

Bribie Island Road **UPGRADE STRATEGY**

MARCH 2019



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Introduction

This document has been developed by the Department of Transport and Main Roads (TMR) to provide a long-term investment strategy to improve the safety, reliability, capacity, transport efficiency and flood immunity for Caboolture-Bribie Island Road.

Caboolture-Bribie Island Road (Bribie Island Road) is a 19.06km road corridor between Caboolture/Bruce Highway interchange and Bribie Island.

Bribie Island Road is the primary link connecting the coastal communities of Bribie Island, Sandstone Point and Ningi to transport and essential services in Caboolture and beyond.

The *Bribie Island Road Upgrade Strategy* identifies short, medium and long-term priorities. The timing of investment will depend on funding availability. This strategy is intended to provide guidance to decision-makers to inform funding allocation priorities. Should funding become available sooner, this strategy also details appropriate staging for the road upgrade projects.

Planning for stronger regions

The *Bribie Island Road Upgrade Strategy* forms part of the Queensland Government's overall strategic planning for the state. This planning insures infrastructure and services can be provided to accommodate population growth, support economic prosperity and enhance the liveability of Queensland's regions.

The Queensland Plan

The *Queensland Plan* is the 30-year strategic blueprint for the state with 9 key foundations, one of which is 'Infrastructure – Being Connected.' The Plan recognises that infrastructure is a key component in ensuring that the state can cater for ongoing economic and population growth into the future.

Shaping SEQ: Regional Plan for South East Queensland and State Infrastructure Plan

Shaping SEQ is the regional plan that coordinates planning to position South East Queensland for ongoing sustainable growth, global competitiveness and high-quality living. The *State Infrastructure Plan (2017)* supports delivery of the *Shaping SEQ* by providing a framework for planning and prioritising infrastructure investment and delivery, that supports growth, economic development and employment. It identifies what the government ultimately wants from its infrastructure and how this can best be achieved. One of the key outcomes is "The safety and reliability of Queensland's transport system has progressively improved so that there are fewer fatal and serious injury crashes and improved travel time and reliability."

Transport Coordination Plan

The *Transport Coordination Plan* articulates the government's objectives for the transport system which, together with detailed transport strategies, provide the framework for investment that will deliver more liveable, prosperous, active and productive communities – now and into the future. The objective is for a Queensland transport system that achieves better customer value, better accessibility and better connectivity over the next decade.

Queensland Transport and Roads Investment Plan

The Department of Transport and Main Roads prepares the *Queensland Transport and Roads Investment Plan*, as a four-year rolling program of road and transport infrastructure works that continue to provide for a safe, efficient and integrated transport network throughout Queensland. It is published annually and outlines the billions of dollars of transport and road infrastructure projects that the Queensland Government is planning for, or will deliver over the next four years, across local, state and national networks. The planning associated with this *Bribie Island Road Upgrade Strategy* is funded within QTRIP. Individual projects that will realise this strategy will be funded in future years as funding becomes available or needs arise.

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Key Bribie Island Road Facts

The road passes through rural, rural residential and urban communities. The strategy has identified the need to upgrade the road over time to provide for capacity enhancements, safety improvements and better flood immunity.

This includes providing a consistent 4-lane median-divided cross section for the length of the corridor as the road is progressively upgraded over the next 20 years.

- ▶ 19.06 km in length
- ▶ 21,400 to 48,000 daily traffic volumes
- ▶ Links communities of Bribie Island, Sandstone Point & Ningi with a population of more than 26,000 residents
- ▶ Will support a predicted population increase in line with Moreton Bay Regional Council Planning Scheme.

Challenges

The main challenge going forward is to ensure upgrades over time are planned effectively to support improved capacity, safety and flood resilience.

Specific challenges that need to be addressed are:

- ▶ Safety issues, with high crash rates on some sections
- ▶ Capacity issues, with some sections over capacity
- ▶ Maintain connectivity to coastal communities
- ▶ Flood resilience

Current investment initiatives

The Queensland Government has committed \$10.4 million to upgrade the intersection of Bribie Island Road and Toorbul Point Road. This work is programmed for construction in 2020. An additional \$755 000 has been allocated for safety improvements to intersections along the corridor and \$2 million for corridor planning.



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Heavy vehicle turning out of a 'Give Way' controlled side street in 100 km/h section of Bribie Island Road.

