Our transport network

Brisbane has well established and extensive transport infrastructure which supports a wide range of public, private, freight and personal transport movements. The region’s transport network has affected, and been influenced by, the physical landform and settlement patterns of Brisbane and SEQ.

The Brisbane River has been a significant factor in the development of the city’s transport network, influencing the location of key infrastructure such as the airport and sea port, bridges and tunnel structures. The river is also used as a public transport corridor.

<table>
<thead>
<tr>
<th>BRISBANE LGA HOUSEHOLD CAR OWNERSHIP</th>
<th>PERCENTAGE OF HOUSEHOLDS IN BRISBANE CBD THAT DO NOT HAVE A MOTOR VEHICLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.1%</td>
<td>26%</td>
</tr>
<tr>
<td>37%</td>
<td>15.5%</td>
</tr>
</tbody>
</table>

More than 5700 km of Council controlled roads

**BICENTENNIAL BIKEWAY AVERAGE DAILY USE**

- >3900 bicycle movements
- 1650 pedestrian movements

**CITYCYCLE**

More than 2.8 million CityCycle trips since the scheme commenced in October 2010

More than 740,000 CityCycle trips in 2017-18, an increase of approximately 43% on the previous year

**BRISBANE BUSWAY NETWORK**

- 27 stations
- 25 km of dedicated busway network

1200+ bus fleet

6200+ bus stops

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9 Department of Infrastructure, Local Government and Planning, Connecting Brisbane, Brisbane, June 2017, p18
10 TransLink, www.translink.com.au

Transport Plan for Brisbane — Strategic Directions Brisbane City Council
Active transport — walking and cycling

Pedestrian network
With our subtropical climate, expansive open space and parklands, and increasing densification of residential neighbourhoods, walking is a major part of how we move around our city. Brisbane’s pedestrian network is made up of footpaths, pathways, tracks, urban spaces and bridges. Riverwalk and the Eleanor Schonell, Kurilpa, Victoria, Go Between and Goodwill bridges provide connectivity for high-volume movements across and along the Brisbane River. Pedestrian-focused urban spaces feature in many of Brisbane’s activity centres, neighbourhoods, universities and mixed-use precincts.

Bicycle network
Brisbane has an extensive on and off-road bikeway network which keeps our community active and healthy and helps manage traffic congestion. High-volume primary cycle routes connect residential areas to major destinations such as employment centres, regional activity centres and regional recreation areas. Local cycle routes link individual properties and residential catchments with local amenities and destinations. The Bicentennial Bikeway, Kedron Brook Bikeway and Bulimba Creek Bikeway are major Council bikeways. Veloways that run parallel to the Pacific Motorway and the Western Freeway are managed by the Queensland Government. The Moreton Bay Cycleway is a joint local government and Queensland Government bikeway linking Redcliffe, Brisbane and Redland Bay along the Moreton Bay coastline.
Public transport

Passenger rail network
Citytrain is SEQ’s rail transport network. Managed by Queensland Rail, it consists of high-capacity passenger heavy rail spines that connect in the CBD and inner city area.

The network spans more than 800km of track across 11 separate lines and 149 stations, connecting commuters travelling to Brisbane from the Gold Coast, Ipswich, Caboolture, Redcliffe, Redlands and the Sunshine Coast. Airtrain, owned and managed by a private entity, connects the Citytrain network to Brisbane Airport.

Brisbane is the central hub for a number of regional and interstate rail services, terminating at Roma Street station. A standard gauge rail line from New South Wales terminates at Roma Street station for interstate passenger trips.

Bus network
Brisbane’s extensive bus network provides inter suburban and local distribution services and carries around 65% of public transport passengers in Brisbane.

The busway network, comprised of the South East, Northern and Eastern busways, provides a dedicated network for bus services. On-road bus routes extend to major centres and throughout the Brisbane suburbs. Dedicated bus lanes and transit lanes provide priority for bus movements in some areas of the city.

A network of ‘no timetable needed’ high-frequency buses known as BUZ services run daily along major routes between the city and outer suburbs. The CityGliders and free CBD/Spring Hill Loop buses also provide high-frequency services in the inner city area.

Supporting the bus network are more than 6200 bus stops, bus layovers, depots and interchanges.

65% of public transport customers in Brisbane are bus users

76 million bus passenger trips in 2017-2018
Ferry network
Brisbane’s ferry services provide a unique experience for tourists and inner city residents along the Brisbane River.

