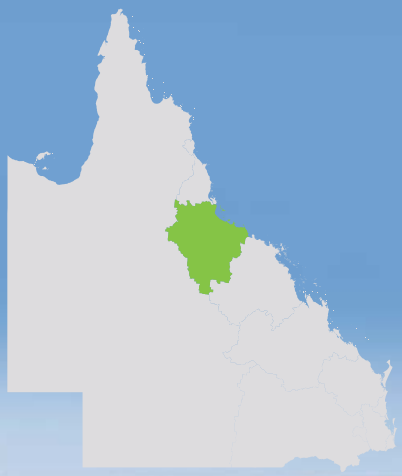
NORTHERN QUEENSLAND



REGIONAL TRANSPORT PLAN

2020

Queensland Government

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We acknowledge the Traditional Owners and Custodians of the land to which this plan applies and pay our respects to their Elders both past and present. Aboriginal and Torres Strait Islander readers are warned, images in this document may contain or represent deceased persons which may cause sadness or distress.

The Department of Transport and Main Roads wishes to acknowledge the valuable input and contribution from our local government partners to develop this plan:

- Burdekin Shire Council
- Charters Towers Regional Council
- Hinchinbrook Shire Council
- Palm Island Aboriginal Shire Council
- Townsville City Council.

Cover images: Artist impression of North Queensland Stadium (background); Freight train over Rooney's Bridge (inset, left); Container transport, Port of Townsville (inset, centre); Road train on Macrossan Bridge (Burdekin River), Flinders Highway, with railway bridge in distance (inset, right).
Inside cover image: Cyclists on road, Townsville.

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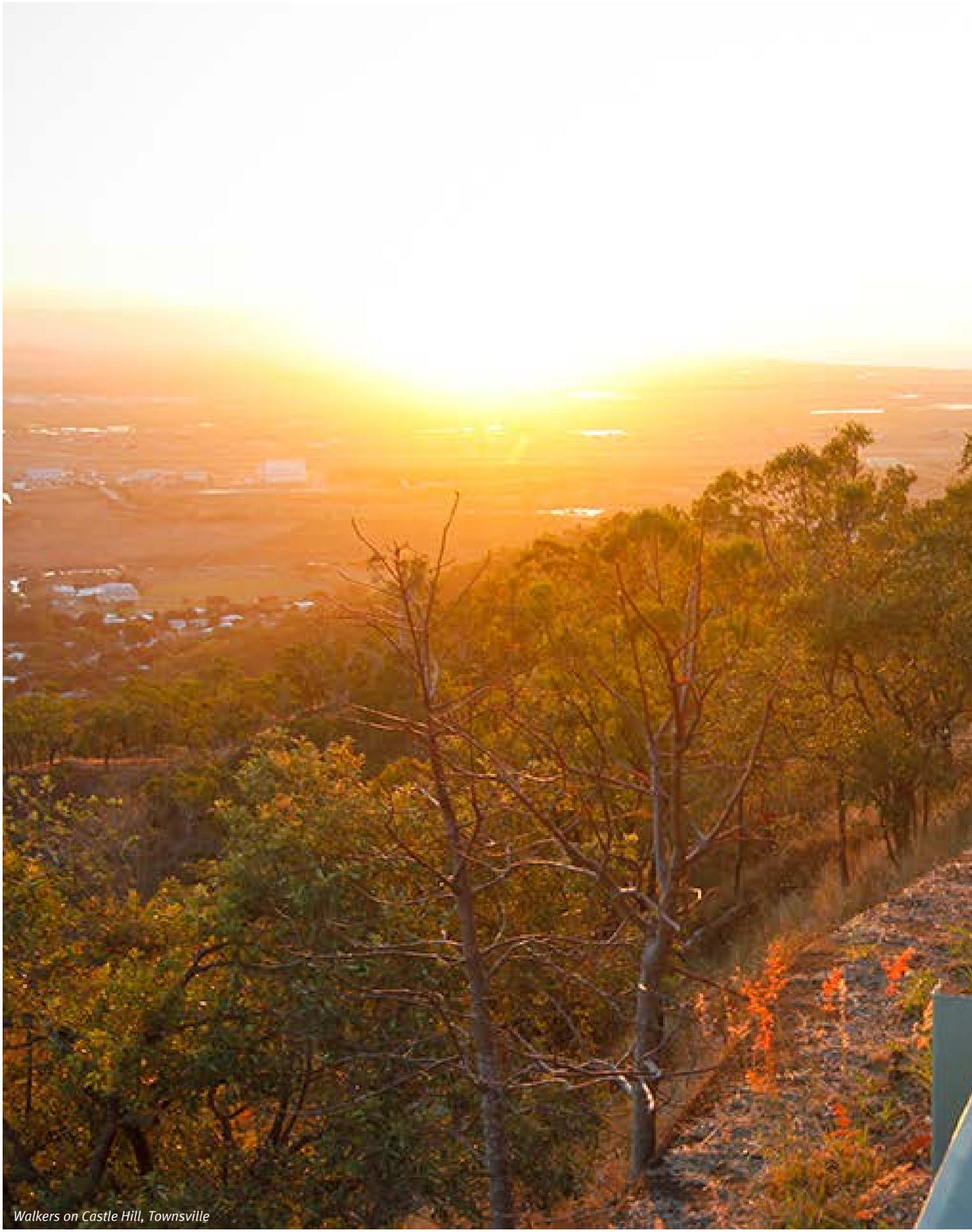


Walkers on Castle Hill, Townsville

1. Introduction

1.1 A shared direction for transport

The *Northern Queensland Regional Transport Plan* (the Plan) outlines a shared direction for shaping the region's transport system over the next 15 years.

The Plan was developed in consultation with local government and key stakeholders, with input from customers and industry. The Department of Transport and Main Roads will continue to work in partnership with all levels of government, the community and industry to implement the Plan and achieve shared goals for the region.

The Plan covers all modes of transport with a focus on the networks and services in the region, and the inter-regional and international connections that are vital to the region's social and economic prosperity.

The Northern Queensland region is home to over 236,000 people and includes the local government areas of Burdekin, Charters Towers, Hinchinbrook, Palm Island and Townsville.[1]

1.2 What is a Regional Transport Plan

The purpose of the *Northern Queensland Regional Transport Plan* is to set out regional transport priorities and actions for developing the transport system in a way that supports regional goals for the community, economy and environment.

The Plan has been developed in accordance with the *Transport Planning and Coordination Act 1994* and meets the department's legislative responsibility to develop integrated regional transport plans that complement land use planning, and support the goals and objectives of regional plans.

Regional Transport Plans are a fundamental component in the hierarchy of integrated system planning. They have an essential role in defining local responses to wider community goals, system objectives, problems and priorities.

Regional Transport Plans have a clearly defined role in the Transport and Main Road's planning process. They are not intended to specify new infrastructure solutions or funding commitments, as that is the role of the *Queensland Transport and Roads Investment Program* (QTRIP).

The approach to developing Regional Transport Plans is aligned with the *Australian Transport Assessment and Planning Guidelines* for best practice transport assessment and planning (see Figure 1).

The regional policy choices and system strategies expressed in this Plan are used to:

- inform detailed planning or investigations at a network, area, corridor, route or link level
- guide development, assessment and selection of specific investment solutions.

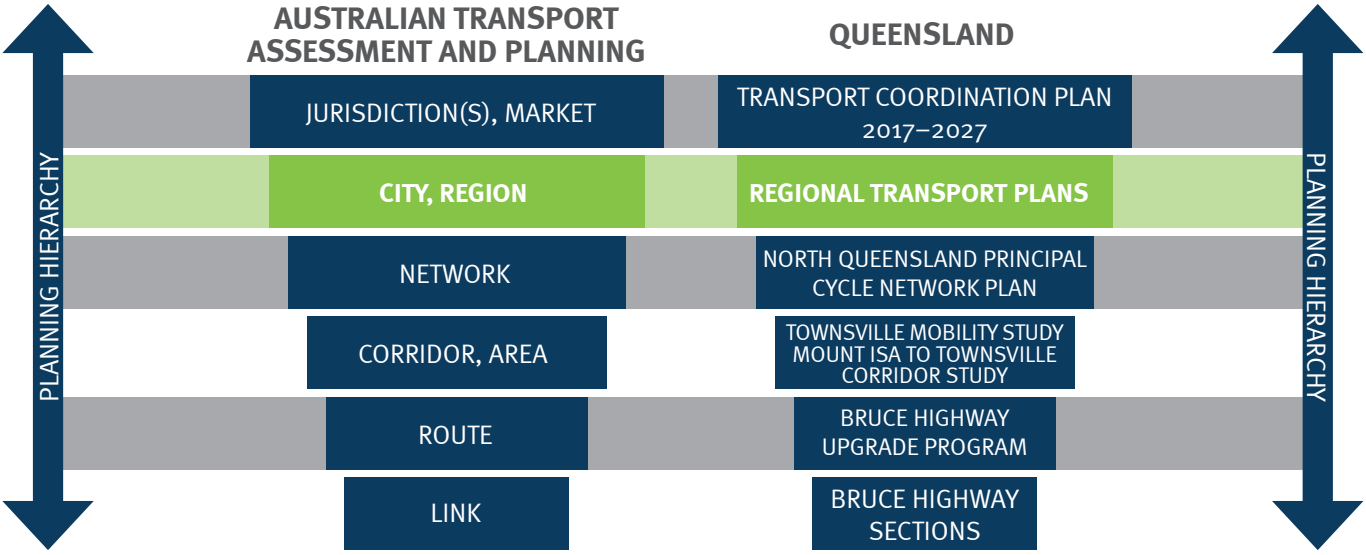


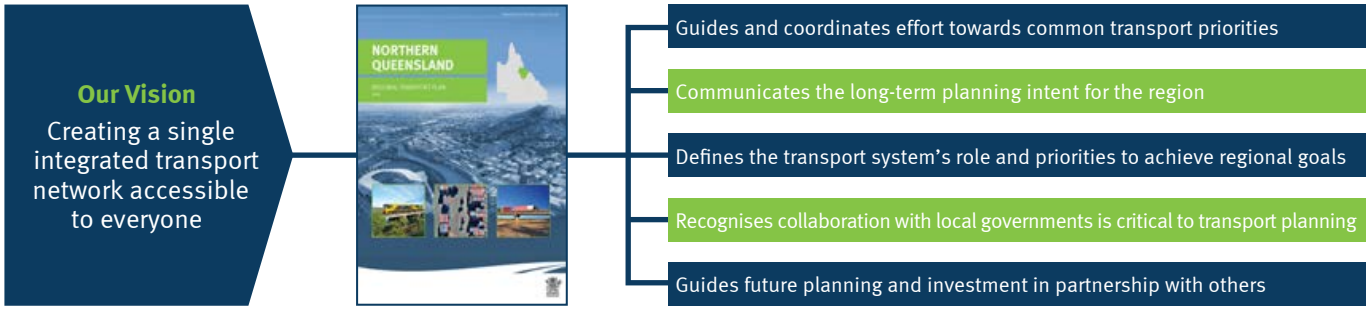
Figure 1: Examples of how Queensland responds to the Australian Transport Assessment and Planning hierarchy

1 Australian Bureau of Statistics. (2019). *Regional Population Growth, Australia, 2017-18 (Catalogue No. 3218.0)*.

The Plan supports the department's vision of 'creating a single integrated transport network accessible to everyone' through:

- guiding and coordinating effort towards common transport priorities
- communicating the long-term planning intent for the region
- defining the transport system's role and priorities to achieve regional goals
- recognising collaboration with local governments as critical to 'one-network' transport planning
- guiding future planning and investment in partnership with others.

The Plan will be used by Transport and Main Roads to inform investment decisions to develop the regional transport network.



1.3 Strategic alignment

This Regional Transport Plan has been developed in the context of policies, strategies, plans and investment frameworks across all levels of government. These policy and planning documents are reflected in the objectives, challenges, opportunities and priorities identified in the Plan.

This Plan aligns with:

- *State Infrastructure Plan*
- *State Planning Policy*
- 'North Queensland Regional Plan' (draft)
- The Townsville City Deal
- local government land use and transport plans, and strategies
- economic development strategies
- state government land use plans (Townsville State Development Area, priority developments areas, and Priority Port of Townsville Master Plan)
- the *Australian Infrastructure Plan* (prepared by Infrastructure Australia).

The Plan responds to customer needs, as well as the goals and directions of the community, industry, and all levels of government.

Transport and Main Roads also produces statewide strategies and plans that guide coordinated outcomes for transport networks and services across Queensland. These high-level plans set the broader framework for taking action at the regional and local level.

Key planning documents include:

- *Transport Coordination Plan 2017–2027*
- Queensland Transport Strategy (draft)
- *Transport and Main Roads Strategic Plan 2019–2023*
- *Queensland Freight Strategy*
- *Safer Roads, Safer Queensland: Queensland's Road Safety Strategy 2015–2021*
- *Queensland Cycling Strategy 2017–2027*
- *Queensland Walking Strategy 2019–2029*
- *Queensland Tourism and Transport Strategy*
- *Bruce Highway Action Plan.*

Priorities and actions identified in this plan align with current statewide transport policies and objectives. The department regularly reviews and updates statewide strategies and plans and future updates to the Plan will reflect these outcomes.

The future of transport

Queensland Transport Strategy (draft)

The draft Queensland Transport Strategy (QTS) provides a 30-year vision for Queensland's transport system that is designed to respond to, and maximise the benefits from, current and emerging trends and technologies for Queensland households, businesses and the wider community.

The draft QTS identifies five high-level customer-focused outcomes for the future transport system:

1. Accessible, convenient transport
2. Safe journeys for all
3. Seamless, personalised journeys
4. Efficient, reliable and productive transport for people and goods
5. Sustainable, resilient and liveable communities.

The draft QTS sets a high-level policy platform for the Department of Transport and Main Roads (TMR) to realise its vision of creating a single integrated transport network accessible to everyone. It complements other strategic planning documents by setting longer-term outcomes and directions for TMR which are directly aligned to the short-term priorities in the *TMR Strategic Plan 2019–2023* and the medium-term objectives of the *Transport Coordination Plan 2017–2027*.

Regional Transport Plans are consistent with and support the draft QTS and will play a key role in achieving its outcomes by setting regional priorities and identifying and coordinating key actions to develop our future transport system.

The future of mobility

The popularity of new transport services, such as on-demand transport and car sharing, is increasing globally. Enabling the introduction of new mobility providers and technology and prioritising investment in shared transport services are two directions from the draft QTS in which Mobility-as-a-Service (MaaS) will play a key role.

Transport and Main Roads is exploring the concept of MaaS which embodies a shift away from personally owned modes of transportation and towards aggregated mobility solutions that are consumed as a service.

MaaS is a combination of public and private transport services accessed digitally to provide personalised journey planning, booking and payment, and offers choice and dynamic travel options to influence behaviour and better optimise the network.

MaaS will not be a 'one-size fits all' approach and will look different across the state, based on community needs, availability of transport options and infrastructure.

In rural and regional Queensland, MaaS could be used to increase travel opportunities connecting rural communities to health, education and other social services to maintain an appropriate level of service and improve transport accessibility. Specific transport solutions for rural communities could involve long haul transport services, low technology options and the repurposing of under-utilised assets in the community.

Climate change and a low emissions future

In Queensland, the transport system has recently been impacted by extreme weather events such as cyclones, floods, severe and prolonged drought and fires, and climate change may exacerbate existing conditions, leading to even greater impact in future. Building a more resilient transport system is a priority in all Regional Transport Plans for Queensland.

A key part of taking action in response to climate change is the journey to zero net emissions. *The Pathways to a clean growth economy: Queensland Climate Transition Strategy* outlines how the Queensland Government proposes to prepare for the transition to a clean growth economy and a zero net emissions future.

The transport sector will play a significant role in this transition, including:

- enabling low carbon transport options using emerging alternative fuel technologies, to ensure Queensland is in the best position to capture the benefits and opportunities these vehicles will bring. The Queensland Government has developed *The Future is Electric: Queensland's Electric Vehicle Strategy* and is also exploring potential uses of hydrogen fuel cell vehicles.
- reflecting zero net emissions goals in infrastructure planning
- supporting low-carbon construction, infrastructure and transport systems
- improving passenger transport systems to be low emission, well-maintained, affordable, reliable, frequent and integrated.

Regional Transport Plans recognise opportunities for increased use of low carbon technology across the transport system in a way that responds to the local context and provide a pathway for an increased mode shift to sustainable transport options such as walking, cycling and passenger transport.

1.4 Alignment with the *State Infrastructure Plan*

The *State Infrastructure Plan* outlines the Queensland Government's strategic direction for the planning, investment and delivery of infrastructure throughout Queensland. This Regional Transport Plan applies the transport policy objectives of the *State Infrastructure Plan* at a regional level.

The Queensland Government's strategic direction for transport infrastructure is expressed by the *State Infrastructure Plan* responses (Table 1). Accordingly, many of the planning actions in this Plan respond to these with a particular focus on improving supply chains, safer connections between regional centres` and better use of data and technology.

Table 1: State Infrastructure Plan responses (Part A, p 52)

TRANSPORT				
Focus on maintenance and rehabilitation of existing infrastructure to reduce the long-term cost of repair and improve network resilience.	Unlock the potential of critical supply chains by identifying and improving the freight network.	Seek innovation and technology solutions to create a better performing and lower emissions transport system.	Digitally connected smart infrastructure to improve capacity, safety and security.	Connect regional communities with access to essential services and opportunities.

1.5 Alignment with the *Transport Coordination Plan 2017–2027*

The *Transport Coordination Plan 2017–2027* (TCP) provides a strategic framework for the planning and management of transport resources in Queensland over a 10-year timeframe. The TCP was developed in accordance with the requirements of the *Transport Planning and Coordination Act 1994* and identifies the high level objectives for transport in Queensland across five key areas:

- **Customer experience and affordability** – transport meets the needs of all Queenslanders, now and into the future.
- **Community connectivity** – transport connects communities to employment and vital services.
- **Efficiency and productivity** – transport facilitates the efficient movement of people and freight to grow Queensland's economy.
- **Safety and security** – transport is safe and secure for customers and goods.
- **Environment and sustainability** – transport contributes to a cleaner, healthier and more liveable environment and is resilient to Queensland's weather extremes.

The TCP provides a suite of transport key performance indicators (KPIs) to measure progress towards these objectives and also includes clear criteria for prioritising spending on transport that align with the *State Infrastructure Plan's* option assessment approach.

The TCP is the overarching medium-term strategic document that provides guidance and direction for more detailed transport strategies and plans produced by Transport and Main Roads, such as Regional Transport Plans and modal strategies. The TCP is consistent with the Queensland Government's overall strategic planning for Queensland, including the government's objectives for the community, and the *State Infrastructure Plan*.

The system-wide transport objectives articulated in the TCP have informed the Northern Queensland region's priorities and corresponding transport objectives, actions and measures of success. The TCP's transport KPIs have provided a means to measure the impact the Regional Transport Plan has on the region's transport system–and what this will mean for customers, the community, the economy and the environment.

1.6 Alignment with the *State Planning Policy*

The *State Planning Policy* outlines the Queensland Government's interests in land use planning and development for Queensland. It identifies and seeks to protect, through the planning framework, three state transport interests: state transport infrastructure; strategic airports and aviation facilities; and strategic ports.

The *State Planning Policy* identifies the Townsville Airport as the only strategic airport within the region and two strategic ports—the Port of Townsville and the Port of Lucinda.

1.7 Alignment with regional planning

'North Queensland Regional Plan' (draft)

The Queensland Government produces statutory regional plans throughout the state to set strategic direction and policy for achieving outcomes which align with the state's interests in land use planning and development. Regional planning allows government, industry and the community to capture opportunities associated with population change and economic growth and enable all levels of government and the private sector to inform the forward planning, prioritisation and future delivery of infrastructure and services.

The draft North Queensland Regional Plan (the "regional plan") is a 25-year strategic plan for the local government areas of Burdekin, Charters Towers, Hinchinbrook, Palm Island and Townsville. It has been prepared in response to changes expected in the region over the next 25 years, including a growing yet ageing population, changing economic and employment patterns, impacts from climate change, and continued technological advances. To provide an overarching direction, the regional plan has the following vision:

North Queensland thrives as a diverse, liveable and innovative tropical region, set around the emerging capital of northern Australia.

The regional plan aims to achieve this vision by determining how land use and infrastructure planning can best cater for and support economic and population growth in the region over the next 25 years and beyond, and through enhancing the social, economic and environmental systems that support the region's liveability.

The regional transport plan and regional plan will work together towards achieving shared goals and objectives for transport through complementary land use and transport initiatives that:

- support sustainable growth and land use development patterns
- create resilient and liveable communities
- protect lifestyle and environmental values
- facilitate economic growth and productivity
- address the challenges of aging population, increasing urbanisation, and structural changes in the regional economy.

The regional plan contains a number of goals including 'connected and efficient North Queensland region' supported by regional outcomes seeking to ensure the North Queensland region is:

- serviced by resilient, reliable and cost-effective infrastructure networks
- connected by a cost-effective and efficient transport network that moves people and freight within and beyond the region.

Underpinning the regional outcomes for the transport network are regional policies relevant to the regional transport plan including for example:

- maximising the efficiency, function and resilience of infrastructure networks
- enhancing connectivity of important regional transport terminals, including airports and ferry terminals to key destinations
- promoting opportunities for the growth of logistics and freight land uses along key freight routes and in close proximity to the Port of Townsville
- enhancing tourism infrastructure and connectivity, recognising the importance of Townsville Airport, Port of Townsville cruise ship terminal, ferry terminals and the region's road network
- land use planning to support future public transport and active transport corridors in Townsville, including connections linking the Townsville CBD to the Douglas Health and Knowledge Precinct
- reducing reliance on travel to Townsville for employment and services from surrounding centres such as Ayr, Charters Towers and Ingham through improved self-sufficiency
- investigating connectivity improvements between Palm Island, Magnetic Island and the mainland
- improving the safety, resilience and operational integrity of the transport network, particularly to support defence operations and logistics in the region
- ensuring sustainable transport systems and networks adequately support major events in the region, particularly for the North Queensland Stadium, to support transport diversity and choice.

Similar to the regional transport plan, the regional plan includes measures to gauge the plan's performance over time and ensure it remains on track to deliver on its commitments.

Townsville City Deal

The Australian Government, Queensland Government and Townsville City Council signed Australia's first City Deal – the Townsville City Deal – on 9 December 2016. The Townsville City Deal is a 15-year commitment between the three levels of government to work together to deliver transformative outcomes for Townsville and its communities.

Priority projects under the Townsville City Deal are targeted to support economic growth, promote urban renewal, deliver major infrastructure, create new and sustainable jobs and enhance the liveability of the city.

The Townsville City Deal was developed collaboratively with the Townsville community and private sector and includes commitments that will influence planning for the city's urban commuter routes, public transport network, and freight supply chains. The Townsville City Deal Implementation Plan, published in April 2017, highlights key commitments for delivery over the next five years including for transport. Commitments recently completed or underway related to transport include:

- construction of the North Queensland Stadium
- completion of the Port of Townsville Channel Capacity Upgrade business case (funding for construction now committed)
- acceleration of the State Development Area to progress new industrial development opportunities
- planning to preserve the Townsville Eastern Access Railway Corridor
- completion of options analysis for the Flinders Highway access to Lansdown (Woodstock) Industrial Precinct
- commencement of the Townsville Health and Knowledge Development Strategy, including public transport investigations to support future growth
- delivery of the new Townsville City Bus Station
- commencement of investigations into innovative public transport initiatives including completion of the Townsville Mobility Study to inform options for improved passenger transport and future demand responsive transport initiatives for Townsville.

The second annual progress report for the City Deal was published in April 2019 and a formal review of the Townsville City Deal is currently underway. This input from customers has informed the priorities and actions identified in the Plan.