Current performance

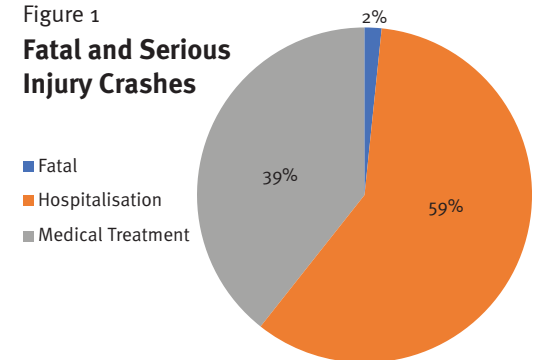
Safety

Bribie Island Road has experienced a significant number of crashes along the length of the corridor. 61 crashes were reported to Police from 2013 to 2017 not including crashes which resulted in property damage only. 60% of reported crashes resulted in at least one person being seriously injured or killed. Some sections are 2-lane high-speed rural arterial road standard with poor access controls (direct property accesses and unsignalised intersections). The poor safety record may be indicative of:

- ▶ a high degree of risk taking with vehicles waiting for gaps large enough to enter or exit the corridor
- ▶ potential issues with speed differential between through traffic and turning traffic
- ▶ unsafe over-taking particularly within 2-lane sections of Bribie Island Road.

Bribie Island Road also changes form frequently between sections which are already 4-lane, dual carriageway and sections that are 2-lane, single carriageway. In addition, speed limits currently change frequently along the length of Bribie island Road, with 9 different speed limits occurring within the 19.06km length. Inconsistent road type and numerous speed limits along the corridor contribute to road safety issues.

Figure 1
Fatal and Serious Injury Crashes



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Capacity and Transport Efficiency

Sections of Bribie Island Road are close to or at capacity with limited design life remaining. Current volumes vary from an average of 48,000 vehicles per day over the Bruce Highway Overpass, to 21,500 vehicles per day west of Ningi Township. These conditions will result in increasing congestion, delays, unreliable travel times and a lack of resilience when traffic incidents or road closures occur.

The road frequently changes between high-speed 2-lane single carriageway and 6-lane, median separated, dual carriageway as shown in Figure 2.

The corridor is a current TMR approved multi-combination route between the Bruce Highway and the Volz Road/Browns Road

intersection. B-double heavy vehicles occasionally use this section of Bribie Island Road for state forestry and agriculture operations in adjacent properties. The road is identified as a Principal Cycle Route in the South East Queensland Principal Cycle Network. Bribie Island Road is currently serviced by two Translink bus services, the 640 and 652.

Current capacity constraints are generally limited to:

- ▶ delays at a number of priority controlled intersections, particularly for right turning vehicles due to insufficient capacity
- ▶ limited overtaking opportunities on the 2-lane sections
- ▶ incident management on the 2-lane sections where both directions of traffic may be impacted by closures until the incident is cleared.

Flood resilience

In recent years, closures due to flooding have been an issue for users of Bribie Island Road as it is the primary road access for more than 26 000 residents of Bribie Island, Sandstone Point and Ningi (from 2016 census data).

Closures generally occur in the vicinity of King Johns Creek (between Hickey Road and Old Toorbul Point Road). Between 2011 and 2015, a least five recorded road closures have occurred – four of these in excess of 15 hours and two that lasted longer than 40 hours. This impacts on reliability, isolates Bribie Island and coastal communities and increases travel times during minor flooding events.



Figure 2. Traffic Volumes and Existing Lane Configuration



King Johns Creek – existing culverts have low flood immunity

20-year Masterplan

Vision

The Queensland Government's 20-year vision is to upgrade the road to provide 4-lane, median-divided cross section for the length of the corridor with an 80km/h speed limit (with the exception of Ningi Township and the bridge which are likely to have lower posted speed limits). This includes construction of a new 4-lane Bribie Island bridge.

Strategic priorities include:

- ▶ improving safety for all modes that will lead to a reduced number and severity of crashes
- ▶ providing additional lane capacity and more efficient road configuration that will improve travel times and travel time reliability
- ▶ improving flood immunity and resilience
- ▶ improving connectivity to support economic growth
- ▶ developing a value-for-money approach to planning and delivery of section upgrades.

Strategic priorities will be accomplished by a staged and prioritised upgrade over the next 20-years.

- ▶ Hickey Road to Saint Road – upgrade to 4-lane, dual carriageway rural arterial with wide central median. Intersection upgrades include signals at Old Toorbul Point Road, Hickey Road and Volz Road/Browns Road.
- ▶ Donald Street to Kal Ma Kuta Drive – minor safety improvements to existing 4-lane road.
- ▶ Kal Ma Kuta Drive to Bestmann Road East - upgrade to 4-lane, dual carriageway rural arterial with wide central median. Intersection upgrades include signals at Kal Ma Kuta Drive and Spinnaker Drive.
- ▶ Bestmann Road to Donald Street (through Ningi township) – upgrade to 4-lane, urban arterial cross section. Intersection upgrades include signals at Ross Street and Regina Avenue.



