Townsville  Positive impact on urban amenity due to improved access to Port via TEARC alignment	PSoc1	<ul style="list-style-type: none"> <li>Contributes to the anticipated growth of Townsville and the role of the Port, allowing for consolidated development around the Port to preserve urban amenity closer to the Townsville CBD.</li> <li>Aligns with community values and development strategies for Townsville.</li> <li>Caters for growing demand of the Port and the transfer of imports and exports to regional, interstate and overseas markets.</li> <li>The TEARC alignment within the TSDA supports the consolidation of port activities to core areas east and south of Townsville.</li> <li>Potential indirect benefits of economic development leading to increased investment in the Townsville region, including tourism and social infrastructure.</li> </ul>





IMPACT AREA	SOCIAL IMPACT	SIE CODE (P = POSITIVE, N = NEGATIVE)	DESCRIPTION
Community health and safety	Reduction of freight train traffic through the Abbott Street portion of the North Coast Line	PHea1	<ul style="list-style-type: none"> <li>Diverting some freight rail traffic from the Abbott Street portion of the North Coast Line to the TEARC alignment will result in improved local urban amenity at Idalia, Oonoonba, Railway Estate and South Townsville during operation of the TEARC project.</li> <li>Safety benefits to road users by reducing interaction of rail freight with OLCs and running these trains along the TEARC alignment.</li> </ul>
Community health and safety	Construction noise, vibration and dust impacts	NHea1	<ul style="list-style-type: none"> <li>Potential impacts during construction as a result of noise, vibration and dust, and increased construction traffic in the vicinity of worksites.</li> <li>Potential changes to the noise environment in Cluden and South Townsville due to the operation of TEARC. However, these properties are previously affected by port activities (South Townsville) and light industrial uses (Cluden and South Townsville).</li> <li>Potential visual amenity impacts to residents in Cluden and South Townsville.</li> </ul>
Community health and safety	Impact to urban amenity in new areas	NHea2	<ul style="list-style-type: none"> <li>Increased rail traffic in suburbs (Cluden and South Townsville) in areas not previously impacted by rail operations. However, these properties are previously affected by port activities (South Townsville) and light industrial uses (Cluden and South Townsville).</li> </ul>
	Potential temporary impacts to local access	NHea3	<ul style="list-style-type: none"> <li>Potential temporary disruptions to local accesses during project construction around worksites.</li> <li>Impact to publicly accessible areas (e.g. dog beach at Benwell Road and recreational opportunities).</li> </ul>
<b>Cater for demand</b>			
Economic	Positive economic benefit	PEc1	<ul style="list-style-type: none"> <li>TEARC provides opportunities for additional trade to be facilitated through the Port of Townsville.</li> </ul>
	Increased employment opportunities	PEc2	<ul style="list-style-type: none"> <li>Increased employment opportunities will be generated from construction and operation of TEARC.</li> <li>The TEARC project's requirement for construction workers is unlikely to require additional housing for workers, as it is assumed that the construction workforce would be sourced from local resources already in Townsville.</li> </ul>



IMPACT AREA	SOCIAL IMPACT	SIE CODE (P = POSITIVE, N = NEGATIVE)	DESCRIPTION
Community and lifestyle	Change in demographic structure	PCom1	<ul style="list-style-type: none"> <li>Due to increased construction jobs, this project and other projects, potential attraction of people of working age using existing resources in the region (given the current labour force availability – e.g. unemployment rate of 10.8 percent).</li> <li>Should insufficient resources be available within the Townsville region, people outside of Townsville may be attracted to the region in search of employment, given the TEARC project and other wider economic opportunities in Townsville.</li> </ul>
<b>Reduced bottle necks</b>			
Access and connectivity	Improved freight access to Port of Townsville	PEc3	<ul style="list-style-type: none"> <li>The TEARC alignment will enable improved access to the Port of Townsville and the processing of freight volumes via a dedicated corridor through the TSDA.</li> <li>Reduced freight train queuing and shunting in urban areas that is re-directed along the TEARC alignment.</li> </ul>
<b>Longer trains</b>			
Community health and safety	Improved efficiency and future capacity	PHea2	<ul style="list-style-type: none"> <li>Enable longer trains to access the PoT – improving efficiency and providing capacity for the future.</li> </ul>



## 14.4 Impact Risk Assessment

### 14.4.1 Diagrammatic Representation Pre-mitigation/Enhancement

From the previous social impact descriptions, a risk assessment of the impacts is illustrated in Table 14.9 below.