Artist impression of North Queensland Stadium, Saunders Street

1.8 Achievements to date

The *Northern Queensland Regional Transport Plan* outlines priorities and actions to respond to the challenges and opportunities facing the Northern Queensland region. These will work towards achieving the outcomes identified in the draft regional plan. A snapshot of actions already undertaken or underway include:

Townsville Ring Road

The Townsville Ring Road is part of the Bruce Highway and is a key priority for all levels of government. It is a 22 kilometre section of the National Road Network and bypasses Townsville's urban area to improve efficiency, safety, amenity, economic productivity, flood immunity and travel time reliability. Planning and business case development for Stage 5 of the Townsville Ring Road is now complete with construction expected to commence in 2020/21. Once constructed, this will duplicate the existing Ring Road between Vickers Bridge and Shaw Road.

Flood mitigation projects

Projects to improve flood immunity recently completed or underway include:

- construction of the Cattle Creek and Frances Creek bridges upgrade, including approaches, on the Bruce Highway between Townsville and Ingham
- construction of the Cape River Bridge, including approaches, on the Gregory Developmental Road, south of Charters Towers
- construction of the Haughton River Floodplain upgrade on the Bruce Highway between Horseshoe Lagoon and Palm Creek
- planning investigations to improve capacity and flood immunity on Woolcock Street between Ingham Road and North Shore Boulevard.

Cattle Creek Bridge on the Bruce Highway, south of Ingham, as part of the Cattle and Frances Creek Upgrade Project.

Safety initiatives

Safety initiatives across the region recently completed or underway include:

- intersection upgrades to Woolcock Street/Kings Road, School Street/Flinders Highway and Abbott Street/ Oonoonba Road
- road widening, pavement strengthening and rehabilitation works on the Bruce Highway north and south of Townsville, and on the Flinders Highway (Townsville - Charters Towers) to facilitate wide centre line treatments
- duplication of Riverway Drive between Gollogly Lane and Allambie Lane to improve safety and efficiency
- overtaking lanes on the Bruce Highway, between Scovazzis Road and Como Road
- rural intersection upgrades to safer configurations as part of the Cattle and Frances Creek bridges upgrade project on the Bruce Highway
- more rest and parking areas for heavy and touring vehicles, including upgrades to the Frances Creek rest area and Helens Hill rest area south of Ingham.

The Haughton River floodplain upgrade project will enhance safety with the removal of two at-grade rail crossings at the Bruce Highway intersections with Woodstock Giru Road and Hodel Road.

Under the High Risks Roads program, planning has commenced to identify future safety improvements on South Townsville Road and North Ward Road.

Public passenger transport

The Townsville City bus station, completed in collaboration with Townsville City Council is a major upgrade to bus facilities in Townsville as part of Ogden Street Revitalisation Works. The new bus hub is serviced by all routes that travel through the city.

The TransLink brand rollout commenced in May 2019 delivering improvements for bus service customers in Townsville and Magnetic Island including:

- updating 10 bus routes to connect with the new bus hub in Ogden Street
- new and improved timetables and signage
- improved access to information including the TransLink journey planner, 24/7 call centre and MyTransLink app
- three new buses with a further seventeen to replace older buses in the fleet by 2020.

Significant planning and construction work has been undertaken to provide public passenger transport services and facilities to support the North Queensland Stadium including a shuttle bus facility at the front entrance, park and ride facilities, and pedestrian access improvements.

The Palm Island Jetty was recently upgraded to provide improved amenities and better access for ferry passengers including a new shelter, covered walkway and wheelchair access.

Townsville City bus hub overlooking Castle Hill, Townsville

Transport projects support jobs

More than 1200 jobs for the Townsville region will be supported over four years as a result of the $1.5 billion that will be invested into major infrastructure projects in Northern Queensland. This includes almost 200 jobs created when the Townsville Ring Road Stage 5 is ready to commence construction, and 120 full-time jobs created with the channel widening project at the Port of Townsville.

Active transport

Cycleway and shared path projects across the region, recently complete or under construction, include, for example:

- Dean Street shared path (Rooney Street - Victoria Bridge)
- Reid Park Active Transport Bridge and footpath connections (Reid Park - North Queensland Stadium)
- Waterfront Promenade construction including shared paths and the Little Fletcher Street pedestrian bridge
- East Ayr shared path construction
- International Park cycleway construction (Beach Road – Clayton Street), Ayr.

Northern Australia Roads Program

Pavement rehabilitation and culvert replacement works are underway for the Flinders Highway in the Charters Towers local government area as part of the Northern Australia Roads Program.

Recreational Boating Facilities

The Townsville Recreational Boating Park is the largest facility of its kind in Australia. The project provides access to commercial facilities, four 4-lane boat ramps, 333 car-width-trailer bays, washdown areas, security cameras, lighting, a 30-metre pontoon, a 50-metre all-ability accessible pontoon, a sheltered park area, BBQs and covered playground facilities.

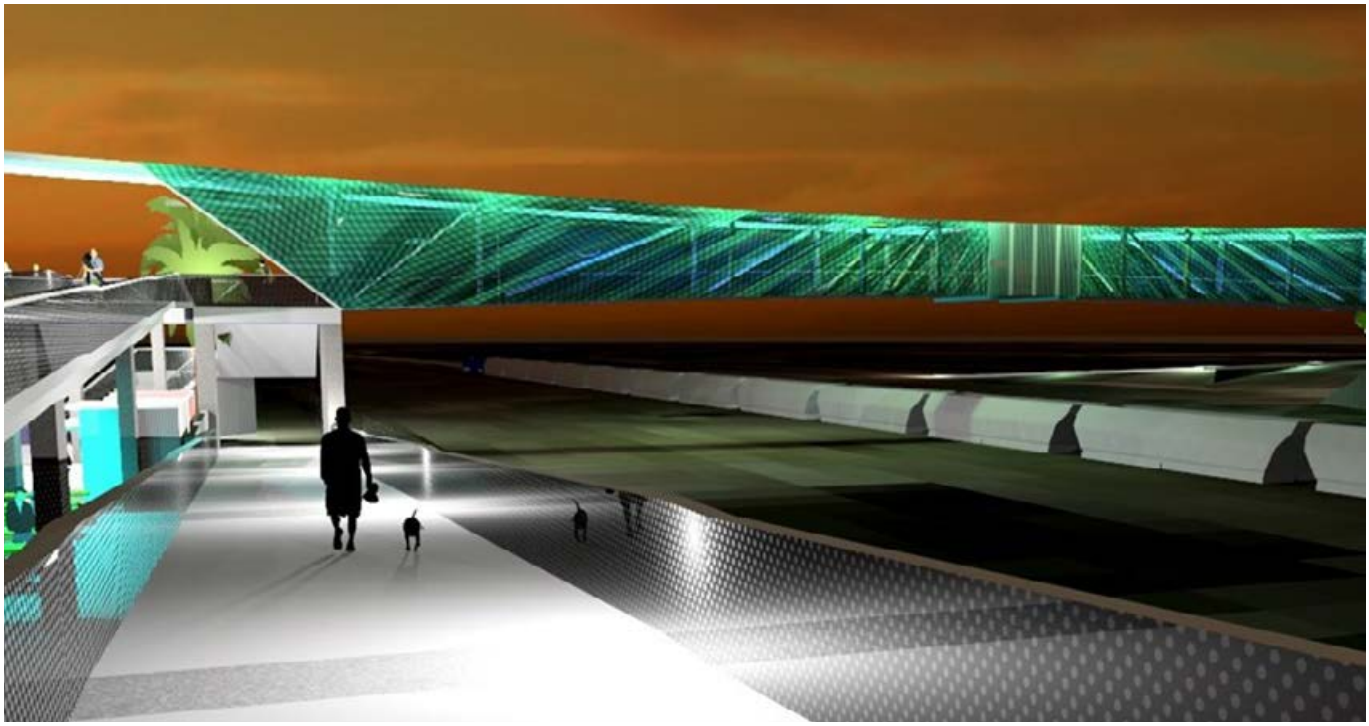
Recently completed improvements to other recreational boating facilities in the region include:

- an upgrade to the boat ramp at Barramundi Creek near Giru including installation of a floating walkway
- resurfacing of the Plantation Creek boat ramp, Ayr
- construction of an additional floating walkway at Dungeness boat ramp, Lucinda.

Road freight network improvements

Projects recently completed or are underway to improve freight efficiency, safety and economic productivity include:

- planning and business case development for improved freight access between the Port of Townsville and the Townsville State Development Areas
- upgrades to Rollingstone weigh pad interception site
- pavement widening on various sections of the Gregory Developmental Road, for freight and productivity gains.



Concept drawing of the Reid Park Active Transport Bridge, Townsville

Gill Street, Charters Towers

1.9 Developing Regional Transport Plans

Planning principles

All levels of government routinely face increasing pressure to fund more public services and infrastructure in order to meet community expectations. Funding is limited, so competing priorities must be continually balanced.

Regional Transport Plans will help to achieve this in several ways:

- by establishing the region-centric planning that leads to good investment decisions – a focus at this level helps to ensure that funds are prioritised to meet regional needs and customer expectations
- by promoting consideration of non-infrastructure solutions for regional priorities, which are often more cost effective than building new infrastructure
- by helping to identify and align cross-agency priorities and actions to promote efficient and coordinated planning and investment.

In the context of constrained funding, Regional Transport Plans are being developed with the view that solutions to transport challenges and customer needs and requirements are not always about building new or expanding existing infrastructure, but include identifying new and innovative ways to do more with less. The best outcome may not be a new road or other type of transport facility. Instead, it may be modification of an existing asset, for example, reconfiguring a road to accommodate bicycle or bus lanes.

Consideration of lower cost and non-infrastructure solutions within planning and investment decision-making processes ensures we are getting the most from our existing assets and using infrastructure smarter and more efficiently than before. Identifying shared goals and partnership opportunities across government and with the private sector positions the region to leverage collective expertise and resources to achieve more with available funding. The department's approach to identifying, prioritising and investing in transport system solutions aligns to the *State Infrastructure Plan's* options assessment approach as shown in Figure 2.

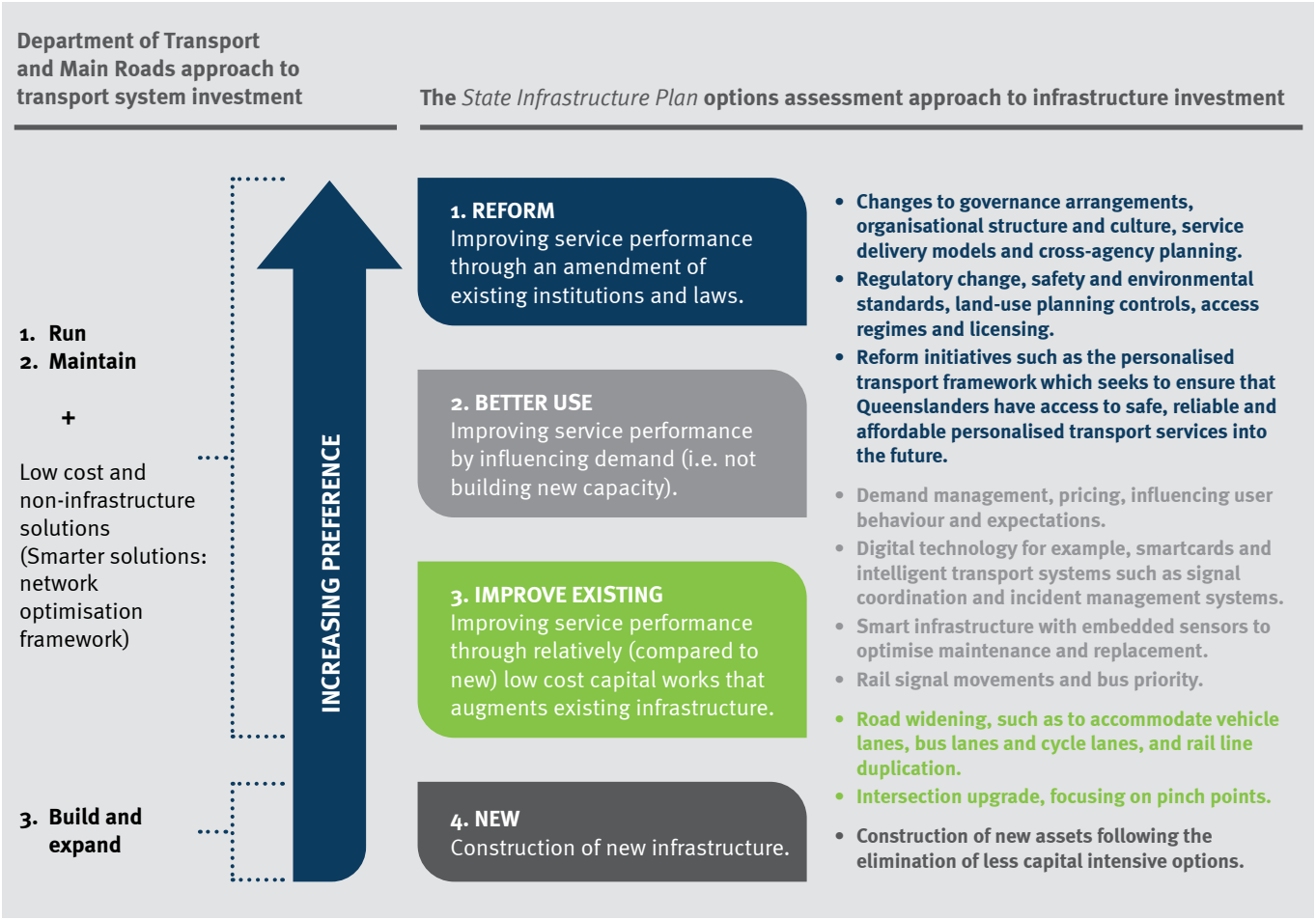


Figure 2: Alignment between the departmental and government approaches to infrastructure investment

Process

The Plan was developed with a 'customer-first' and 'one network' approach. Early engagement with customers, stakeholders and partners was vital to identify and understand the region's issues, challenges, opportunities, goals and priorities for taking action. Key stages in the development process are set out below.

Early engagement with partners, stakeholders and customers through meetings and workshops to understand regional goals, challenges and opportunities

Review of relevant strategies, plans and policies to establish a holistic understanding of transport objectives and desired regional transport outcomes

Analysis of economic and population trends to understand key drivers underpinning future transport needs

Collaborative development of priorities and actions to set a framework for future planning and delivery partnerships

Customer-first approach

A 'customer-first' approach is about being conscious of how customers experience the transport system, and being willing to change the way we do things to improve that experience. It also means viewing the transport system as customers do: as 'one network', with little perceivable difference between the various parts provided or managed by the different levels of government. Transport and Main Roads' customer-centric approach is central to the way it does business. The approach is about shaping deliverables and services with customers in mind, co-designing solutions that embrace the future, and communicating effectively and meaningfully.

One network

Regional Transport Plans are developed on the basis that the transport system operates as one network. Transport and Main Roads recognises that the transport system is planned, delivered and operated by a range of stakeholders, including local governments and transport operators. Working and collaborating with all relevant transport system stakeholders to develop this Plan ensures planning priorities for the regional transport system are considered as a whole. Transport and Main Roads will continue to partner with local governments and other stakeholders to continuously improve the transport system and the experiences of our customers.

Structure

The document comprises five chapters covering an introduction, setting the scene, planning context, transport response and implementation. The sequence and content of chapters reflects the development and implementation stages for the Plan.

- **Chapter 1** introduces the purpose, scope and strategic alignment of the Regional Transport Plan.
- **Chapter 2** provides an overview of the region's community, economy and transport system.
- **Chapter 3** describes the region's goals, challenges and opportunities and their relationship to transport .
- **Chapter 4** sets out the priorities, objectives and actions for shaping the transport system over the next 15 years.
- **Chapter 5** outlines the Plan's implementation and review process.

Table 2 outlines the key components of the Regional Transport Plan.

Port of Lucinda

Engaging with our customers

To achieve a 'one network' approach, the department involved customer representatives early in the creation of all Regional Transport Plans, and engaged and developed content in partnership with local government and other government agencies. To inform the development of this Plan, representatives were selected from different locations in the region, covering a range of sectors and interests, including agriculture, mining, health, tourism and small business. To gain customer input, the department hosted workshops, and facilitated a number of one-on-one interviews. Some of the key issues that emerged from this engagement included:

- Existing transport infrastructure is not keeping pace with changing economic needs, limiting the competitiveness of the region.
- The limited integration, service levels and travel options across the transport network are not meeting changing demographic needs, restricting regional liveability, safety and accessibility.
- Changing climate and seasonal weather patterns intermittently restrict the reliability of the existing transport network.
- The dispersed land use pattern of the region makes it challenging to maintain an efficient transport system and minimise environmental impacts.

This input from customers has informed the priorities, and actions identified in this Plan.

"Grey nomads" traveling through Ayr

Table 2: Structure of the Northern Queensland Regional Transport Plan

STRATEGIC CONTEXT

SETTING THE SCENE
Chapter 2: The Northern Queensland Region

THE REGION | THE TRANSPORT NETWORK

Chapter 2 provides an overview of the key characteristics of the communities that make up the Northern Queensland region, and the different elements of the region's current transport system across all modes, networks and services.

PLANNING CONTEXT
Chapter 3: Goals, challenges and opportunities

GOALS	CHALLENGES	OPPORTUNITIES
■ A safer more resilient region. ■ Increased economic productivity and growth for key industries. ■ Integrated planning for sustainable, liveable, prosperous and connected communities. ■ Improve community access to health, education, employment and recreation.	■ Improving road and maritime safety. ■ Moving freight efficiently. ■ Changing population needs. ■ Improving public transport. ■ Encouraging active transport. ■ Managing growth. ■ Climate change and extreme weather.	■ Better use of existing infrastructure ■ Growth in health and knowledge industries ■ Growth in industry, advanced manufacturing, logistics, agribusiness, tourism and defence capabilities ■ Expanding port capabilities with strong ties to Asia-pacific region.

Chapter 3 details the goals, challenges and opportunities that are the main drivers for establishing the region's transport priorities and actions. Review of existing planning, analysis of information, and consultation with customers were key steps in defining the goals, challenges and opportunities.

TRANSPORT RESPONSE

SHAPING TRANSPORT TO ACHIEVE REGIONAL GOALS
Chapter 4: Priorities and actions

PRIORITY 1 Greater safety and resilience	PRIORITY 2 Transport that supports the economy	PRIORITY 3 Integrated transport for a sustainable, liveable and prosperous region
Improve the safety and resilience of the transport system for all users of the air, marine, rail, road and active transport networks throughout the Northern Queensland Region.	Develop a transport system that facilitates an increase in economic productivity across the Northern Queensland Region.	Develop an integrated, accessible and connected transport system that supports a liveable, sustainable and prosperous region.

ROLE OF TRANSPORT

TRANSPORT OBJECTIVES

ACTIONS – SHORT-TERM, AND ACTIONS – MEDIUM/LONG-TERM

Chapter 4 sets out the transport response to achieving regional goals, addressing challenges and supporting opportunities. The transport priorities express the regional goals with a transport system focus. The priorities set the high-level direction for framing objectives, measures of success and actions.

Transport objectives describe the desired future state for transport in meeting the region's goals and transport priorities. Meeting each objective through taking action will result in real and measurable outcomes or 'measures of success' that can be tracked to indicate progress over time.

The majority of actions identify the Queensland Government's strategic intent for taking the critical steps in the short-term towards achieving the transport objectives and regional goals over the indicative 15-year life of the Plan.

Medium/long-term actions identify possible responses to emerging or potential future transport planning needs.

Actions are led by the Queensland Government, however many will involve partnerships and collaboration with local government, industry and community.

TAKING ACTION
Chapter 5: Implementation

DELIVERING IN PARTNERSHIP | MEASURING SUCCESS | MONITORING AND REVIEW

Chapter 5 outlines the approach for delivering in partnership to implement the Plan. It also sets out the 'measures of success' and framework for monitoring and review.

Car travelling along shoreline, Magnetic Island

2. The Northern Queensland Region

2.1 Region overview

NORTHERN REGION COVERS AN AREA OF **80,036 KM²** OR **4.6%** OF QUEENSLAND'S LAND AREA*

LOCAL GOVERNMENT AREAS INCLUDE:

1. BURDEKIN
2. CHARTERS TOWERS
3. HINCHINBROOK
4. PALM ISLAND
5. TOWNSVILLE

ESTIMATED RESIDENT POPULATION 2016

236,441*

PROJECTED POPULATION 2036

304,494*

117,071

JOBS IN THE REGION WITH A GRP IN 2017–2018 OF

$13.298 B

MAKING UP **4.4%** OF QUEENSLAND'S TOTAL GRP[2]

PORT OF TOWNSVILLE AND PORT OF LUCINDA FACILITATE THE GATEWAY TO ASIA-PACIFIC.

AN ESTIMATED **29,000+** ADDITIONAL NEW DWELLINGS WILL NEED TO BE BUILT IN THE REGION BY 2036[3]

TOWNSVILLE IS THE LARGEST CITY IN NORTHERN AUSTRALIA AND BY 2036 WILL HAVE AN URBAN POPULATION OF ALMOST

260,000*

HINCHINBROOK **27.7%**, BURDEKIN **22.3%** AND **19.0%** HAVE HIGHER PROPORTION OF POPULATION 65 AND OVER COMPARED TO THE QUEENSLAND AVERAGE **15.4%***

KEY FEATURES OF THE REGIONAL ECONOMY

Growth in advanced manufacturing, logistics and general industry to further diversify North Queensland's economy.

Health care and social assistance is the largest employing industry at **14.1%***

Agriculture is a key industry contributing **$994.6 million** to the local economy with opportunities to further expand and add value[4]

The region is home to Australia's largest defence garrison which is critical to Australia's overall Defence capability and security in the Indo-Pacific region[5]

Growth in health and knowledge based industries, such as research expertise in tropical living, tropical disease and agriculture production

Gross output generated from tourism in Northern Queensland is estimated to be worth over **$1.202 billion**[6]

Covering approximately **1100 km²** Lower Burdekin is Northern Australia's **largest irrigation area**[7]

The region supports a **significant mining, energy and natural resources sector** and downstream sectors, including manufacturing and professional services

2 National Institute of Economic and Industry Research. (2018). National economic indicators for local government areas, 2017/2018. https://economic-indicators.id.com.au

3 Queensland Government Statistician's Office. (2019). *Queensland Government Dwelling Projections, 2018 edition.* Retrieved from https://www.qgso.qld.gov.au/statistics/theme/population/household-dwelling-projections/state

4 Australian Bureau of Statistics. (2019). *Value of Agriculture Commodities Produced, Australia, 2017-18 (Catalogue No. 7503.0).* Retrieved from https://www.abs.gov.au/ausstats/abs@.nsf/mf/7503.0

5 Townsville City Council. (2019). *Defence-Fact-Sheet-17. https://www.townsville.qld.gov.au/__data/assets/pdf_file/0018/9360/Defence-Fact-Sheet-17.pdf*

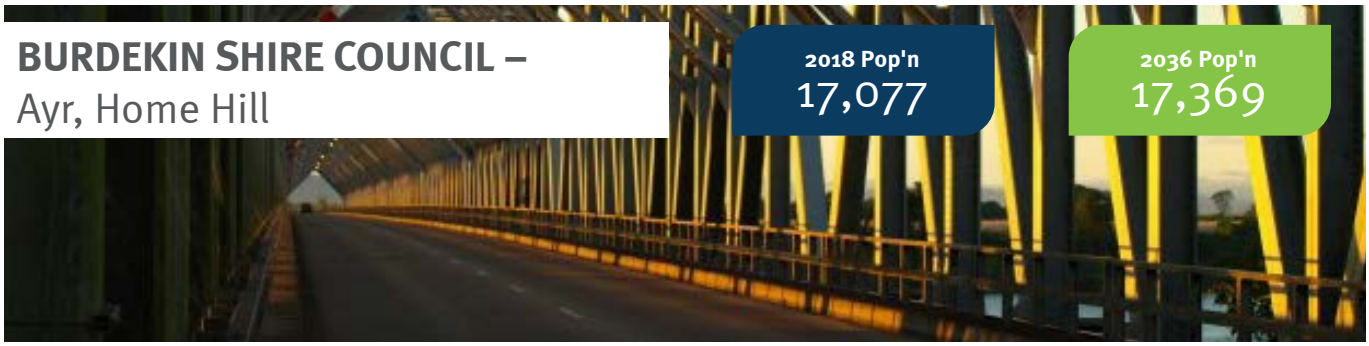
6 Townsville Enterprise Limited. (2019). *Economy Profile.* Retrieved from www.economyprofile.com.au/townsvillenorthqueensland/tourism/output

7 Department of Agriculture and Fisheries. (2013). *Agricultural Land Audit.*

* Note: Population statistics for 2018 are based on Australian Bureau of Statistics. (2019). *Regional Population Growth, Australia. (Catalogue 3218.0, 2018 edition)*. Population statistics for 2036 are based on Queensland Government Statistician's Office. (2018). *Projected population (medium series), by local government area, Queensland, 2016 to 2041, 2018 edition.* Employment statistics are based on Australian Bureau of Statistics. (2017). *Census of Population and Housing, Australia, 2016 – Working Population Profile – Wo9 (place of work).* Employment industries are categorised as per the employment divisions of Australian Bureau of Statistics. (2013). *Australian and New Zealand Standard Industrial Classification 2006 (Revision 2.0) (Catalogue No. 1292.0).*

Local government areas

Local government areas and population centres*	2018 estimated resident population	2036 projected population



Burdekin Shire is highly specialised around agribusiness and sugar cane farming and production. Agriculture (21.3 per cent) and manufacturing (12.1 per cent) are the major employment industries. There are opportunities to expand the total hectares under irrigation, and thereby grow and diversify the agribusiness sector.