An existing 4-lane median divided section of Bribie Island Road

- ▶ Bestmann Road East to Bribie Island (including replacement of Bribie Island Bridge). Upgrade to 4-lane, dual carriageway. In terms of overall improved link performance, upgrading the other sections first will help create a corridor with improved flood immunity and improved safety. This upgrade is not required until after 2038.

Improving safety

High traffic volumes, limited overtaking opportunities, conflicts between vehicles turning on and off Bribie Island Road with through-traffic, inconsistent road design standards and regular changes to speed limits contribute to crashes along the Bribie Island Road. Proposed investments outlined in this Strategy aim to improve overall safety through:

- ▶ road duplication (4-lanes)
- ▶ intersection upgrades
- ▶ wide central medians to separate traffic travelling in different directions
- ▶ consistent speed environment
- ▶ other measures (such as U-turn provisions) to maintain appropriate access.

The Queensland Government is focussed on significantly reducing fatal and serious injury crashes by at least 30 per cent by 2020 in line with the target set in the National Road Safety Strategy.

In conjunction with targeted on-road enforcement and compliance strategies, this will be achieved by providing, tried, tested and innovative infrastructure safety features that reduce the risk of crashes occurring and/or the seriousness of injuries resulting from crashes that do occur. This approach is being adopted on Bribie Island Road.

Enhancing capacity and reliability

Continued strong growth in South East Queensland and the Moreton Bay Regional Council area are predicted to generate growth in traffic over the next 20 years. Daily traffic volumes are expected to grow by 20% west of Peel Road and 10% through Ningi township.

By 2031, significant congestion and delays will be experienced along Bribie Island Road between Hickey Road and Saint Road and minor congestion through Ningi. The increase in traffic volumes, will result in delays in travel times for vehicles seeking access to Caboolture, North Coast rail line and the Bruce Highway.

Improving flood immunity

An upgrade at King John's Creek will provide significant flood immunity that will increase reliability and resilience of the corridor to ensure improvement this key connection remains open for Bribie Island and coastal community residents.

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Improving connectivity

Bribie Island Road is the primary road that connects Bribie Island, Ningi and Sandstone Point with Caboolture, the Bruce Highway and north coast rail line. The vision of the whole corridor being upgraded to a 4-lane, dual carriageway road improves connectivity for these communities by providing sufficient capacity to meet long term traffic growth, flood immunity and network resilience.

Prioritised Investments

To turn the vision into a reality, the Queensland Government has identified 10 Upgrade Stages which have been prioritised to address safety, improved flood immunity, capacity, transport efficiency and reliability or resilience. These stages will be considered for funding progressively over time as part of cyclical budgetary planning for delivery of the Bribie Island Road Upgrade.

The timing for further planning and implementation of the Bribie Island Road Upgrade Strategy is shown in Figure 3.

TMR will continue to monitor Bribie Island Road for safety and capacity issues that become apparent. Other priority works required to address these issues will be considered on the basis of need and merit.



Bribie Island Upgrade Road Strategy Project Horizon

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|---|--|
| <ul style="list-style-type: none"> 1 Old Toorbul Point Road intersection signalisation 2 Old Toorbul Point Road to Saint Road upgrade (including Volz Road/Browns Road intersection signalisation) 3 1st King Johns Creek Crossing (first two lanes) 4 Donald Street to Kal Ma Kuta Drive (4-lane section) Safety Upgrade 5 Pasturage Road to Hickey Road upgrade (from Hickey Road to existing 4-lane section east of Pasturage Road) | <ul style="list-style-type: none"> 6 2nd King Johns Creek Crossing and completion of 4 lanes from Hickey Road to Old Toorbul Point Road 7 Kal Ma Kuta Drive to Bestmann Road East Upgrade 8 Ningi Upgrade 1 (Bestmann Road to Ross Street) 9 Ningi Upgrade 2 (Ross Street to existing 4-lane section east of Donald Street) 10 Bestmann Road East to Bribie Island Upgrade (including Bribie Island Bridge replacement) |
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Note

1. Funding for design and construction is included in QTRIP 2018-19 to 2021-22.
2. Relatively low cost safety improvements to the existing 4-lane section between Donald Street and Kal Ma Kuta Drive are likely to be highly effective.
3. A wide centreline treatment is currently being implemented by TMR from Bestmann Road to the existing 4-lane section west of Kal Ma Kuta Drive.
4. The Ningi Upgrade projects include the upgrade of numerous intersections. Distinct intersection upgrades may be brought forward and constructed early to address safety issues as required.

Figure 3. Bribie Island Road Upgrade Strategy

