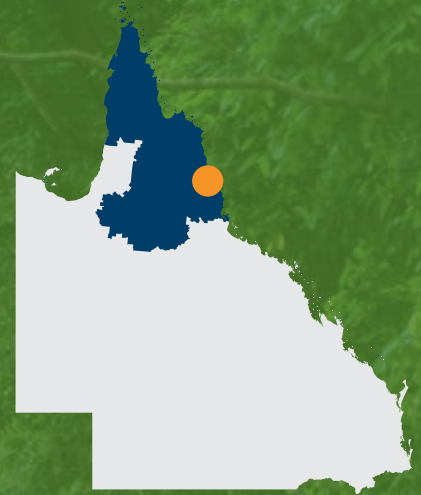


Cairns to Northern Tablelands Access Strategy



July 2021



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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 past, present and emerging.

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

Overview

The transport corridors between Cairns and the Northern Tablelands provide vital links for community and freight. The corridors pass through world heritage-listed rainforest and difficult terrain creating challenges for connectivity and efficiency.

The Department of Transport and Main Roads (TMR) has completed a comprehensive planning study into the four transport corridors linking Cairns to the Northern Tablelands:

- Mossman – Mt Molloy Road, otherwise known as Rex Range Road
- Kennedy Highway (Cairns to Mareeba), including Kuranda Range Road (Cairns to Kuranda)
- Gillies Range Road
- Palmerston Highway.

The study has investigated the current problems, future needs and determined fit-for-purpose solutions to improve performance to meet customer needs.

What did we learn?

The *Cairns to Northern Tablelands Access Strategy* (the Access Strategy) has identified the major challenges for the corridors are:

- network resilience
- travel reliability
- freight access.

Regular road closures related to weather events and traffic crashes have significant impacts on the reliability of the corridors and delays to motorists.

The planning study found while there are clear challenges with each corridor, none of the existing corridors are operating at capacity. Traffic analysis indicates 93 per cent of travel movements on the Kuranda Range are within two minutes of the expected travel time of 12 minutes.

Travel duration for light vehicles is extended by only 30 to 40 seconds on average throughout the day due to the presence of slower moving heavy vehicles.

What can we do?

The Access Strategy sets out a clear roadmap of short and medium-term actions and operational improvements that can improve connectivity and reliability of the corridors. The Access Strategy also lays out the next steps for future planning of an alternative corridor in the long-term once capacity of the existing corridors is reached.

Key strategies for improving reliability and connectivity in the short and medium-term:

- Intelligent Transport Systems (ITS) to provide real-time information to road users improving response times to incidents and closures as well as informing motorists of expected travel time and closures.
- Investigate the feasibility of a Traffic Response Unit (TRU) to clear closures and reduce impacts on travel time and reliability of the corridors.
- Infrastructure upgrades for resilience and safety to reduce impacts and decrease the number and duration of closures from weather events and vehicle incidents.

Transport modelling identified major infrastructure upgrades or new alignments are not required in the short to medium-term. While a new corridor is not required at present, actions to progress towards planning for an alternative alignment in the long-term include:

- Engagement with other key government departments (including Infrastructure Australia).
- Undertake a network impact assessment to determine and evaluate impacts to the broader network of new alignments and transport movements.
- Finally, once assessment of new corridor options is completed, undertake comprehensive options analysis for corridor preservation of preferred alignment.

The *Cairns to Northern Tablelands Access Strategy* provides a comprehensive roadmap of initiatives and investment over the short, medium and long-term to deliver the right infrastructure at the right time.

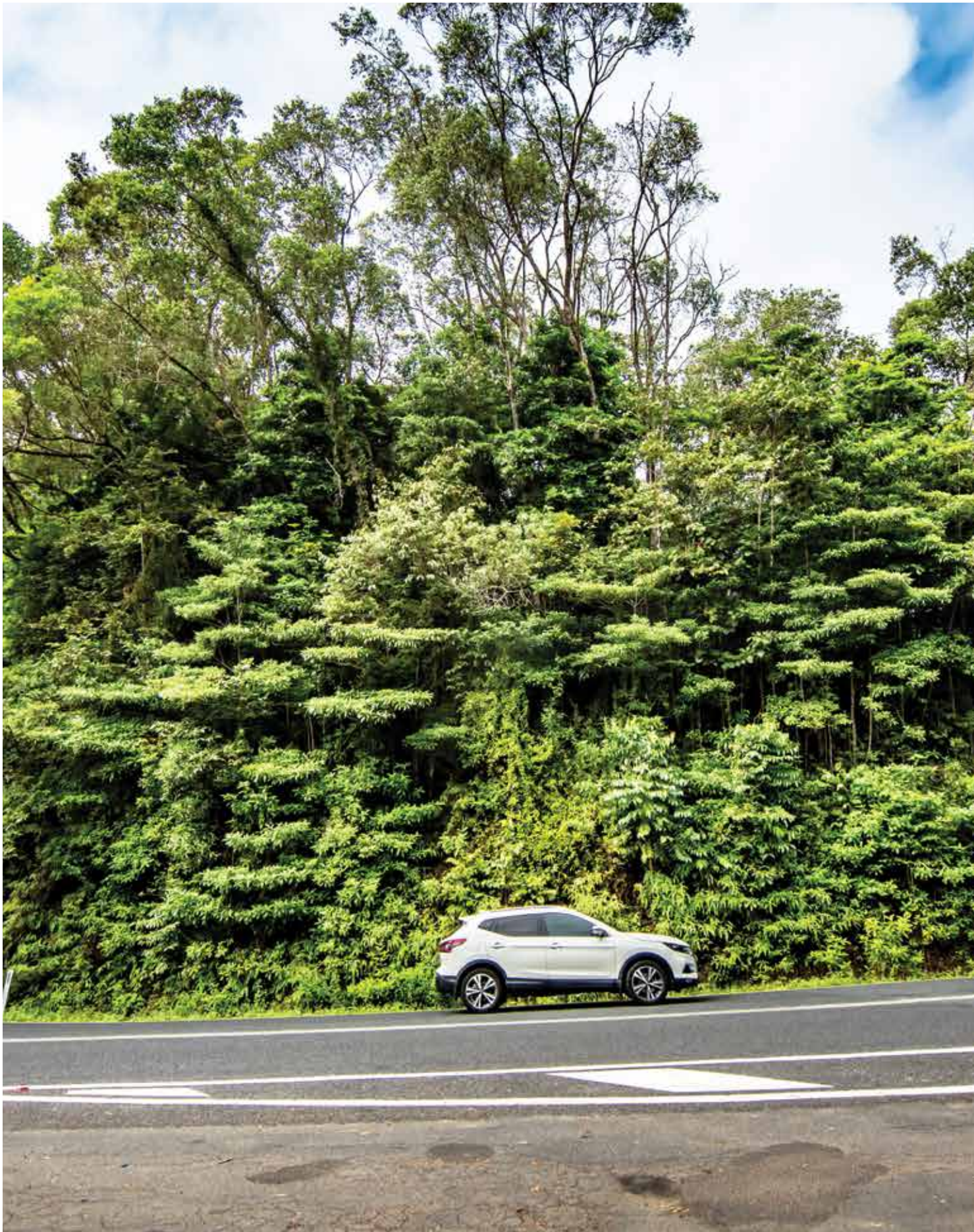
Closure summary

Road link	Average annual frequency of closure	Average duration of closures	Average proportion of time closed annually
Mossman – Mt Molloy Road	8 closures	47 hours	4%
Kennedy Highway: Kuranda Range Road	44 closures	6.6 hours	3%
Kennedy Highway: Kuranda – Mareeba	10 closures	8.9 hours	1%
Gillies Range Road	17 closures	5.3 hours	1%
Palmerston Highway (Innisfail – Ravenshoe)	9 closures	14 hours	2%

Closures observed 2015–2019.



Image of Cairns City.



1 Purpose



Image of Kuranda Range Road.

Purpose

Access between Cairns and the Northern Tablelands is vital for people who live, work and visit in these areas, and critical for the local economy and the movement of goods. As the region grows there will be increasing pressure on access roads linking Cairns and the Northern Tablelands.

The *Cairns to Northern Tablelands Access Strategy* (the Access Strategy) has been developed to guide the planning delivery of future connectivity, safety and reliability improvements for the roads connecting Cairns and the Northern Tablelands. The Access Strategy identifies the vision and function of the four existing transport routes outlined below, as well as the current transport challenges and strategies to improve performance across the network.

The planning study area for the Access Strategy extends from Mossman – Mt Molloy Road in the north to Palmerston Highway in the south, encompassing Cairns and key service centres on the Northern Tablelands, including Mareeba and Atherton. The study area intersects several local government areas including Cairns Regional Council, Mareeba Shire Council, Tablelands Regional Council, Douglas Shire Council and Cassowary Coast Regional Council.

The Access Strategy has considered the four key transport routes connecting Cairns and the Northern Tablelands:

- 1 Mossman – Mt Molloy Road, otherwise known as Rex Range Road
- 2 Kennedy Highway (Cairns to Mareeba), including Kuranda Range Road (Cairns to Kuranda)
- 3 Gillies Range Road, otherwise known as Gordonvale – Atherton Road
- 4 Palmerston Highway.

Each of these roads play an important role in the greater transport network and enable access between the Northern Tablelands and Cairns and other coastal centres. However, each road has key challenges that affect the safe and efficient movement of people and goods. The Access Strategy seeks to address the range of challenges facing these key transport routes, identify practical solutions to support economic development and livability, and protect the region's amenity and environmental values.

Why do an Access Strategy?

The region between Cairns and the Northern Tablelands is a unique and complex one. The four key access roads each have challenges and are at times unreliable due to weather events and crashes.

A dedicated Access Strategy is required to better understand the region's transport needs, examine the existing roads performance, and consider the broader transport network.

The Access Strategy brings together the varied previous transport planning studies for the region. Short, medium and longer-term actions for transport improvements between Cairns and the Northern Tablelands are identified in this document, and what benefits each can deliver for the region.

Improvements are proposed at different times to get best value for money and benefit for the area. Some actions listed are already underway and others are subject to future funding.

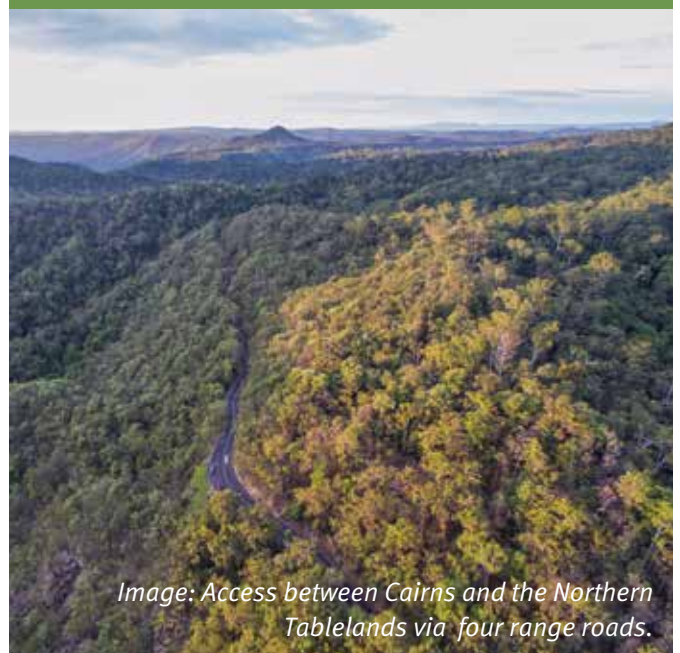


Image: Access between Cairns and the Northern Tablelands via four range roads.



Map 1: Scope of the Cairns to Northern Tablelands Access Strategy.



Image: The Palmerston Highway is the only range road in the study area that currently allows B-double access.

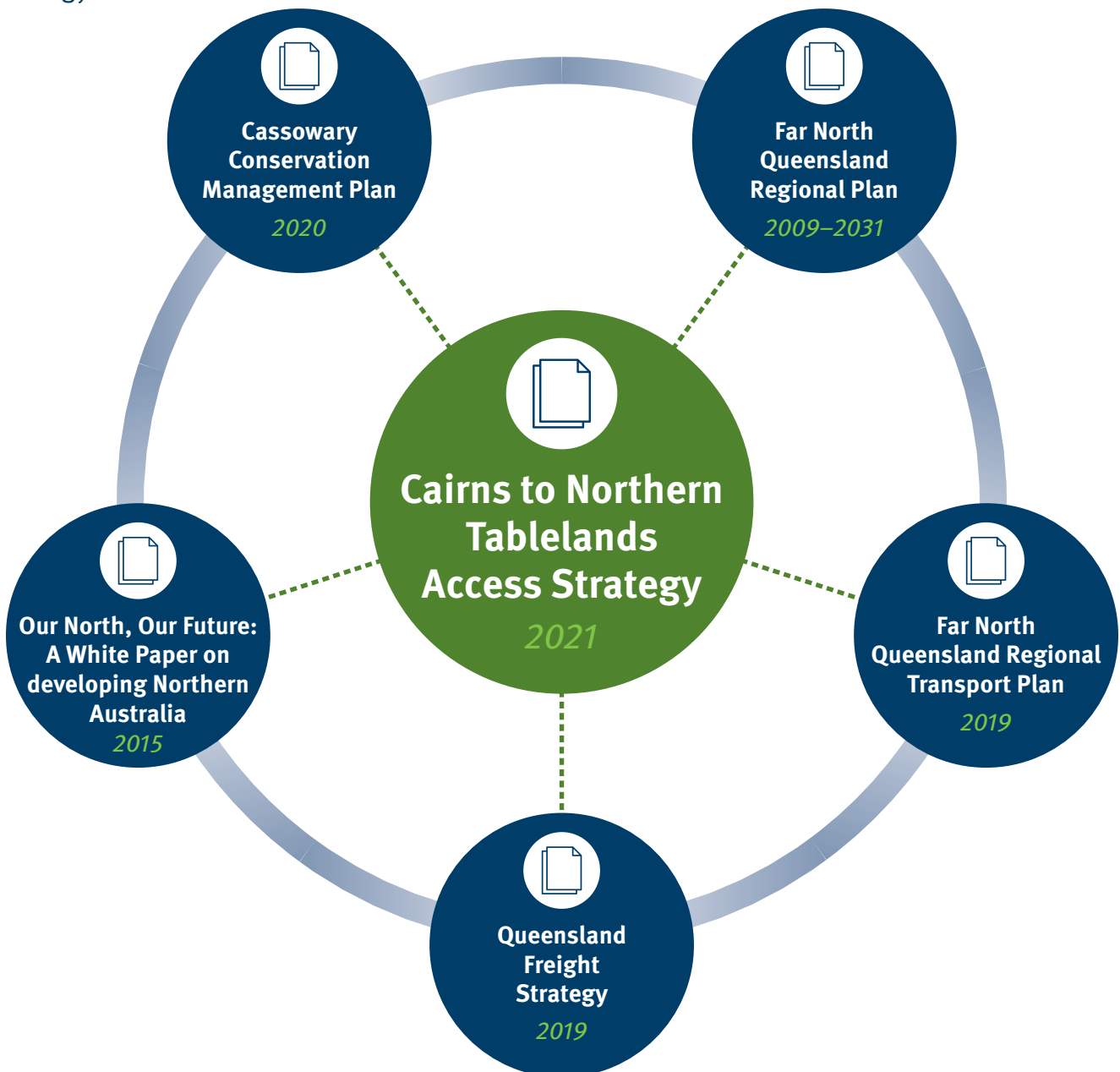
2 Context



Context

Planning for the future

This *Cairns to Northern Tablelands Access Strategy* (the Access Strategy) is part of the Queensland Government's overall strategic planning for Far North Queensland and the state. The plans outlined below set out a strategic framework to guide the provision of infrastructure and services to accommodate population growth, support economic prosperity, protect environmental values and enhance the liveability and resilience of our region. These strategies have been important considerations in developing the Access Strategy.