Table 14.9 Impact Risk Assessment (IRA) Scatter Diagram

			Consequence				
			Low	Medium			High
			Insignificant	Minor	Moderate	Major	Significant
Likelihood of Occurring	High	Almost Certain					
	Medium	Likely		NHea1 NHea3	PHea1 PHea2 NHea2 PEc1 PEc2	PSoc1 PEc3	
		Possible		PCom1			
		Unlikely					
	Low	Rare					



### 14.4.2 Suggested Mitigation/Enhancement and Impact Outcomes

Table 14.10 outlines the pre-mitigated social impact outcomes, and the proposed mitigation and enhancement measures. With the application of the mitigation and enhancement measures, the post mitigation impact outcomes have been confirmed.

Table 14.10 Social Impact Outcomes and Suggested Mitigation/Enhancement Measures

IMPACT AREA	SOCIAL IMPACT	SIE CODE	PRE-MITIGATION IMPACT OUTCOME	MITIGATION AND ENHANCEMENT MEASURES	POST MITIGATION IMPACT OUTCOME
<b>Urban Amenity</b>					
Community and lifestyle	Contribution to community and economic growth objectives for Townsville Positive impact on urban amenity due to improved access to Port via TEARC alignment	PSoc1	High	<ul style="list-style-type: none"> <li>Key economic growth strategies for the Townsville region are directly supportive of the TEARC project and may be realised with subsequent government approvals and DBC process.</li> <li>Regular community and stakeholder consultation to ensure awareness of project progress and construction timeframes.</li> </ul>	High
Community health and safety	Reduction of freight train traffic through the Abbott Street portion of the North Coast Line	PHea1	High	<ul style="list-style-type: none"> <li>Regular community and stakeholder consultation to ensure they are aware of project progress and construction timeframes.</li> </ul>	High



SOCIAL IMPACT EVALUATION

IMPACT AREA	SOCIAL IMPACT	SIE CODE	PRE-MITIGATION IMPACT OUTCOME	MITIGATION AND ENHANCEMENT MEASURES	POST MITIGATION IMPACT OUTCOME
	Construction noise, vibration and dust impacts	NHea1	Medium	<ul style="list-style-type: none"> <li>Development of appropriate environmental management measures prior to construction for inclusion in the Project Environmental Management Plan (EMP) to minimise adverse noise, vibration and dust impacts during construction and operation.</li> <li>Develop a Communication Plan prior to the commencement of construction with affected communities to manage negative amenity impacts during construction and operation of the Project.</li> <li>Regular community and stakeholder consultation to ensure they are aware of project progress and construction timeframes.</li> </ul>	Medium
Community health and safety	Impact to urban amenity in new areas	NHea2	High	<ul style="list-style-type: none"> <li>Early consultation and engagement with local affected communities through the development of a Communication Plan to manage negative amenity and access impacts during construction of the project.</li> <li>Regular community and stakeholder consultation to ensure they are aware of project progress and construction timeframes.</li> </ul>	Medium
	Potential temporary impacts to local access and publicly accessible areas	NHea3	Medium	<ul style="list-style-type: none"> <li>Development of Traffic Management Plan prior to construction.</li> <li>Seek to reinstate temporary and permanent access to publicly accessible areas, for instance re-instate an off-leash recreation area.</li> <li>Regular community and stakeholder consultation to ensure they are aware of project progress and construction timeframes.</li> </ul>	Medium