The Bruce Highway connects the Burdekin Shire to Townsville in the north and Brisbane to the south. Train stations on the North Coast rail line are located at Home Hill, Ayr and Giru.

Major industries of employment in Charters Towers are the education and training sector (13.6 per cent) and agriculture (12.4 per cent). Tourism is a growing feature of the Charters Towers' economy, worth an estimated $60 million per year.[8]

Charters Towers is located on the junction of two main highways providing east-west and north-south connections. The Flinders Highway connects east to Townsville and west to Mount Isa. The Gregory Developmental Road provides a northern inland link through to far north Queensland, the Cape and the Gulf via The Lynd, and an inland route south through Emerald. The Mount Isa line supports regular passenger rail services accessible from Charters Towers and Pentland.

8 Tourism and Events Queensland. (2018). *Charters Towers Tourism Profile–Average annual data from 2015 to 2018*. Retrieved from https://teq.queensland.com/research-and-insights/domestic-research/tourism-profiles

* Note: Population statistics for 2018 are based on Australian Bureau of Statistics. (2019). *Regional Population Growth, Australia. (Catalogue 3218.0, 2018 edition).* Population statistics for 2036 are based on Queensland Government Statistician's Office. (2018). *Projected population (medium series), by local government area, Queensland, 2016 to 2041, 2018 edition.* Employment statistics are based on Australian Bureau of Statistics. (2017). *Census of Population and Housing, Australia, 2016 – General Community Profile - G51 (Industry of Employment).* Employment industries are categorised as per the employment divisions of Australian Bureau of Statistics. (2013). *Australian and New Zealand Standard Industrial Classification 2006 (Revision 2.0) (Catalogue No. 1292.0).*

Local government areas and population centres*

2018 estimated resident population

2036 projected population

HINCHINBROOK SHIRE COUNCIL – Ingham

2018 Pop'n 10,805

2036 Pop'n 9253

Agriculture is central to Hinchinbrook's economy. Agriculture (16.9 per cent) and manufacturing (12.4 per cent) are major employing industries. Economic development strategies for Hinchinbrook include the revitalisation of the Ingham main street, enhancing tourism attractions, diversification of the agriculture industry and expanding biofuel production.

The Bruce Highway connects Hinchinbrook south to Townsville, and north to Cairns. Passenger rail services on the North Coast line are accessible from Ingham Railway Station. Raw sugar grown in the district is exported from the Port of Lucinda. Ingham airport includes an aerodrome approximately 1.5kms south of the Ingham township on the Bruce Highway.

PALM ISLAND ABORIGINAL SHIRE COUNCIL

2018 Pop'n 2637

2036 Pop'n 3356

The community service and public administration sectors are the major employers in Palm Island, with 27.7 per cent of workers employed in health care and social assistance, and 25.3 per cent in public administration and safety.

Ferry services provide five return trips per week taking 1.5 hours each way. Regular scheduled flights operate from Palm Island on weekdays.

* Note: Population statistics for 2018 are based on Australian Bureau of Statistics. (2019). *Regional Population Growth, Australia. (Catalogue 3218.0, 2018 edition)*. Population statistics for 2036 are based on Queensland Government Statistician's Office. (2018). *Projected population (medium series), by local government area, Queensland, 2016 to 2041, 2018 edition.* Employment statistics are based on Australian Bureau of Statistics. (2017). *Census of Population and Housing, Australia, 2016 – General Community Profile - G51 (Industry of Employment)*. Employment industries are categorised as per the employment divisions of Australian Bureau of Statistics. (2013). *Australian and New Zealand Standard Industrial Classification 2006 (Revision 2.0) (Catalogue No. 1292.0)*.

Local government areas and population centres*

2018 estimated resident population

2036 projected population

TOWNSVILLE CITY COUNCIL – Townsville

Major industries of employment in Townsville are health care and social assistance (14.6 per cent) and public administration and safety (13.7 per cent). Townsville's large defence presence provides significant industry investment and employment opportunities. Defence personnel and their dependents number about 15,000 people or eight per cent of Townsville's population.[9]

Townsville is the major centre for the region and is accessible from the Bruce and Flinders Highways, as well as Hervey Range Developmental Road. Townsville Airport has flights to regional and capital cities within Australia. Ferry services connect Townsville City to Magnetic Island and Palm Island. A cruise ship terminal at the Port of Townsville caters for both domestic and international tourist groups. Townsville has access to freight and passenger rail services connecting to Brisbane in the south, and Cairns in the north via the North Coast line, and west to Charters Towers and Mount Isa via the Mount Isa line.

Townsville City Council (TCC) are a key proponent in the delivery of the Townsville City Deal. To support the City Deal, including urban renewal and the North Queensland Stadium, TCC have an ambitious agenda under their Townsville 2020 Master Plan. Projects under the master plan include, for example, major open space and recreational facilities in the CBD and the Strand. The delivery of a new network of city laneways, connecting pedestrians to retail and entertainment opportunities, with the CBD Bus Hub, is another key council initiative under the master plan.

Townsville Airport domestic departure drop off point

2018 estimated resident population

2036 projected population

NORTHERN QUEENSLAND REGION TOTAL

236,441

304,494

9 Townsville City Council. (2019). *Defence-Fact-Sheet-17. https://www.townsville.qld.gov.au/__data/assets/pdf_file/0018/9360/Defence-Fact-Sheet-17.pdf*

* Note: Population statistics for 2018 are based on Australian Bureau of Statistics. (2019). *Regional Population Growth, Australia. (Catalogue 3218.0, 2018 edition).* Population statistics for 2036 are based on Queensland Government Statistician's Office. (2018). *Projected population (medium series), by local government area, Queensland, 2016 to 2041, 2018 edition.* Employment statistics are based on Australian Bureau of Statistics. (2017). *Census of Population and Housing, Australia, 2016 – General Community Profile - G51 (Industry of Employment).* Employment industries are categorised as per the employment divisions of Australian Bureau of Statistics. (2013). *Australian and New Zealand Standard Industrial Classification 2006 (Revision 2.0) (Catalogue No. 1292.0).*

2.2 Transport network

An overview of the region's transport network is shown in Figure 3.

Figure 3: The Northern Queensland region transport network

TOWNSVILLE AIRPORT PASSENGER NUMBERS EXPECTED TO GROW FROM

1.6 MILLION PASSENGERS

IN 2014–2015 TO

2.6 MILLION PASSENGERS

IN 2036[10]

THE REGION'S PORTS HANDLE APPROXIMATELY

7.6 MILLION

TONNES OF GOODS ANNUALLY[11]

521 KM

NATIONAL LAND TRANSPORT NETWORK

1140 KM

STATE-CONTROLLED ROADS

531 KM

NATIONAL RAIL NETWORK[12]

OVER 70% OF TRADE

FROM TOWNSVILLE PORT OCCURS WITH ASIAN MARKETS[13]

CAR

IS THE DOMINANT MODE OF TRANSPORT IN THE REGION[14]

64% OF RESIDENTS

IN TOWNSVILLE LIVE WITHIN 400M OF A BUS STOP[14]

THE REGION'S RAIL NETWORK CARRIES APPROXIMATELY

14.4 BILLION

GROSS TONNE KILOMETRES OF FREIGHT[15]

THE REGION'S TRANSPORT NETWORK PLAYS A KEY ROLE IN SUPPORTING

NORTH WEST MINERALS PROVINCE

10 Townsville Airport. (2016). *2016–2036 Townsville Airport Master Plan.* Retrieved from https://www.townsvilleairport.com.au/regulatory/master-plan
11 Port of Townsville. (2019). *2018–19 Trade Statistics.* Retrieved from https://www.townsville-port.com.au/operations-trade/trade/trade-statistics/
12 Department of Transport and Main Roads. (2019). *Queensland Transport and Roads Investment Program 2019–20 to 2022–23.*
13 Port of Townsville. (2014). *Defence White Paper Submission. www.defence.gov.au/Whitepaper/docs/254-PortofTownsville.pdf.*
14 Department of Transport and Main Roads. (2011). *Townsville Area Study.*
15 Queensland Rail. (2019). *2018–19 Queensland Rail Annual and Financial Report.* Retrieved from https://www.queenslandrail.com.au/aboutus/governance/annualreports

Roads

The Bruce Highway, which is part of the National Land Transport Network, forms the primary north-south coastal route connecting the region's major population centres. It forms the strategic transport connection between Brisbane and Cairns, and caters for both long and short distance freight and passenger movements.

The Flinders Highway, also part of the National Land Transport Network, connects Townsville and Mount Isa through Charters Towers. The Gregory Developmental Road provides the inland north-south connection to far north Queensland. Hervey's Range Developmental Road provides a more direct north-west connection between Townsville and the Gregory Developmental Road for northern inland traffic.

The Bruce Highway and the Flinders Highway are the region's priority freight routes, connecting supply chains from the west to the Port of Townsville via the Townsville Access Road. Hervey Range Developmental Road, Gregory Developmental Road, North Townsville Road and the Kennedy Developmental Road are key supporting road freight corridors within the region. Heavy vehicles fulfil an important freight task, accounting for around 10 per cent of traffic within and around Townsville, and between 15 per cent and 40 per cent on other key freight routes.[16]

The movement of people and goods across the region is highly dependent on the road network. Private vehicle transport is the primary mode for commuter travel for all trip purposes across most of the region with the exception of Palm Island. Private vehicle dependence is largely due to the long distances between centres, the dispersed low-density settlement pattern across the region, and lack of viable alternative transport options.

The role and function of the region's road network has undergone significant changes over time, particularly in urban centres. For example, some state-controlled roads are now catering to more localised traffic demands due to changes or development in surrounding land use, whereas they once served more regional trips.

Bus and coach

Urban public transport bus services operate in Townsville city and on Magnetic Island. Townsville currently has 13 public transport bus routes that extend from the city centre north-west to Bushland Beach, south to Kelso and south-east to Stuart. The primary public transport corridor in Townsville operates on Charters Towers Road, Ross River Road and Nathan Street and connects the CBD to Aitkenvale, Thuringowa, Townsville Hospital and James Cook University. This primary public transport corridor has the highest frequency of services on the network, and connects parts of the city with higher density land use, and a concentration of commercial and social activity. Magnetic Island has one bus service that runs from the Nelly Bay ferry terminal north to Horseshoe Bay and south to Picnic Bay Esplanade.

School bus services are available for students in Townsville, Burdekin, Charters Towers and Hinchinbrook. Under the School Transport Assistance Scheme, school transport assistance is offered to eligible students in the more rural and remote parts of the region providing affordable options for travel to the nearest school. School transport services are monitored and reviewed regularly, as part of a state-wide program, to ensure that school transport services meet the needs of school students in the Northern Queensland region.

Both regulated and unregulated long distance coach services operate in the region. Regulated services are those subsidised by the government to ensure people living in regional, rural and remote parts of the state, have an alternative travel option if required, to access essential health, education, business and social services. Government-regulated long distance bus services include east-west connections from Townsville, with five return services to Charters Towers and three return services to Mount Isa per week. Greyhound Australia operates two unregulated long distance coach routes. The Brisbane to Cairns route has two daily return services stopping at Townsville, Ayr and Home Hill, and four daily return services stopping at Townsville and Ingham. The Alice Springs to Townsville route includes stops at Pentland, Charters Towers and Townsville with two return services per week.

Urban bus services, Townsville

16 Department of Transport and Main Roads. (2019). *Traffic census*. Retrieved from https://qldtraffic.qld.gov.au/more/Traffic-Census/

Rail

The North Coast line extends from Brisbane to Cairns, and connects Townsville to major towns and settlements along the coast. The Mount Isa line runs east-west connecting Mount Isa to Townsville. Both lines provide freight transport and passenger services.

Passenger services include:

- the Spirit of Queensland, with five return services weekly, connecting Townsville with Cairns in the north and Brisbane to the south, operating on the North Coast line. This rail service also stops at Home Hill, Ayr, Giru and Ingham
- the Inlander rail service, a twice-weekly return service on the Mount Isa line between Mount Isa and Townsville, also stopping at Charters Towers and Pentland.

The Mount Isa line is a key rail freight line with a terminal at Townsville that transports:

- mineral concentrates
- intermodal and general freight
- acids
- fertilisers
- industrial products for mining
- cattle.

Freight on the North Coast line includes:

- containerised and general freight
- industrial products
- sugar
- molasses
- livestock
- grains.

Passengers on platform at Townsville Railway Station

Queensland Walking Strategy

The *Queensland Walking Strategy 2019–2029* provides a framework for promoting walking as an accessible, active transport mode across Queensland, delivering health benefits for Queenslanders and access to important destinations such as schools, shops, and public transport.

The strategy sets out the vision for the next 10 years and directly contributes to the vision for a single integrated transport network accessible to everyone. The strategy is accompanied by an action plan that identifies areas for further investment over the next two years.

Active transport

Active transport refers to non-motorised travel such as walking and cycling. The active transport network consists of shared paths, cycle tracks, on-road cycle routes and other facilities that provide connectivity for people walking or cycling. The current pedestrian network in the region is made up of kerbside footpaths, which are often shared with cyclists (due to the absence of dedicated cycle facilities), and pedestrian footpaths through parks, reserves and along the oceanfront in coastal areas.

Townsville has a number of cycling facilities of varying standards. Outside of Townsville however, the cycle network is largely undeveloped. The bicycle network in Townsville includes more than 100 kilometres of on-road bicycle lanes and more than 40 kilometres of off-road bicycle paths. The on-road cycle network is typically defined by marked bicycle lanes, wider shoulders and signage. Off-road facilities are typically shared paths and there are some designated bicycle routes on quieter streets.

The *North Queensland Principal Cycle Network Plan* (NQPCNP) sets a framework for the planning, design and construction of core cycle routes to connect places where people live to key destinations such as schools, commercial centres and attractions. The NQPCNP and associated Priority Route Maps identify priority principal and tourism routes in the local government areas of:

- Burdekin Shire Council
- Charters Towers Regional Council
- Hinchinbrook Shire Council
- Townsville City Council
- Mount Isa City Council

Principal routes are planned to support high levels of bicycle accessibility within urban areas where demand is highest, and the need is greatest. Tourism routes, are identified for their potential to support cycle tourism as they comprise long distance routes linking town centres, and scenic routes connecting to the region's natural attractions and tourist destinations.

Air

Townsville Airport is the regional aviation hub for the Northern Queensland region. Townsville Airport supports domestic flights to a range of capital cities and major centres across Australia, as well as regional and remote centres in north west and central Queensland. The airport also has a strategic role in providing essential defence aviation services for Townsville, linking Australia's principal garrison city to a range of defence facilities within the Asian subcontinent, South East Asia and Pacific regions. Passenger numbers through the airport have grown steadily since 2003, with annual rates forecast to grow from current figures of around 1.5 million passengers to 2.6 million by 2036.[17]

Townsville Airport also has an important air freight role, supported by road freight connections via Ingham Road and North Townsville Road. While air freight exports are not expected to increase significantly over the life of the Regional Transport Plan, potential opportunities to increase agricultural production in north west Queensland may influence total export volumes in the longer term.

There are also a number of smaller airports throughout the region. Of these, only Palm Island has scheduled passenger services to and from Townsville.

Marine

Strategic ports in the Northern Queensland region include the Port of Townsville and the Port of Lucinda. The Port of Townsville caters for freight (including commodities such as metals, sugar and petroleum products), Defence Force needs and a growing cruise ship industry. Lucinda is dedicated to the export of raw sugar from the Herbert River sugar growing area. The majority of exports from the region are mineral resources. This is due to the Port of Townsville's strategic proximity to the resource-rich North West region, and also due to the freight rail connection to the port from Mount Isa and Stuart.

Passenger ferry services operate from the Townsville Breakwater Terminal connecting to Palm Island and Magnetic Island. Palm Island has five return services a week and additional services subject to passenger demands (for example, extra services over the December-January holiday period and for special events).[18] The Palm Island ferry service is critical for the community to access goods and services in Townsville that aren't readily available on Palm Island. There is also one return service every Monday to Friday between the Port of Lucinda and Palm Island for passengers, vehicles and cargo.[19]

Townsville Airport Master Plan

The *Townsville Airport Master Plan 2016–2036* was released in 2016 and identified a number of strategies to guide the development of airport facilities, infrastructure and land use over the next 20 years. Within the first five years of the master plan to 2021, the following key works are proposed:

- terminal and apron expansion
- infrastructure related upgrades such as electricity and water
- expansion of car parks and road upgrades to accommodate anticipated passenger growth
- other improvements to the Northern Australia Aerospace Centre of Excellence (NAACEX) and
- enterprise precincts, based on demand.

In the longer term, to 2036, the following key works are proposed:[20]

- further stages of expansion for the terminal and apron
- additional upgrades to roads and car parks to accommodate anticipated growth
- further development of the Northern Aviation Precinct
- precinct and associated infrastructure to support this growth
- potential aviation development leases and NAACEX expansion.

Following Townsville Airport securing a $50 million loan from the Northern Australian Infrastructure Facility in early 2019, redevelopment planned for the precinct in the next few years is accelerating with approval processes to undertake key works being finalised.[21]

The Magnetic Island ferry service has between 15 and 18 return services per day.[22] Ferry services to Magnetic Island have an important commuter and tourism function for the region.

The Ross Island Barracks, situated one kilometre south-east of the Townsville CBD, has an important support role for the army's amphibious operations. These barracks accommodate the headquarters and elements of the 10th Force Support Battalion Marine workshops, 30 Terminal Squadron, 35 Water Transport Squadron and the Army School of Transport – Maritime Wing.

17 Townsville Airport. (2016). *Townsville Airport Master Plan 2016 – 2036.*
18 SeaLink Queensland. (2019). *Palm Island Ferry Timetable.* www.sealinkqld.com.au/ferry/timetables/palm-island
19 Palm Island Barge Company. (2019). *WELCOME to Palm Island Barge Company. www.palmbarge.com.au*
20 Townsville Airport Pty Ltd. (2016). *Major Development Plan: Townsville Airport Terminal Redevelopment. Retrieved from https://www.townsvilleairport.com.au/corporate/project-alive-terminal-redevelopment*
21 Townsville Airports. (2019). *Townsville Airport Redevelopment Major Development Plan.* Retrieved from www.townsvilleairport.com.au/corporate/project-alive-terminal-redevelopment
22 SeaLink Queensland. (2019). *Magnetic Island Ferry Timetable. www.sealinkqld.com.au/ferry/timetables/magnetic-island*

Recreational boating is also an important aspect of the region's lifestyle, with an estimated one in seven households owning a boat. There are a number of jetties and boat ramps available throughout the region, including the Townsville Recreational Boat Park.

Mobility and community transport services

Convenient and affordable transport options for access to employment, education, social and community services are essential for supporting liveable and prosperous communities.

Travel subsidies and special transport services are available to people with a transport disadvantage, including the elderly, sick and people with a disability who require travel assistance to access essential health and community service needs. The range of services available in the region include subsidised taxi travel, community bus services, and patient transport services delivered by the Queensland Ambulance Service.

Taxi services are available in Townsville, Ingham, Charters Towers, Ayr and Magnetic Island. Other personalised transport services such as booked hire now also play a role in the region's transport system. This trend towards more diverse transport options offers customers improved choice about how they travel.

Master planning for the priority Port of Townsville

The Queensland Government is leading master planning for the priority Port of Townsville, in accordance with the *Sustainable Ports Development Act 2015* (Ports Act) and the *Reef 2050 Long-Term Sustainability Plan* (Reef 2050 Plan).

The priority Port of Townsville is a critical northern gateway for the state's trade and investment. It is the largest general cargo and container port in Northern Australia and Australia's leading exporter of copper, zinc, lead and sugar. International trade through the port is now valued at around $9 billion annually with over 30 different commodities from high value minerals to products such as sugar and fertiliser exported through the port.[23]

On 4 November 2019, the Queensland Government released the final master plan and master planned area for the priority Port of Townsville developed in collaboration with Port of Townsville Ltd, Townsville City Council, state and federal agencies and other key stakeholders.

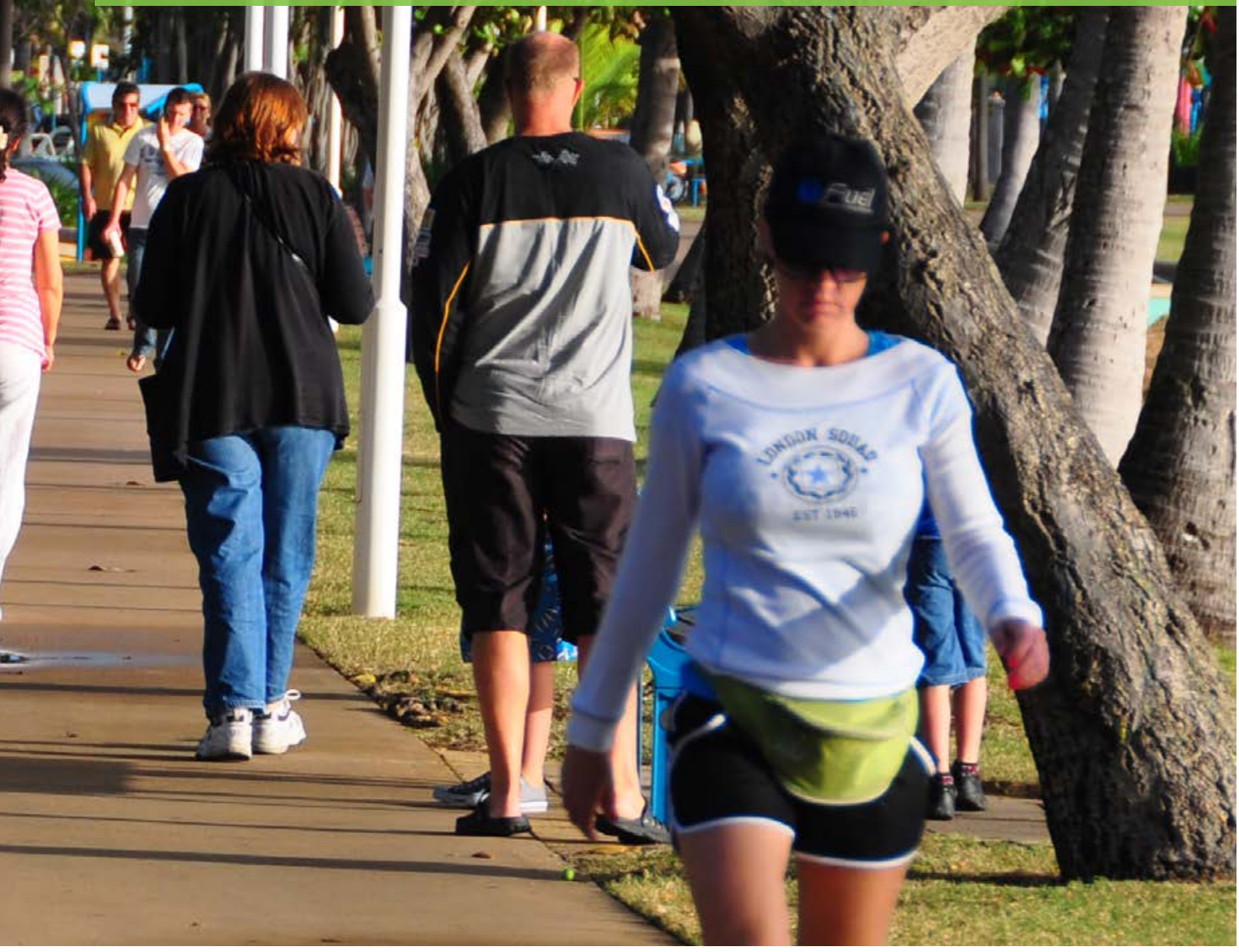
The Master plan for the priority Port of Townsville is a strategic document that has a long-term outlook for the sustainable development of the port through to 2050. Long-term master planning provides a strategic and coordinated approach to managing port-related development and considers issues including marine and land-based impacts, port and supply chain infrastructure optimisation. The master plan aligns with key projects associated with the ongoing sustainable development of the port. These include the Channel Upgrade Project, Townsville City Deal, the proposed Townsville Eastern Access Rail Corridor and supporting mineral freight exports from the North West Minerals Province.