The Far North Queensland Regional Plan

The *Far North Queensland Regional Plan* (Department of Infrastructure and Planning, 2009) represents an agreed Queensland Government position on the future of Far North Queensland. It guides state agencies on future infrastructure and service provision, and provides guidance for local governments, particularly in relation to the development of local government planning schemes.

The vision defined in the plan is of a stronger, more liveable and sustainable community. The plan explains the role the transport network plays in achieving this vision.

The *Far North Queensland Regional Plan* refers to a range of previous studies on the Kuranda Range Road and noted that although the Kuranda Range Road project was deemed unaffordable in the short to medium-term at the time the Regional Plan was developed, improvements to the road would be required in the interim. The Regional Plan also identified long-term priority actions to support the Far North Queensland preferred settlement pattern including a review of the Kuranda Range Road planning, as part of reviewing longer term regional growth areas and economic development strategies.

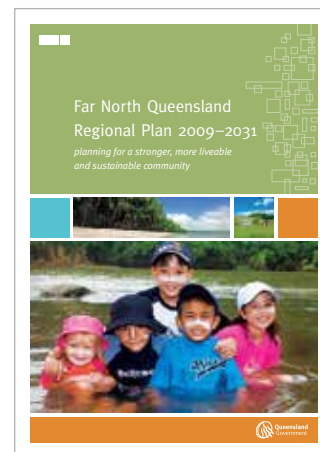


Image: Mossman - Mt Molloy Road.

The Far North Queensland Regional Transport Plan

The Queensland Government has developed Regional Transport Plans that cover the entire state. These documents will guide the planning of an efficient and responsive transport system in Queensland over the next 15 years. They are developed with key stakeholders to prioritise and manage the transport system so it effectively supports regional communities, growth and productivity. These plans cover 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 *Cairns to Northern Tablelands Access Strategy* is informed by the priorities, transport objectives and actions identified in the *Far North Queensland Regional Transport Plan* published in 2019. This plan identified that the coastal centres and the Tablelands area are the gateway to the broader region and acknowledges the significant role the road network plays in providing this access.

The Regional Transport Plan identifies four key priorities for the region's transport network, and two actions specific to the corridors within the Access Strategy.

The four priorities for the *Far North Queensland Regional Transport Plan* are:

1. A safer, more resilient transport network
2. Transport that supports the economy
3. Connected, liveable and sustainable communities
4. Better coordination of transport infrastructure and services.

The two actions directly relevant to the corridors included in the Access Strategy are:

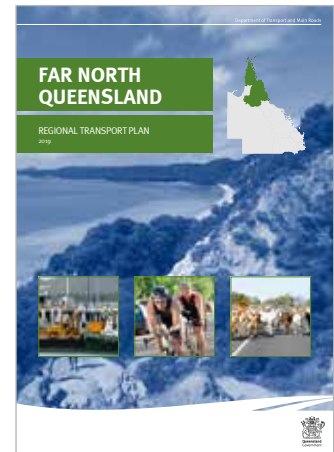
Safety of range roads

Investigate innovative solutions (for example Intelligent Transport Systems) to respond to increasing traffic demand and improve safety on range roads where topography limits the safety treatments available.

Key range roads in the region include the Kennedy Highway (Kuranda Range), Gillies Range Road, Palmerston Highway and Mossman–Mt Molloy Road (Rex Range).

Capacity pressures on range roads

Consider the role of changing vehicle technology, intelligent transport systems and options for innovative road corridor upgrade solutions to manage increasing commuter and freight demands on constrained range roads, particularly the highly trafficked Kuranda Range Road (Kennedy Highway) and the Palmerston Range (Palmerston Highway) B-double freight route.



The Queensland Freight Strategy

The *Queensland Freight Strategy* (Department of Transport and Main Roads, 2019) sets a shared vision for the state's freight system. It outlines a series of commitments that will guide policy, planning and investment decision-making over the next 10 years. The aim is to ensure the growing freight task is managed in a safe, equitable and collaborative way. The strategy identifies five key shared commitments which are relevant to this *Cairns to Northern Tablelands Access Strategy*:



1. Build effective partnership – work collaboratively to deliver a freight system that advances customer, industry and government interests, now and into the future:

- TMR will collaborate closely with national and local governments to manage complex freight issues and ensure customer needs are prioritised.

2. Unlock economic opportunity – optimise the use of existing freight infrastructure and target investment towards creating economic opportunities:

- TMR will work with all levels of government and industry stakeholders to find ways to achieve greater economic benefit from the freight system, including how to address latent capacity and maximise use during peak demand periods.

3. Smarter connectivity and access – plan a freight system that provides Queensland businesses with smarter access to local, national and overseas markets:

- TMR will work with industry to improve port connections and intermodal efficiency, providing benefits for export freight.

4. A resilient freight system – support the adoption of sustainable freight practices and resilient infrastructure:

- TMR will work closely with industry to ensure investment and planning decisions support the sustainable development of Queensland's freight system to realise long-term goals of reduced emissions and decreased transport costs.

5. Safer freight movements – support safe freight movements across Queensland through technology and system planning:

- TMR will support the introduction of technology that creates opportunities for realising safer outcomes for freight transport.



Image: Kuranda Range Road.

Our North, Our Future: A White Paper on developing Northern Australia

Our North, Our Future: A White Paper on developing Northern Australia discusses the significance of Northern Australia's road network for the movement of people and freight. It acknowledges the role of appropriate infrastructure to support economic and population growth and in unlocking economic opportunities globally, nationally and especially in the north.

This paper identifies a range of drivers for committed investment in various transport projects across Northern Australia, including better connection to areas of economic opportunity with local communities and to support growth in hospitality, transport, tourism and maintenance industries. The Access Strategy identifies numerous priorities to upgrade existing infrastructure and operations to improve connections to economic opportunities and local communities on the Tablelands and the broader Far North region.



Image: Mulligan Highway (Mareeba – Mt Molloy).

Cassowary Conservation Management Plan

The Southern Cassowary is an iconic, culturally significant fauna unique to Queensland. Leading up to and since the year 2000, there has been an increasing awareness of the impact humans are having on the state's cassowary populations.

The *Cassowary Conservation Management Plan* is an overview of TMR's ongoing work to support the conservation of cassowaries in the North Queensland region. The plan outlines a framework for consistency in project management and public awareness to reduce road strikes and improve cassowary conservation.

In 2020, there were several cassowaries killed in Far North Queensland by vehicles on local and state-controlled roads, particularly on the Kennedy Highway near Kuranda and on roads around Mission Beach.

The Access Strategy considers the strategies and measures outlined in the plan to contribute to this conservation effort.



Image: El Arish – Mission Beach Road.

A unique and complex region

The area investigated as part of the Access Strategy is unique in many ways, including its significant environmental values and complex topographical features.



Environment values

Valuing and protecting the region's outstanding biodiversity and stunning landscape features are at the forefront of all government planning in Far North Queensland. Through understanding and appreciating the ecological processes that support the region's natural environment, governments, industry and the community are willing to work cooperatively to conserve these natural values.

The region has diverse landscape features which include important World Heritage areas and productive farm lands. These features provide substantial environmental, economic and social benefits to the region and underpin the region's liveability. The regional landscape features include areas of high ecological significance, rural production areas, renewable energy resources, extractive and mineral resources, areas of high scenic amenity, outdoor recreation and landscape and cultural heritage value. When considering any transport planning, these areas must be protected so the regional landscape and rural production values are maintained.



Image: Mossman - Mt Molloy Road Lookout.



Geographical features

The study area is characterised by a network of regional, district and local urban and industrial centres, surrounded by large areas of native vegetation, grazing and protected land. It is home to numerous National Parks and State Forest Reserves, many of which form part of the Wet Tropics World Heritage Area and provide a north-south corridor of nature conservation to the west of the Bruce Highway and the Captain Cook Highway.

The distance and topography separating regional communities and the principal regional activity centre of Cairns presents a range of challenges for safe and reliable road access. The four key roads are all mountainous and winding in nature, rising steeply from the coastal plains around Cairns to the fertile plateaus around Tablelands and Mareeba.

Due to the tropical environment, this area experiences high, frequent rainfall and tropical cyclones. These often result in landslides.

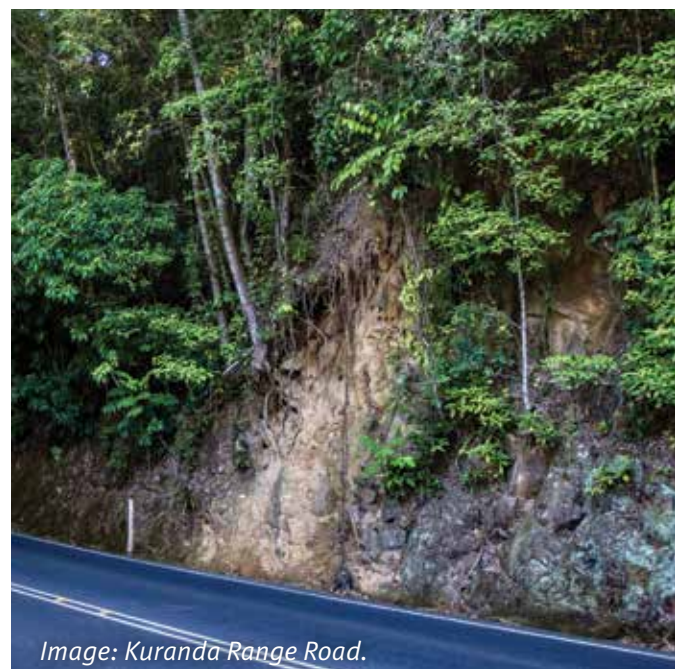


Image: Kuranda Range Road.



Growth

Over the past decade, the Far North Queensland region has experienced continuous growth in resident population, visitation, economic activity and urban development. Based on the Queensland Government's population projections in 2018, over the next 20 years, the population is expected to grow by around 80,000 people.

It is not just population growth and more tourism that requires smart transport planning. Growth of key industries in the region will require efficient movement of goods and people. As industrial areas grow in the southern part of Cairns, the freight task will also increase in this area. The industry of today may not be the industry of tomorrow and planning needs to consider the potential changes in freight task and routes for the future economy.

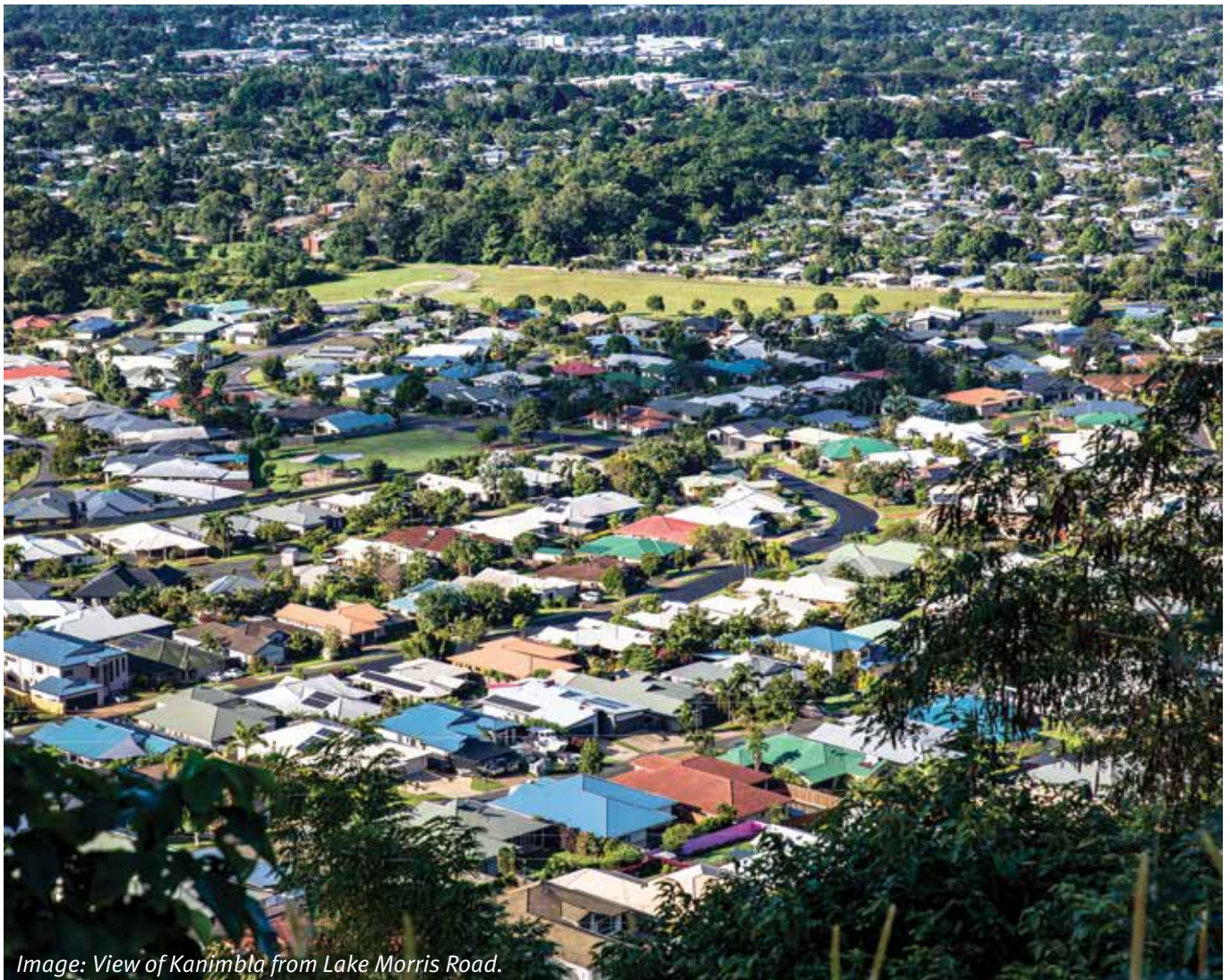


Image: View of Kanimbla from Lake Morris Road.

Image: View of Rex Range (Mossman–Mt Molloy Road).



3 Developing this strategy



Developing this strategy

Development of the *Cairns to Northern Tablelands Access Strategy* involved three stages:



There have been numerous inputs to the Access Strategy to ensure transport challenges are thoroughly tested and understood, and the best solutions to address current issues proposed in the right place at the right time. The following outlines the varied inputs and considerations in developing this strategy:

Inputs into the Access Strategy



Past transport studies

Considerations

TMR, and the wider Queensland Government, has undertaken various planning studies to investigate the connectivity between Cairns and the Northern Tablelands.

Past studies have considered various options ranging from small localised upgrades to major infrastructure solutions (including new corridors).

Given the previous regional planning, Kuranda Range Road has been the primary focus of the majority of studies to date.

To date, the planning that has been undertaken to improve the road connectivity between Cairns and the Northern Tablelands has not been able to identify an affordable outcome that meets the needs of the community.

The Access Strategy builds on the past transport studies of the area.



Targeted stakeholder consultation

Considerations

The Access Strategy has been developed in consultation with state departments, business owners and community interest groups. Stakeholders have provided key inputs about challenges currently facing road users between Cairns and the Northern Tablelands. Local communities in the region have raised issues about the unreliability of travelling on existing roads, especially during major weather events and in the event of incidents.

Key areas identified for improvement by stakeholders are:

- Network resilience and reliability – due to environmental factors like fallen vegetation and landslips, causing unplanned closures and delays.
- Connectivity for freight across the region due to heavy vehicle restrictions, lack of supporting facilities (eg, breakdown areas), and lengthy detours in the event of unplanned closures.

Stakeholders raised concerns that these transport network issues constrain potential economic development within the region.

The outcome of stakeholder engagement reinforced a clear need to improve the overall safety, reliability and efficiency of the transport network to support economic development potential, and improve livability and amenity. These key messages were generally consistent with the conclusions drawn from the data analysis and technical investigations.