The Brisbane CityCat, CityHopper and CityFerry network extends 22km from The University of Queensland (UQ), St Lucia (upstream), to Northshore Hamilton (downstream) with 25 terminals throughout the network. The network is owned and managed by Council. CityCats operate around 18 hours a day at a 15-minute service frequency and with some express services during peak periods.11 Cross river CityFerries operate at three locations along the river with the free inner city CityHopper operating between North Quay and Sydney Street.

TransLink
Queensland’s public transport services are managed by TransLink, a division of the Queensland Department of Transport and Main Roads (TMR).

TransLink has overall responsibility for public transport in Queensland including coordination and planning of services across rail, light rail, bus and ferry modes, fare setting, distribution of revenue to service providers and delivering effective infrastructure and services through its delivery partners.

In SEQ, TransLink’s public transport networks are supported by the go card integrated ticketing system. The pre-paid system allows passengers to tap on and off services and transfer between the rail, bus and ferry networks on the one payment system. Service information covering all public transport modes is available through TransLink’s website, call centre and app.

Future mass-transit projects

Brisbane Metro

Brisbane Metro is a high-frequency public transport system that will cut travel times, reduce CBD bus congestion and put more buses in the suburbs.

The project will deliver a high-frequency metro network across 21km of existing busway that links Eight Mile Plains, Royal Brisbane and Women’s Hospital (RBWH), UQ Lakes busway stations and all busway stations in between. As well as fixing critical bottlenecks and inner city bus congestion, the project will deliver a new state-of-the-art underground Cultural Centre station and Adelaide Street tunnel, enhancing the CBD amenity by reducing the number of buses at street level.

Cross River Rail

Through an investment of $5.4 billion, the Queensland Government plans to deliver a new high-speed, high-frequency rail link from Dutton Park to Bowen Hills including 5.9km of tunnel under the CBD and the Brisbane River.12

The link will connect the northern and southern rail networks providing Brisbane with a third river crossing for rail. New stations at Boggo Road, Woolloongabba, Albert Street and connections to upgraded facilities at Roma Street and Exhibition stations will significantly improve regional transport access to the CBD and inner city area. The project will boost the rail capacity of the inner city network, improving travel time reliability and journey times. The project will also help to reduce congestion across the road network by improving the capacity and performance of the rail network, thereby encouraging more train travel.

12 Building Queensland, Cross River Rail Business Case, August 2017, pE1
Road network

Brisbane has a well-developed road network comprised of a range of road types including motorways, local access roads and laneways.

The motorway network is owned and operated by a mix of government and private organisations. These roads are linked and provide long-distance and regional connections as well as access to key destinations in Brisbane. Motorways also support national freight movements and links to the Port of Brisbane (the Port) and Brisbane Airport. Council’s extensive local road network supports the movement of people, goods and services throughout the city. In terms of the functional road hierarchy, arterial roads connect centres and major employment areas and link to motorways and intra-regional destinations. Suburban and district roads provide for traffic distribution within the city and provide access to specialist centres, employment areas and residential suburbs. Local and neighbourhood roads connect residential land uses and provide access to our homes.

Average daily traffic volume
January to June 2018

<table>
<thead>
<tr>
<th>Region</th>
<th>Road Name</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>East</td>
<td>Stanley Street/Vulture Street</td>
<td>53,510</td>
</tr>
<tr>
<td></td>
<td>Wynnum Road</td>
<td>38,683</td>
</tr>
<tr>
<td></td>
<td>Old Cleveland Road</td>
<td>35,341</td>
</tr>
<tr>
<td>South</td>
<td>Logan Road</td>
<td>26,368</td>
</tr>
<tr>
<td></td>
<td>Ipswich Road–Main Street–Bradfield Highway</td>
<td>51,265</td>
</tr>
<tr>
<td></td>
<td>Pacific Motorway</td>
<td></td>
</tr>
<tr>
<td>South-west</td>
<td>Coronation Drive</td>
<td>72,023</td>
</tr>
<tr>
<td></td>
<td>Centenary Highway</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ipswich Motorway</td>
<td>99,939</td>
</tr>
<tr>
<td></td>
<td></td>
<td>97,484</td>
</tr>
<tr>
<td>North-west</td>
<td>Kelvin Grove Road</td>
<td>53,836</td>
</tr>
<tr>
<td></td>
<td>Waterworks Road–Musgrave Road</td>
<td>27,224</td>
</tr>
<tr>
<td></td>
<td>Albany Creek Road–South Pine Road</td>
<td>42,678</td>
</tr>
<tr>
<td>North</td>
<td>Inner City Bypass</td>
<td>108,018</td>
</tr>
<tr>
<td></td>
<td>Kingsford Smith Drive</td>
<td>57,461</td>
</tr>
<tr>
<td></td>
<td>Lutwyche Road/Bowen Bridge Road</td>
<td>63,563</td>
</tr>
<tr>
<td></td>
<td>Bruce Highway</td>
<td>161,995</td>
</tr>
</tbody>
</table>
Rail freight network
The rail network provides for the movement of freight between Brisbane, regional Queensland and the national network via New South Wales.