Cargo being unloaded at Port of Townsville

23 Department of Transport and Main Roads. (2019). *Master planning for the priority Port of Townsville. https://www.tmr.qld.gov.au/sustainableports-townsville*

People walking on the Strand, Townsville

3. Goals, challenges and opportunities



3.1 Goals

Goals describe the region's desired economic, social and environmental outcomes that set the direction for all planning activities and initiatives in the region, not just for transport. Transport and Main Roads has engaged with the region's local governments, industry representatives and other agencies to understand the high level goals for the region's future development.

Goals were developed for the Regional Transport Plan based on a review of local, regional, state and national planning documents, and directions set by stakeholders. Goals help frame the priorities and actions for transport towards achieving regionally specific outcomes for the community, economy and environment.

The relationship between goals and priorities is presented in Figure 4. Priorities are the transport response to the region's goals in the context of addressing challenges and supporting the opportunities that present.

Passengers boarding at the Townsville City bus hub

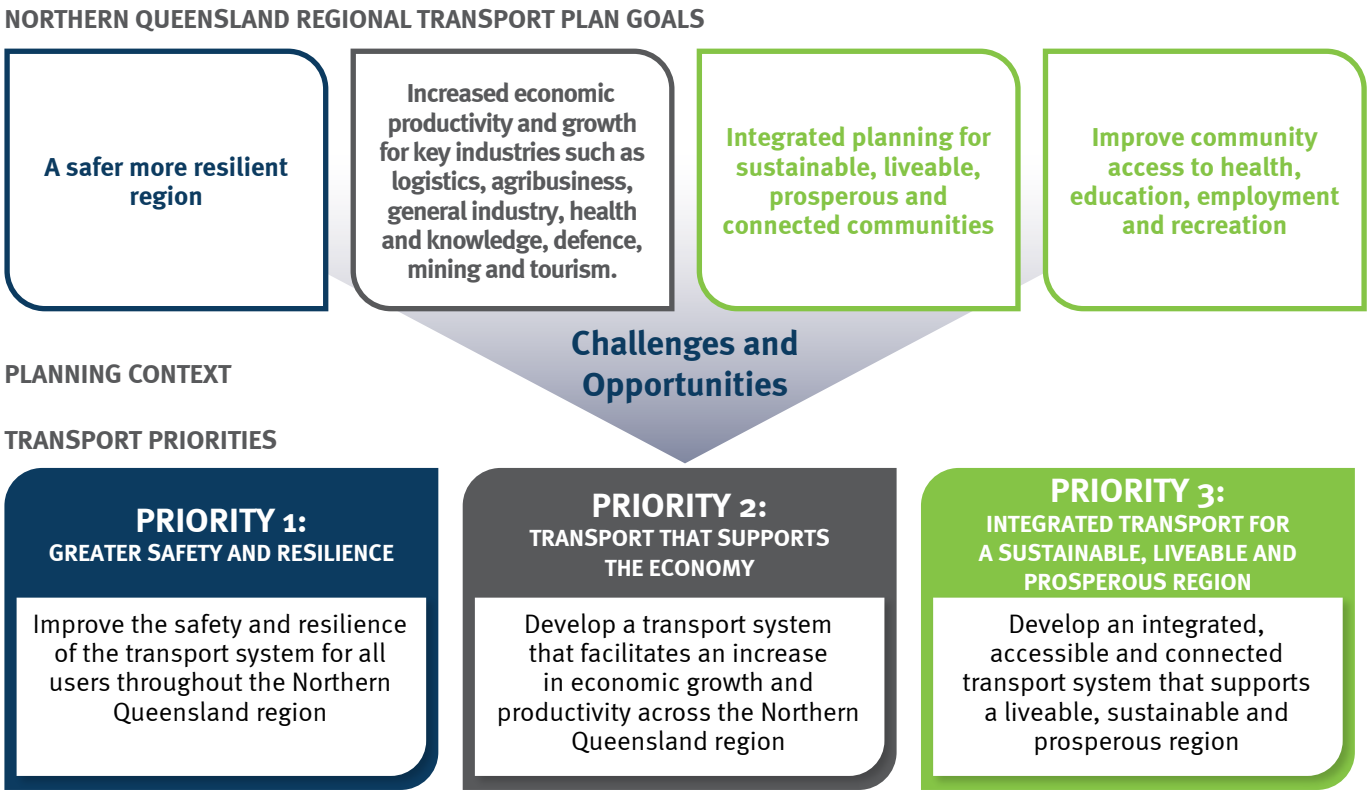


Figure 4: Regional goals and relationship to transport priorities

3.2 Challenges

Improving road and maritime safety

In Northern Queensland, there were 61 fatalities and 1,392 reported crashes requiring hospitalisation in the period 2014–18[24], with alcohol, fatigue, speed, road geometry and driver behaviour all cited as contributing factors. Disruptions, damage, hospitalisations and fatalities because of incidents on the transport network come at a high cost to the community.

The risk of transport-related incidents can be heightened due to:

- poor or inconsistent road network standards
- lack of overtaking opportunities on single lane sections of roads, which is particularly an issue for heavy vehicles (including road trains) and recreational vehicles
- increased road train presence along commuter routes such as the Bruce Highway
- heavy vehicles that pass through busy city centres, with people in close proximity
- rest areas with mixed vehicle usage, such as cars and heavy vehicles in the same space
- unsafe behaviour due to lack of awareness (for example, attempting to cross flooded roads).

North Queensland is prone to seasonal flooding and cyclone events. These can create hazards such as landslips, floodwaters, debris washouts and potholes.

This damage to road network infrastructure can be unseen and cause dangerous driving conditions. Crash risks are heightened during bad weather through a combination of dangerous road conditions and poor driver behaviour.

For example, in situations where there is limited access to information, no known alternative routes, or where alternative routes may add hours to the journey, people are more likely to attempt risky behaviour such as attempting to cross flooded roads.

Maritime safety is also an important issue for Northern Queensland. In the Townsville maritime region, an estimated one in 12 people own a registered vessel. During 2018, there were 18 marine incidents for every 10,000 registered recreational vessels.[25] However, marine incidents continue to go unreported, in particular those that do not result in either damage or serious personal injury, and also those that occur in more remote locations.

The Townsville Recreational Boat Park is the biggest facility of its type in Australia and popular with boat owners. The boat park's close proximity to the Port of Townsville means that maintaining the safety of this facility is of particular importance for the region.

Maritime Safety Queensland (MSQ) in action

24 Department of Transport and Main Roads. (2019). Road Crash Locations.
25 Department of Transport and Main Roads. (2019). Marine Incidents in Queensland 2018: Data Supplement.

Moving freight efficiently

The freight network is a critical economic enabler that connects commodities to market, and the region with the rest of the world. Freight connectivity within the region is also essential to connect rural townships to Townsville. Due to the lack of rail freight depots in rural areas, inter-regional freight relies exclusively on road transportation. The primary freight network in Northern Queensland consists of major arterial roads, two national highways, two rail lines, two seaports and an international airport. The supporting freight network, including the Gregory Developmental Road and Hervey's Range Developmental Road, also plays an important role in moving goods and people; particularly given the lack of other transport modes for north-south movements in the coastal hinterland. Collectively, this infrastructure forms the supply chain that moves commodities and produce throughout the region, and to national and international markets.

The growing Asian market

The booming economies of south east Asia and southern China are within four to seven hours flying time from the region, less than the flight time from Townsville to Perth. With Free Trade Agreements now in place with a number of key trading partners – most notably China – the North is well positioned to embrace further trade opportunities. Ensuring that the region's infrastructure and trading frameworks facilitate and strengthen ties with international trading partners is an important regional focus.

Global air passenger numbers are expected to more than double to over seven billion within the next 20 years. Around half of the world's air traffic growth will be to, from, or within the Asia-Pacific region. By 2030 the Asia-Pacific region will represent approximately two-thirds of the global middle class population and middle class consumption.[26]

Supporting the region's export market is a particularly important challenge when considering the region's proximity to growing markets in Asia. Over 70 per cent of the Port of Townsville's trade is with Asian markets.

Rail is critical for connecting minerals and resources from the Mount Isa - Townsville economic development zone through to the Port of Townsville. In 2017–18, the Mount Isa Line had over 70 movements per week and moved approximately 84,000 tonnes of freight over the year[27]. The rail network's efficiency is currently constrained by its alignment which requires freight trains to travel through Townsville city to access the Port. A Business Case completed in November 2017 for the Townsville Eastern Access Rail Corridor identified a new freight line is strategically important for future port development, however current demand does not support construction of the line at this time. Ten million dollars has been committed to preserve the corridor, with joint contributions from the Australian and Queensland governments to ensure land is available to deliver the freight line when required.

Demand for road freight in Queensland continues to grow with tonne-kilometres forecasted to grow between 2016 to 2026 by 28 per cent to 62 billion tonne-kilometres.[28] Key challenges associated with increased demand for road freight include growth in the use of high productivity freight vehicles (HPVs) and number of oversized overmass (OSOM) vehicle movements. Using HPVs or larger truck combinations is an efficient way to move more freight with fewer trips, but these vehicles can require more room to safely corner and negotiate intersections, larger break down areas, and can have a greater impact on the life of road pavements. OSOM vehicle movements present additional challenges. The clearance envelopes needed to facilitate the safe movement of OSOM vehicles are sometimes insufficient. For example, in Charters Towers, OSOM vehicles are forced to bypass the Mount Isa Rail Link via the local street network because the rail underpass has insufficient vertical clearance. With the predicted increase in mining activities in Central Queensland,, and expected increase in OSOM vehicles along this route, these challenges are expected to intensify. This has safety, amenity, productivity, and maintenance implications for the road network.

A doubles provide a 32 per cent increase in payload compared to B doubles.

26 Australian Government. (2015). *Our North Our Future: White Paper on Developing Northern Australia.*
27 Department of Transport and Main Roads, (2013). *Moving Freight.*
28 The Centre for Transport, Energy and Environment, and Pekol Traffic and Transport. (2018). *Queensland Transport Facts 2018.*

There are a number of significant industrial developments expected to mature over the life of the Regional Transport Plan. Ensuring that connectivity of these developments via freight corridors continues into the future is one of the key challenges facing the region's transport. Narrow pavements, poor flood immunity, bridge load limits and insufficient clearance envelopes have been highlighted by stakeholders.

The cost of cattle transport

Moving cattle from the farm gate to market is a key challenge for the cattle industry.

The Queensland Government's Livestock Transport Services Contract provides 325 government-subsidised rail cattle services every year to beef producers around the state, connecting regional hubs with processing facilities.[29] This initiative is critical to the success of Queensland's cattle industry and plays a vital role in supporting the economic viability of our regions and helping Queensland's agricultural sector to prosper.

Transport has impacts on animal condition and profitability especially in northern Australia where there are long distances from production to market. Sufficient access to truck stops on freight corridors is essential to manage driver fatigue and animal welfare. Disruptions to the transport network are also common during wet seasons, preventing stock reaching ports or abattoirs.

The inefficient movement of cattle impacts economic viability and reduces the industry's profitability and resilience and can erode the geographic advantage of the north's proximity to Asian-Pacific markets.

To understand and assess the efficiency of agricultural supply chains, CSIRO developed the Transport Network Strategic Investment Tool (TraNSIT). The tool is used to understand the benefits of infrastructure and policy changes on agricultural supply chains. The tool has been used to assess infrastructure improvement scenarios linked to the Federal Governments Beef Roads Program. In the Northern Queensland region, the Federal Government has committed funding for widening works on the Gregory Development Road south of Charters Towers.

Cattle at H.M Clarke Saleyards, Charters Towers

29 Department of Transport and Main Roads. (2019). *Rail Transport Contracts and Agreements.* https://www.tmr.qld.gov.au/business-industry/Transport-sectors/Rail-services-and-infrastructure/Rail-Transport-Contracts-and-Agreements

Meeting the current and future needs of the region's communities

Provision of affordable transport that provides equitable access to essential services and employment, regardless of geographical location, age or mobility requirements is a key challenge facing the region. This challenge is more pronounced in the region's rural and remote communities where people face additional barriers of distance, time, and limited or no public transport. Outside of Townsville, the region's communities are geographically dispersed making it difficult or unviable to service with public transport.

As the region's demographic profile changes, so too will its transport needs. Australia's population is ageing and will require an adaptive approach to meeting changing travel needs including, for example, addressing higher dependency on public or community transport services and higher demands for access to specialised health services. An ageing population dispersed across regional and remote areas presents a significant challenge for connecting to health care and other community services. Hinchinbrook, Burdekin and Charters Towers all have a greater percentage of people aged over 65 than the Queensland average.

Providing appropriate accessibility for people with a disability or mobility impairment is also important when planning for the needs of our customers. One in five Queenslanders, approximately 906,000 people, identify as having a disability.[30] People with a disability require access to health, education, public places and spaces. Mobility devices, such as wheelchairs and mobility scooters, are an essential part of daily life for people with a mobility impairment. Improved access and design of transport services can allow people with mobility impairments to genuinely participate in the community.

An adaptive approach to meeting communities' current and future transport needs will require innovative transport service models, and leveraging advances in communications technology. For example, connecting people to services via virtual networks as an alternative to travel, such as video conferencing with health specialists.

Improving public transport competitiveness

There is a high reliance on private vehicle travel in the region. In rural areas this reliance is due to limited public transport options and the dispersed nature of settlement patterns. Within Townsville, where urban public transport services are available, public transport mode share is still low at 0.8 per cent for journey to work trips.[31] This is for a range of reasons relating to Townsville's dispersed land use pattern with relatively low urban densities, a comparatively efficient road network for private vehicle travel, poor bus service frequency on some routes, lack of public transport coverage in some areas and free or cheap parking around centres and employment nodes.

Townsville is the region's major population centre and is home to 82 per cent of people living in Northern Queensland. Townsville's population is expected to increase by nearly 70,000 people up to around 262,000 in 2036.[32] While some of this growth will be accommodated in the city's current urban footprint, much of this new growth will occur in new development areas on the fringes of Townsville City including:

- northern suburbs of Burdell and Deeragun
- Elliot Springs, south of Townsville
- Bohle Plains, west of Townsville.

As the city grows, careful consideration for the provision and extension of public transport networks will be essential in promoting connected and accessible communities, reducing car dependency and managing demand on the transport network. This includes considerations for innovative high frequent public transport, including express services, particularly between the Townsville CBD and the Douglas Health and Knowledge Precinct. Through the City Deal, commitments to trial Demand Responsive Transport (DRT) also present opportunities to improve public transport competitiveness. Outside of Townsville city, the region's geographically dispersed population presents significant challenges in providing viable transport alternatives to private vehicle travel. Investigating innovative solutions and introducing initiatives such as smart-ticketing, real-time information at major bus stops and other customer focused service improvements could significantly enhance public transport efficiency, customer experience and attractiveness.

30 Australian Bureau of Statistics. (2019). *Disability, Ageing and Carers, Australia: Summary of Findings, 2018 (Catalogue No. 4430.0).*
31 Australian Bureau of Statistics. (2016). *Census of Population and Housing, 2016, Working Population Profile - W22 (Method of Travel to Work by Age by Sex).*
32 Queensland Government Statistician's Office. (2018). *Projected population (medium series), by local government area, Queensland, 2016 to 2041, 2018 edition.*

Encouraging active transport

Active travel, including walking and cycling, has many benefits to individuals and the community as a whole. Reduced rates of obesity, diabetes and heart disease, as well as improvements to general health, are all associated with more active lifestyles for example. Townsville is well suited to cycling and walking due to the city's flat terrain. Increasing active transport mode share for communities in rural areas is more challenging due to long distances and less developed active transport infrastructure.

According to a household travel survey undertaken by Transport and Main Roads in 2010, 50 per cent of trips made in Townsville are less than five kilometres, with 20 per cent less than two kilometres.[33] Journey to work data indicates that 4.7 per cent of single mode journeys were made by either walking or cycling, higher than the state average of 4.3 per cent.[34] Improving the viability and attractiveness of the active transport network will support changes to travel behaviour that are essential in managing demand on the transport network.

A key challenge facing the region is the progressive delivery of high quality priority principal cycle routes. High quality cycle routes provide safer, more direct and attractive routes for people to cycle to work, school, shopping precincts, and other major destinations. Under the *North Queensland Principle Cycle Network Plan*, a connected network of principal cycle routes has been identified for each major centre in the region. Other challenges to encouraging more active transport in the region include the Dry Tropical climate, lack of suitable street trees and street furniture including water fountains, as well as sufficient end of trip facilities in centres and employment area.

Ensuring the safety of people cycling and walking is an important aspect of improving the attractiveness of active travel as a transport choice. Making certain that infrastructure is responsive to safety risks by implementing treatments that adopt Crime Prevention Through Environmental Design (CPTED) principles will assist in improving the personal safety of our customers.

Shared zone in the Townsville Central Business District

33 Department of Transport and Main Roads. (2012). *Household Travel in Townsville.*
34 Australian Bureau of Statistics. (2017). *Census of Population and Housing, Australia, 2016, Working Population Profile – W22 (place of work) (Catalogue No. 2006.0).*

Managing growth

Integrated transport and land use planning, underpinned by sustainability principles, helps to protect liveability, amenity and environmental values. With growing demand on the region's transport system, associated with economic and population growth, it will become increasingly important to ensure future transport networks are planned, built and operated in a way that preserves and protects North Queensland's social, economic and environmental values. Ensuring that the region's centres, towns and development fronts contribute to a consolidated urban form that supports the efficient delivery of transport infrastructure and services is a key challenge facing the region.

Key areas where sustainable, integrated planning can play a role in reducing environmental impacts, and improving access, connectivity, liveability and prosperity include:

- planning and design practices that create highly legible, permeable, attractive places and streets where people feel safe and confident walking, cycling and driving
- connected networks of walking and cycling infrastructure supported by end-of-trip facilities to promote active, healthy, low-cost and environmentally sustainable travel that is accessible to people of all ages and abilities
- sustainable urban development within Priority Living Areas that contributes to a consolidated and well-integrated urban form and supports existing centres and the efficient delivery of infrastructure and services
- encouraging the consolidation of knowledge industries and high value services into existing centres and adjoining corridors
- achieving an appropriate balance and coverage of public and commercial transport services and facilities (land and sea) including, but not limited to, ferries, urban public transport, long distance coaches, personalised transport services, community based services, school services, health and community care services
- using technology to improve the customer interface with transport service providers, and to reduce the need to travel (for example, E-learning and telecommuting, smart-ticketing and journey planners)
- applying best practice design and management of car parking supply to reduce impacts on streetscape amenity, minimise inefficient use of land, reduce unnecessary traffic circulation and manage congestion
- ensuring land use planning instruments facilitate safe and efficient operation of heavy vehicles along key freight routes and into industrial areas while mitigating impacts on amenity
- ensuring community and commercial activities permitted on or within state controlled road corridors are managed and controlled in a way that considers local amenity and safety interests
- identifying potential barriers to using rail and shipping as primary transport modes for transport of bulk commodities, and general freight that is not time sensitive as an alternative to road transport, and developing appropriate and specific strategies to reduce these barriers
- promoting and supporting sustainable travel choices to reduce the impacts associated with car-dependency such as sedentary lifestyles, poor air quality, and personal costs of vehicle ownership.

Townsville's dispersed land use pattern, viewed from Mount Stuart

Townsville City Waterfront Priority Development Area, including the North Queensland Stadium

Townsville City Waterfront Priority Development Area (PDA) comprises 97.2 hectares of land located on both sides of Ross Creek directly adjacent to Townsville's Central Business District (CBD). The PDA is part of a strategy to revitalise the Townsville City Centre and stimulate economic growth in the region, and will include opportunities for community, housing, maritime, tourism and commercial uses.

The vision for the PDA is 'a place where the city and nature intersect as a world-class active and vibrant destination in Townsville's CBD'. The PDA seeks to create a vibrant mixed-use place where people live, work and play in a high-density environment that is active day and night, taking shape over the next 15 years.

It is identified as having the potential to accommodate and create jobs for a portion of the additional 30,000 people planned to live and work in the wider Townsville CBD area by 2030.[35]

The PDA consists of seven precincts, which incorporate maritime transport infrastructure such as the Port of Townsville, passenger ferry terminals (supporting ferry services to Palm Island and Magnetic Island) and recreational boating facilities. In addition to providing improved pedestrian connectivity through a 5.9km promenade, bikeways and pedestrian bridges.

The Culture and Entertainment precinct includes the $290 million North Queensland Stadium. The North Queensland Cowboys Centre of Excellence is also proposed within this precinct, incorporating James Cook University, Mater Health and state-of-the-art training facilities.[36]

A proposal, by Sealink Travel Group, to improve transport and tourism services in Townsville is entering its final assessment stages through the Queensland Government's Investment Facilitation process. The estimated $71 million project is planned on land located within the PDA's Maritime Mixed-Use precinct and incorporates public open space, ferry terminal, airconditioned waiting areas, hotel facilities, interstate bus terminal and car park. In addition to, two high-speed ferry passenger vessels for Magnetic Island and Palm Island services, and investment into new on-water marine tourism infrastructure.[37]

Artistic impression of proposed passenger ferry terminal, Townsville

35 Department of State Development, Manufacturing, Infrastructure and Planning. (2019). *Townsville City Waterfront. https://www.dsdmip.qld.gov.au/economic-development-qld/priority-development-areas/townsville-city-waterfront.html.*

36 Department of the Premier and Cabinet. (2019, September 02). *First seat installed at new North Queensland Stadium.* [Media release]. *http://statements.qld.gov.au/Statement/2019/9/2/first-seat-installed-at-new-north-queensland-stadium.*

37 Department of State Development, Manufacturing, Infrastructure and Planning. (2019). *Project examples - proposals under facilitation. https://www.dsdmip.qld.gov.au/industry/investment-facilitation/project-examples-proposals-under-facilitation.html.*

Changing climate and extreme weather

The region's transport network is vulnerable to the effects of extreme weather events such as cyclones and monsoon flooding that are common in the tropics. Climate change is already impacting on communities, particularly in coastal areas, and extreme weather events are expected to worsen in terms of their frequency and intensity.

Extreme weather events can lead to network closures that have social and economic impacts, isolating communities and preventing goods from reaching market. Increasing the transport network's resilience to extreme weather events is a significant challenge for the region. In addition to road and rail networks, regional airports can also be impacted by extreme weather. Significant rainfall events can undermine airport pavements limiting the ability of regional airports to function as a critical connection to isolated communities.