Image: Rex Lookout, Captain Cook Highway.



Inputs into the Access Strategy



Data analysis

Considerations

The Access Strategy has collected and reviewed an array of data to test perceptions about transport operations and population growth forecasts.

For the Access Strategy, detailed micro-simulation tools have been used, and observed driver and vehicle characteristics that were not available to previous studies analysed. This work is the most detailed analysis possible.

Traffic census data (showing average daily traffic volumes) for all study roads has been reviewed with forecast traffic volumes (to 2051). Projections were informed by Queensland Government demographic data and the Queensland Freight Model (QFM).

The Access Strategy has reviewed historical crash and closure data for the roads.

To inform detailed analysis and modelling of Kuranda Range Road, Automatic Number Plate Recognition (ANPR) data was collected over a number of months. Analysis of this information provided hourly traffic volumes and average travel times on the Kuranda Range between the ANPR sites (approximately Rainforest Station and Canopy's Edge Boulevard). Collection of this information was limited to Kuranda Range Road as it is the most highly trafficked route in the study area.

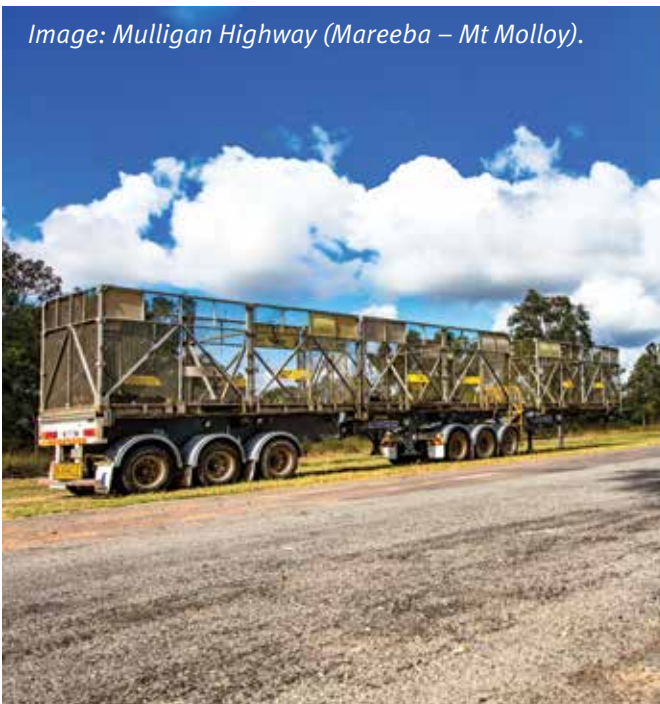
Inputs into the Access Strategy



Asset condition and geometry assessment

Considerations

Image: Mulligan Highway (Mareeba – Mt Molloy).



A preliminary analysis of geometric characteristics of the existing road corridors (steep climbs, blind corners) has been carried out to determine compliance with current design standards, identify engineering challenges and constraints, and to assist in prioritisation of future safety and resilience candidate projects.

A review of asset condition records and design life has been carried out for pavements, bridges and culverts on all four routes. This information is important to prioritising maintenance and timing of other planned upgrades.

Understanding the current role of each road in the network

Each of the existing four roads investigated as part of the Access Strategy play an important role within the greater road network hierarchy and facilitate access from the Northern Tablelands to Cairns and other coastal centres. This strategy has investigated the factors impacting the safe and efficient movement of people and goods at a network scale, as well as for each individual road corridor.

Image: Intersection of Mossman – Mt Molloy Road and Captain Cook Highway.





4 Challenges



Image: Mulligan Highway (Mareeba – Mt Molloy).

Challenges

Making transport safer and more efficient between Cairns and the Northern Tablelands is a priority.

The region's environment, topography, climate conditions and geography pose significant challenges to achieving safe, reliable and efficient connectivity between Cairns and the Tablelands. The primary access routes connecting Cairns to the west and wider region all traverse steep, narrow and challenging range environments, impacting travel to the Tablelands, the Gulf of Carpentaria, Cape York, north west Queensland and the inland route to the south.

Challenges common to each of the four key road corridors analysed as part of this study include:



Limited overtaking opportunities



Narrow road shoulders and lack of dedicated active transport facilities along the corridors (catering to long-distance touring cycling, for example)



Limited public transport services (except for Kennedy Highway)



Part of the Wet Tropics World Heritage Area (environmental constraints)



Steep, narrow and winding road geometry limits the types of vehicles permitted to use the roads



Different road users driving at different speeds



Lengthy and unreliable diversion routes, sometimes with same day closures



Frequent and long duration of closures, often due to environmental factors like fallen vegetation, landslides, and crashes

Road snapshot

Each of the four key roads and their respective range crossings play an important role within the greater road network hierarchy to connect communities, support the economy and facilitate access between the Northern Tablelands, Cairns and other key destinations. However, each road has unique functions within the broader network impacting the safe and efficient movement of people and goods. Refer to the Transport Network map on page 32.

Corridor

Mossman–Mt Molloy Road

Function in the network

- Strategic link that connects the Northern Tablelands with Port Douglas and Mossman
- Primarily a general traffic route, with seasonal movement of sugar cane (under B-double permit) to the Mossman sugar mill
- Tourists
- Agricultural vehicles and industry.

Corridor

Kennedy Highway

Function in the network

- Primary strategic east-west connection between Cairns and Mareeba and beyond to the:
 - Cape York and Gulf communities
 - Northern Territory
- B-doubles prohibited east of Speewah, including the Kuranda Range
- High significance to the regional economy as it:
 - links to Cairns CBD, port and airport for general traffic and freight
 - is a critical tourist route connecting the Cairns visitor gateway to various attractions in Kuranda, Mareeba and beyond
- Forms part of the Savannah Way tourist drive from Cairns to Broome in Western Australia
- Critical regional community link for access to medical services and airport where reliable travel times are especially important.

Corridor

Gillies Range Road

Function in the network

- A lower order road that connects Atherton to the area south of Cairns and primarily provides for local traffic and commuters
- Provides a secondary tourism function as it is a popular tourist and recreation route connecting to attractions such as Yungaburra and Lake Eacham
- Semi-trailers are permitted (B-doubles prohibited).

Corridor

Palmerston Highway

Function in the network

- A strategic link that connects the Southern Tablelands to the Bruce Highway for wider travel, Port of Mourilyan and Innisfail
- Primary freight route to the Tablelands, with 25m B-doubles permitted on this route
- The southern and western connecting road networks support heavier vehicle classes
- Tourist route (tourist attractions such as Mamu Canopy Boardwalk, Nandroya Falls and various attractions across the wider Southern Tablelands).

Road snapshot

Atherton

Millaa Millaa

Innisfail

Palmerston Highway

Elevation change
845m

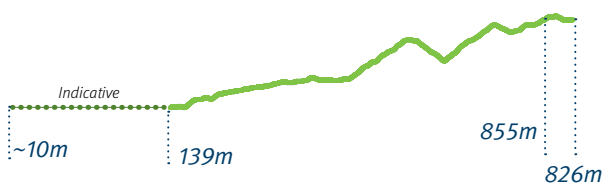
Length
55km

Count site	2018 AADT	%HV	Change AADT 2013 to 2018
East of Bora Ground Road	2359	19%	139 (6%)
100m east of Brooks Road, 12km east of Millaa Millaa	1387	23%	156 (13%)

Crash dots line: (2015–2019)



Elevation line



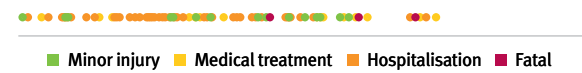
Gillies Range Road

Elevation change
784m

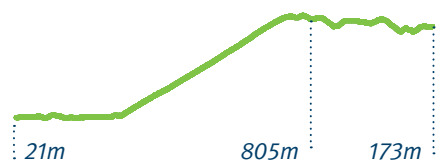
Length
56km

Count site	2018 AADT	%HV	Change AADT 2013 to 2018
Hemmings Creek	7377	7%	796 (12%)
100m west of Goldsborough Road	3021	7%	464 (18%)
100m east of Boar Pocket Road	2234	9%	326 (17%)
800m east of East Barron River Bridge	4292	7%	501 (13%)

Crash dots line: (2015–2019)

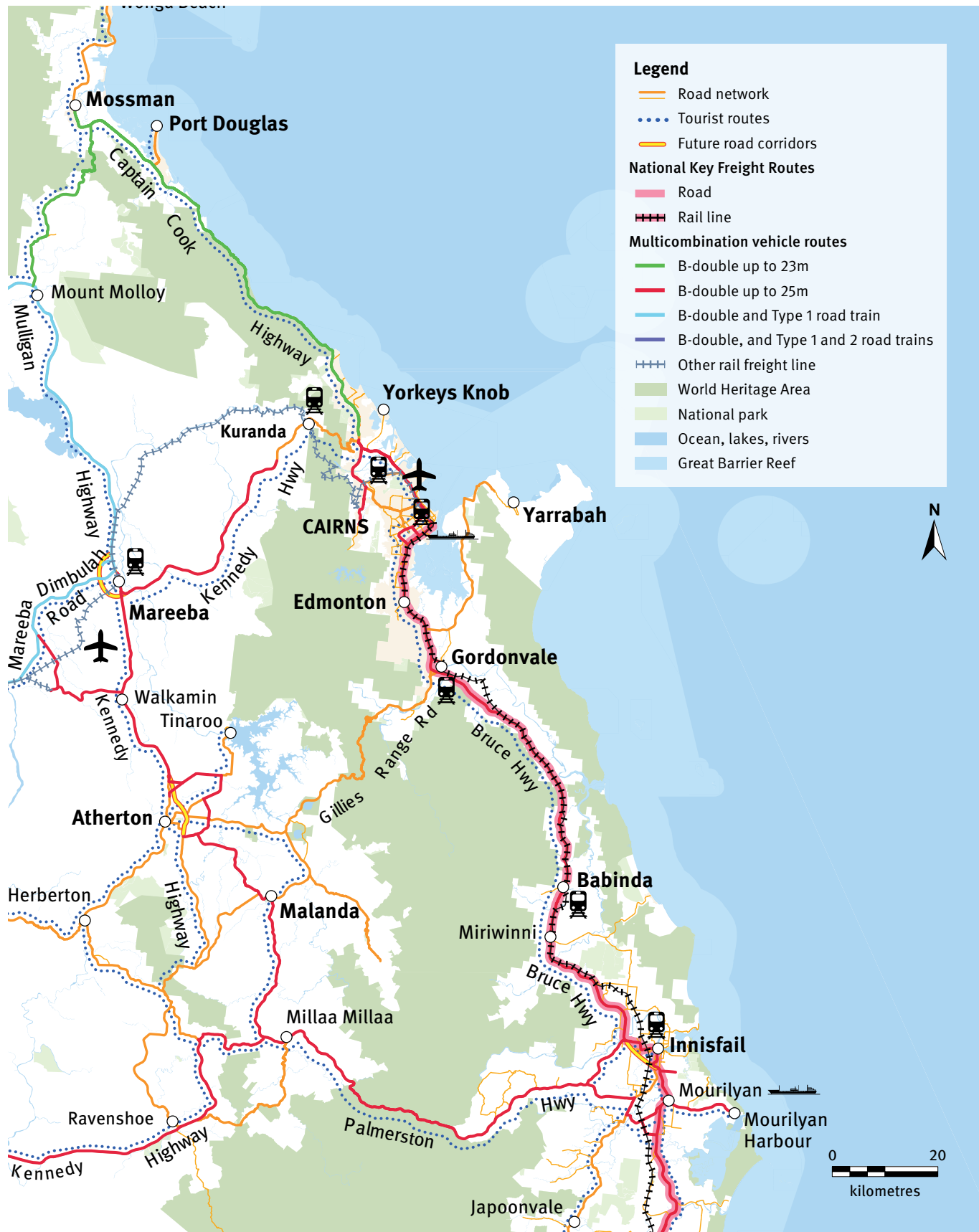


Elevation line



Challenges

Transport network



Map 2: Transport network.

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

There are five key performance issues that have been investigated as part of the Access Strategy:



Safety



Travel reliability and network resilience



Freight productivity and access



Environmentally sensitive areas



Community access



Image: The Kennedy Highway.

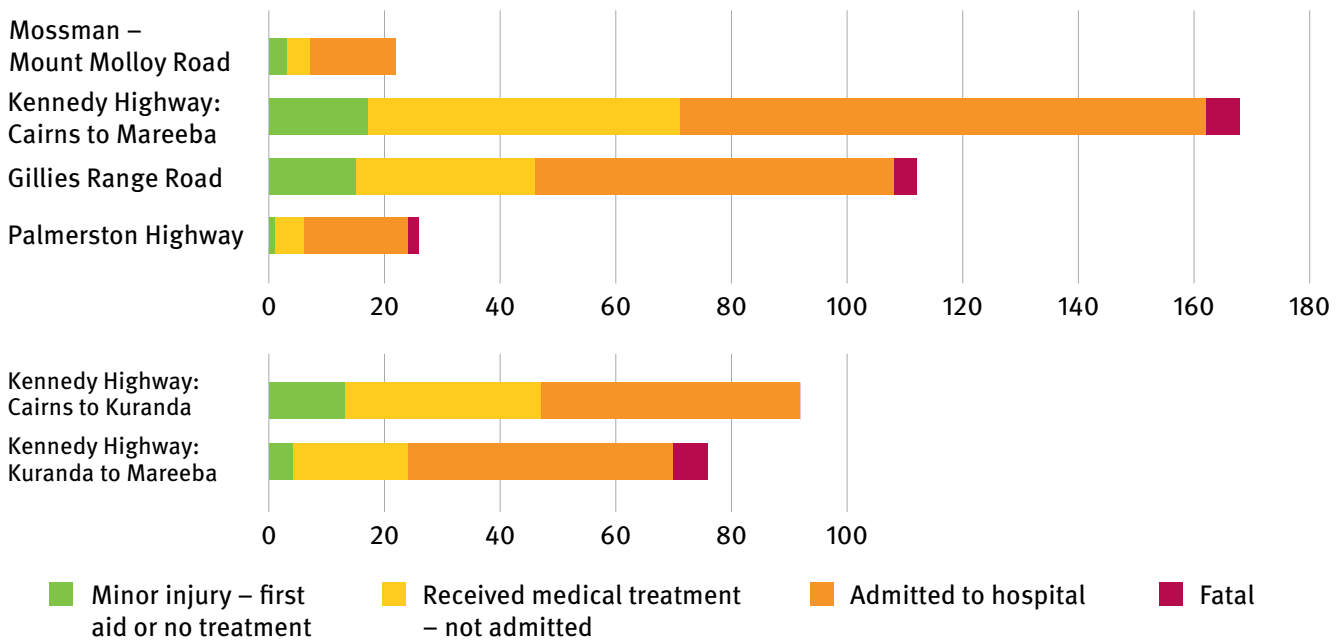


Safety

The safety record for these roads is affected by four key factors:

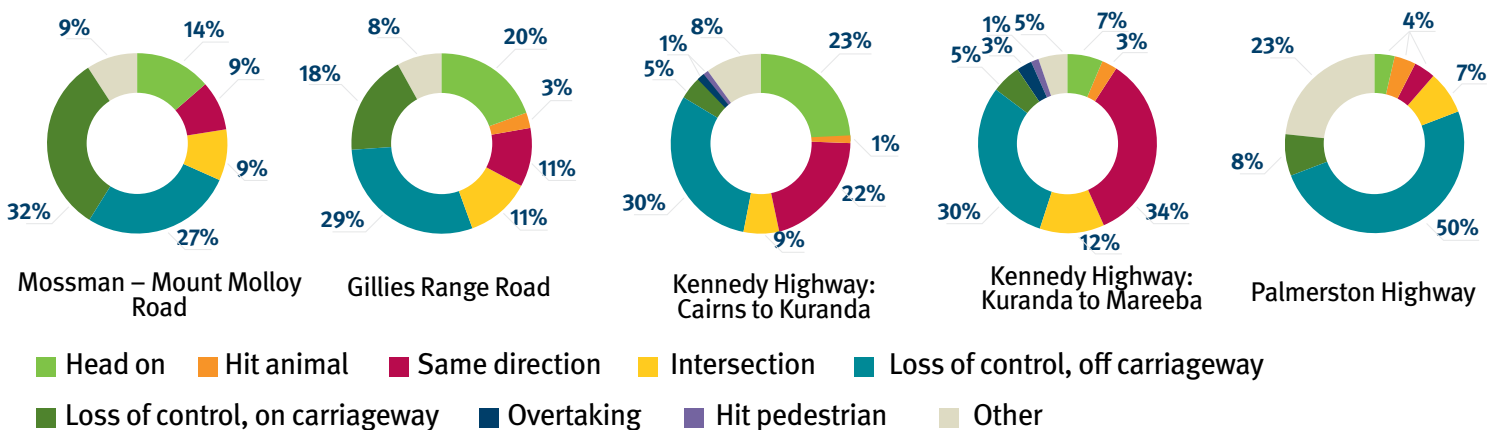
- Traffic composition** – a mix of freight vehicles, commuters, tourists and motorcyclists use these routes contributing to safety issues due to the competing needs of different groups.
- Geometry** – steep and winding nature of the range crossings creating challenging driving conditions, particularly for freight vehicles, due to narrow traffic lanes, shoulders and limited passing opportunities.
- Climatic conditions** – heavy rainfall and strong winds cause dangerous driving conditions such as slippery roads, flooded roads and fallen debris.
- Driver behaviour** – including driver frustration and driving too slow or too fast for the conditions with minimal overtaking opportunities.