SOCIAL IMPACT EVALUATION

IMPACT AREA	SOCIAL IMPACT	SIE CODE	PRE-MITIGATION IMPACT OUTCOME	MITIGATION AND ENHANCEMENT MEASURES	POST MITIGATION IMPACT OUTCOME
<b>Cater for demand</b>					
Economic	Positive economic benefit	PEc1	High	<ul style="list-style-type: none"> <li>The project on its own will have a positive low to medium economic benefit for the region, but this would be more significant in the context of wider economic development in the region.</li> <li>The presence of the construction workforce also has potential to generate increased business activity in the area.</li> </ul>	High
	Increased employment opportunities	PEc2	High		High
Community and lifestyle	Change in demographic structure	PCom1	Medium	<ul style="list-style-type: none"> <li>Existing labour force availability in Townsville is unlikely to result in a significant change in demographic structure.</li> </ul>	Low
<b>Reduced bottle necks</b>					
Access and connectivity	Improved freight access to Port of Townsville	PEc3	High	<ul style="list-style-type: none"> <li>Key economic growth strategies and port development for the Townsville region are directly supportive of the TEARC project to provide improved freight accessibility and efficiency to the Port of Townsville.</li> <li>Consultation and communication with relevant stakeholders.</li> <li>With the re-direction of freight trains along the TEARC alignment, there will be a positive benefit in the reduction of freight train queuing and shunting through urban areas along the Abbott Street corridor.</li> </ul>	High
<b>Longer freight trains</b>					
Community health and safety	Improved efficiency and future capacity	PHea2	High	<ul style="list-style-type: none"> <li>Potential to implement improved road safety measures at OLCs.</li> </ul>	High



### 14.4.3 Diagrammatic Representation Post-mitigation/Enhancement

Table 14.11 diagrammatically summarises the social impact outcomes from the Impact Risk Assessment (IRA) for the TEARC project after the application of mitigation and enhancement strategies.

Table 14.11 RA Scatter Diagram after implementation of mitigation and enhancement strategies

			Consequence				
			Low	Medium			High
			Insignificant	Minor	Moderate	Major	Significant
Likelihood of Occurring	High	Almost Certain					
	Medium	Likely		⇔ NHea3 ⇔ NHea2	⇔ PHea2 ⇔ PHea1 ⇔ NHea2 ⇔ PEc1 ⇔ PEc2	⇔ PSoc1 ⇔ PEc3	
		Possible	⇐ PCom1	⇓ NHea1			
		Unlikely					
	Low	Rare					

⇔ Same risk rating

⇐ Decreased consequence

⇓ Decreased likelihood



#### 14.4.4 Metrics for Quantifiable Material Social Impacts

Table 14.12 presents a number of metrics that can be used to quantify the positive material social impacts of the TEARC project.

Table 14.12 Identifying and Defining Metrics for Social Impacts

MATERIAL SOCIAL IMPACTS	METRIC (DESCRIPTION)	METHODOLOGY AND SOURCE
Positive economic and employment benefits of the TEARC project	<ul style="list-style-type: none"> <li>▪ Number of people employed for construction</li> <li>▪ Number of people employed during operation</li> <li>▪ Number of people employed in wider Port and industrial occupations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Employment forecasts for the Project</li> <li>▪ Australian Bureau of Statistics</li> <li>▪ Industry surveys</li> </ul>
Improved freight access to PoT	<ul style="list-style-type: none"> <li>▪ Improved freight rail travel time to PoT from North Coast Line and Mt Isa Townsville rail line</li> </ul>	<ul style="list-style-type: none"> <li>▪ Traffic modelling</li> </ul>
Reduction of freight traffic through urban areas along Abbott Street Positive impact to urban amenity and economic growth of Townsville	<ul style="list-style-type: none"> <li>▪ Minimal complaints of freight rail noise</li> </ul>	<ul style="list-style-type: none"> <li>▪ Rail operator records of complaint data</li> </ul>
Improved road safety due to less OLC closures	<ul style="list-style-type: none"> <li>▪ Road safety incident numbers at OLCs on North Coast Line in Townsville</li> </ul>	<ul style="list-style-type: none"> <li>▪ Road/rail incident data</li> </ul>

#### 14.5 Conclusion

This SIE has been undertaken to assess the potential direct and indirect social impacts (both positive and negative) of the TEARC Project on the surrounding social environment. The evaluation has been informed by the TEARC Project's environmental assessment and the community consultation and stakeholder reports prepared to inform the DBC.