Transport and Climate Change

The Queensland Climate Transition Strategy outlines how the state propose to prepare for the transition to zero emission industries of the future. Much of what Queenslanders said in the strategy about the future relates to transport:

- the future should be powered by clean and renewable energy and technology
- we need low-carbon construction, infrastructure and transport systems
- key opportunities are in renewable energy, battery and power storage, cleaner technologies and electric vehicle industries
- improve public transport systems to be low-emission, well-maintained, affordable, reliable, frequent and integrated.

Action 2.5 of the Strategy identifies that the Government will develop a Zero Net Emissions Transport Roadmap. This will consider better integration of transport policy with land use planning to reduce travel demand and optimise public and active transport infrastructure and services. It will also look at ways to reduce emissions from private, passenger and freight transport, such as through improved vehicle and fuel efficiency, technology and innovation, and fuel shift.

Ogden Street, Townsville

Extreme Weather

February 2019 saw unprecedented monsoonal rain fall across large areas of Northern Queensland resulting in major flooding damaging or washing away entire sections of the region's rail and road networks. This included severe damage and/or closures along parts of the Hervey Range Road, Mount Spec Road, Bowen Road and Mount Isa rail line, vital to access for communities, jobs and freight supply chains within, to and from the region.

Alice Creek Bridge on Hervey Range Road and Mount Spec Road on Paluma Range were damaged by floodwaters and landslides, respectively. Works carried out to fully repair the sites included removal of debris, land stabilisation and protection, structural strengthening and road pavement repair works. Alice Creek Bridge was reopened to all traffic in late June 2019,[38] with Mount Spec Road being fully reopened in mid June 2019.[39]

Bowen Road Bridge, which provides a north-south connection over the Ross River in Townsville was inaccessible due to being inundated by floodwaters following the release of water from the Ross River Dam. As the floodwaters receded, the department's inspectors carried out checks and load tests of the bridge, reopening it 10 days following its inundation.[40]

The Mount Isa rail line was reopened by Queensland Rail in late April 2019 following a 12-week effort by 400 staff to fast-track repairs to more than 200 sites and 300 kilometres of damaged rail track. Planned rail line upgrades to remove previous speed and axle load restrictions were brought forward ahead of schedule and delivered as part of the recovery efforts, resulting in reductions for freight travel times from Townsville to Mount Isa by 50 minutes.[41]

Townsville floods, February 2019

38 Department of the Premier and Cabinet. (2019, June 26). *Alice River Bridge to reopen ahead of schedule.* [Media release]. *http://statements.qld.gov.au/Statement/2019/6/26/alice-river-bridge-to-reopen-ahead-of-schedule.*

39 Townsville City Council. (2019, June 14). *Mount Spec Forestry Road reopening to residents.* [Media release]. *https://www.townsville.qld.gov.au/about-council/news-and-publications/media-releases/2019/june/mount-spec-forestry-road-reopening-to-residents.*

40 Armstrong, C. (2019, February 22). *Bowen Road Bridge is now open after floodwaters finally recede.* Townsville Bulletin. Retrieved from https://www.townsvillebulletin.com.au.

41 Queensland Rail. (2019, April 29). *First freight trains resume on Mount Isa Line.* [Media release]. *https://www.queenslandrail.com.au/about%20us/Media%20Centre/Media%20Releases/Pages/First-freight-trains-resume-on-Mount-Isa-Line.aspx.*

3.3 Opportunities

Better use of existing infrastructure

The region has a well-established transport network connecting industry to markets, and community to employment and services. As the region grows, there will be increasing pressure to upgrade networks and build new infrastructure to meet demands. Responding to growing demands in a sustainable way requires a progressive approach to transport system management. There are opportunities to adopt solutions that optimise existing networks, as well as initiatives to improve the capacity and operation of the transport system without the need for new infrastructure or large capital expenditure. This approach can defer large capital expenditure and lead to significant savings while still maintaining or improving efficiency and reliability.

Opportunities to make better use of existing infrastructure and improve supply chain efficiency and accessibility include:

- increasing freight and passenger capacity of the existing port through expansion of the shipping channel to allow access by larger cruise ships and freight vessels
- increasing existing infrastructure capacity through improved flexibility in contractual arrangements allowing for multi-user access to additional Port of Townsville berths
- consideration of rail freight pricing structures and market competitiveness to road freight movement
- improving air freight capabilities
- attracting domestic and international routes from the established Townsville Airport
- maintaining, improving and rehabilitating existing road networks, particularly inland routes, to enhance safety and accessibility for freight, tourist and local-community traffic, and to facilitate alternative routes during disasters
- widening narrow sealed sections and upgrading bridges to improve freight productivity and minimise restrictions on freight access.

Opportunities to use existing infrastructure more efficiently include optimising the existing network through innovative, low cost non-infrastructure solutions such as:

- improved signal coordination
- utilisation of intelligent transportation systems
- high occupancy vehicle (HOV) transit lanes (where possible)
- priority bus lanes at intersections
- parking restrictions to increase capacity during peak periods on busier urban arterial roads
- temporary infrastructure (particularly for major events).

More efficient land use and settlement patterns in existing urban areas will be essential to realising these opportunities. This includes the need for more infill development and increased urban densities and land use mixes around key centres, particularly in Townsville. Future broadhectare developments outside of the Priority Living Areas identified in the North Queensland Region Plan (draft), should be avoided, as this may compromise the future optimisation of transport networks. In collaboration with councils and the state government, there are also opportunities to explore new developer incentives and innovative approaches to encourage desired land use outcomes.

Agriculture industry opportunities

Agriculture is a key industry in the Northern Queensland region, contributing around $930 million to the regional economy annually.[42] The Queensland Government is striving to double agricultural production by 2040, and with Northern Queensland's proximity to Asia, the region is ideally placed to supply growing demand.

The opportunity for growth in Northern Queensland can be realised through intensification of agricultural production areas, and implementation of the Burdekin Water Resource Plan. The region's well-established agricultural areas include Herbert River, Ingham and the Lower Burdekin. These areas are supported by existing distribution networks that can be expanded to meet demand, as productivity increases. Transport costs represent around 12 per cent of farm-gate returns and,[43] due to the distances involved, improving supply chain efficiency has the potential to unlock productivity gains and improve competitiveness.

Intensifying agricultural land use and developing value adding processing facilities to support the agricultural industry is a strategic economic opportunity for the region. Transport plays a key role in facilitating the region's ability to capitalise on the opportunity to increase productivity and intensify the agricultural sector.

42 Australian Bureau of Statistics. (2019). *Value of Agricultural Commodities Produced, Australia, 2017-18 (Catalogue No. 7503.0)*.
43 Department of Agriculture, Fisheries and Forestry. (2014). State of Queensland Agriculture Report. Retrieved from https://www.publications.qld.gov.au.

Australian Defence Force Joint User Facility Agreements

The Australian Defence Force (ADF) has agreements in place with Townsville Airport and the Port of Townsville in relation to use of infrastructure.

Ports and airfields are essential infrastructure to ADF operations and these agreements provide for shared planning, investment and operations that provide the required infrastructure and protection for the operational requirements of the ADF and the commercial asset owner.

Townsville Airport, now privately owned, is located on a section of the RAAF base leased to Townsville Airport Pty Ltd by the ADF. Any upgrades of the airfields for defence purposes benefit the commercial operation of Townsville Airport by allowing use by larger commercial passenger and freight aircrafts.

Reliable access to military bases, ports, airbases and training ranges is essential to ADF's ability to conduct and sustain operations in Australia. The movement of ADF personnel and equipment, which is often oversize and overmass, is a consideration in the management of the region's road network (figure 5).

Australian Light Armoured Vehicle, Townsville

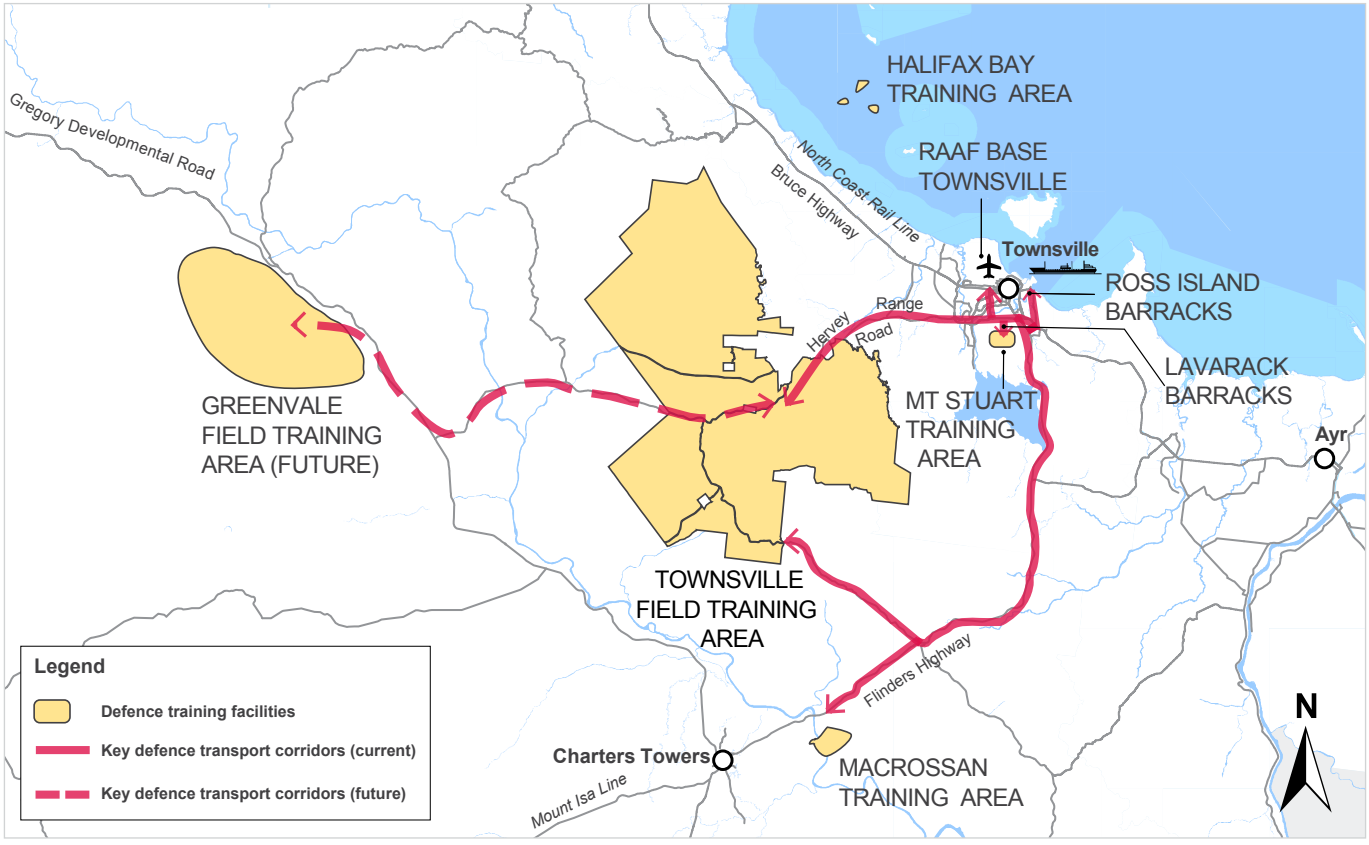


Figure 5: Defence training facilities and key defence transport corridors

This map is indicative to illustrate proposed strategies for the region and is not intended to be accurate in terms of exact geographic extent.

Growth in tourism

The Northern Queensland region attracts tourists travelling by car, air, bus and train. Once within the region, road is the primary mode of transport, by coach or self-drive. In 2016–17, the tourism industry contributed an estimated $845.8 million to the Northern Queensland regional economy and supported around 8,100 jobs.[44]

Self-drive tourism is a growing market, with increasing numbers of caravans and recreational vehicles frequenting the region. The trend includes those that drive from other regions, and those that fly in and then drive to explore the area. The region features three established self-drive tourism routes:

- Overlander's Way is a 1,550 kilometre drive tourism route from Townsville to Tennant Creek in the Northern Territory
- the Pacific Coast Way is a 1,784 kilometre touring route from Sydney (NSW) to Cairns
- Great Inland Way is a 1,863 kilometre drive tourism route which extends from Outback Queensland to the Coral Sea.

Safety, network condition, signage and the provision of rest stops are important to the growth of the self-drive tourism sector. Ensuring that the network supports the self-drive tourism market is especially important to smaller communities who are seeking to encourage tourism.

With limited passing lanes between Townsville and Charters Towers along the Flinders Highway, the tourist influx in the dry season poses significant safety challenges for the transport network. This is especially an issue for parts of the network with single lane roads also used by heavy vehicles, including road trains. Tourists' lack of experience in driving on regional roads and interacting with high-efficiency freight vehicles increase the crash risk.

The region's proximity to the Great Barrier Reef and the growing Asian tourism market provides further economic opportunity. Most domestic and overseas travellers to the region visit Townsville as part of their trip. Townsville City is also an attraction at the regional level, with access to services, large shopping centres and entertainment opportunities not available in other centres. The North Queensland Stadium is scheduled to attract major events and provides an opportunity to fundamentally change public passenger transport in Townsville through improved transport diversity, network operations and pedestrian accessibility.

Further opportunities exist for the Port of Townsville to support cruise ships and improve customer experience for tourists entering through the port. The near-new Quayside Terminal and Berth 10 can accommodate vessels up to 238 metres in length. The terminal has capacity to process up to 1,000 passengers an hour boarding or disembarking a vessel. Larger vessels can anchor off Magnetic Island using tender services to transfer passengers by ferry. There is an opportunity to build on the port's existing capacity by widening the port channel which would allow some larger cruise ships to dock in port.

The Strand, Townsville, overlooking Magnetic Island

44 Tourism Research Australia. (2019). *Regional Tourism Satellite Accounts 2016-17 (Northern). https://www.tra.gov.au/Economic-analysis/Economic-Value/Regional-Tourism-Satellite-Account/regional-tourism-satellite-account.*

Future development in mining and resources industry

The region supports the mining, energy and natural resources sectors as well as several downstream sectors, including manufacturing and professional services. The network's key support function is connecting resource extraction and processing facilities within the region. The Flinders Highway, Barkly Highways and Gregory Development Road, in conjunction with the railway connecting Mount Isa and the Port of Townsville, are critical to the resources industry.

While some areas of the mining sector are experiencing a period of transition or downturn due to fluctuating markets and commodity prices, the industry continues to offer economic opportunities due to the wealth of resources in the region.

Emerging opportunities in the North West Mineral Province, as well as hydrogen, may be enabled through safer and more resilient transport infrastructure connecting mine to port. Through the Mount Isa to Townsville Economic Development Zone (MITEZ) cooperative, opportunities to improve supply chains will continue to be investigated. Consulting with industry - including through MITEZ - to identify and plan for these future opportunities, will assist in this area. Future growth scenarios, potential enabling infrastructure, supply chain resilience, use of technology and changing practices in industry could be explored.

Expansion of defence facilities

An announcement from the Australian and Singaporean Governments in May 2016 advised of the plan to jointly upgrade and establish military training areas and facilities in Australia. The $2.25 billion Australia-Singapore Military Training Initiative (ASMTI) will enhance and expand military training access in Australia over the period of 25 years. Once the initiative reaches maturity, up to 14,000 Singapore Armed Forces personnel will conduct training in Central and North Queensland.[45] Singapore will have enhanced and expanded military training access in Australia over a period of 25 years. This initiative will deliver economic benefit to Townsville and have implications for the region's transport system. The movement of oversize and over mass vehicles on the road network, the management of defence vehicle convoys and increased demand and capability requirements for Townsville Airport and Port of Townsville are possible implications. Planning is required, in consultation with the Australian Department of Defence, to fully understand the implications of the expansion of defence facilities and the need for upgraded transport infrastructure.

Advances in technology

Communications technology can improve the quality of transport users' experience through the provision of real-time information, delivering reliability and convenience. This could be applied to public transport and the road network through the provision of:

- integrated public transport information, mapping and real-time information improving the legibility and convenience of the public transport network for residents and visitors
- Intelligent Transport Systems and real-time information, providing road condition, roadwork and incident information to road users in advance of travel, allowing travellers to avoid delays by retiming journeys or selecting an alternate route, potentially providing benefits to the freight industry, tourists and the local community.

The introduction of innovative fare systems and technology such as Smart Ticketing also present opportunities to better plan the region's transport network. By removing manual transactions and money handling between passengers and bus drivers, travel information will be accurately recorded and stored, providing valuable information to transport planners. This will provide government with a better understand of where people are coming and going, and can help to identify where service improvements are most needed.

Advances in vehicle technology, such as cooperative and automated vehicles, and smart features, such as park assist and lane-change technology, present opportunities and risks that need to be considered. Considering emerging technologies and being mindful of what transport in the future may look like is key to making good planning and policy decisions, to build preparedness and maximise opportunities.

Hydrogen industry in Townsville

Townsville has been identified as an optimal location to develop hydrogen projects with a long-term potential for the export of renewable hydrogen. Ensuring the transport network supports the development of this new industry in Townsville and the surrounding areas will be essential in capturing the potentially significant economic and employment benefits for the region.

The global drive for clean energy, and the recognition of local innovation and industry capability in the Northern Queensland region – including opportunities to attract new industrial development to Townsville's Southern Industrial Corridor – are unique catalysts for industry growth and align with the opportunities identified in the government's five-year *Queensland Hydrogen Industry Strategy 2019-2024*.

45 Australian Government Department of Defence. (2019). *Australia-Singapore Military Training Initiative*. Retrieved from www.defence.gov.au/Initiatives/ASMTI/

Cooperative Intelligent Transport Systems

Cooperative Intelligent Transport Systems (C-ITS) is technology that communicates between vehicles with vehicle-to-vehicle systems, traffic signals and roadside infrastructure. C-ITS provides information to drivers regarding their immediate environment in real time.

The Cooperative and Automated Vehicle Initiative (CAVI) will be delivered by the Department of Transport and Main Roads to help prepare for the arrival of new vehicle technologies with safety, mobility and environmental benefits on Queensland roads. The CAVI pilot will take place on public roads in and around the City of Ipswich from 2019 for up to one year. It is the largest Australian on-road testing trial of cooperative vehicles. There will be 500 public and fleet vehicles fitted with devices. These devices allow vehicles and infrastructure to talk to each other to share real-time information about the road and to generate safety-related warning messages for drivers. Find out more at www.qld.gov.au/transport/projects/cavi.

Transport for New South Wales is currently trialling the technology with heavy vehicles in the Illawarra area.[46] Heavy vehicles fitted with the technology receive safety messages about upcoming hazards and potential crashes. Messages include:

- intersection collision warning
- forward collision warning
- heavy braking ahead warning
- traffic signal phase information
- speed limit information
- location and availability of rest areas.

Variable message sign, Bruce Highway

Education, health and knowledge

Townsville is the leading knowledge city in Northern Australia, through global leadership in tropical and marine research and innovation; technical capability and capacity in defence industry, advance manufacturing and advanced logistics; and the delivery of a world class tropical lifestyle for residents and visitors. Between 2006 and 2016, there has been an increase in knowledge intensity and educational attainment in Townsville and across Australia's city-based labour market.

The Townsville CBD is the professional and business services hub of the region and hosts several major institutions and employers of knowledge intense workers, including local, State and Commonwealth government agencies.

The Douglas Health and Knowledge Precinct has functions such as health, education and human services, as well as science and research, through collaboration with CSIRO and James Cook University. The Townsville Hospital supports a catchment population of more than 695,000 people from across North Queensland. It is North Queensland's only tertiary hospital and serves as the main referral and teaching hospital north of Brisbane. The February 2019 floods have highlighted the significant and critical transport issues that impact the communities ability to access emergency services. As well as being a critical public health facility for North Queensland, it is also a key industry, providing economic and employment benefits for the region. Efficient and effective transport solutions servicing this facility locally in Townsville and other council areas, can support the population needs and economic growth of the region. Both James Cook University and the Townsville Hospital have recently completed master plans, to plan for the growth expected over the next 20 years and more. Both master plans envisage more concentrated urban forms within the precinct with higher densities. With this, there are

46 Transport for NSW. (2016). *Cooperative Intelligent Transport Systems. www.roadsafety.transport.nsw.gov.au/research/roadsafetytechnology/cits/index.html*

The Macrossan Rail Bridge (the bridge to the left), Charters Towers, is a key component of the supply chain in North West and Northern Queensland to support opportunities in mining, tourism, agriculture and industry. The Burdekin River Rail Bridge to the right is heritage listed and is decommissioned.

opportunities to improve land use and transport integration within the precinct, including improvements to the pedestrian environment and supportive commuter bus services and facilities.

There are a number of other significant private health investments and opportunities at Hyde Park-Pimlico by Mater Health and the Kirwan Health Campus, along with recent upgrades to Pimlico TAFE. Areas around health, knowledge and educational precincts attract large numbers of people, many of which require or prefer more sustainable travel options such as walking, cycling and public transport.

Industry

The region has long been a base for industry including manufacturing (chemicals and metals production), mineral processing, sugar mills, logistics and bulk storage, beef processing and concrete batching plants. Industry remains a major employer in the region and is supported by significant foreign investment. To build resilience and greater diversity into the regional economy, there are opportunities to support and enhance traditional industries, as well as emerging industries in advanced manufacturing and technology.

A key initiative under the Townsville City Deal is to establish the "Industry Powerhouse for the North" (sic.) with industrial development of regional, state and national significance. Opportunities in emerging industries are attracting investor interests due to the region's competitive advantages, strategic location to Asia-pacific and access to major transport infrastructure.

The Townsville State Development Area (TSDA) is a key location for industrial development in the region. Opportunities for large scale industry are available in the TSDA with numerous advantages due to its proximity to the Port of Townsville and key transport infrastructure corridors.

By 2026, the Department of State Development, Manufacturing, Infrastructure and Planning has identified the need for a further 1200 hectares of suitable industrial land for the region.[47] Opportunities for industrial development are being investigated in the Burdekin, Charters Towers, and south of Townsville along the Flinders Highway, at Lansdown (near Woodstock) and Roseneath. To capitalise on these opportunities, new industry will need to be well connected to infrastructure corridors, with strong intermodal links provided to key locations, including the Port of Townsville and other industrial areas within the supply chain. To remain competitive, it will be essential that transport infrastructure and networks are reliable, efficient and resilient to ensure services and supply chains can operate year-round.

47 Department of State Development Manufacturing Infrastructure and Planning. (2019). *Draft North Queensland Regional Plan.*

Moorings at Breakwater Marina, Townsville

4. Priorities and actions

Priorities set the direction for the region's transport network over the next 15 years. The three regional priorities established through the *Northern Queensland Regional Transport Plan* development process are:

- **Priority 1:** Greater safety and resilience.
- **Priority 2:** Transport that supports the economy.
- **Priority 3:** Integrated transport for a sustainable, liveable and prosperous region.

Actions are identified under each of the priorities. Actions are grouped into short-term and medium/long-term. Short-term actions identify the first steps needed to achieve the transport objectives and regional goals over the indicative 15-year life of the Plan. Medium/long-term actions identify possible responses to emerging or potential future transport planning needs. Actions will be reviewed and updated periodically as part of the implementation, monitoring and review process described in Chapter 5.

Actions are primarily planning and partnership initiatives to be further scoped, defined and programmed in collaboration with partners and stakeholders. Actions and the subsequent project recommendations that follow will inform future updates of investment plans and programs such as the *State Infrastructure Plan*, Queensland Transport and Roads Investment Program *(QTRIP)* and other relevant service and infrastructure investment strategies across all levels of government and transport services providers.

Each action under the three priorities is linked to transport objectives and measures of success. Transport objectives are key drivers for taking action. Measures of success have been selected where data to track performance is readily available. Base line data and performance metrics will be developed and used to indicate progress towards meeting the goals set out in this Plan.

Table 3 shows the relationship linking priorities, objectives and measures of success.