The rail freight network shares the passenger rail network in most locations in Brisbane except for Lindum to the Port, Corinda to Yeerongpilly and Salisbury to Acacia Ridge. While the main freight links in Queensland have narrow gauge rail, the interstate link from New South Wales to the Port has dual standard and narrow gauge tracks, enabling trains to run direct from the Port to New South Wales.

Airports
Brisbane Airport is Queensland’s primary international and domestic airport.
In 2017, Brisbane Airport carried around 5.8 million international and 17.4 million domestic passengers. The airport provides services to international destinations and direct flights to Sydney, Melbourne, Canberra, Adelaide, Darwin and Perth and a number of large interstate regional centres. The airport also provides flights to Queensland’s regional towns. Future airport activities will be boosted with the new parallel runway due to open in 2020.

Archerfield Airport is also a key facility for general aviation activities, located within the SWIG MIA.

Sea port
The Port is Australia’s third-busiest container port and supports nine per cent of Queensland’s bulk material movements.

The strategic location of the Port on Australia’s east coast and its road and rail links to markets in Queensland and New South Wales provide substantial opportunity for future import and export growth.

The cruise ship industry is currently serviced by dedicated cruise ship facilities at Portside Hamilton as well as the occasional use of the multi-use terminal at the Port. The new Brisbane International Terminal at Luggage Point will provide facilities for modern mega cruise ships.
Personalised transport

Personalised transport options in Brisbane include taxis, ride sharing, community buses and other services.

Taxi services operate throughout Brisbane and SEQ. Taxi ranks are located at strategic locations around the city including entertainment precincts and at special events.

Community transport services provide door-to-door services for older residents and people with disability.

Ride share and car share schemes have arisen as alternative personal transport services in recent years. Integrating these services into the city’s transport network is a sustainable way of providing travel options in Brisbane.

Private coaches provide specialised services such as tourist trips and group transport.

Council’s personalised public transport (PPT) services operate in areas with limited or no coverage by TransLink services.

PPT services pick up passengers where safe to do so on a fixed route and can carry up to 10 people. Council, in partnership with Yellow Cabs, provides eight PPT routes at locations across Brisbane — Aspley, Bald Hills, Calamvale, Carindale, Hemmant, Karana Downs, Upper Brookfield and Wynnum-Manly.

The Council Cabs service organises shared taxis at scheduled times for residents who find it difficult to get to their local shops. Council Cabs operate weekly in most Brisbane suburbs.
Council’s transport achievements 2008-2016

Better networks

- **TransApex**, a central strategy of the previous Transport Plan for Brisbane, delivered Clem7, Airport Link, Go Between Bridge and Legacy Way. These projects addressed major road network gaps with new tunnel and bridge connections providing more options for cross-city travel with reduced travel times.

- **The Road Action Program** fast-tracked the planning and delivery of 15 years of major road improvement projects into a four-year program targeting Brisbane’s most congested roads.

- **Rail level crossing replacement projects** at Bracken Ridge and Geebung have improved safety, reduced delays and increased the reliability of the rail and road networks. These projects were delivered in partnership with the Queensland Government.

- **Better Bikeways 4 Brisbane** delivered new infrastructure to complete key links in the bikeway network to encourage more active travel.

Public transport accessibility

- **Council’s bus fleet** is the most modern in Australia and is now fully air-conditioned and wheelchair accessible, making travel more comfortable and enjoyable in Brisbane’s subtropical climate.

- **CityCat ferry terminal upgrades** and new terminals at Teneriffe, Northshore Hamilton and Milton have improved accessibility and flood resilience.