Figure 1: Severity of crashes



Crashes observed between 2015–2019.

Figure 2: Types of crashes



Crashes observed between 2015–2019.



Travel reliability and network resilience

The region's topography, constrained environment (Wet Tropics World Heritage Area) and climatic conditions are a challenge for the network's resilience and travel reliability. All four range crossings are prone to unplanned road closures due to wet roads, flooding, landslides, fallen vegetation, bushfires and crashes. Closure data shows that the majority of closures on these roads are caused by environmental factors such as fallen vegetation, landslides or water on roads.

Table 1: Closure summary

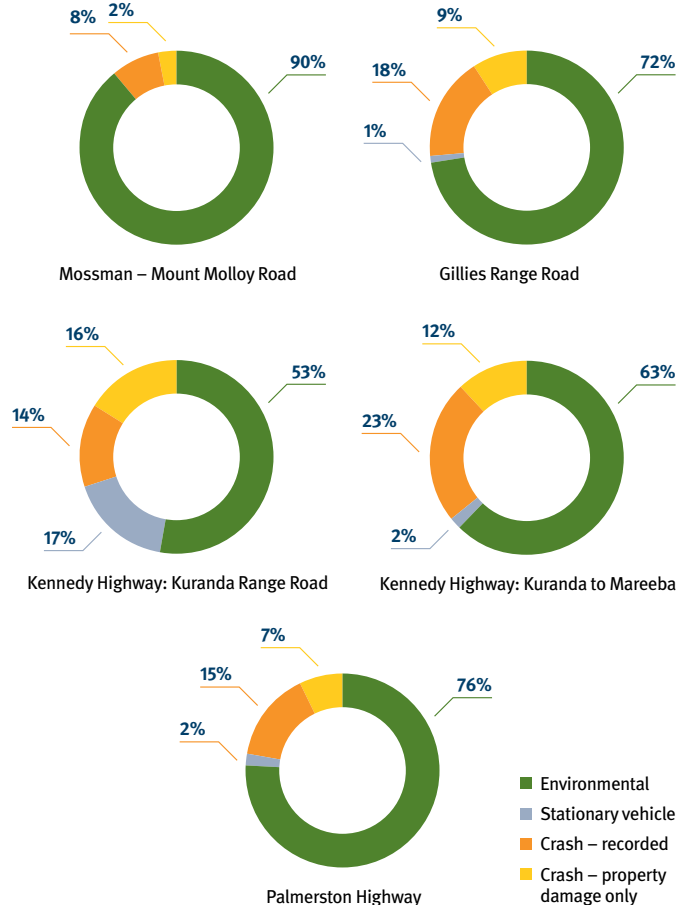
Road link	Average annual frequency of closure	Average duration of closures	Average proportion of time closed annually
Mossman – Mt Molloy Road	8 closures	47 hours	4%
Kennedy Highway: Kuranda Range Road	44 closures	6.6 hours	3%
Kennedy Highway: Kuranda – Mareeba	10 closures	8.9 hours	1%
Gillies Range Road	17 closures	5.3 hours	1%
Palmerston Highway (Innisfail – Ravenshoe)	9 closures	14 hours	2%

Closures observed 2015–2019.



Image: Traffic control for road closure on Mossman – Mt Molloy Road.

Figure 3: Causes of road closures



Closures observed between 2015–2019

Improved access to information for motorists is a key priority to enable informed travel decisions.

When there is a closure on any one of the four main roads connecting Cairns and the Northern Tablelands, detours and alternatives are lengthy, as indicated in Map 3 on page 37.

Did you know?



Between 2015–2019
there were

**43
days**

where multiple range
roads were closed on
the same day



There have been

**19
times**

when both the
Kennedy Highway
(Cairns – Mareeba)
and Gillies Range
Road were closed on
the same day

Direct access between Cairns and the Northern Tablelands for general traffic is primarily provided by the Kennedy Highway and Gillies Range Road, with the Palmerston Highway facilitating access for freight traffic, including B-doubles. In the event of a closure, traffic is required to either wait for the roads to reopen or divert to another range road (providing these roads are also open). When there is a closure on the Palmerston Highway, B-double traffic is required to either wait, breakdown their vehicle to enable access on another range road or divert using the inland route via Townsville. A diversion to Townsville could increase travel time by at least two hours.

The perception of an unreliable road network connecting Cairns and the Northern Tablelands is supported by closure statistics. Crashes are the primary cause of isolated closures in specific locations, while environmental factors cause closures which impact wider parts of the network and potentially limit or discourage travel before the road is actually closed. While there are diversion routes available, these are lengthy, and occasionally these corridors have been closed on the same day.



Image: Recovery of crashed truck on Gillies Range Road.



Map 3: Key diversion routes.

Table 2: Key Diversion Routes

Corridor			Diversion option 1			Diversion option 2		
Route	Travel time (approx)	Distance (approx km)	Route	Travel time (approx)	Distance (approx km)	Route	Travel time (approx)	Distance (approx km)
A-B	30min	29	A-C-D-B	2h+	149	-	-	-
C-D	40min	49	C-E-F-D	2h+	122	C-A-B-D	1h 50min	133
E-F	1h+	56	E-G-H-F	2h	160	E-C-D-F	1h 50min	116
G-H	40min	55	G-E-F-H	1h 50min	134	-	-	-

TMR has undertaken a travel speed study on the Kuranda Range. Similar studies are yet to be undertaken on other corridors to provide a full picture of travel speeds across the corridors. Users have experienced reduced network reliability due to slower vehicles that are likely trying to make safer movements within the constrained geometry of the corridors; this is particularly related to heavy vehicles or persons unfamiliar with the corridors. Limited overtaking opportunities and low numbers of drivers using the slow vehicle pullover bays increases the travel time and is likely to enhance driver frustration and attempts to make unsafe manoeuvres.

This is a significant challenge given the topography and environmental constraints particularly through the range.

Therefore, network reliability is likely linked to reduced safety, economic losses and difficulties in connecting to community, health and emergency services.



Image: Rifle Creek Mt Molloy, Mulligan Highway.



Freight productivity and access

The efficient movement of products from suppliers to markets is critical for the Far North Queensland economy. Economic growth requires a freight transport system that is productive and connects businesses to markets both here and overseas, now and into the future. The city of Cairns is a major freight and distribution hub due to the city's strategic location at the terminus of the Bruce Highway and North-Coast rail line, with sea and air connections through the Cairns seaport and Cairns International Airport. Mareeba is the secondary freight and distribution hub and has a major service centre role for the region's primary industries, particularly beef cattle and horticulture. Located at the junction of three highways, Mareeba is connected to Cape York, the Gulf of Carpentaria, Cairns, Southern Tablelands and beyond.

The Palmerston Highway is the only range road that facilitates B-double access to the Tablelands. The eastern connection to the Palmerston Highway is about an hour's drive from Cairns.

The lack of a B-double access closer to Cairns delays freight movement, with operators either required to breakdown their vehicles just west of Kuranda or reroute to the Palmerston Highway.

B-double movements via the Kennedy Highway requires unhitching prior to traversing Kuranda Range Road. As such, the need for decoupling of larger vehicles impacts travel times and efficiency. While B-doubles are not permitted on Kuranda Range Road, semi-trailers and other large trucks still operate. Larger trucks generally travel much slower than the posted speed limit, as a consequence of the vertical and horizontal geometry of the range roads. Due to limited overtaking opportunities, other road users can often experience delays and associated driver frustration following behind slow moving traffic.



Image: Oversized vehicle on the Palmerston Highway.



Environmentally sensitive areas

Far North Queensland is renowned for its environmental diversity and exceptional natural beauty. A key element of this diversity is the Wet Tropics World Heritage Area, a 450-kilometre span of mostly tropical rainforest between Cooktown and Townsville. The Wet Tropics are home to a variety of rare or threatened flora and fauna species and holds immense biodiversity and scenic value. Each of the range roads pass through areas of the Wet Tropics World Heritage Area, complicating the delivery of any infrastructure upgrades and with associated cost impacts. It is essential upgrades to improve connectivity between Cairns and the Northern Tablelands minimise impacts to the Wet Tropics World Heritage Area.

Each of the existing roads severs natural habitats, including that of the iconic threatened species the Southern Cassowary. Planning of new roads within the declared Wet Tropics World Heritage Area requires special attention to construction methods and minimising short and long-term impacts of new infrastructure on high value fauna and flora.

There is important value placed on the unique driver experiences through this region and the drive itself is a tourist attraction. The need to balance both efficient transport outcomes while minimising environmental harm is an essential consideration on any proposed upgrade to improve connectivity between Cairns and the Northern Tablelands. Although long-term options exist to limit or avoid environmental impacts (including tunnelling and elevated structures) these options are significantly more expensive than at-grade solutions.

Environmentally sensitive areas

Each of the range roads pass through the declared Wet Tropics World Heritage Area:

5.9km
(21 per cent)

of the length of
Mossman – Mt Molloy
Road

6.4km
(13 per cent)

of the length of
Kennedy Highway
(Cairns – Mareeba)

6.4km
(48 per cent)

of the length of
Kuranda Range Road

21.1km
(38 per cent)

of the length of
Gillies Range Road

21.6km
(40 per cent)

of the length of
Palmerston Highway

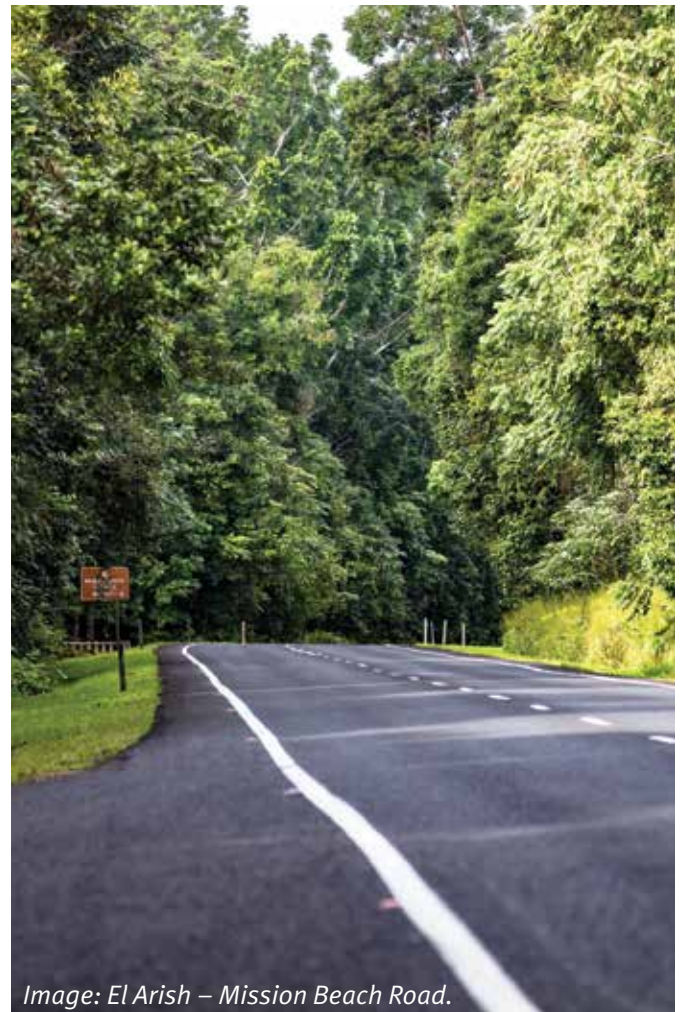


Image: El Arish – Mission Beach Road.



Community access and growth

Access to an efficient transport system is important for the health and liveability of regional communities. Currently, travel between Cairns and the Northern Tablelands for people without a vehicle is a challenge. There are limited public transport services between Cairns and the communities on the Northern Tablelands, and a lack of dedicated active transport facilities. The road corridors, particularly the range sections, are not currently suitable for active transport due to narrow shoulders and lack of dedicated facilities. Travel on these roads is highly car dependent with limited opportunity to encourage a mode shift to active or public transport.

| *The region is growing*

In the longer term, beyond the timeframe of the current *Far North Queensland Regional Plan*, available land for residential property development in the Cairns urban area may become increasingly scarce. If future land development is progressed in the Northern Tablelands, it will put increasing pressure on transport corridors and will need to be considered.



Table 3: Forecast regional population growth

Year	2016	2021	2026	2031	2036	2041
Total population	261,886	279,037	297,676	317,823	337,591	356,944
% Cumulative growth from 2016	0%	6.5%	13.7%	21.4%	28.9%	36.3%
Annual % compound growth over 5 years	–	1.28%	1.30%	1.32%	1.21%	1.12%
Year	2016	2021	2026	2031	2036	2041
Total jobs	126,550	133,784	143,476	155,656	167,506	179,199
% Cumulative growth from 2016	0.0%	5.7%	13.4%	23.0%	32.4%	41.6%
Annual % compound growth over 5 years	-	1.12%	1.41%	1.64%	1.48%	1.36%

Is capacity an issue?

While it may seem that insufficient road capacity is the cause of slower travel times, further investigation shows that capacity is not the issue.

On all roads between the Northern Tablelands and Cairns there is a degree of driver frustration – the road alignment is challenged by unique topography and it limits how fast drivers can travel.

Observations of travel speeds reveal that traffic flow is not breaking down due to capacity constraints, but light vehicle speeds are often limited by slower moving vehicles.

Factors such as steep grades and tight corners cause large vehicles to travel at slower speeds compared to speeds that a light vehicle can safely achieve. The limited overtaking opportunities mean that smaller vehicles can get caught behind vehicles travelling at slower speeds for some time.

The four key corridors under investigation have a high proportion of heavy vehicles travelling along the road due to a dependence on road-based freight.

While these corridors are an important critical freight link, the current volumes do not justify a new connection purely to service the freight industry.

Travel times

TMR has undertaken a travel speed study on Kuranda Range. Similar studies are yet to be undertaken on other corridors to provide a full picture of travel speeds across the corridors.

While the delays to private trips between Kuranda and Smithfield are perceived to be frequent, significant and cause driver frustration, analysis of recently observed travel time data suggest that delays are not as significant as potentially perceived.