Use of drone technology to inspect structures, Hinchinbrook

Table 3: Relationship between priorities, transport objectives and measures of success

	PRIORITY 1 Greater safety and resilience	PRIORITY 2 Transport that supports the economy	PRIORITY 3 Integrated transport for a sustainable, liveable and prosperous region
PRIORITIES	Improve the safety and resilience of the transport system for all users throughout the Northern Queensland region.	Develop a transport system that facilitates an increase in economic growth and productivity across the Northern Queensland region.	Develop an integrated, accessible and connected transport system that supports a liveable, sustainable and prosperous region.
ROLE OF TRANSPORT	**Responding to the challenges of:** ■ improving road and maritime safety ■ climate change and extreme weather. **And opportunities for:** ■ advances in technology. **By taking action to:** ■ build, maintain and operate safe and resilient transport infrastructure and facilities ■ encourage safe travel behaviour ■ review and improve emergency and disaster management and recovery efforts.	**Responding to the challenges of:** ■ moving freight efficiently ■ managing growth ■ climate change and extreme weather. **And opportunities for:** ■ growth and productivity in key industries – agriculture, tourism, resources and defence ■ better use of existing transport infrastructure ■ advances in technology **By taking action to:** ■ build, maintain and operate transport networks to support industry and unlock growth ■ plan and prioritise capacity upgrades and new infrastructure where it supports industry and productivity most.	**Responding to the challenges of:** ■ changing population needs ■ Improving public transport competitiveness ■ encouraging active transport ■ managing growth. **And opportunities for:** ■ growth in tourism ■ better use of existing infrastructure ■ advances in technology. **By taking action to:** ■ plan places so they're easy to get around ■ provide infrastructure and services that are equitable and meet diverse community needs ■ deliver transport projects in line with best practice environmental standards and sustainability principles.
TRANSPORT OBJECTIVES	**1.1** Improve the overall safety and security of the transport system for customers. **1.2** Ensure customers are aware of potential hazards and can make informed decisions about their travel options. **1.3** Develop a more resilient transport system through disaster response strategies and infrastructure improvements.	**2.1** Plan and develop transport infrastructure that supports economic growth and productivity for the region's key industries. **2.2** Develop a transport system that optimises supply chains through an integrated network and facilitates the efficient movement of people and freight to grow the economy.	**3.1** Connect communities to essential services and places where they can learn, work, and play, through a range of appropriate and affordable transport options. **3.2** Develop a sustainable transport system that supports the environmental and lifestyle values of the region. **3.3** Create a more sustainable transport system by supporting a shift away from private vehicle dependency and encouraging more trips by walking, cycling and public transport. **3.4** Effectively integrate land use and transport planning to mitigate impacts of growing transport demands, particularly around industrial areas, activity centres, employment precincts, educational nodes and new growth areas.
MEASURES OF SUCCESS	■ Reduction in transport-related incidents, crashes, injuries and fatalities. ■ Reduced frequency and duration of unplanned closures.	■ Maintain or improve road network reliability. ■ Freight productivity improves. ■ Transport supports the regions tourist economy.	■ Level of transport disadvantage decreases. ■ Greater access and connectivity to places and services. ■ Proportion of people choosing to walk, cycle and take public transport increases.

4.1 Priority 1: Greater safety and resilience

Improve the safety and resilience of the transport system for all users throughout the Northern Queensland region.

A safe transport network is needed to ensure customers can reach their destination without incident. Transport users should feel safe using the transport system and behave in a way that promotes the safety of themselves and others. Examples of initiatives that support and encourage safety include rest areas to mitigate driver fatigue, way-finding to promote legibility on the roads, and wide centre line treatments to reduce the risk of head-on crashes.

Improving resilience and safety in Northern Queensland can be achieved through a combination of improved infrastructure, information, communication technology and education. Identifying safety issues and vulnerable parts of the network are important steps towards addressing safety risks, and developing strategies to keep people safe during and after extreme weather events. Examples include identifying alternative routes around flood-prone parts of the network, improving real-time communication systems to keep customers informed, prioritising new rest areas or upgrades where needed most to reduce driver fatigue, and so on.

Intelligent Transportation Systems, Flinders Highway

Priority 1 aligns to:

- the Transport Coordination Plan's objectives for transport that is safe and secure for customers, and is resilient to Queensland's weather extremes
- the *State Infrastructure Plan's* focus on transport infrastructure that reduces the long-term cost of repair, improves infrastructure resilience, and improves safety and security
- the North Queensland Regional Plan's (draft) regional goal to support the region's communities and economic resources by developing resilient and reliable infrastructure and a transport network that moves people and freight efficiently.

Road safety has many dimensions and includes road conditions as well as driver behaviour. *Safer Roads, Safer Queensland – Queensland's Road Safety Strategy 2015–2021* and the *Heavy Vehicle Safety Action Plan 2019–2021* both identify the importance of safety across a range of factors including roads and roadsides, vehicles, speeds and human behaviour.

Transport objectives

Objective 1.1: Improve the overall safety and security of the transport system for customers.

Identifying and managing transport safety risk is an essential part of working towards zero deaths, and reducing trauma on Northern Queensland's roads, rail networks and waterways. Personal safety is an equally important aspect of improving safety for our customers who need to feel safe, regardless of how they choose to travel.

Improving the safety and security of the transport network will:

- reduce the number of crashes on our road network
- reduce fatalities and hospitalisations
- lead to economic and social benefits
- lead to a greater sense of personal safety.

Objective 1.2: Ensure customers are aware of potential hazards and can make informed decisions about their travel options.

Accurate, convenient and timely information provides customers with a sense of certainty by keeping them informed and increasing their situational awareness. Information can influence a person's decision if and when to travel, and inform them on the best route to take. Timely and effective communication of travel conditions can empower customers to make informed decisions and will:

- reduce confusion and uncertainty when disruptive weather events and transport incidents occur
- manage customer expectations regarding the operation of the transport network during and after disruptions
- allow customers to rely on communications networks to keep them updated on their travel options
- provide customers with a greater sense of awareness regarding transport decisions that affect their safety.

Objective 1.3: Develop a more resilient transport system through disaster response strategies and infrastructure improvements.

Maintaining access to essential services, especially during severe weather events, is necessary to keep people safe and healthy. First responders also need a reliable transport system to access people requiring assistance. The transport system can be developed to maintain connectivity by providing alternatives to routes that regularly flood, and reduce the impacts of inundation so roads can be opened immediately after the water recedes. Safety can be improved by mapping alternative routes, providing real-time information to customers about road closures and network conditions, and preparing contingency strategies.

Developing a more resilient transport system will:

- improve transport options for our customers and protect the economic function of the region under unexpected conditions
- improve access to essential services during and following extreme weather events
- improve network safety.

Townsville Ring Road section 4 facilitates improved safety, flood immunity and productivity gains for the region.

Actions

PRIORITY 1: GREATER SAFETY AND RESILIENCE

OBJECTIVES

Objective 1.1: Improve the overall safety and security of the transport system for customers.
Objective 1.2: Ensure customers are aware of potential hazards and can make informed decisions.
Objective 1.3: Develop a more resilient transport system.

Actions – short-term	1.1	1.2	1.3
A1.01 Road safety Continue to identify, prioritise and nominate locations for road safety improvements as part of road safety programs such as the Safer Roads Sooner, High Risks Roads and Black Spot programs, and through other opportunities such as planned upgrades. Safety improvements could include treatments such as wide centre line treatments, road widening, road side barriers, signage, audio-tactile line markings, and additional overtaking lanes. Priority locations for planned safety upgrades include along the Flinders Highway, Gregory Development Road, Garbutt Upper Ross River Road and North Townsville Road.	✓		
A1.02 Rest areas that meet different customers' needs Continue to identify investment priorities for new or upgraded rest areas to address driver fatigue risks, encourage safe travel and to provide sufficient capacity and amenities to enhance customer experiences particularly on self-drive tourism routes including the Bruce Highway, Gregory Developmental Road and Flinders Highway. Ensure planning and provision of rest areas addresses safety risks associated with shared use by trucks and recreation vehicles.	✓		
A1.03 Facilities to support a safe trucking and transport industry Carry forward the strategic intent of Queensland's *Heavy Vehicle Safety Action Plan 2019–2021* by undertaking a deficiency analysis of roadside facilities to support safe trucking and transport operations, and develop a prioritised investment plan to address the deficiencies. This includes planning for: ▪ heavy vehicle rest areas and decoupling pads on the Flinders Highway ▪ improvements to inspection and weigh pad sites on the Bruce Highway ▪ heavy vehicle rest areas along the Gregory Development Road.	✓		
A1.04 Tourist safety Continue to identify opportunities to improve safety and customer experience on tourist routes such as the Pacific Coast Way, the Great Inland Way and the Overlanders Way, particularly on routes shared with heavy vehicles such as road trains.		✓	✓
A1.05 Improving mobile coverage Investigate potential solutions to improve mobile communication coverage across the region's transport network, for example, at recognised rest stops.		✓	✓
A1.06 Intelligent Transport Systems (ITS) Identify opportunities to implement Intelligent Transport System (ITS) initiatives along the Bruce Highway in response to the outcomes of the Bruce Highway Road Operations Improvement Project. Consider potential applications for other key links throughout the region such as the Flinders Highway, Gregory Developmental Road and at approaches to key crossings affected by flooding.	✓	✓	✓
A1.07 Resilience investigations Continue to undertake road network resilience investigations across the region to identify key locations susceptible to weather events and understand requirements to manage, mitigate and avoid network impacts. Investigations should explore key routes susceptible to flooding resulting from major weather events such as the Bruce Highway, Flinders Highway and Gregory Development Road. Other areas include lower Herbert and residential growth areas in Townsville.		✓	✓

PRIORITY 1: GREATER SAFETY AND RESILIENCE

OBJECTIVES

Objective 1.1: Improve the overall safety and security of the transport system for customers.

Objective 1.2: Ensure customers are aware of potential hazards and can make informed decisions.

Objective 1.3: Develop a more resilient transport system.

Actions – short-term (cont.)	1.1	1.2	1.3
A1.08 Resilience mitigation Undertake planning, design and business case development to improve the resilience of the transport network and to help prioritise investments in transport infrastructure upgrades, including: ▪ along North Townsville Road, from Ingham Road to North Shore Boulevard, including the Bohle River Bridge ▪ along the Bruce Highway, in particular, as part of planning for the Ingham to Cardwell Range Deviation and Burdekin Deviation ▪ upgrading bridge and culvert structures on the Flinders Highway, Gregory Developmental Road and Woodstock-Giru Road ▪ Hervey Range Road ▪ Townsville Connection Road (Stuart Drive) ▪ Mount Spec Road.			✓
A1.09 Cross-agency solutions to infrastructure resilience Collaborate with federal, state agencies and local government to explore opportunities to coordinate disaster and reconstruction funding with investment into preventative infrastructure to improve resilience, reduce ongoing maintenance costs and cater for the region's changing climate.			✓
A1.10 Emergency transport access Continue to develop and adopt best practices for coordination between Transport and Main Roads and emergency management agencies to facilitate efficient and effective responses to critical incidents, disruptive events and extreme weather events.	✓	✓	✓
A1.11 Personal security Work with local government to identify opportunities to improve customer safety and amenity at passenger transport stops, stations and terminals. Priority locations include, for example, bus stops at Castletown Shopping Centre, Thuringowa Shopping Centre, Aitkenvale Shopping Centre and priority locations in the Northern Beaches suburbs.	✓		
A1.12 Efficiency and reliability of urban arterial and rural roads Continue to investigate options to improve the safety and efficiency of urban arterial roads and rural highways, especially major intersections, in key regional centres including Townsville, Ayr, Brandon, Charters Towers and Ingham.	✓		
A1.13 Road sealing prioritisation Investigate options and investment priorities for the upgrading of key roads that are unsealed to a sealed standard across Northern Queensland. Investigations for example may include roads such as Ayr-Ravenswood Road, unsealed sections between Paluma and Mt Fox and Paluma and Hervey Range Road, and other unsealed roads in rural areas within the region where there are identified safety issues or where, the route provides an alternative connection in the event of major disruptions.	✓		

PRIORITY 1: GREATER SAFETY AND RESILIENCE

OBJECTIVES

Objective 1.1: Improve the overall safety and security of the transport system for customers.
Objective 1.2: Ensure customers are aware of potential hazards and can make informed decisions.
Objective 1.3: Develop a more resilient transport system.

Actions – short-term (cont.)	1.1	1.2	1.3
A1.14 Defence and logistic operations Undertake planning to cater for defence movements, and improve the efficiency, functionality, structural capability and resilience of the defence transport network (Refer to Figure 5, page 45), particularly on the Bruce Highway (through and north of Townsville), the Flinders Highway and Hervey Range Road, to existing and expanding field training areas.	✓		✓
A1.15 Rail crossing safety Continue to improve safety at rail level crossings and cane rail crossings through initiatives such as reducing the number of level crossings, improving infrastructure and exploring new technology to align with the *Queensland Level Crossing Safety Strategy 2012–2021*, including: ▪ the Haughton River Flood Plain Upgrade project which will eliminate two cane rail crossings ▪ planning for both the Burdekin, and Ingham to Cardwell Range deviations which may eliminate a number of cane rail crossings, as well as crossings on the North Coast line.	✓		
A1.16 Animal collision avoidance strategy Develop an animal collision avoidance strategy to reduce the severity and number of crashes with animals on the transport network. Collision avoidance technologies and other innovative approaches should be considered as part of the strategy.	✓		

Open level crossing, Charters Towers

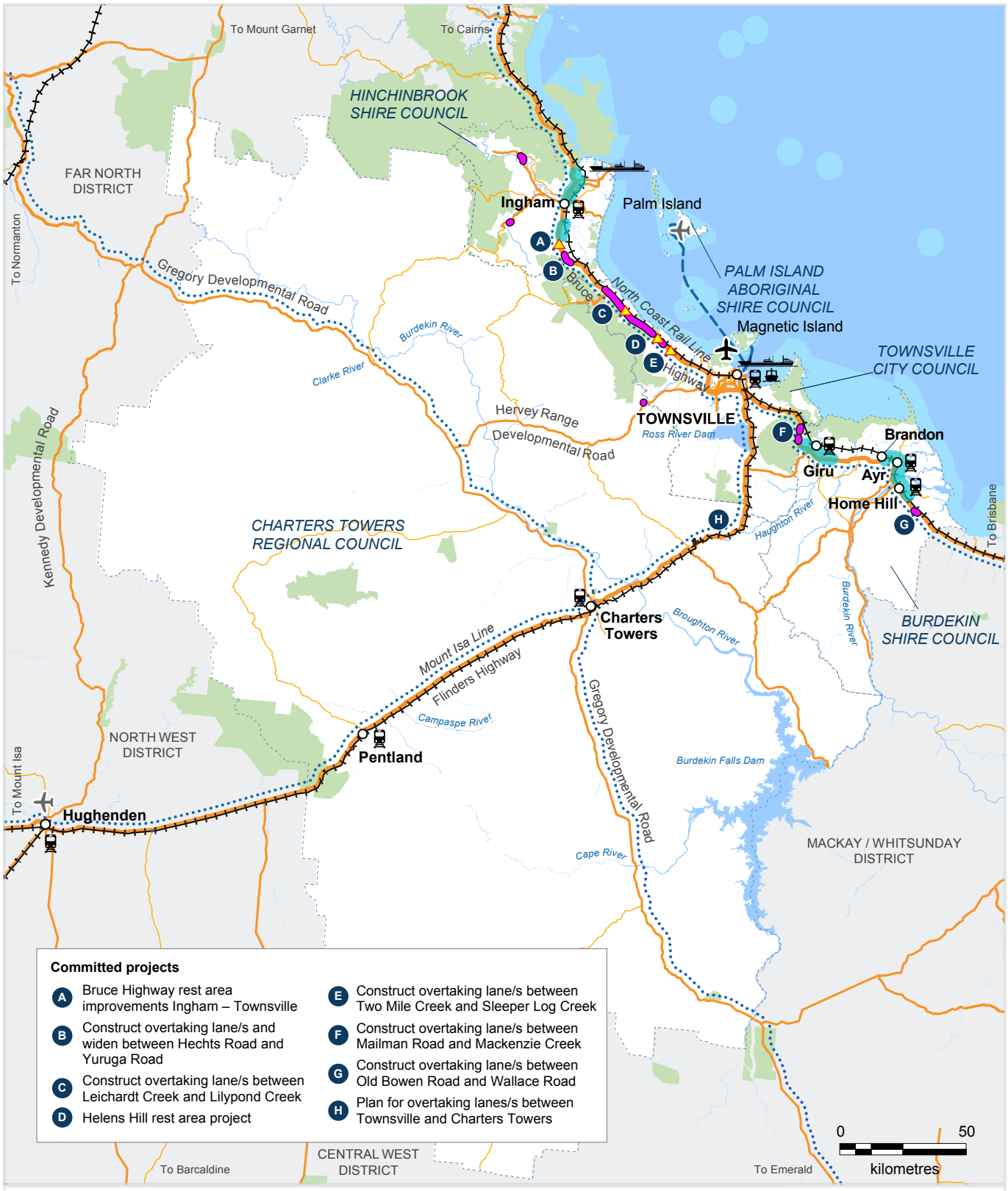


Figure 6: Priority 1 region map

This map is indicative to illustrate proposed strategies for the region and is not intended to be accurate in terms of exact geographic extent.

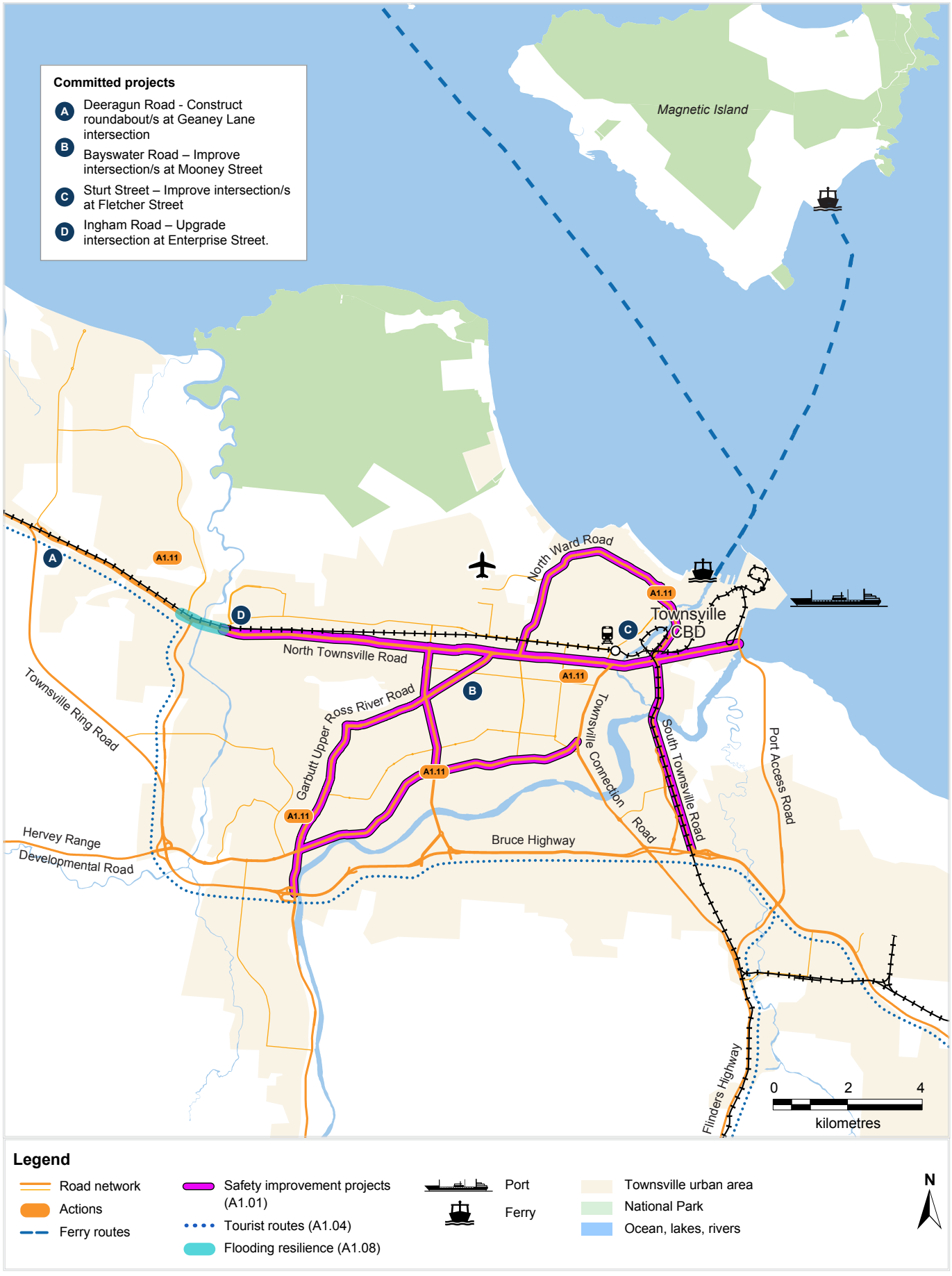


Figure 7: Priority 1 Townsville map

This map is indicative to illustrate proposed strategies for the region and is not intended to be accurate in terms of exact geographic extent.

4.2 Priority 2: Transport that supports the economy

Develop a transport system that facilitates an increase in economic growth and productivity across the Northern Queensland region.

Economic productivity and growth is essential for the region's prosperity particularly in relation to sustaining employment for strong communities. Transport has a central role in supporting the economic function of the Northern Queensland region. The transport network is required for an efficient and reliable supply chain that underpins the productivity of the region.

Priority 2 aligns to:

- the Transport Coordination Plan's objective for transport that facilitates the efficient movement of people and freight to grow Queensland's economy
- the *State Infrastructure Plan's* focus on transport infrastructure that unlocks the potential of critical supply chains by identifying and improving the freight network
- the North Queensland Regional Plan's (draft) regional goal to position the North Queensland region as a leading regional economy over the next 25 years by capitalising on its diverse industry base and numerous competitive advantages.

The role of the transport network in supporting the economy extends beyond its freight and commercial transport function. In the Northern Queensland region the transport network has a critical role in connecting an emerging tourism market to the region's cultural, historic and natural attractions.

Transport objectives

Objective 2.1: Plan and develop transport infrastructure that supports economic growth and productivity for the region's key industries.

It is estimated that an additional 46,000 jobs will be required to support the region's forecast population in 2031. Transport plays a critical role in supporting economic growth and productivity by connecting businesses with input sources, other businesses and their markets. Planning for and investing in transport that reduces transport costs and expands access to markets is an important outcome for supporting economic growth and productivity.

Transport infrastructure that supports economic growth and productivity for the region's key industries will:

- reduce transport costs
- increase access to international markets
- increase access to production inputs, trade opportunities and lead to long term productivity gains.

Overland Way (Flinders Highway), Charters Towers

Objective 2.2: Develop a transport system that optimises supply chains through an integrated network and facilitates the efficient movement of people and freight to grow the economy.

The efficient movement of goods between producers, manufacturers and customers, is important to the future growth of the region's economy. Efficient supply chains are achieved through holistic and integrated planning across all modes and jurisdictions that promotes a seamless end-to-end movement of people and goods through the entire journey. Capacity, reliability, access and connectedness that meet customer and industry needs are key requirements for developing a transport system that unlocks economic growth. Planning in partnership across all levels of government and with customers and industry is essential for finding the best solutions to optimise the transport system for faster, lower cost and more reliable movement of people and goods.

An optimised supply chain will:

- minimise unnecessary load transfers, splitting or handling allowing direct connections between producers and receivers
- efficiently link the labour force to workplaces
- minimise transportation costs for producers, transporters, distributors and consumers
- provide reliable and direct access to transport hubs such as air and sea ports, and rail terminals
- maximise use of existing capacity at the Port of Townsville through multi-user access arrangements.

Nelly Bay Ferry Terminal, Magnetic Island

Actions

PRIORITY 2: TRANSPORT THAT SUPPORTS THE ECONOMY

OBJECTIVES

Objective 2.1: Plan and develop transport infrastructure that supports economic growth and productivity for the region's key industries.