- **CityGliders** deliver high-frequency timetable-free bus services in the inner city with 24-hour operation on Fridays and Saturdays.

- **CityCycle** is Queensland’s first public bike share scheme and provided more than 740,000 trips last year in the CBD and inner city area. There have been more than 2.8 million trips since the scheme commenced in October 2010.

Safety and resilience

- Council introduced new **safety technology** for public transport including closed-circuit television (CCTV) cameras and emergency call-points at ferry terminals.

- **The bikeway lighting program** has improved safety for users including early and late hour commuters.

- **The Black Spot road safety program** delivered in partnership with the Australian Government, has improved safety on our road network through upgrades to key intersections and corridors.

Encouraging sustainable travel options

- **Council’s Active School Travel program** encourages Brisbane primary school students, parents and teachers to leave the car at home and walk, cycle, scooter or take public transport to school.

- Launched in March 2014, **Cycling Brisbane** has more than 16,000 members and provides comprehensive information on all aspects of cycling in Brisbane to encourage residents to make more trips by bicycle.

Technology

- Brisbane’s **signalised intersections** are actively managed by computerised systems to assist safety and congestion management.

- **The Brisbane Metropolitan Transport Management Centre**, operated in partnership with the Queensland Government, provides real-time monitoring and operation of the city’s road and busway networks.

- **Ticketless parking, tap and go** credit card payments and **mobile and web-based** parking services have been introduced.

- All new **Council buses** use high-efficiency, environmentally-friendly diesel engine technology.
TransApex

Council’s TransApex strategy delivered a number of major road projects to connect the city’s motorway networks.

Clem7, Go Between Bridge, Airport Link and Legacy Way are four major road projects that have effectively helped ease traffic congestion in Brisbane’s inner and middle suburbs, reduced traffic delays and improved travel time reliability by allowing traffic to bypass the CBD to travel across the city. Advocated and partly funded by Council, these major projects were completed in a period of just over 10 years. With the opening of Legacy Way, the TransApex projects have removed more than 120,000 vehicle movements from Brisbane’s surface roads each day.

**Clem7** opened in March 2010

**Go Between Bridge** opened in July 2010

**Airport Link** opened in July 2012

**Legacy Way** opened in June 2015

Projects in the pipeline

The Australian and Queensland Governments and local government, plus major private transport operators, are committed to a number of significant transport projects over the next five years.

When completed, these projects will improve medium to long-term transport network performance.

**ACTIVE TRANSPORT**

» North Brisbane Bikeway
» V1 — Veloway
» Woolloongabba Bikeway
» Kangaroo Point Bikeway
» Indooroopilly Bikeway
» Kingsford Smith Drive Bikeway

**PUBLIC TRANSPORT**

» Brisbane Metro
» Cross River Rail
» New generation rail rolling stock

**OTHER**

» Brisbane International Cruise Terminal
» Brisbane Airport parallel runway

**ROAD TRANSPORT**

» Gateway Upgrade North
» Logan Motorway
» Ipswich Motorway
» Kingsford Smith Drive
» Telegraph Road
» Wynnum Road

15 Transurban, www.transurban.com
How and why we travel

Understanding why, when and how people travel can assist the planning and delivery of Brisbane’s transport networks. Factors such as trip purpose, the time of day the trip is undertaken and the choice of travel mode affect the transport network and its capacity to meet individual, community and business needs.

Trip purpose

A trip can be undertaken for a range of purposes: to move freight, access the airport, attend school or work, go shopping, attend a major event or visit the park. The concentration of trips of a particular purpose is influenced by location, day of the week and time of the day and can differ across the community.

Commuter work trips make up a significant proportion of morning and afternoon peak travel periods with higher education trips (universities and TAFE) and school trips the other significant contributors. Often, school-based trips, particularly for primary schools, are combined with a journey to work.

For Brisbane, the concentration of employment, universities, hospitals and large private schools in the inner city area compounds the impacts of commuter and education-based trips in these areas.

Business-to-business, shopping and accessing personal services tend to be distributed across the whole city, with concentrations around centres and employment areas. These trips occur throughout the day and are less affected by peak-time traffic congestion.

The movement of goods and services, including heavy freight, is critical to the city’s economy. These trips often involve specific destinations, such as the Port, regional centres and industrial precincts.