From this data a traffic simulation exercise provided average weekday traffic characteristics in normal operating conditions. It did not consider adverse weather conditions or disruptions due to crashes, breakdowns or other irregular events that have been observed to cause significant delays on Kuranda Range Road.

Did you know that all vehicles travelling on the Kuranda Range are monitored via fixed camera?

Estimated travel time of
12 minutes
free flow

68% of trips are within one minute of the estimated time

93% of trips experience delay of less than two minutes

Travel duration is extended by **30 to 40 seconds** on average throughout the day

On other routes the potential delay due to slow moving vehicles is similar but due to smaller numbers of vehicles, and a less pronounced commuter peak, the issues are not perceived to be as significant.

During significant weather events, travel time is naturally affected and longer. Impacts on travel time can be longer than the day of the weather event due to fallen vegetation, debris and water on the road.

Several significant weather events occurred during the period of data collection. These resulted in extended travel times significantly longer than the average times.



Image: Gillies Range Road.

What is Level of Service (LoS)

Traffic engineers and transport planners typically refer to road capacity and Level of Service (LoS) when describing the performance of a road. LoS categories A to F represent the quality of traffic conditions from the driver perspective with LoS A representing the best free-flow conditions and LoS F representing significant congestion and unacceptable delay.

The measure of LoS represents the road user experience in terms of achievable current travel time compared to the 'expected' free-flow travel time and is determined by the delay time for a traffic movement at an intersection or along a route. LoS is influenced by factors such as the volume of traffic compared to the calculated maximum vehicles/lane/hour, driver behaviour and the mix of vehicle types on the road.

LoS measures can be used to indicate the necessity for upgrade of an intersection or provision of an additional traffic lane along a link. The necessity is based on avoidance of an undesirable or unacceptable delay when a movement is expected to deteriorate to LoS E or F. The limits for these categories are well established for traffic movements at individual intersections but are not well defined for a length of road.

Capacity vs. Level of Service

The capacity of a road is commonly measured in number of vehicles per day or vehicle 'throughput'. For a relatively short 'inter-urban' link such as Kuranda Range Road, capacity is typically determined by intersection geometry and type of traffic control at each end of a link rather than curve radius or overtaking opportunities, which would influence travel speed.

With no change to existing land use and economic drivers on the Tablelands, traffic simulation models indicate that traffic flow can grow by more than 20 per cent on Kuranda Range Road before capacity issues cause significant breakdown of traffic flow. Even with this level of growth, light vehicle travel speeds are forecast to decrease by less than 10 per cent.

Level of Service (LoS) is not directly related to the capacity of the link as it measures the user experience in terms of travel delay rather than the achievable throughput. The capacity limits are generic guides applicable in a broad range of circumstances.

The local LoS based thresholds are more meaningful measures of necessity than simple capacity limits such as 12,000 or 18,000 vehicles per day, which are sometimes quoted as triggers for additional lanes on a link.



Based on existing land use plan and population growth future traffic flows are forecast to grow by approximately 1% per annum (between 2016 and 2041).



The proportion of larger vehicles is expected to increase gradually over time.



Data shows that road capacity on Kuranda Range Road will not be a challenge within 20 years with delays for light vehicles approximately one minute.

With the unique characteristics of the range roads – tight curves, steep gradients, varying lane and shoulder widths – it is more useful to examine the local experience of drivers in different types of vehicles and LoS based on local conditions to assess the need for road improvements. The combination of agile light vehicles and larger vehicles along these roads reduces the average LoS.

Route upgrades are typically recommended when a rural highway reaches LoS E. This is reached when average travel speed reduces by more than a third. Kuranda Range Road is well below this threshold.

This could however change if land use planning and associated growth changed, a new economic opportunity opened on the Tablelands or some other form of significant development occurred, bringing this threshold forward sooner.



Image: Kennedy Highway (Cairns – Mareeba).

5 Vision



Vision

The *Far North Queensland Regional Plan* holds a vision for 'a stronger, more liveable and sustainable community' supported by regional transport planning.

To this end, the vision for the transport network connecting Cairns and the Northern Tablelands is one where the vision acknowledges the local context – specifically related to the issues and challenges presented by its location within a unique environment – and the relationship to wider regional and state planning. It also recognises that solutions must be affordable and subject to rigorous analysis of the costs and benefits.

To support the desired future situation, objectives were developed for the Access Strategy with inputs from key stakeholders.

Key benefits that will arise from achieving these objectives and implementing this strategy include improved freight efficiency, reduced frequency/duration of unplanned road closures, reduced travel times, improved travel time reliability and a reduction in the number of crashes.

Transport contributes to regional growth and the local economy through safe, efficient access across the region with the resilience to support all forms of transport.



Image: Kuranda Range Road.

Five objectives have been identified to achieve the overall transport vision for the connection between Cairns and the Northern Tablelands to deliver key benefits for the community.





6 What we are doing already



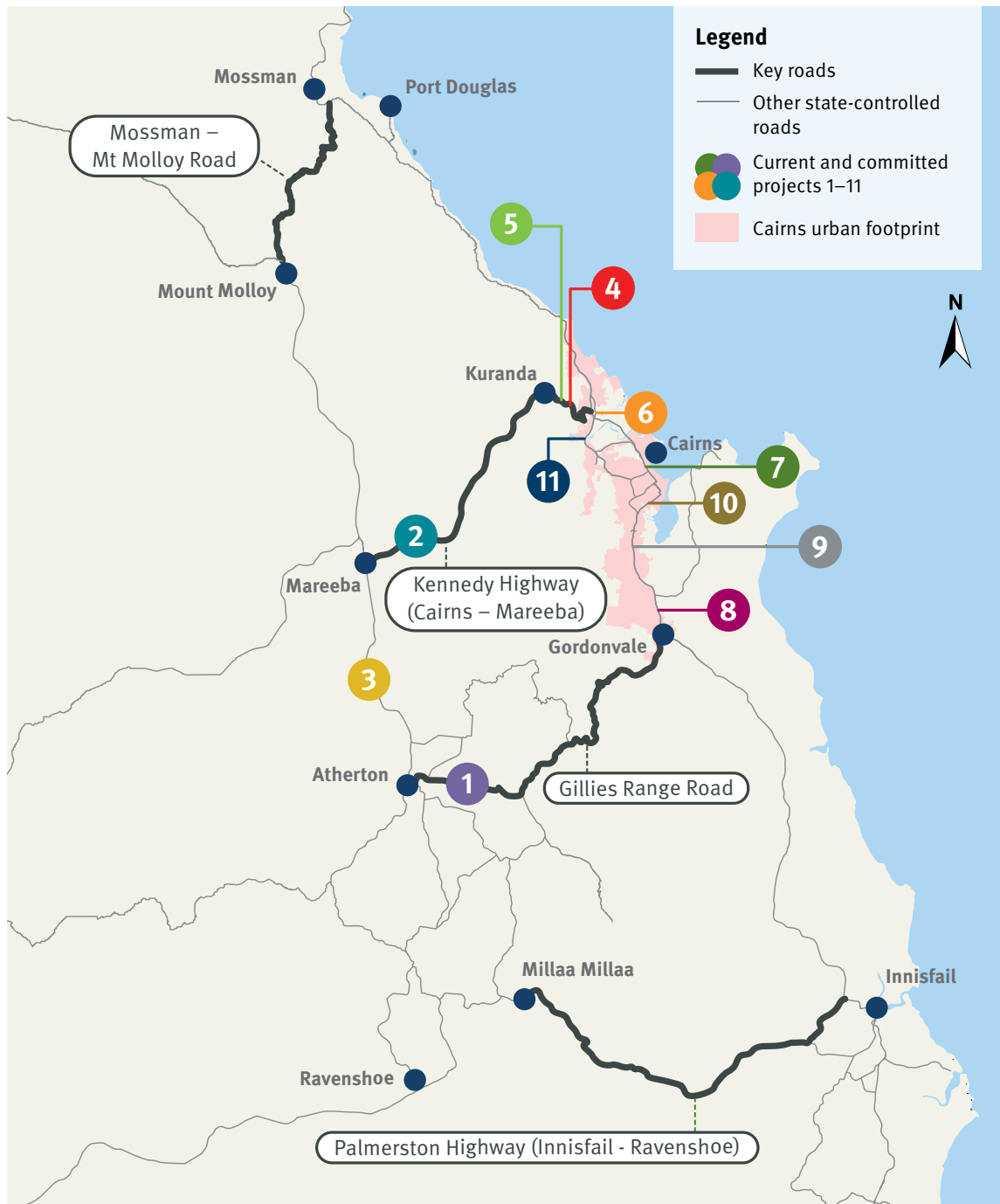
Image: Gillies Range Road.

What we are doing already

The Access Strategy builds upon an existing program of upgrades and initiatives that recognise the importance of the key roads between Cairns and the Northern Tablelands.

Responding to the unique challenges of the region, the Queensland Government has recently committed more than \$58 million over the next four years to deliver road upgrade projects.

The Access Strategy will help focus delivery of projects moving forward to achieve the transport benefits needed.



Map 4: Current and committed projects. See page 51 for the list of projects.

Recent investment

Recent investment for improved safety outcomes under the Safer Roads Sooner program include:

- \$608,100 on the Mossman – Mt Molloy Road
- \$2.39 million on the Kennedy Highway (Cairns – Mareeba)
- \$55,000 on Gillies Range Road.

Ongoing investment in maintenance works to preserve existing infrastructure continues to be a priority. Maintenance funding for the past four financial years (2016/17 – 2020/21) totals:

- \$336,934 for Mossman – Mt Molloy Road
- \$5.23 million for Kennedy Highway (Cairns – Mareeba)
- \$1.25 million for Gillies Range Road
- \$12.34 million for Palmerston Highway.



Image: The Kennedy Highway (Cairns – Mareeba).

Current and committed projects

Major safety and road improvement projects underway or committed for the study area include:

- 1 \$18.8 million for the Gillies Range Road, various locations, improve safety project
- 2 \$45 million for the Kennedy Highway—(Cairns-Mareeba), road safety enhancement works
- 3 \$37.5 million for the Kennedy Highway (Mareeba - Atherton), targeted road safety improvements, jointly funded by the Australian and Queensland governments (80:20)
- 4 \$30 million for Kennedy Highway (Cairns – Mareeba) Kuranda Range Intelligent Transport System project, jointly funded by the Australian and Queensland governments (80:20), under the Regional Economic Enabling Fund
- 5 \$2.1 million for Kennedy Highway (Cairns - Mareeba), Barron River bridge upgrade, planning.

Other critical road projects in the Cairns urban area that will improve connectivity and access to and from the Northern Tablelands include:

- 6 \$164 million for the Captain Cook Highway, Smithfield Bypass
- 7 \$359 million for the Cairns Ring Road (CBD – Smithfield), jointly funded by the Australian and Queensland governments (80:20)
- 8 \$481 million for the Bruce Highway, Cairns Southern Access Corridor (Stage 3), Edmonton to Gordonvale, construction, jointly funded by the Australian and Queensland governments (80:20)
- 9 \$225 million for the Bruce Highway, Cairns Southern Access Corridor (Stage 5), Foster Road, upgrade intersection, jointly funded by the Australian and Queensland governments (80:20)
- 10 \$123.7 million for the Bruce Highway, Cairns Southern Access Corridor (Stage 4), Kate Street to Aumuller Street, widen to six lanes, jointly funded by the Australian and Queensland governments (80:20)
- 11 \$300 million for the Cairns Western Arterial Road duplication, jointly funding by the Australian and Queensland governments (80:20).

Barron River Bridge upgrade – planning underway

The Barron River Bridge is a 256-metre-long steel and concrete bridge over the Barron River near Kuranda. Opened in January 1963, the bridge forms part of the Kennedy Highway, a primary route between Cairns and the Northern Tablelands.

Given the age of the bridge, increased traffic, allowable load limits and absence of active transport facilities, it is time to look at options to improve the infrastructure. In late 2020, TMR implemented load restrictions and one-way travel to mitigate structural risks while further investigations and planning take place.

Ongoing operating restrictions, or closure of the Barron River Bridge, would have significant negative impacts and require significant detours for freight and general traffic.

TMR has commenced planning to mitigate the potential risks to transport operations.

To investigate the viability of cost-effective solutions for bridge rehabilitation and replacement for the Barron River Bridge, funding of \$2.1 million has been allocated to develop a Preliminary Evaluation.

This planning is due to be completed in late 2022. Ongoing connectivity to Kuranda via the Kuranda Range Road and the Barron River Bridge is essential in future regardless of any decision to preserve a new corridor for future capacity.

Image: Barron River Bridge, Kuranda.

Intelligent Transport Systems

Intelligent Transport Systems (ITS) support network efficiency, access and safety by allowing road users to be alerted to existing road conditions and help them make better travel decisions. ITS solutions are often made up of a combination of variable speed limits, CCTV technology and/or variable messaging advising of travel times and incidents.

ITS solutions can help deliver benefits to the transport system in this unique region. They will improve TMR's ability to prevent, detect, respond, inform and clear incidents on key routes.

TMR has undertaken various planning studies for ITS solutions across Far North Queensland. Sections of Kuranda Range Road, Gillies Range Road and the Kennedy Highway have been identified as areas that would benefit from ITS interventions. TMR currently has ITS funded works for portions of the Kennedy Highway and Gillies Range Road.

Planning over the last five years has identified the need for ITS solutions along Kuranda Range Road, given the higher traffic volumes, and frequencies of crashes and closures, on this road. The Kuranda Range Road Intelligent Transport Solutions Strategy will assess the viability of ITS along this key route. While the proposed solution is still in development, it is expected to include:

- vehicle activated signs
- weather monitoring stations
- vehicle detection technologies
- messaging signs including VMS and hybrid signs.

The \$30 million project will seek to improve TMR's ability to respond to and prevent incidents delivering an improved customer experience for road users. Construction is expected to be completed in late 2022.

Image: Peninsula Developmental Road.

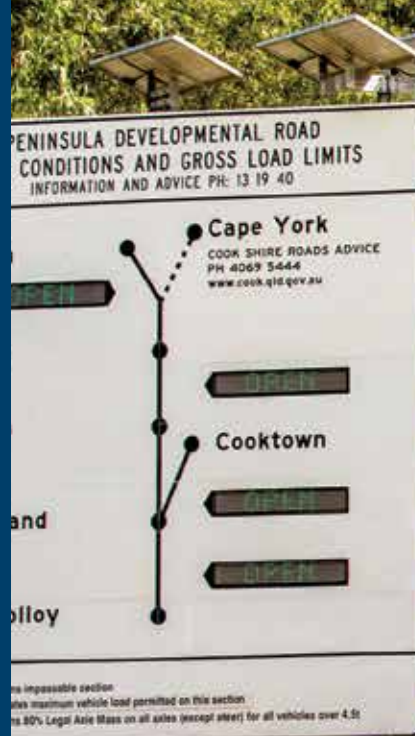




Image: The Kennedy Highway (Mareeba – Ravenshoe), Atherton township.

7 Planning for the long-term future



Planning for the long-term future

In addition to considering short and medium-term actions that can deliver immediate accessibility benefits between Cairns and the Northern Tablelands, the Access Strategy has also explored the long-term potential to protect for a future new road corridor.

The four existing roads have capacity for current traffic volumes and with improvements they can service the needs of travelling residents, tourists and freight in the short to medium-term. As the region grows and more pressure is placed on existing roads, a new road link may be needed in future years. The Access Strategy has reviewed the various previous studies into possible new road routes and assessed the possible options against the potential future needs in the region.

Historic studies have explored a variety of long-term solutions such as significant upgrades to the existing roads (for example, additional lanes), new road alignments, new rail alignments, new tunnel alignments, and a combination of these options. Some options were not deemed feasible due to the high cost, not serving potential growth areas, or their adverse impact on the Wet Tropics World Heritage Area.