Objective 2.2: Develop a transport system that optimises supply chains through an integrated network and facilitates the efficient movement of people and freight to grow the economy.

Actions – short-term	2.1	2.2
A2.01 Regional freight plan Develop an integrated multi-modal freight plan to identify and prioritise freight network improvements to support supply chain efficiency across the region. The plan will consider current and emerging freight demands; access and movement requirements for oversize over-mass and high productivity vehicles (including Townsville to (west of) Charters Towers Heavy Vehicle Safety and Productivity Package); first and last mile links; supply chain coordination models, and the role of the of the region's ports, including the Port of Townsville, airports, rail terminals, and key freight routes.	✓	✓
A2.02 Bridges and structures Continue planning for necessary bridge replacements, rehabilitation/maintenance and structural enhancements across the state-controlled road network for high priority structures in the region to improve economic productivity, and to address load limits, dimensional deficiencies, resilience and safety issues. Priority locations include the Burdekin River Bridge, Macrosson Bridge, Rooney's Bridge, Bohle River Bridge and Bowen Road Bridge.	✓	✓
A2.03 Port of Townsville expansion Continue to expand the Port of Townsville in accordance with the Port of Townville Master Plan, to support the economic growth and productivity of the region. To facilitate growth, ensure the future functionality of strategic infrastructure corridors is maintained by avoiding encroachment from incompatible land uses. Ensure the transport network supports safe and efficient access for freight including, for example, new accesses and service roads in the Townsville State Development Area from the Townsville Port Access Road, Bruce Highway and Stuart Bypass.	✓	✓
A2.04 Access to existing and future industrial areas Work with local government, the private sector and the Department of State Development, Manufacturing, Infrastructure and Planning to plan for safe and appropriate levels of access to industrial areas in the region, including for industrial areas in Ingham, Burdekin and Charters Towers, at Roseneath, the Townsville State Development Area, the Bohle Future Industrial Area and the Lansdown Station Future Industrial Area (Woodstock).	✓	✓
A2.05 Plan and protect future transport corridors Plan and protect future transport corridors including Ingham to Cardwell Range Deviation, Southern Access Corridor and the Burdekin Deviation. Where future deviations are proposed around key regional townships such as Ingham and Ayr, the potential for local economic impacts will be assessed as part of the process.	✓	
A2.06 Protect the future Townsville Eastern Access Rail Corridor Plan and protect the Townsville Eastern Access Rail Corridor, including undertaking an Environmental Impact Statement.	✓	
A2.07 Planning for future road upgrades Undertake route and link planning for the State Strategic and State Regional road network for: ▪ high priority inter-regional links such as the Flinders Highway, Hervey Range Road, Gregory Developmental Road and Woodstock-Giru Road ▪ key routes connecting the Townsville CBD such as Townsville Connection Road and Boundary Street ▪ Townsville Port Road, North Townsville Road and South Townsville Road.	✓	✓

PRIORITY 2: TRANSPORT THAT SUPPORTS THE ECONOMY

OBJECTIVES	
Objective 2.1: Plan and develop transport infrastructure that supports economic growth and productivity for the region's key industries.	
Objective 2.2: Develop a transport system that optimises supply chains through an integrated network and facilitates the efficient movement of people and freight to grow the economy.	

Actions – short-term (cont.)	2.1	2.2
A2.08 Tourism and transport Undertake a regional transport needs analysis to understand the travel needs of tourists and visitors, and strategic opportunities to improve visitor access, connectivity to tourist destinations and experiences across the region's transport system. This includes a focus on the Pacific Coast Way, Overlander's Way and Great Inland Way.	✓	
A2.09 Transport that supports major events Work with local governments and other state government agencies to improve transport infrastructure and systems to strengthen the region's capacity to host events, minimise disruptions to the transport network and increase sustainable transport options for large events such as motor racing, major sporting and entertainment events, particularly at the North Queensland Stadium.	✓	✓
A2.10 Design standards fit for remote conditions In partnership with local government, develop and apply fit for purpose transport infrastructure design standards for rural and remote areas to achieve value for money outcomes.	✓	
A2.11 Business case methodologies Develop informed business cases (including consideration of whole of life costs), investigating ways in which evaluation and assessment methodologies can better reflect the benefits of investing in remote and regional transport projects (for example, Infrastructure Australia's rural road group approach and the CSIRO TraNSIT model approach).	✓	
A2.12 Townsville CBD to the Douglas Knowledge and Health Precinct Provide advice and support to the Department of State Development Manufacturing Infrastructure and Planning's investigations into innovative public transport opportunities to connect the Townsville CBD with the Douglas Knowledge and Health Precinct.	✓	✓

Actions – medium/long-term	2.1	2.2
A2.13 Strategic outlook for mining Consider the strategic transport opportunities for supporting future development and diversification in the mining and resources sector when undertaking transport planning, particularly from the North West and North East Minerals Provinces, and Charters Towers to the Port of Townsville.	✓	✓
A2.14 North Coast Line Develop a North Coast Line Action Plan to prioritise planning that will support rail freight and passenger efficiency improvements. This may include opportunities to reduce the number of level crossings, increase the length of passing loops, improve flood resilience, and re-align low speed sections of the North Coast Line.	✓	✓
A2.15 Cruise ship industry Investigate opportunities for the region to support a growing cruise ship industry through improving access to the Port of Townsville to meet capacity needs, and improving the quality of facilities and surrounding area to enhance visitor experience.	✓	✓

Figure 8: Priority 2 region map

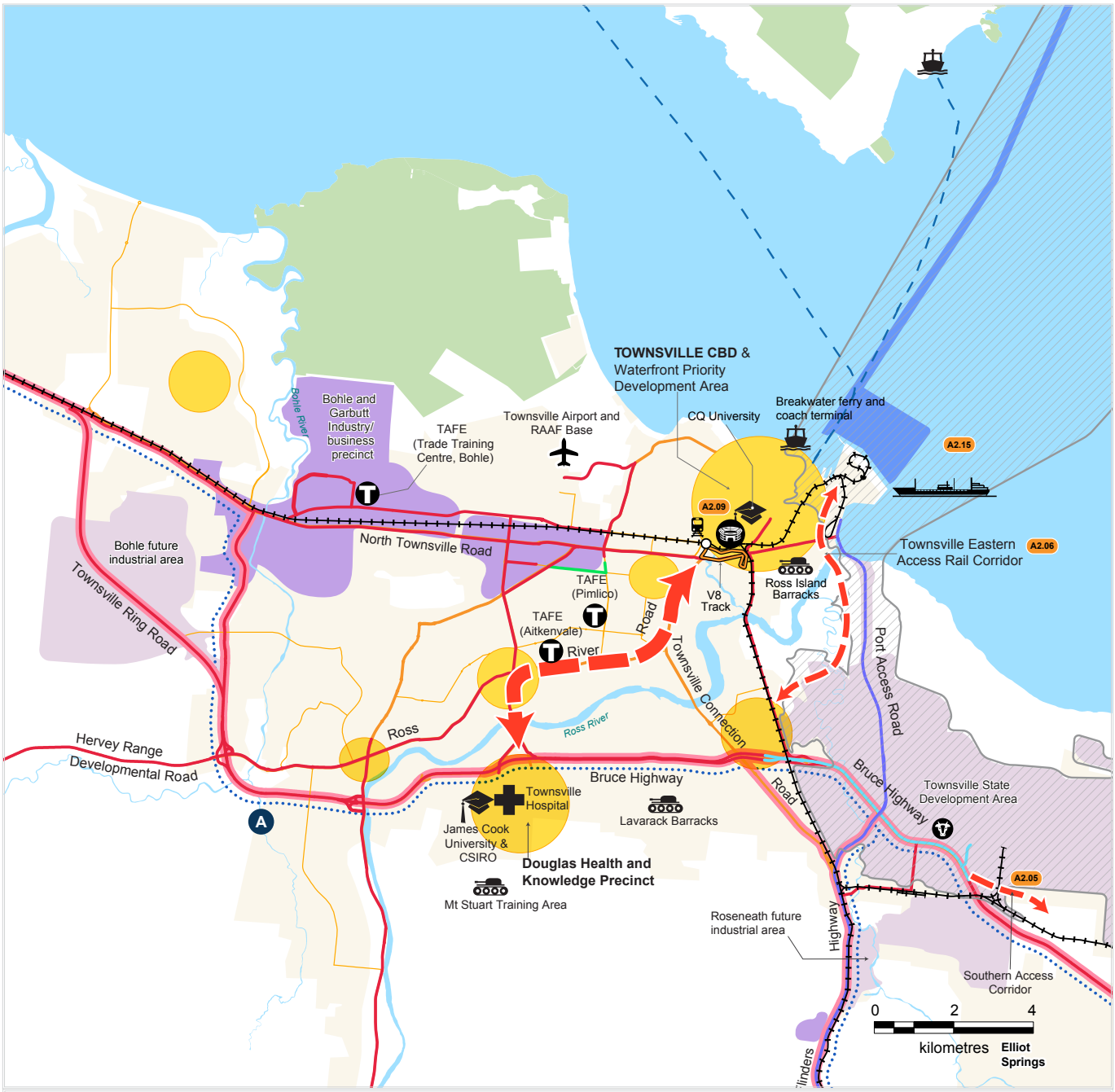


Figure 9: Priority 2 Townsville map

This map is indicative to illustrate proposed strategies for the region and is not intended to be accurate in terms of exact geographic extent.

4.3 Priority 3: Integrated transport for a sustainable, liveable and prosperous region

Develop an integrated, accessible and connected transport system that supports a liveable, sustainable and prosperous region

Access and connectivity play major roles in creating liveable places and promoting positive health and social outcomes. Integrated land use and transport planning, combined with convenient and affordable transport options has an essential role in creating attractive, safe and permeable built environments that are easy for people to get around regardless of age, ability or income. Different communities and customers have different access needs and challenges. A considered and tailored approach to transport planning and service provision is essential to ensure transport options are appropriate and affordable and meet the needs of the region's diverse communities and people.

Responsible development and operation of transport networks is important for building a sustainable region. Integrated land use and transport planning is critical to ensure the transport system meets customers' needs, minimises environmental impacts and reduces the land and resources required for transport purposes. Sustainable development of the transport system is essential for meeting the region's goals and protecting lifestyle and environmental values.

This priority can be achieved through integrated land use and transport planning, supporting a more compact urban form, encouraging a shift towards sustainable travel behaviour, and applying best practice for planning, design and delivery of transport projects.

Views of Townsville and Magnetic Island from Castle Hill

Priority 3 aligns to:

- the Transport Coordination Plan's objectives for transport that meets the needs of all Queenslanders, now and into the future, connects communities to employment and vital services, and contributes to a cleaner, healthier and more liveable environment
- the *State Infrastructure Plan's* focus on transport infrastructure that seeks innovation and technology solutions to create a better performing and lower emissions transport system, and connects regional communities with access to essential services and opportunities
- the North Queensland Regional Plan's (draft) regional goal to ensure growth occurs within a consolidated and connected urban settlement pattern, and to create liveable and sustainable communities.

Transport objectives

Objective 3.1: Connect communities to essential services and places where they can learn, work and play, through a range of appropriate and affordable transport options.

Healthy, inclusive and liveable communities are places where people of all ages and abilities have appropriate access to basic goods and services. Each community is different and has different access needs and limitations. A range of solutions will be needed to provide appropriate and affordable transport options to enhance community connectivity in different parts of the Northern Queensland region. Improving connectivity will require a mix of solutions encompassing infrastructure, transport services and funding schemes.

Connecting communities to essential services will:

- increase capacity to access services and participate in activities
- reduce the time and cost of accessing essential services
- reduce isolation and improve community welfare.

Objective 3.2: Develop a sustainable transport system that supports the environmental and lifestyle values of the region.

The region's transport system needs to be developed in a way that contributes to the values of the region, its communities and visitors. Protecting lifestyle and environmental values is critical to the prosperity of the region, including attracting people to live or visit, thereby supporting local businesses and helping to grow the tourism industry. The transport network will be developed in a way that protects and enhances the regions natural features such as the World Heritage listed Great Barrier Reef Marine Park, Great Barrier Reef Coast Marine Park, Wet Tropics World Heritage Area, national parks, declared fish habitat areas and pristine tropical islands.

A transport system that is compatible with the environmental and lifestyle values of the region will:

- lessen impacts on the environment
- protect amenity for communities
- support the lifestyle, sustainability and the tourism values of the region.

Objective 3.3: Create a more sustainable transport system by supporting a shift away from private vehicle dependency and encouraging more trips by walking, cycling and public transport.

Managing growth in private vehicle use and mitigating the impacts of increasing traffic is important in maintaining the liveability of our region. Offering transport alternatives suitable to the region's geography and changing demographics — including improved active transport infrastructure and public transport services — requires integrated planning and consideration of changing customer needs. Maintaining the efficiency and accessibility of a transport system requires a holistic approach, with strategies that respond to the underlying drivers for transportation demand.

A more sustainable transport system that reduces dependency on the private vehicle will:

- minimise traffic growth and congestion pressures, and costs associated with crashes and environmental impacts
- reduce road and parking expenditure
- reduce vehicle and fuel expenditure
- increase transport options
- improve health outcomes
- increase transport access and equity by reducing reliance on private vehicle travel.

Objective 3.4: Effectively integrate land use and transport planning to mitigate impacts of growing transport demands, particularly around industrial areas, activity centres, employment precincts, educational nodes and new growth areas.

Land use planning has a significant role in influencing the efficiency and functional characteristics of transport networks. The development of transit oriented communities and mixed-use centres provide greater opportunities to live and work locally. Quality, well-designed public spaces and transport facilities create attractive environments where people feel safe and confident getting around, whether by walking, cycling, taking public transport or driving a private vehicle. Integrated land use and transport outcomes lead to cheaper, more convenient and sustainable transport options which reduce greenhouse gas emissions.

Effective land use and transport integration will:

- lead to greater levels of social inclusion
- ensure a better standard of living for the region's communities
- reduce reliance on private vehicles to access day-to-day services
- reduce the negative environmental impacts of transport.

Actions

PRIORITY 3: INTEGRATED TRANSPORT FOR A SUSTAINABLE, LIVEABLE AND PROSPEROUS REGION

OBJECTIVES

Objective 3.1: Connect communities to essential services and places where they can learn, work, and play, through a range of appropriate and affordable transport options.
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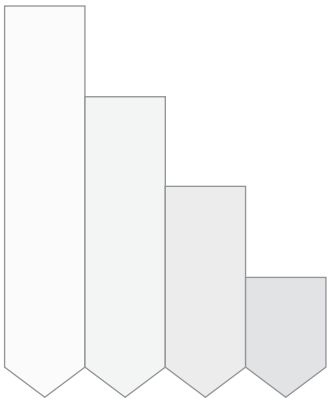

Actions – short-term	3.1	3.2	3.3	3.4
A3.01 Network and area studies Undertake and update multimodal network and area studies to plan for anticipated future transport demands, including those relating to population, employment and economic changes and growth. Priority areas include Townsville (local government area) and the Douglas Knowledge and Health Precinct.	✓	✓	✓	✓
A3.02 Connecting island communities Investigate opportunities to improve social equity and enhance economic outcomes for island communities, by improving connections between Palm Island and Magnetic Island, and Townsville's mainland. This could include improved ferry facilities and services, including service frequency.	✓			
A3.03 Access for regional and rural communities Investigate opportunities to improve the connectivity between regional and rural communities (in the Burdekin, Hinchinbrook, Charters Towers and Palm Island shires) to essential goods and services, and to Townsville. The investigation should be multi-modal and should consider infrastructure provisions, transport services, the role of digital networks and other initiatives to help improve connectivity.	✓			
A3.04 Access for people with disabilities Improve the end-to-end journey for people with a disability by working in collaboration with key stakeholders to achieve the objectives of the *Disability Action Plan 2018–2022*.	✓	✓		
A3.05 Passenger transport infrastructure Work with local government to identify opportunities to improve passenger transport facilities and personalised transport services (taxis and ride share) at major employment, health and educational centres.	✓		✓	
A3.06 Smart ticketing Make the public passenger transport system easier to use by improving the customer experience for ticketing and fare purchase through improved fare and ticketing systems, and by implementing a new account-based system for paying for transport fares across Townsville and Magnetic Island. Opportunities for pricing incentives and innovative products to encourage greater passenger transport uptake should also be considered.	✓		✓	
A3.07 Road hierarchy and ownership Review network vision standards, road hierarchy and road ownership in the region, to ensure road maintenance and management sits with the appropriate jurisdiction.				✓

PRIORITY 3: INTEGRATED TRANSPORT FOR A SUSTAINABLE, LIVEABLE AND PROSPEROUS REGION

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Objective 3.4: Effectively integrate land use and transport planning to mitigate impacts of growing transport demands.

Actions – short-term (cont.)	3.1	3.2	3.3	3.4
A3.08 Principal cycle network plan In collaboration with local governments, update the *North Queensland Principal Cycle Network Plan* every five years and accompanying Priority Route Maps for the townships and cities in the Northern region of Ayr, Brandon, Home Hill, Charters Towers, Ingham and Townsville every two years. Consider as part of the review of the principal cycle network, expanding the geographic scope of the network to include additional townships across the region.	✓	✓	✓	
A3.09 Principal cycle network plan implementation Undertake planning to deliver the principal cycle network to support more cycling, more often on safe, direct and connected routes via: ▪ options analysis and business case development for cycling infrastructure on highest priority routes such as connections between the Northern Beaches, and Townsville CBD to Douglas Health and Knowledge Precinct ▪ provision for cycling infrastructure as part of planning for other TMR funded projects on principal cycle routes.	✓	✓	✓	✓
A3.10 High frequency public transport Investigate and confirm appropriate high frequency passenger transport corridors and network hubs for staged implementation in Townsville's urban area. Recommendations for sequencing, based on development thresholds and demand will be considered to support regional and local land use planning outcomes and the desired city structure.	✓	✓	✓	✓
A3.11 Transit oriented land use outcomes Work with local government and other authorities to encourage compact mixed-use urban forms in priority living areas to support transit oriented land use outcomes, particularly along existing and future high frequency public transport corridors.	✓		✓	✓
A3.12 Network optimisation solutions Work with Townsville City Council to investigate opportunities to optimise transport network operations and performance on Townsville's major urban arterial road network, including adopting Smarter Solutions such as lane use management systems, improved traffic signal coordination and bus priority treatments, particularly on the corridor between the Townsville CBD and the Douglas Knowledge and Health Precinct (Flinders Street, Charters Towers Road, Ross River Road, and Nathan Street).	✓	✓		

PRIORITY 3: INTEGRATED TRANSPORT FOR A SUSTAINABLE, LIVEABLE AND PROSPEROUS REGION

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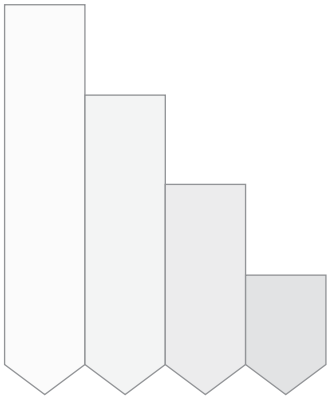

Actions – short-term (cont.)				
A3.13 Passenger transport planning Partner with Townsville City Council to continue to develop the Townsville passenger transport network with a focus on: ▪ modernising the network by improving connectivity, coverage and efficiency; frequency between residential areas, major centres and key employment and education nodes; and exploring alternative service delivery models that meet different or changing customer needs (for example, demand responsive transport services) ▪ improving customer experience by enhancing access to information and improving ticketing and fare arrangements ▪ targeting improvements to where they are most needed to support growth and social equity.	✓		✓	
A3.14 Improved walkability and amenity Work with local government to investigate and prioritise opportunities to improve the pedestrian environment at key centres, employment nodes and education precincts throughout the region to strengthen walkability, local amenity and connectivity to public passenger transport.	✓	✓	✓	
A3.15 Carparking management Work with local government and other stakeholders to investigate options for the management of parking in key centres, employment nodes and education precincts. As a priority, investigations should focus on encouraging more people to: ▪ travel to the Townsville CBD as the preferred destination for shopping, commerce, leisure and recreation in the region ▪ choose public passenger and active transport.			✓	✓
A3.16 Supporting active transport tourism Provide advice to local government, other state government agencies and tourism bodies to support planning, design and construction of tourism routes in the region to support active transport tourism. For example, planning for the tourism route identified on Magnetic Island in the *North Queensland Principal Cycle Network Plan*.	✓	✓	✓	
A3.17 Managing activities within state road corridors Work with local government to ensure activities within state-controlled road corridors are appropriately managed, with particular consideration given to safety, efficiency, amenity, land use, economic opportunities and community issues.		✓		✓

PRIORITY 3: INTEGRATED TRANSPORT FOR A SUSTAINABLE, LIVEABLE AND PROSPEROUS REGION

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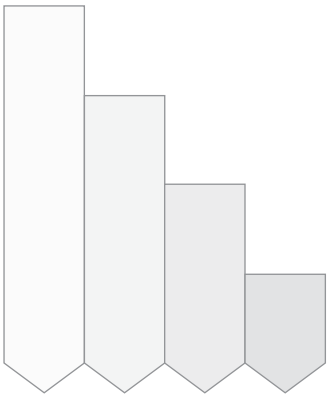

Actions – short-term (cont.)				
A3.18 Integrated land use and transport for priority development area Continue to work with Townsville City Council and other state agencies to develop a multi-modal sustainable transport strategy to support the North Queensland Stadium and surrounding Townsville City Waterfront Priority Development Area.		✓		✓
A3.19 Boating infrastructure prioritisation Continue to prioritise investment in boating infrastructure across the region based on an assessment of demand and input from the community and stakeholders, using tools such as the *Recreational Boating Facilities Demand Forecasting Study* (for individual local government areas).	✓	✓		
A3.20 Travel surveys and data collection Continue to undertake regular travel and transport surveys and data collection to better understand travel behaviour patterns and trends to inform integrated transport and land use planning.				✓
A3.21 Multimodal corridor planning Undertake multimodal corridor planning for transport corridors with major economic significance or that are key growth corridors in the region. Priority corridors include, for example: ▪ Mount Isa to Townsville ▪ The Townsville CBD to the Douglas Knowledge and Health Precinct ▪ Elliot Springs to Northern Beaches via the Townsville CBD. Where new or re-purposed transport corridors are identified as part of these investigations, preservation should be considered to ensure the future functionality and integrity of the corridors are not compromised by development or other activities.	✓	✓	✓	✓

PRIORITY 3: INTEGRATED TRANSPORT FOR A SUSTAINABLE, LIVEABLE AND PROSPEROUS REGION

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Objective 3.4: Effectively integrate land use and transport planning to mitigate impacts of growing transport demands.