Recreation, social and entertainment trips are important to Brisbane residents and visitors. The timing of these trips is often outside the peak periods but can have a significant local impact on evenings and weekends.

Many of the trips occurring in Brisbane have origins and destinations outside the Brisbane local government area. Currently around 800,000 trips are made into Brisbane from the surrounding local government areas each weekday, primarily to access jobs but also to access services, entertainment, shopping and personal business.

Different trip purposes for Brisbane

10% Accompanying others
11% Education
13% Serve passenger *
14% Social/recreation
27% Work
26% Shopping + personal


* Trips that are made primarily as a non-work service to someone else (for example driving children to school or an elderly person to the shops).
How we travel

Brisbane and SEQ have a well-established transport system offering a wide range of travel modes for people, goods and services.

Travelling by car is still the most popular mode of transport for trips. The high proportion of single occupancy vehicles in peak periods is a significant contributor to congestion on the road network.

Public transport is predominantly used for trips to, from and within the CBD and inner city. These areas have significantly higher access to public transport services than other areas of the city and region due to the CBD-centric layout of the network. A significant change to the mode share split in these areas will only be achieved with improvements to public transport links between residential and employment areas. This applies to the outer suburbs and urban areas outside Brisbane.

Active transport currently accounts for a relatively low portion of the city’s and region’s transport demand. However, walking and cycling are more prevalent in areas with good active transport infrastructure with short, safe and direct travel to intended destinations, such as within the CBD and inner city areas.

Estimated current Greater Brisbane Metropolitan Area transport mode splits for trips to the Brisbane local government area

- Private vehicles
- Public transport
- Active transport

Our Brisbane

Transport Plan for Brisbane — Strategic Directions  Brisbane City Council
Maximising the moving capacity of our transport corridors

Public and active transport provide the opportunity to move greater numbers of people on the network by reducing the number of trips by private car and their resulting congestion impacts.

The Milton Road/Coronation Drive corridor provides for a range of transport modes — the most diverse of all transport corridors in Brisbane. In addition to road transport, the corridor includes the Bicentennial Bikeway, the Ipswich and Springfield rail line, CityCat services and a number of bus services including high-frequency BUZ services.

While accounting for less than two per cent of vehicle movements along the corridor, public transport accounts for more than 30% of people movements.

Factors influencing mode choice

Travel mode decisions can be made based on facts, perceptions and established travel habits. Facts and perceptions related to the questions below can influence the mode used to undertake a trip.

<table>
<thead>
<tr>
<th>Travel time</th>
<th>How fast is my door-to-door trip?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>How much will it cost (perceived and real costs)?</td>
</tr>
<tr>
<td>Convenience and reliability</td>
<td>How accessible is transport, how long do I need to wait, will the service turn up on time, will I know what time I will arrive, will I need to walk far?</td>
</tr>
<tr>
<td>Safety</td>
<td>Do I feel safe travelling during the day and/or night?</td>
</tr>
<tr>
<td>Legibility</td>
<td>Do I have to change travel modes to get where I need to go?</td>
</tr>
<tr>
<td>Comfort</td>
<td>Will the weather impact my trip, will I get to sit down, will it be crowded?</td>
</tr>
</tbody>
</table>

These and other factors need to be taken into account if a sustainable shift is to be made from private car trips to public transport, active transport or personalised transport (e.g. ride sharing) options.

Comfort and convenience are significant factors influencing the choice to travel by private car. Even though many people are aware of the benefits — to themselves, the community and the environment — of travelling by public and active transport, many still choose to travel by private car.

Breaking ingrained travel behaviour is achieved through a combination of education and awareness, infrastructure and service improvements and/or a change in the transport network that motivates a user to question car travel. This could be a change in parking availability or cost, increased congestion or a new workplace or routine.
Emerging challenges and opportunities

Changes and trends occurring at a global, national and regional level influence Brisbane’s way of life and economy, as well as how we move goods and services and meet our everyday transport needs. Keeping pace and responding proactively to emerging challenges and opportunities is necessary in delivering a transport network that protects our liveability and helps grow our economy.

Climate change
The world faces significant impacts from climate change. Increasing severity and frequency of extreme weather events, including floods and storms, rising sea levels and ocean acidification will have a range of impacts on the environment, food security, community wellbeing and the economy. The impacts of climate change will put Brisbane’s transport networks and infrastructure to the test and resilience will become even more important over time.