While the Access Strategy recommends that consideration of a new road link should be progressed in future, more work needs to be done first to confirm:

- the most appropriate alignment
- whether some sections will be underground or elevated
- how a potential new road would link to the existing transport network
- how it would cater to different road users' needs.

An important consideration is how and where population and economic growth may happen in this region in future decades. Any new transport infrastructure must cater for future demands, including new residential communities, industrial and agricultural activity and freight needs.

Given the complex topography and environmental factors, a new transport link in this region is certain to be a complex and expensive investment. It is important to build the right project at the right time to deliver most benefit for the high cost of the infrastructure.



Image: The Kennedy Highway (Mareeba – Ravenshoe).

Key considerations for major new infrastructure

When assessing options for a new corridor linking the Northern Tablelands to Cairns in the future, there are four key considerations that will guide the right solution and timing for new infrastructure.



1 The unique environment in this region

- New infrastructure must preserve the highly valued World Heritage vegetation, cultural heritage, the Great Barrier Reef and protected fauna such as the Southern Cassowary.
- Design and construction methodology must limit impacts on the local area.
- Sections of the new link may need to be tunelled or elevated to reduce severance and impacts of construction and operation. Geotechnical surveys will be required to better understand the ground conditions and potential for sections of tunnel or elevated structures.



2 Population growth

- Population and land-use forecasts are essential to understand a viable location for a new transport corridor to serve the Northern Tablelands.
- Population growth over recent years has focused on areas south of Cairns rather than on the Tablelands. This means there has not been a significant growth in traffic volumes using the four corridors investigated in this study.
- It is anticipated that, in due course, the *Far North Queensland Regional Transport Plan* will be reviewed and updated, and will revisit population forecasts and will identify areas in the region that are suitable to experience future growth. This will provide understanding of what the projected increases in population will be in coming years and the respective locations. Areas where growth in population and economic activity are to be focussed will inform where a new corridor could be located to best serve the needs of our growing community and economy.



3 A growing economy

- Existing and future industrial and agricultural land locations must be identified to understand the future transport needs to support economic growth and unlock potential economic opportunity.
- The Tablelands agricultural production area on the elevated eastern highlands extending from Julatten to Ravenshoe supports a large variety of plant and animal industries including tree crops, field crops, horticulture, livestock and dairy. Potential future agriculture expansion areas include the Flinders River Catchment and Gilbert River Catchment. Development of these areas would likely generate additional freight movement across the region's road network connecting to ports and inter-regional highways.
- A new road link must cater to the increasing freight task in the region and improve connections between communities, industrial precincts, airports, sea ports, the strategic highway network and rail freight nodes.



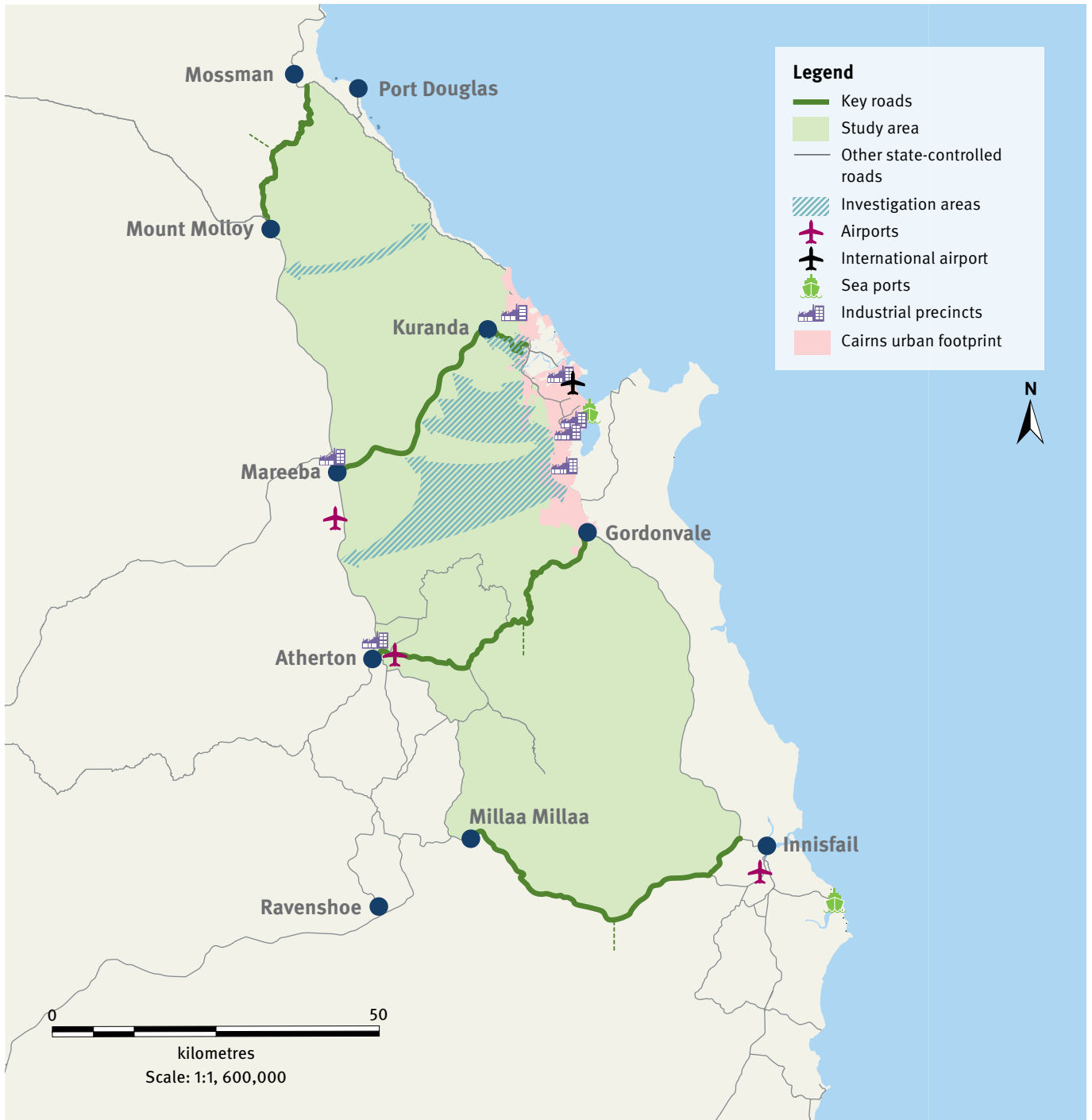
4 Impacts on existing road network

- Additional traffic volumes on a new road link could be loaded on to the existing state and local council road networks. It must be understood what this will mean for the operation, maintenance and upgrade of these existing roads (for example, is there sufficient capacity on the existing network to cater for increased traffic and is the existing network built to cater for high efficiency freight vehicles?).
- The costs associated with impacts to the connecting road network need to be fully understood and considered in the overall cost to benefit assessment.

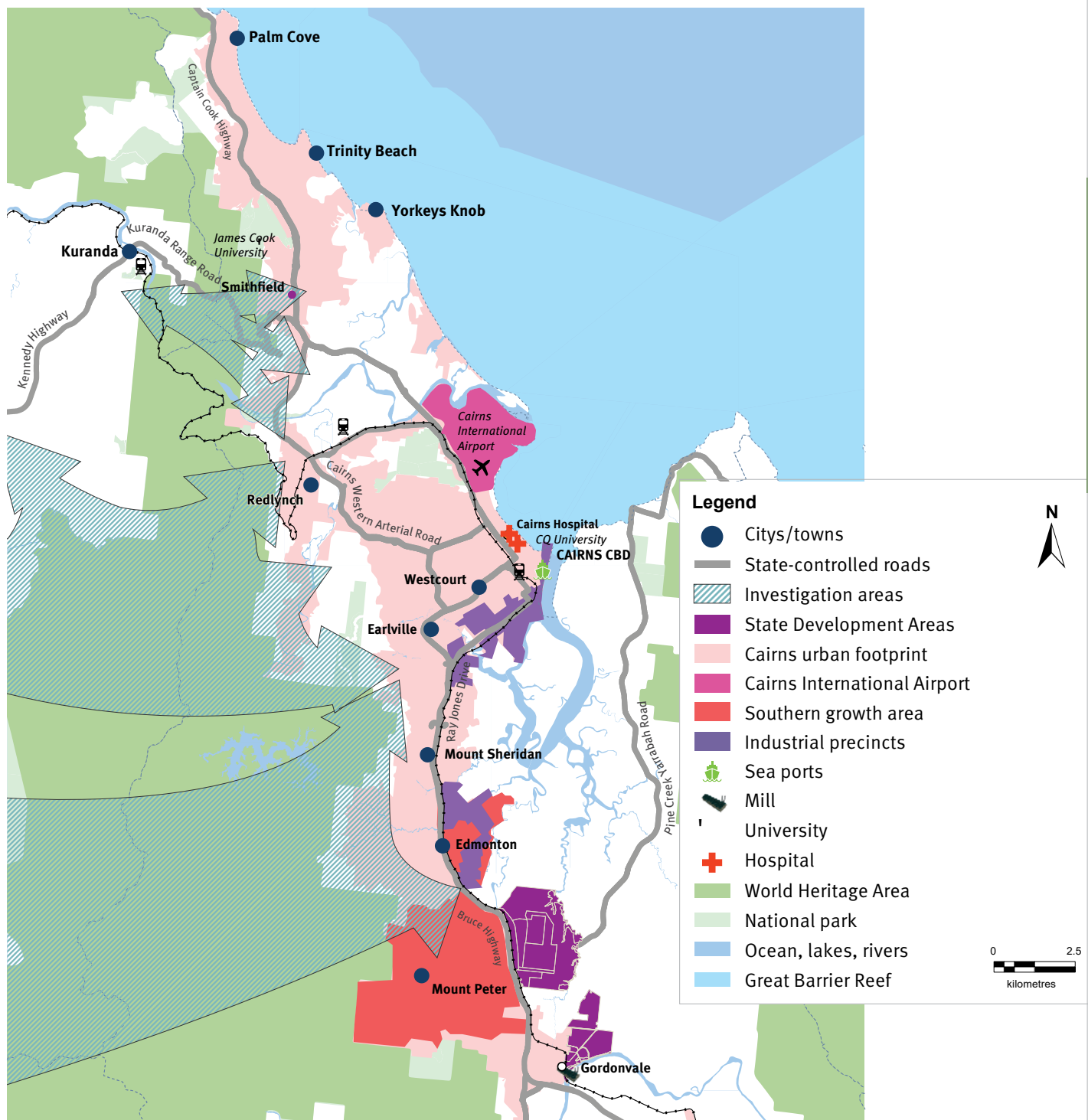
Options for further investigation

The areas of investigation for a new road link should focus on potential future growth areas and routes that connect to key destinations like ports, hospitals, central business districts, industrial precincts and significant external origins and destinations.

Map 5 illustrates the broad areas of investigation where possible alignments have been considered in previous studies, areas for future investigation, as well as existing key economic activity areas. It is important to note that previous studies focused on Kuranda Range Road rather than the wider transport network and broader region as a whole. This was to support investigations exploring the potential for additional urban development in the local area, which was not approved to proceed.



Map 5: Corridors of investigation areas.



Map 6: Inset map of Cairns.

While the Access Strategy recommends short to medium-term improvements on each of the existing corridors, at this stage the most appropriate location for a new corridor is potentially between the Kennedy Highway and Gillies Range Road (based on the information known at the time of this study). As highlighted in the inset map of Cairns above, further corridor investigations will need to consider the important connections between future residential and industrial growth areas located south of Cairns.

Many previous and new options have been explored as part of the Access Strategy. At this stage, there are too many unknowns to identify a preferred potential future corridor alignment (for example, future population growth areas, impacts to existing traffic). However, the Access Strategy identifies the next steps to close these gaps in order to inform planning priorities.

Where to from here

More work is to be done to determine the best future corridor alignment and when it is needed by understanding:

- What residential and industrial areas (existing and future) it connects to, and the economic benefits that it may present.
- What existing roads it connects to and the impact on traffic congestion and road safety.
- How it would be safely constructed while minimising disruption to the environment and community.
- What function it would serve and when it is needed to best benefit the region.

To progress long-term planning, TMR intends to engage with the Australian Government and other Queensland Government departments including the Department of State Development, Infrastructure, Local Government and Planning which would lead the development of a future Regional Plan for Far North Queensland.

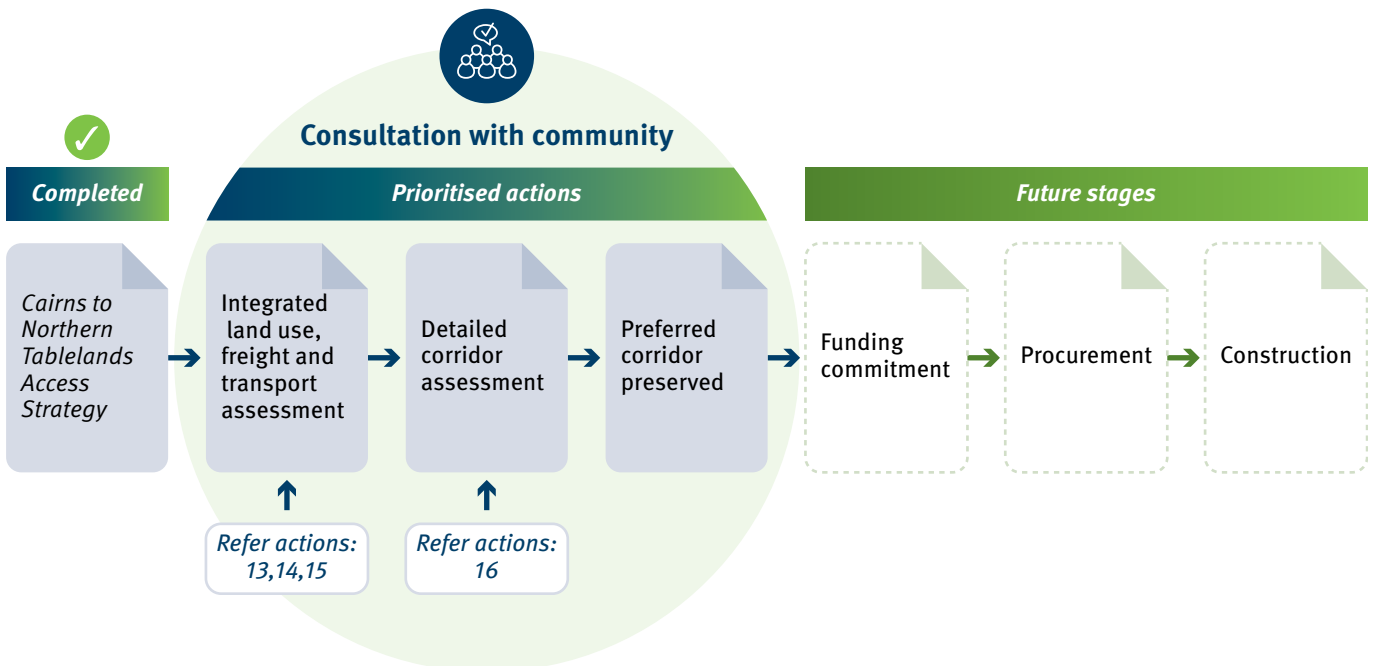
Future stages of planning will be subject to funding from the Queensland Government, and possibly the Australian Government, and may involve a Preliminary Evaluation, Business Case and community consultation.

It is critical that these bigger picture issues are resolved before making an investment in infrastructure that will position the region beyond the next 50 years. Consultation with stakeholders and the local community will be a key part of making these decisions.

Feedback will be needed to confirm where future population and economic growth may occur and about the long-term impacts of climate change. Then, investigations and consultation can begin to identify a preferred corridor and preserving this so that the region can grow in a way that integrates land use and transport needs for existing and future residents.