Key positive and negative impacts identified through the SIE were defined as follows:

##### Positive impacts

- Contribution to the community and economic growth objectives for Townsville, with the facilitation of additional trade through a dedicated corridor through the TSDA, which is a more direct route to/from the PoT.
- Improved urban amenity along Abbott Street corridor due to re-direction of freight rail traffic along the TEARC alignment to access the PoT.
- Less interaction of freight trains with the North Coast Line along the Abbott Street corridor will reduce the length of time that OLCs are closed, resulting in improved road safety and access.
- Increased employment opportunities will be generated from construction, project management and operations for the TEARC Project.





### Negative impacts

- Impact to local urban amenity in suburbs not previously affected by rail (e.g. Cluden and South Townsville) and uncertainty about partial and full property resumptions.
- Potential impacts to local access and recreational areas (e.g. off-leash area at Benwell Road).
- Potential localised noise, vibration and dust impacts during construction and operation.

From the IRA, a number of mitigation and enhancement measures have been recommended to address the positive and negative social impacts. A key strategy for the TEARC Project will be to ensure that clear, regular communications and engagement with impacted stakeholders is undertaken throughout subsequent project approval processes to ensure consistent messaging for the Project.

The IRA has identified a number of localised social impacts such as localised noise, vibration and dust, and impacts to local property accesses and publicly accessible areas. This is envisaged to be managed through the adoption of early engagement with affected property owners, adoption of environmental management and traffic management measures during construction and operation and re-instatement of local and public accesses as early as possible, ensuring this is adequately communicated to stakeholders.

Table 14.13 summarises the relevant information considered in the SIE. Social impacts have been included in the table with an applicable qualitative label of 'small, medium or large' where no quantifiable value could be obtained.



Table 14.13 Appraisal Summary Table

IDENTIFIED IMPACTS	QUALITATIVE ASSESSMENT				PRESENT VALUE (CBA)
	METRIC	SHORT-TERM (5 YEARS)	MEDIUM-TERM (10 YEARS)	LONG-TERM (20 YEARS)	
<b>ECONOMIC</b>					
Efficiency in improved freight access to Port of Townsville	Traffic modelling	See Economic Chapter Sensitivities			Not quantified in the base case
Economic and employment benefits	Employment data Industry surveys	207 (FTE pa)	87 (FTE pa)	68 (FTE pa)	NA
Reduction in OLC closures	Road safety incident numbers	See Economic Chapter			\$0.04 million
CAPEX and OPEX costs	\$	\$210 million	\$263 million	\$266 million	\$269 million
<b>ENVIRONMENT AND COMMUNITY HEALTH</b>					
Air, noise and vibration	Air, noise and vibration emissions during construction within modelled limits Air, noise and vibration emissions during operation within modelled limits Noise, vibration and air quality complaints during construction and operation	Low - Medium	Low	Low	Qualitative
<b>COMMUNITY AND LIFESTYLE</b>					
Positive impact to urban amenity along Abbott Street corridor	Minimal complaints of freight rail noise	Low	Low	Low	Qualitative
Temporary impacts to local access and publicly accessible areas	No. of road closures during construction Re-instatement of recreation areas (e.g. off-leash area)	Low – Medium	Low	Low	Qualitative
Uncertainty surrounding property resumptions	No. of partial/full property resumptions required	Low	Low	Low	Qualitative
CBA Summary				NPV:	-\$226 million
				BCR:	0.16