

# Challenges

Given its extensive length, the Bruce Highway faces a diverse range of challenges, including congestion, flood resilience and safety. Identified investments proposed in the 15-year Vision and the three, five-year rolling Action Plans build on previous upgrades to the Bruce Highway to help address these challenges and aim to achieve better outcomes to connect communities and support the economy.

## Traffic volumes

The Bruce Highway carries a significant volume of traffic, ranging from about 2600 vehicles per day (annual average daily traffic (AADT)) around St Lawrence, north of Rockhampton, to around 165,000 near the Pine River, north of Brisbane. Heavy vehicle volumes travelling sections of the Bruce Highway range between between 600 vehicles per day and 23,000 vehicles per day. Congestion, particularly in the south-east and on the approaches to regional centres impacts the economic productivity of the highway. This affects the entire network and the wider economy through increased freight costs and travel times for road users.

## Safety

The Bruce Highway faces safety challenges with these high traffic volumes contributing to serious and fatal accidents along the corridor, particularly in the more populated areas, as well as the less populated rural single carriage sections of the highway where people generally travel long distances at high speeds. Every serious injury and fatality on the road network has a ripple effect that impacts individuals, families and communities. A lack of rest areas and overtaking lanes at relevant locations along the Bruce Highway, combined with a varied traffic mix of heavy vehicles, commercial vehicles, private vehicles and recreational vehicles, such as campervans also present safety challenges along the highway.



Single carriage section of the Bruce Highway between Gin Gin and Benaraby (2021).

## Asset limitations

Maintaining the pavement condition and the hundreds of bridges and structures along the Bruce Highway is a challenge, particularly given the age, condition, strength and widths of the existing infrastructure and the increasing user demands and disruptive weather impacts across the state.

## Climate impacts

Crossing a number of major floodplains and climatic zones, during extreme wet weather events, flooding can close the Bruce Highway at multiple locations. These temporary closures impact travel time reliability and disrupt the transport of goods and services across the state, causing increased costs for supply chains and population centres reliant on the highway. Entirely flood-proofing the Bruce Highway within the next 15 years would be cost-prohibitive and needs to be carefully balanced with safety, improving flood resilience and capacity improvements.

Understanding regional climate risks and integrating resilience and sustainability across the transport system will be critical so that, when extreme wet weather events do occur, communities can continue to access essential goods and services and the network can reopen faster. Other north-south routes, such as the Inland Freight Route provide an alternative to the Bruce Highway during extreme wet weather events.

## Environmental sustainability

Queensland is the most biologically diverse state in Australia and experiencing continued loss of biodiversity, consistent with the current national and worldwide declines in biodiversity and ecosystem services.

Biodiversity supports people's health, well-being, culture, lifestyle and the economy and contributes to tourism, primary production and creative industries. Biodiverse natural environments enhance people's physical, social and mental well-being, as it provides important cultural, spiritual and aesthetic value.

As an integral part of its business activities, Transport and Main Roads is committed to managing its environmental interactions and incorporating sustainable and innovative solutions to minimise its environmental footprint.

# Customer insights

An extensive program of customer research was conducted to understand users' perspectives and priorities for the Bruce Highway and how these are changing over time. BHTAC members supported the researchers to ensure the participants reflected the diversity of customers who rely on the highway for both private and business needs. Research activities included analysing customer enquiries and submissions and conducting in-depth interviews and focus groups. The final research phase included an online survey of private citizens, business operators and commercial drivers. In total, 3945 respondents completed the online survey.

As part of this research, customers were asked to identify:

- their experiences on the highway, both positive and negative, by location and what highway characteristics were important to them
- how they prioritised the three BHTAC objectives: to **unlock economic growth**, **build flood resilience** and **improve safety** on the Bruce Highway, and how well the Bruce Highway is currently meeting these objectives.

Customers who participated in the research shared a number of positive experiences along the Bruce Highway, identifying the dual carriageway from Brisbane to Gympie and other sections along the highway with effective traffic flow and good rest areas as examples of how the highway performed well. On the flip side, customers identified sections of the highway where they were experiencing poor traffic flow, challenges in overtaking slower vehicles and issues with the road surface.

**Unlocking economic growth**, **building flood resilience** and **improving safety** were all important objectives to customers and inter-related. How a customer prioritised the objectives, depended upon factors, such as when and why people used the highway, frequency of travel and where respondents were located or the sections they travelled. This highlighted the value of asking customers about these factors in detail, which informed investment priorities by highway section. Overall, customers prioritised unlocking **economic growth** and **improving safety** similarly as most important, followed by **building flood resilience**.

Customers identified four characteristics that impacted their experience of the highway: consistency of travel experience, the capacity of the highway, maintaining reliable connectivity and the highway's ability to safely handle different vehicle types.

Customers said they appreciated the opportunity to have their say on the Bruce Highway, highlighting the importance of community input.



Consistency of travel experience



Capacity of the highway



Reliable connectivity



Ability to safely handle different vehicle types

# Customer insights



## Consistency of travel experience

**Consistency** refers to a consistent experience when either driving or travelling as a passenger along the highway, including consistent travel times, the ability to safely manage fatigue at regular intervals, consistent signage, road treatments and road quality. Consistency aligned with all three of the BHTAC objectives, **unlocking economic growth, building flood resilience** and **improving safety**. Consistency was the top priority for all customer groups. Customers said the benefits of consistency included predictable travel times, traffic flow, safer behaviour by road-users (knowing what to expect when on the road) and reliable network connectivity.



## Reliable connectivity

**Connectivity** refers to the Bruce Highway's ability to efficiently connect customers with where they need to go and the products and services they need to access. Connectivity contributed to the **unlocking economic growth** and **building flood resilience** objectives. Interestingly, 36 per cent of private citizens selected connecting with friends and family as the most important reason for using the highway. The road treatments customers identified included timely access to information on alternate routes and flood mitigation measures.



## Capacity of the highway

**Capacity** refers to how much traffic the highway can handle safely, while maintaining good traffic flow. Good capacity contributed to the **unlocking economic growth** and **improving safety** objectives. Road treatments customers identified that increase and improve capacity included dual carriageway, town bypasses, regular overtaking lanes, access to alternative routes, roadwork management and road surface upgrades.



## Ability to safely handle different vehicle types

The **ability to safely handle different vehicle types** refers to the highway's effectiveness at safely accommodating different types of vehicles, from cars to heavy and long vehicles, light trucks and caravans. When the highway handles different vehicle types well, it contributed to **unlocking economic growth** and **improving safety**. Road treatments identified by customers included rest stops to cater for different road users, longer overtaking lanes, smoother road surface and road design standards to handle heavier vehicles.

## How this research supported the development of the 15-year Vision and Action Plans

The information and advice provided by BHTAC members, combined with critical information from the customer research work and technical analysis on deficiencies, were key inputs in prioritising potential future investments on the Bruce Highway. Through the BHTAC, the voices of customers have shaped this *15-year Vision and Action Plans for the Bruce Highway*.

This document responds to the customer research findings targeting the highest priority improvements along the length of the Bruce Highway. These upgrades will improve the ability of the highway to safely handle different vehicle types and provide the consistency, capacity and connectivity sought by those who rely on the Bruce Highway to get them to their destination efficiently, safely and on time.

The vision for the Bruce Highway is to unlock economic growth, build flood resilience and improve safety to benefit current and future generations.



Looking onto the existing Bruce Highway interchange at Woondum (Gympie Bypass) (January 2022).