Major projects, like this one, have significant impacts, therefore consideration needs to be given before commencing them. Once a preferred corridor is preserved the Queensland and Australian governments can continue to monitor growth and can bring forward the project if needed.

In the meantime, there are numerous short and medium-term initiatives as identified in the next chapter that will be progressed to deliver more immediate benefits to access between Cairns and the Northern Tablelands.



Is the Bridle Track an option?

A detailed assessment of alignments, including the Bridle Track, has yet to be undertaken. However, a strategic review of the proposal identifies the following issues:

- adverse impacts to amenity and liveability outcomes in Redlynch Valley
- adverse impacts to the urban road network, including potential to exacerbate congestion issues on the Cairns Western Arterial Road

- inefficient connection to major freight hubs, given the distance between the planned end point and locations such as the sea port, commercial precinct, airport and state development area.

Current modelling indicates there is sufficient capacity on Kuranda Range Road until at least 2051, negating the need for implementation or construction of a road now.



Image: Gillies Range Road.



8 Actions



Image: Mulligan Highway (Mareeba – Mt Molloy).

Actions

Investigations carried out for the Access Strategy identified 60 priority actions for consideration in the development of future transport planning and investment programs. This strategy identified short and medium-term actions to provide tangible benefits to the community and transport industry while progressing towards the long-term solution.

0–4 years – short-term projects which are either funded and are currently in the planning phase or projects beyond the initial two year committed horizon which are subject to funding.

5–14 years – medium-term investment proposals.

Medium and long-term projects are dependent on funding availability and investment decisions. As such, the Queensland Government will work closely with the Australian Government to deliver particularly on the critical freight links outlined in the Access Strategy.

The actions below are currently unfunded and will be prioritised against other important planning and infrastructure needs across the state for inclusion in future works programs.

Objectives



Improve safety



Improve network resilience



Improve regional connectivity








Improve network efficiency




Environmental sustainability

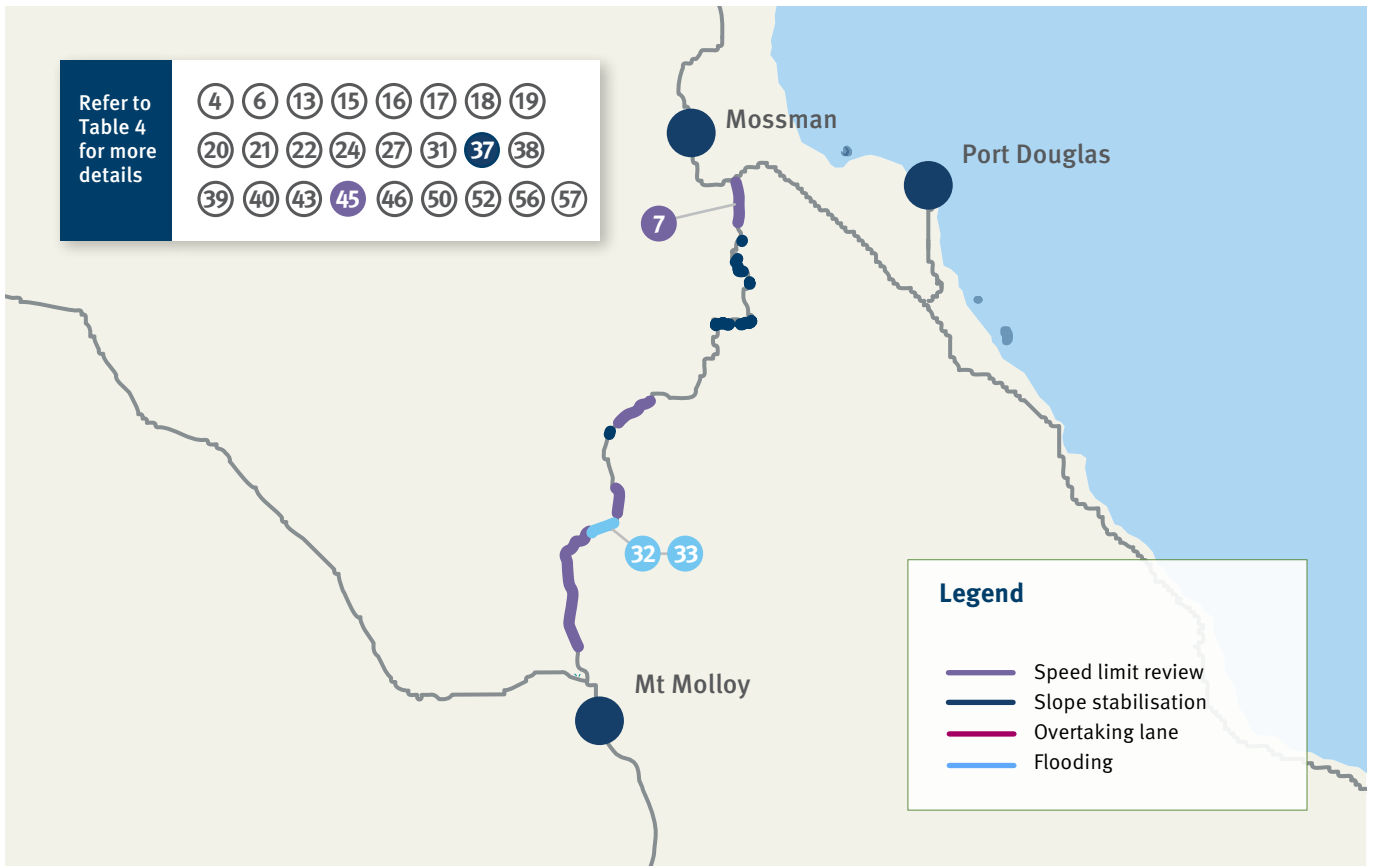
Table 4 illustrates the recommended short and medium-term actions and their direct alignment with strategy objectives

Recommendations		Timing	Objectives				
Corridor management							
1	Develop a corridor management plan to identify and mitigate risks of environmental hazards and traffic incidents for the Kennedy Highway (Cairns to Mareeba), including Kuranda Range Road (Cairns to Kuranda)	Short	◆		◆		◆
2	Develop a corridor management plan to identify and mitigate risks of environmental hazards and traffic incidents for Gillies Range Road, otherwise known as Gordonvale – Atherton Road	Short	◆		◆		◆
3	Develop a corridor management plan to identify and mitigate risks of environmental hazards and traffic incidents for the Palmerston Highway	Short	◆		◆		◆
4	Develop a corridor management plan to identify and mitigate risks of environmental hazards and traffic incidents for Mossman – Mt Molloy Road, otherwise known as Rex Range Road	Short	◆		◆		◆
Incident response							
5	Investigate the introduction of a dedicated Traffic Response Unit (TRU) on Kuranda Range Road to improve response, clearance and recovery timeframes	Short	◆		◆		◆
6	Review and update the incident response plans for all range roads, to improve response, clearance and recovery timeframes	Short	◆				◆
Heavy vehicle improvements							
7	Provide a new heavy vehicle stopping area (at the current informal stopping area) on Mossman Mt Molly Road	Short	◆	◆			◆
8	Construct a new heavy vehicle rest area and decoupling facility on the Kennedy Highway, west of Speewah	Short–Medium	◆	◆		◆	◆

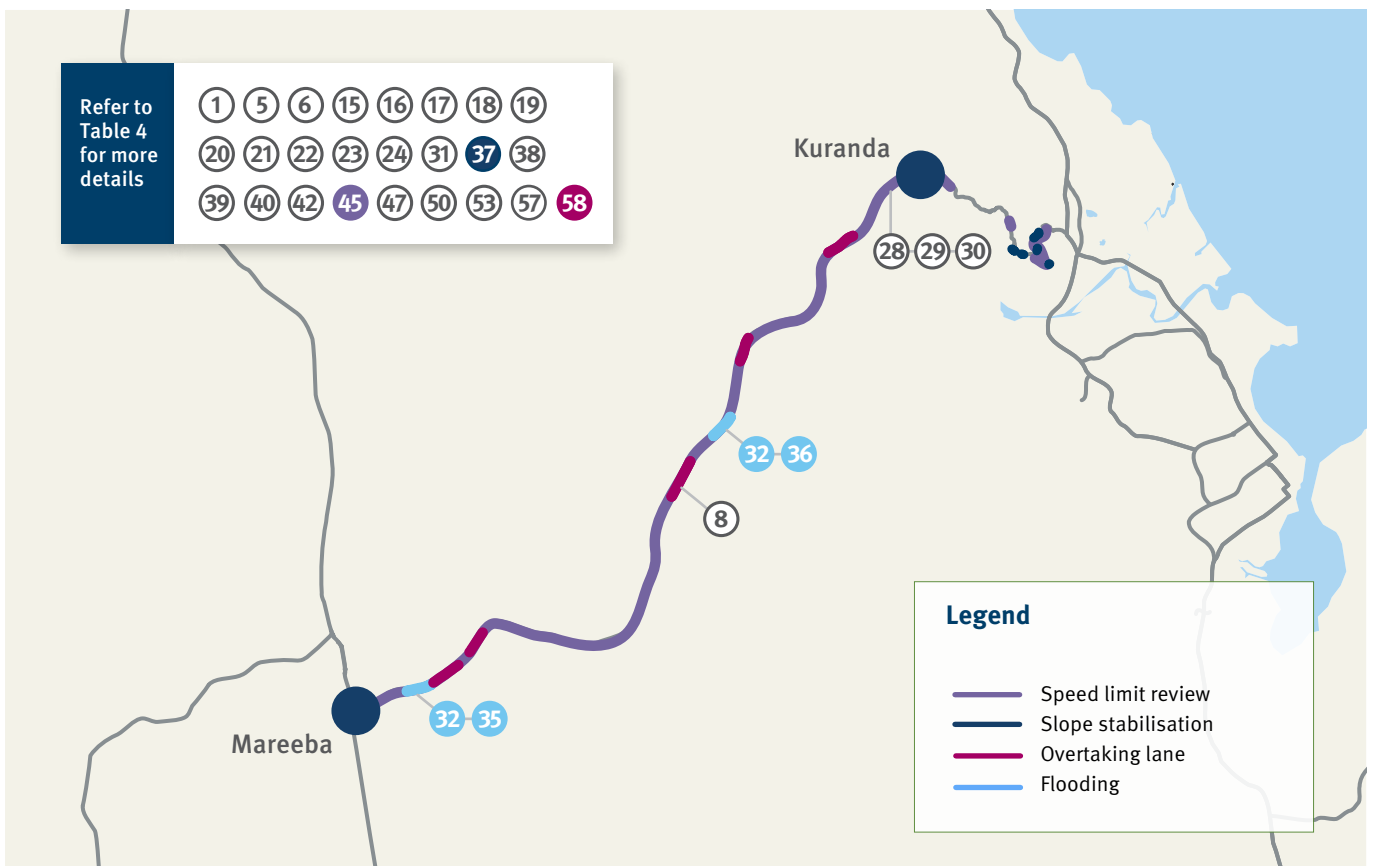
Recommendations		Timing	Objectives				
Heavy vehicle improvements (continued)							
9	Formalise the existing heavy vehicle stopping place on Gillies Range Road, near Boar Pocket Road	Short–Medium	◆	◆			◆
10	Construct a new, sealed heavy vehicle inspection site on the Palmerston Highway, near Junction Road, to allow for B-double heavy vehicle inspections	Short–Medium	◆	◆			◆
11	Formalise the existing heavy vehicle stopping area on the Palmerston Highway near Theresa Creek Road (west) and provide an all-weather seal	Short–Medium	◆	◆			◆
Planning							
12	Undertake detailed planning to investigate the Palmerston Highway corridor to improve road widths to enhance the safety and efficiency of this heavy vehicle corridor	Short	◆	◆			
13	Undertake an assessment of Mossman – Mt Molloy Road for safety improvements	Short	◆				
14	Undertake an assessment of the Palmerston Highway for safety improvements	Short	◆				
15	Undertake study to investigate viability of new public transport services	Short				◆	◆
16	Develop a regional freight network plan which investigates the strategic need and priority for the extension of the B-double route to connect Mareeba and Cairns	Short		◆		◆	
17	Proactively engage with other Queensland Government agencies, including the Department of State Development, Infrastructure, Local Government and Planning as well as local government authorities, to identify the future transport network needs as a result of reviews and updates to statutory and regional land use planning	Short		◆		◆	
18	Update the Cairns urban traffic model in order to better understand the impact of range road upgrades	Short		◆		◆	
19	Undertake a corridor preservation study to identify the future long-term connection between the Northern Tablelands and Cairns including active transport links	Medium	◆	◆	◆	◆	
Education, awareness and collaboration							
20	Undertake a targeted education campaign to promote road safety and highlight trip planning resources to assist all road users in making informed travel decisions using the range roads	Short	◆	◆	◆	◆	◆
21	Proactively engage with industry leaders and other key stakeholders on an ongoing basis to discuss the progress and implementation of the Access Strategy	Short	◆	◆	◆	◆	◆
22	Engage with stakeholders across government and the infrastructure sector to further refine evaluation and assessment methodologies for rural road transport projects that may unlock economic opportunity	Short	◆	◆	◆	◆	◆
Intelligent Transport Systems (ITS)							
23	Implement the recommendations of Kuranda Range ITS upgrade project including the use of: <ul style="list-style-type: none"> – variable signage technology – boomgates at the top and boom of the range 	Short	◆	◆	◆	◆	◆
24	Complete the District ITS Strategy	Short	◆	◆	◆	◆	◆
25	Implement the recommendation of the District ITS Strategy for Gillies Range Road	Short–Medium	◆	◆	◆	◆	◆
26	Implement the recommendation of the District ITS Strategy for the Palmerston Highway	Short–Medium	◆	◆	◆	◆	◆
27	Implement the recommendation of the District ITS Strategy for Mossman – Mt Molloy Road	Short–Medium	◆	◆	◆	◆	◆

Recommendations		Timing	Objectives				
Barron River Bridge							
28	Complete the Preliminary Evaluation for the Barron River Bridge upgrade	Short	◆			◆	◆
29	Undertake a detailed Business Case for the Barron River Bridge upgrade	Short	◆			◆	◆
30	Implement the recommendations of the Barron River Bridge upgrade Business Case	Short–Medium	◆			◆	◆
Environmental assessment							
31	Investigate the use of technology such as drones to proactively assess high risk areas to identify vegetation requiring removal	Short	◆		◆		◆
32	Undertake detailed planning for upgrades to mitigate localised flooding at: <ul style="list-style-type: none"> – Mossman – Mt Molloy Road: Bushy Creek – Gillies Range Road: Little Mulgrave River – Kennedy Highway: Barron River – Kennedy Highway: Clohesy River 	Short	◆		◆		◆
33	Implement the findings of the detailed planning for localised flooding at Bushy Creek, to enhance the overall resilience of Mossman – Mt Molloy Road	Short–Medium	◆		◆		◆
34	Implement the findings of the detailed planning for localised flooding at Little Mulgrave River, to enhance the overall resilience of Gillies Range Road	Short–Medium	◆		◆		◆
35	Implement the findings of the detailed planning for localised flooding at Barron River to enhance the overall resilience of the Kennedy Highway	Short–Medium	◆		◆		◆
36	Implement the findings of the detailed planning for localised flooding at Clohesy River, to enhance the overall resilience of the Kennedy Highway	Short–Medium	◆		◆		◆
37	Implement remediation works at high risk landslides sites, as identified during inspection processes, to improve the resilience of each of the range roads	Ongoing	◆		◆		◆
38	Implement the recommendations of the Cassowary Conservation Management Plan	Short–Medium					◆
39	Undertake further studies to identify initiatives or mitigation measures for other types of endangered fauna, including possums and tree kangaroos	Short–Medium					◆
Pavement and road resurfacing							
40	Undertake road resurfacing, pavement rehabilitate and skid resistance projects on each of the range crossings to improve safety	Ongoing	◆				◆
Localised safety enhancements							
41	Implement the following safety improvement priorities for Gillies Range Road including: <ul style="list-style-type: none"> – bicycle treatment between Gordonvale and O'Bryne Street roundabout – shoulder widenings – wide centre line treatments – guardrails – key intersection upgrades – upgraded signage (warning and vehicle activated) 	Short–Medium	◆				◆
42	Implement the following safety improvement priorities: for the Kennedy Highway including: <ul style="list-style-type: none"> – wide centre line treatments – curve widenings – Henry Ross Lookout Lane reconfiguration – guardrails – improved signage 	Short–Medium	◆				◆