Actions – medium/long-term				
A3.22 Scenario planning for the longer term Consider the impact of climate change in the planning of the transport network in North Queensland, through long-term scenario modelling and analysis.		✓		✓
A3.23 Low and zero emission vehicles Plan for the future roll out and integration of low and zero emission vehicles (plug-in electric and hydrogen fuel-cell) in regional and remote Queensland, aligning with *The Future is Electric – Queensland's Electric Vehicle Strategy,* and other relevant State-wide strategies and plans, to ensure integration and connectivity.		✓		
A3.24 Environmental systems and natural processes Work with key stakeholders to identify and prioritise opportunities to improve environmental outcomes in developing and operating the transport system, including vegetation management, visual amenity, water quality management, protection of the Great Barrier Reef and improved wildlife movement, for example, through the use of water sensitive urban design and environmental offsets.		✓		✓

Spirit of Queensland tilt train, heading northbound to Townsville

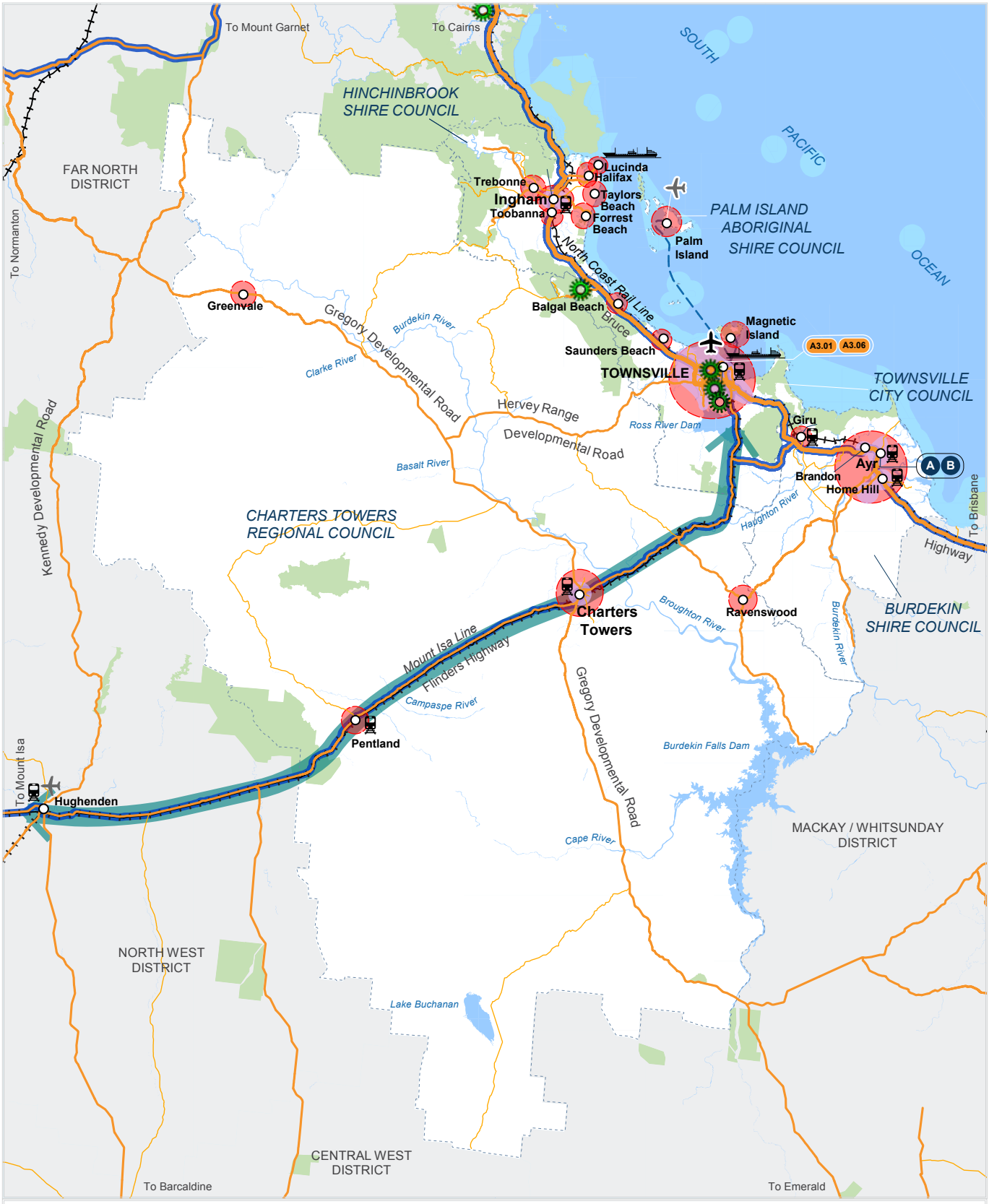

Figure 10: Priority 3 region map

This map is indicative to illustrate proposed strategies for the region and is not intended to be accurate in terms of exact geographic extent.

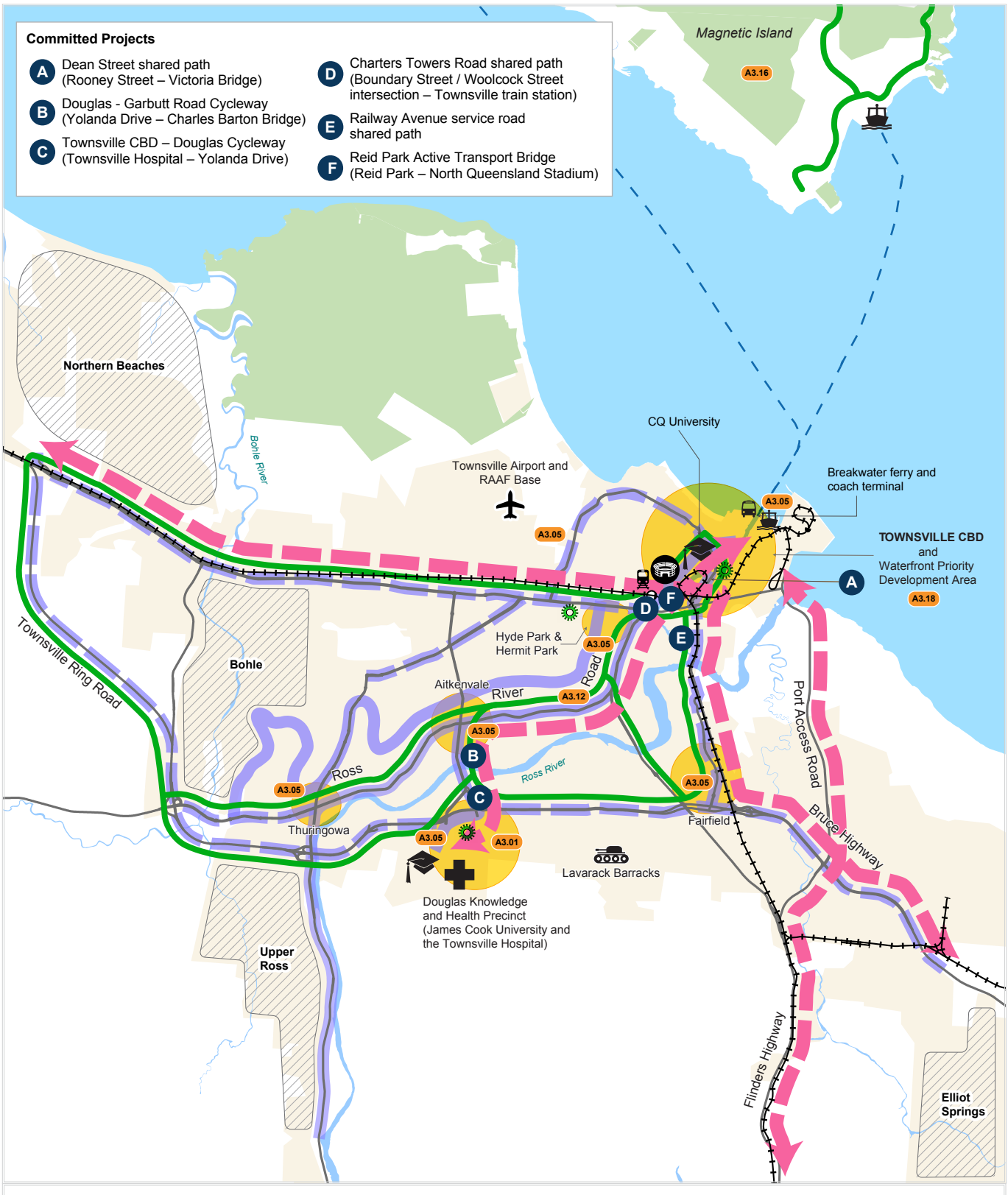

Figure 11: Priority 3 Townsville map

This map is indicative to illustrate proposed strategies for the region and is not intended to be accurate in terms of exact geographic extent.

Aerial view of event in Townsville CBD

5. Implementation

5.1 Taking action

Delivering the *Northern Queensland Regional Transport Plan* will require:

- further integration with the strategic direction of the region's local governments
- continued engagement with our stakeholders and customers
- collaborative and considered decision making
- a drive from all partners to deliver a safer, more efficient, reliable and integrated transport network.

This Plan will be used to inform transport planning priorities and investment decision making for the region. The Plan will ensure that future investments address the priorities of customers, stakeholders and the community.

Figure 12 shows the importance of the Regional Transport Plans in the Transport and Main Roads investment lifecycle.

Transport and Main Roads provides opportunities for customers to provide input into planning actions outlined in this plan via the department's website. Information on our projects including planning, studies and construction projects can be found at www.tmr.qld.gov.au/Projects.

Transport and Main Roads and its planning partners are responsible for ensuring the priorities and actions in this Plan are realised. They will be delivered by:

- **Informing the *Queensland Transport and Roads Investment Program* (QTRIP).**

  QTRIP is released annually. It is a funded program of work that will be delivered over the upcoming four years. Projects are listed on QTRIP after having gone through an investment prioritisation process that will be informed by this Plan.

- **Aligning with the *State Infrastructure Plan.***

  Regional Transport Plans will inform the programs of work within the *State Infrastructure Plan*. QTRIP informs the *State Infrastructure Plan's* construction pipeline. Regional Transport Plans align planning and investment frameworks with the region's challenges and opportunities.

- **Being considered in local and federal government investment decisions and plans.**

  This Plan has been prepared in consultation with other levels of government and considers their strategic planning and policy documents.

- **Delivering the Transport System Planning Program (TSPP).**

  The TSPP is a rolling program of planning projects across all modes and all regions with projects ranging from network to link level and investment proposal activities. Demonstrated alignment with RTPs is essential for planning projects to be eligible for funding under the TSPP.

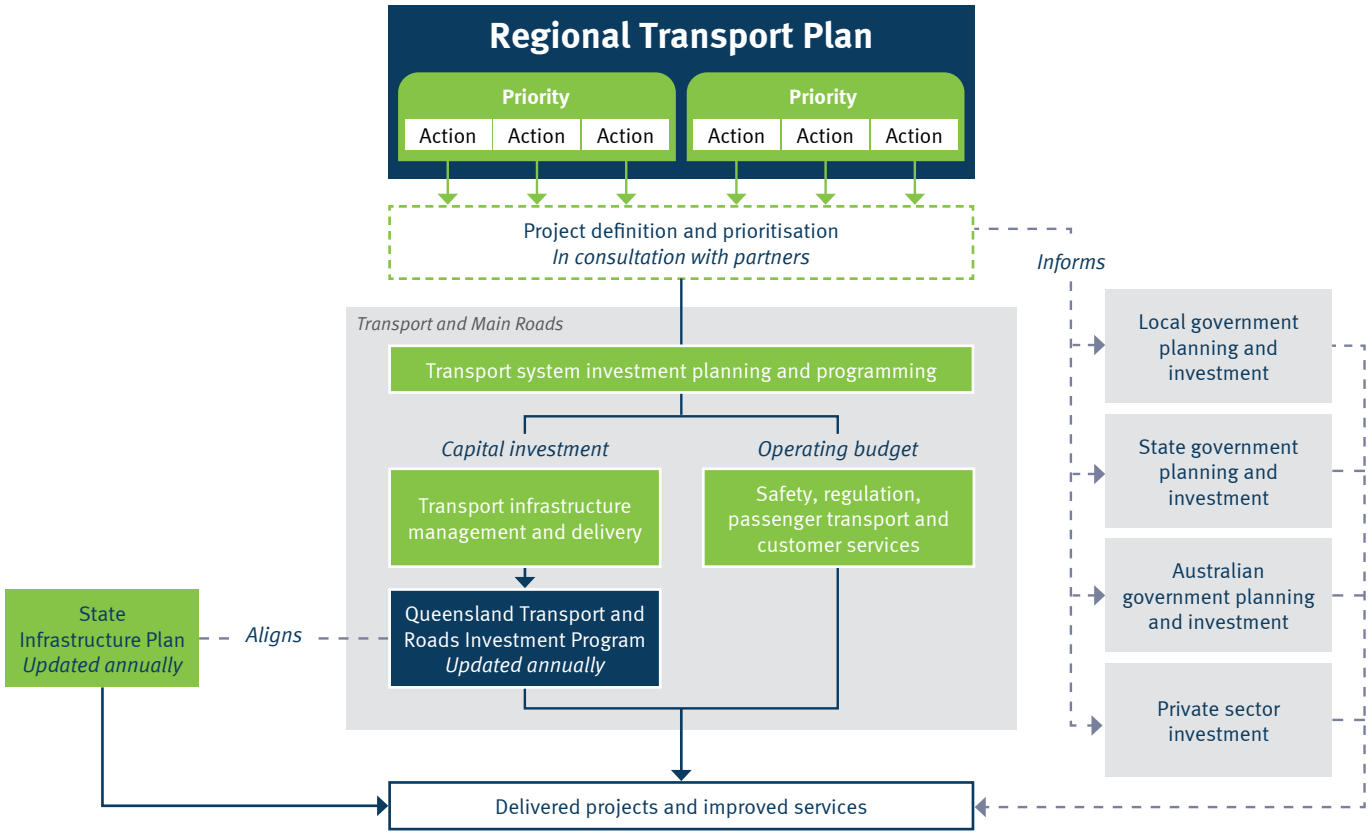

Figure 12: Regional Transport Plans are a critical step in Transport and Main Roads investment lifecycle

5.2 Delivering in partnership

More can be achieved when partnering with stakeholders to deliver shared goals using collective expertise and resources. Throughout the development of the *Northern Queensland Regional Transport Plan*, Transport and Main Roads has built relationships with stakeholders from all levels of government, business and industry. These relationships will be maintained and built on to deliver the actions and opportunities outlined in this Plan. Opportunities for partnering include:

- collaborative planning leveraging knowledge from researchers, universities and education providers
- inviting project development support from individuals or organisations with an interest in implementing an initiative or action
- establishing funding partnerships to accelerate action delivery and realise economic or commercial benefits, for example, through market-led proposals or public-private partnerships
- providing resource support such as human resources, equipment or material.

Cooperative transport planning is the foundation for delivery of Regional Transport Plans. Each Plan will be delivered with a focus on cooperation, coordination and collaboration. This approach builds on the framework for inter-agency cooperation established within the Roads and Transport Alliance (RTA). The RTA is a partnership between Transport and Main Roads and the Local Government Association of Queensland, on behalf of local governments, for the stewardship of Queensland's regional road and transport network.

Local governments together with Transport and Main Roads form Regional Roads and Transport Groups (RRTGs). Moving forward RRTGs will work collaboratively to prioritise investment on road and transport infrastructure and should evolve further to influence the strategic planning and management of regional transport networks. This includes reviewing and identifying specific economic drivers, opportunities and challenges as they change over time to inform project identification and prioritisation.

The priorities and actions outlined in this Regional Transport Plan will help focus the RRTG in its approach to strategic transport planning and local transport infrastructure investments.

It is acknowledged that not all local governments in the North Queensland region are part of a RRTG. In such cases it will be necessary for direct partnership arrangements to be developed between Transport and Main Roads and the respective local government.

Townsville Recreational Boat Park: Delivered in partnership with the State Government and Townsville City Council

5.3 Measuring success

Overall, the effectiveness of this Plan within the region will be measured against the measures of success outlined for each priority (Figure 13). These align to the Transport and Main Roads' *Transport Coordination Plan 2017–2027* and will allow the department to track if Regional Transport Plans are meeting transport system objectives.

It is important to note that some of the measures of success may be updated as required to ensure they continue to provide an effective measurement of performance.

PRIORITY 1: GREATER SAFETY AND RESILIENCE

MEASURE OF SUCCESS	PROPOSED INDICATOR	SOURCE
Reduction in transport-related incidents, crashes, injuries and fatalities.	Number of road crashes resulting in fatalities or hospitalisation.	Transport and Main Roads
	Road crashes (resulting in fatalities or hospitalisation casualties) per 100 million vehicles kilometres travelled on state-controlled roads.	Transport and Main Roads
	Road crashes (resulting in fatalities and hospitalisation casualties) per kilometre on state-controlled roads.	Transport and Main Roads
Reduced frequency and duration of unplanned closures	Frequency and duration of unplanned closures on the state-controlled transport network due to flooding and other types of incidents.	Transport and Main Roads

PRIORITY 2: TRANSPORT THAT SUPPORTS THE ECONOMY

MEASURE OF SUCCESS	PROPOSED INDICATOR	SOURCE
Maintain or improve road network reliability	Percentage variation from posted speed limit on state-controlled roads.	Transport and Main Roads
Freight productivity improves	Heavy vehicle operating costs.	Transport and Main Roads
Transport supports the region's tourist economy.	Average travel time to key tourist destinations from major accommodation precincts.	Transport and Main Roads

Breakwater ferry and coach terminal

PRIORITY 3: : INTEGRATED TRANSPORT FOR A SUSTAINABLE, LIVEABLE AND PROSPEROUS REGION

MEASURE OF SUCCESS	PROPOSED INDICATOR	SOURCE
Level of transport disadvantage decreases.	Proportion of population in areas of unmet transport need (high mobility disadvantage and not served by public transport).*	Australian Bureau of Statistics
Greater access and connectivity to places and services.	Proportion of the population with good accessibility to a range of essential services in urban areas (by walking, cycling or public transport).*	Transport and Main Roads
Proportion of people choosing to walk, cycle and take public transport increases.	Proportion of people choosing to walk, cycle and take public transport to work.^	Australian Bureau of Statistics

Figure 13: Measures of success and proposed indicators

* Townsville urban area using the Land Use and Public Transport Accessibility Index (LUPTAI) model to estimate levels of access to destinations by various modes.

^ Proxy measure for a more accessible transport system through an increased use of a greater range of transport options.

Views towards The Strand, Breakwater Marina and Magnetic Island

5.4 Monitoring and review

This Plan will be monitored, periodically reviewed and updated to ensure it remains current and relevant.

In the short term, monitoring will focus on ensuring that the actions put forward are prioritised and progressed through departmental and local planning programs. As the Plan matures, and planning and delivery is completed, monitoring will focus on tracking progress against objectives and measures of success (Figure 14).

It is intended that a review of this Plan will be carried out every three to five years to maintain its alignment with other government and non-government plans, programs and initiatives. This review will also consider changes to land use, the region's economy, environmental considerations, demography, technological innovations, the progress of significant infrastructure projects and any other factors which may require a shift in the priorities or objectives for the region.

Overall, the effectiveness of this Plan within the region will be measured against the measures of success outlined for each priority. These align to Transport and Main Roads' *Transport Coordination Plan 2017–2027* and will allow the department to track if Regional Transport Plans are meeting transport system objectives.

It is important to note that some of the measures of success may be updated as required to ensure they continue to provide an effective measurement of performance.

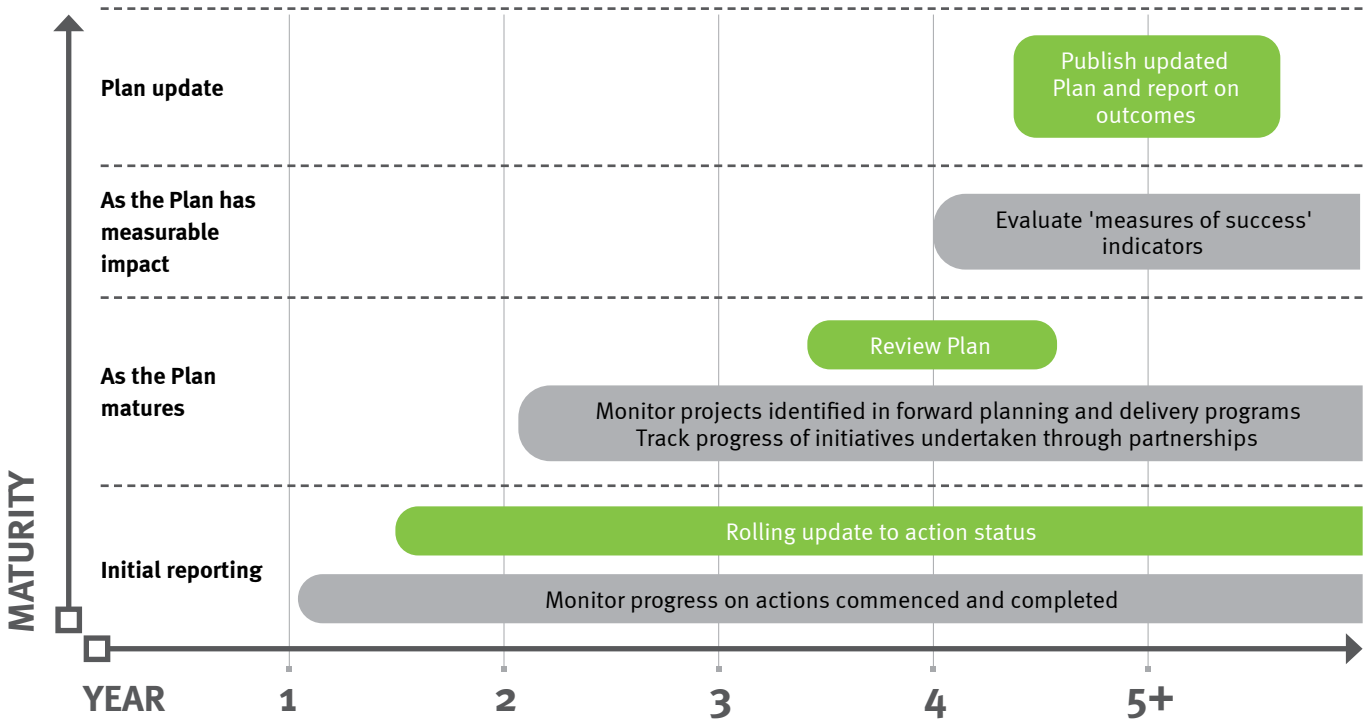

Figure 14: Monitoring, reporting and review as the Plan matures

Further information

Please email TMR_Regional_Transport_Plans@tmr.qld.gov.au for further details on this or other Regional Transport Plans.

Little Crystal Creek, Paluma Range National Park

PHOTO CREDITS

Cover, Aerial image of Townsville (background) including superimposed artist impression of North Queensland Stadium, Department of Housing and Public Works.*

Page 4, Walkers on Castle Hill, Townsville City Council.

Page 11, Artist impression of North Queensland Stadium, Saunders Street (schematic design August 2017), Department of Housing and Public Works.*

Page 14, Concept drawing of the Reid Park Active Transport Bridge (Townsville), Townsville City Council.

Page 17, Port of Lucinda, Larry Griffiths.

Page 20, Car travelling along shoreline, Magnetic Island, Tourism and Events Queensland.

Page 23, Burdekin Bridge, Burdekin Shire Council; Heritage buildings on Mossman Street, Charters Towers Regional Council.

Page 24, Wallaman Falls, Girringun National Park, Tourism and Events Queensland; Palm Island residential community, Palm Island Aboriginal Shire Council

Page 25, Overlooking Castle Hill and Ross Creek from Central Park (Townsville), Megan MacKinnon.

Page 27, Views from Castle Hill, Townsville, Tourism and Events Queensland.

Page 37, Cattle at H.M. Clarke Saleyards, Charters Towers Regional Council.

Page 39, Shared zone in Townsville CBD, Townsville City Council.

Page 40, Townsville, Magnetic Island and Palm Island from Mt Stuart, Megan MacKinnon.

Page 41, Artistic impression of proposed passenger ferry terminal, Townsville, SeaLink.

Page 43, Townsville floods (February 2019), Department of Defence.

Page 46, The Strand, Townsville, overlooking Magnetic Island, Megan MacKinnon.

Page 50, Moorings at Breakwater Marina, Townsville City Council.

Page 52, Use of drone technology to inspect structures, Hinchinbrook Shire Council.

Page 67, Views of Townsville City and Magnetic Island from Castle Hill, Megan MacKinnon.

Page 76, Aerial view of event in Townsville CBD, Townsville City Council.

Page 79, The Townsville Recreational Boat Park: Delivered in partnership with the State Government and Townsville City Council, David Brockwell (Visual Pty Ltd).

Page 81, View towards the Strand, Breakwater Marina and Magnetic Island, Megan MacKinnon.

Page 83, Little Crystal Creek, Paluma Range National Park, Tourism and Events Queensland.

* The North Queensland Stadium is a joint project of the Queensland Government, Australian Government and Townsville City Council, and is supported by both the National Rugby League and the North Queensland Cowboys. The stadium forms part of the Townsville City Deal signed in December 2016.

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