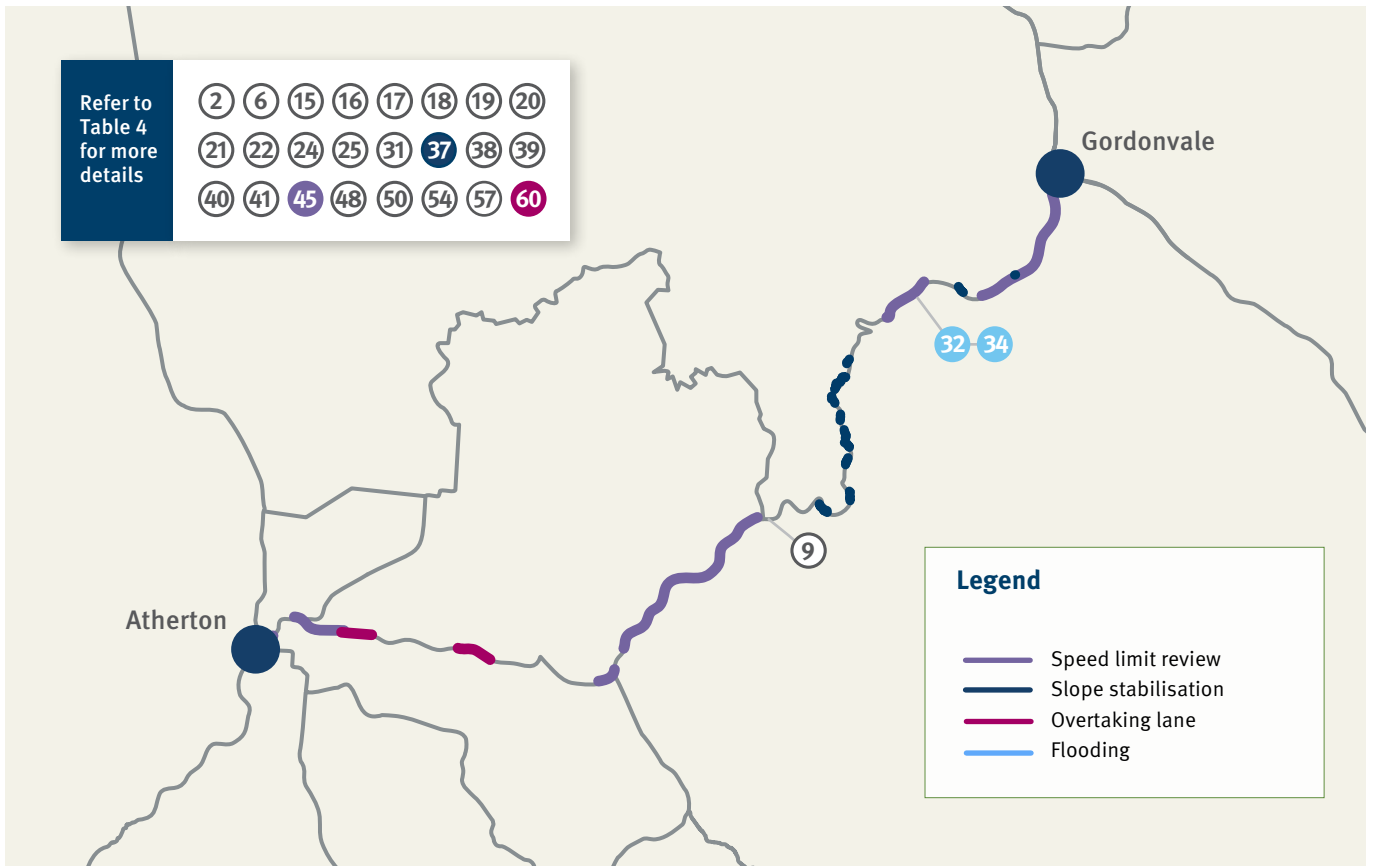
Recommendations		Timing	Objectives				
Localised safety enhancements continued							
43	Implement recommendations from assessment for Mossman – Mt Molloy Road for safety improvements	Short–Medium	◆				◆
44	Implement recommendations from assessment for the Palmerston Highway for safety improvements	Short–Medium	◆				◆
45	Undertake a speed limit review at priority locations to ensure that the speed limit is consistent with adjacent development and land use	Short	◆				◆
Structures							
46	Investigate and where necessary replace/upgrade aging culverts on Mossman – Mt Molloy Road to maintain access provisions for heavy vehicles and to ensure adequate cross drainage	Medium	◆		◆		◆
47	Investigate and where necessary replace/upgrade culverts on the Kennedy Highway to maintain access provisions for heavy vehicles and to ensure adequate cross drainage	Medium	◆		◆		◆
48	Investigate and where necessary replace/upgrade culverts on Gillies Range Road to maintain access provisions for heavy vehicles and to ensure adequate cross drainage	Medium	◆		◆		◆
49	Investigate and where necessary replace/upgrade culverts on the Palmerston Highway to maintain access provisions for heavy vehicles and to ensure adequate cross drainage	Medium	◆		◆		◆
50	Continue to undertake detailed bridge and structural inspections	Ongoing	◆		◆		◆
51	Undertake an audit of guardrail and end terminals along the Palmerston Highway, to ensure that these are installed at correct locations and meet current design standards	Short	◆				◆
52	Undertake an audit of guardrail and end terminals along Mossman – Mt Molloy Road to ensure these are installed at correct locations and meet current design standards	Short	◆				◆
Traffic management and minor works							
53	Undertake an assessment of the legibility of signage and line marking, particularly at night, to improve safety on the Kennedy Highway	Short	◆				◆
54	Undertake an assessment of the legibility of signage and line marking, particularly at night, to improve safety on Gillies Range Road	Short	◆				◆
55	Undertake an assessment of the legibility of signage and line marking, particularly at night, to improve safety on the Palmerston Highway	Short	◆				◆
56	Undertake an assessment of the legibility of signage and line marking, particularly at night, to improve safety on Mossman – Mt Molloy Road	Short	◆				◆
57	Continue to upgrade key Intersections on all four corridors to reduce incidents	Ongoing	◆				◆
Other planned upgrades							
58	Construct additional overtaking lanes at priority locations to support efficient travel along the Kennedy Highway	Short–Medium	◆	◆			
59	Construct additional overtaking lanes at priority locations to support efficient travel along the Palmerston Highway	Short–Medium	◆	◆			
60	Construct additional overtaking lanes at priority locations to support efficient travel along Gillies Range Road	Short–Medium	◆	◆			



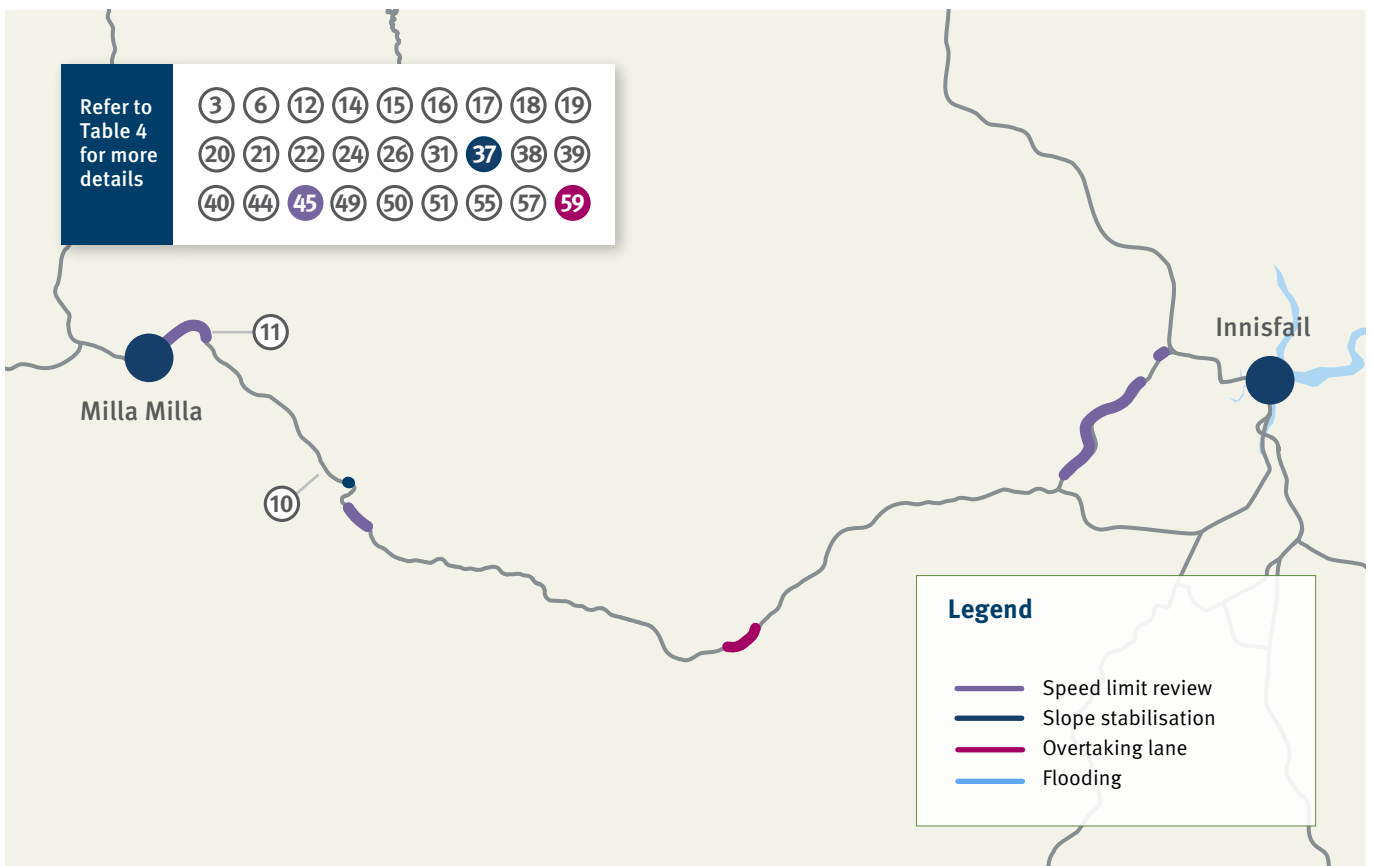
Actions: Mossman – Mt Molloy Road



Actions: Kennedy Highway (Cairns – Mareeba)



Actions: Gillies Range Road



Actions: Palmerston Highway



Image: Cairns City from Lake Morris.

9 The way forward



The way forward

The Access Strategy documents the past and present challenges defining the transport network connecting Cairns with the Northern Tablelands, identifies information gaps and areas of uncertainty, and recommends a range of initiatives for future investigation and implementation.

The actions proposed in the Access Strategy can be packaged and progressed in a staged way to have a significant impact on addressing performance issues across each of the existing four range roads.

These actions will deliver benefits including improving safety and network efficiency, providing better road access and in the long-term finding the right solution for capacity upgrades or a new road link that will support future regional planning for economic development and population growth.

The priorities listed will guide future planning and infrastructure investment decisions for this unique and complex transport environment.

When implemented, the comprehensive and integrated suite of priorities could support major infrastructure investment in the longer term. TMR can now continue to work with key stakeholders to address these issues and submit robust and justified funding proposals when the time is right for longer term major upgrades.

Investments in transport infrastructure projects beyond the current four-year infrastructure investment program will be dependent on future allocations of federal and state funding. The Access Strategy will form the basis for allocation of state-funded planning budgets and for future funding negotiations with the Australian Government.

The Queensland Government has a strong record of successfully managing and implementing projects in partnership with the Australian Government. Where appropriate, TMR will engage with the Australian Government and other agencies to progress projects and deliver benefits to this important regional network.

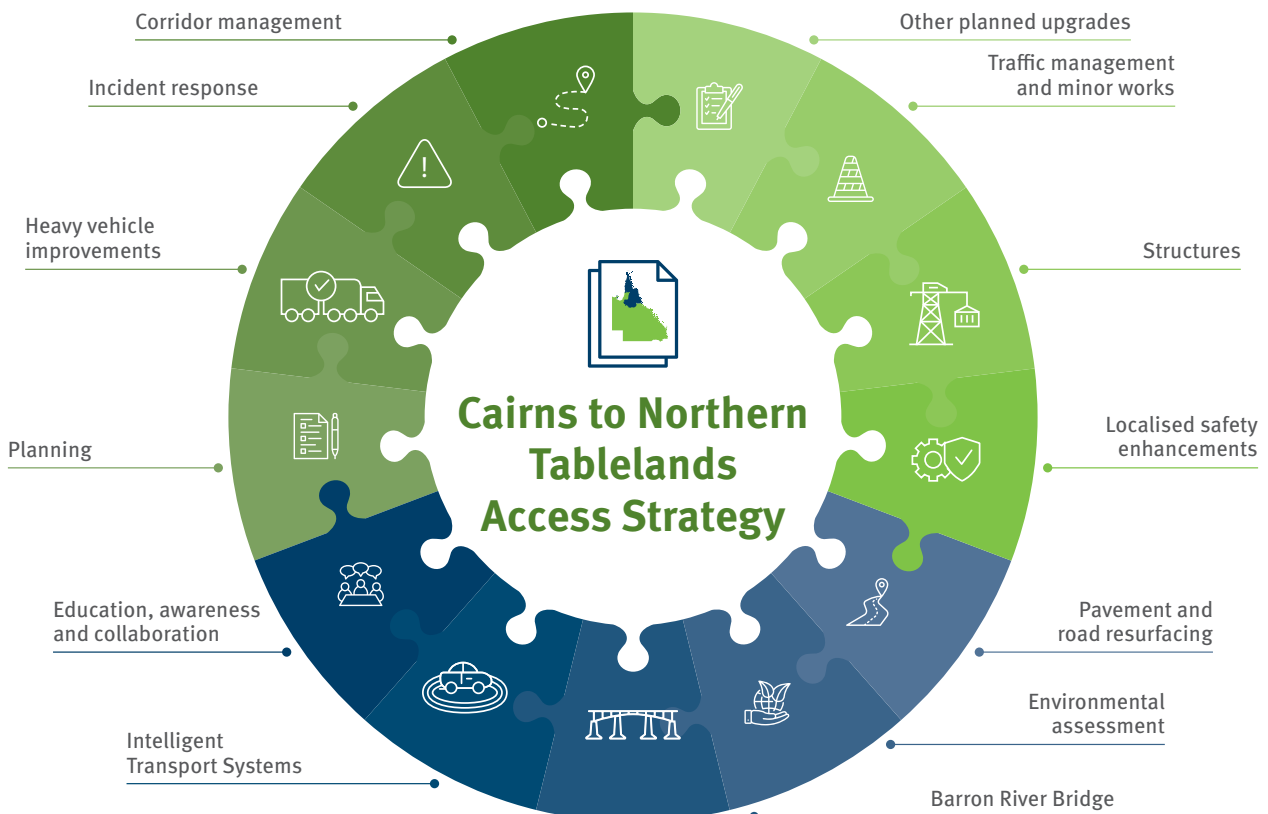


Image: Gillies Range Road.



The way forward



Image: Mossman – Mt Molloy Road.