An ageing population
Better living standards including nutrition, health care, education and sanitation means people are living longer and remaining active in the community. An ageing population may bring changes to the way we deliver transport services to meet the needs of less mobile members of the community.

As we get older, health issues such as dementia and arthritis can restrict personal mobility, placing extra demand on public transport and personalised transport services.
Consumer trends
A shift in attitude and values is changing the way business and transport operates. Increasingly people are valuing experience over ownership seeing growth in the sharing economy. Ride sharing and car sharing provide examples of this for personal transport. Changes in consumer shopping patterns is resulting in changes to freight and goods delivery systems. Our future transport networks and services will need to be more adaptive and responsive to individual needs.

Health and wellbeing
In Australia more than 64% of adults and 26% of children are overweight or obese. Rates of obesity in Australia are continuing to rise, increasing the risk of cardiovascular disease, Type 2 diabetes and other medical conditions. Loneliness and isolation are also increasing in Australia. Exercise, such as walking and cycling has demonstrated physical and mental health benefits. Given the associated health benefits, active transport can be viewed as a lifestyle choice as well as a means of moving around.

Disruptive technology
New technologies are enabling change at a rapid rate. Cloud computing, virtual and augmented reality and autonomous vehicles (AV) are just some of the technologies with the potential for significant impacts on our lives. The Internet of Things, whereby everyday devices are connected to the internet and to each other, is another technological advance with the potential to greatly change the way we live, work, access goods and services and how and why we travel.

Economic globalisation
Increased integration and interdependence of national, regional and local economies have led to economic globalisation. The Asia-Pacific region has become increasingly important with more dynamic economies and faster economic growth than other regions due to global business and foreign investment. While globalisation has largely benefited the Australian and Brisbane economies, it has had negative impacts on some industries, and local economies are becoming increasingly vulnerable to volatility in overseas markets.

17 Queensland Health, The Health of Queenslanders 2016 Report of the Chief Health Officer Queensland, October 2016, p75
Urbanisation and urban structure

Australia is experiencing the global trend of urbanisation with more than 67% of our population living in cities. The Brisbane and SEQ urban areas will continue to attract significant population and employment growth over the next 25 years. Within Brisbane, around 94% of new dwellings are expected to be created by infill and redevelopment of existing urban areas. Carefully planned urbanisation provides the opportunity for more sustainable land use and efficient use of resources and infrastructure to address the challenges for space, affordability, accessibility and amenity.

Transport infrastructure demand and provision

The level of growth expected in Brisbane will place increasing demands on all our infrastructure networks. Although Council has delivered significant transport infrastructure since 2008, a deficit in the infrastructure required to meet transport demands remains. There are already fundamental capacity issues and constraints on our bus and rail networks. There are also constraints for space, particularly in the inner city, and funding for major upgrades and new infrastructure. While improvements to service design and operational efficiencies will partially resolve these issues, suitable innovative and sustainable infrastructure solutions are required to accommodate and manage this growth.

Tourism and visitors

Tourism delivers economic benefits to Brisbane and the SEQ region. In 2017, more than 1.2 million international visitors and more than 6.7 million domestic visitors visited Brisbane. While tourism growth is expected to continue, the level of growth and the location of source markets are harder to predict as economic volatility has significant impact on the demand for business and recreational travel. Ensuring that Brisbane remains a desirable destination, including suitable transport infrastructure and services and easily understood public transport networks, will be critical to attracting visitors in the future.

19 Department of Infrastructure, Local Government and Planning, ShapingSEQ: South East Queensland Regional Plan 2017, Brisbane, August 2017, p108
20 Tourism and Events Queensland, Brisbane Regional Snapshot — Year Ending September 2017, 2017, p2-3

Transport Plan for Brisbane — Strategic Directions Brisbane City Council
The Brisbane transport system is essential to the function of the city and provides the infrastructure and services required to achieve a sustainable, liveable city.

The transport directions framework provides:
• transport principles to support a balanced approach to transport network decision making
• desired community outcomes to align the future transport network to Brisbane Vision 2031
• transport directions that address challenges and maximise opportunities to achieve desired community outcomes.
Transport principles

The plan is underpinned by a set of transport principles that form a checklist for decisions that will deliver a transport network that meets the needs of the city by becoming more sustainable, accessible and inclusive and less car-dependent.

<table>
<thead>
<tr>
<th>Principle</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>People first</td>
<td>Transport must meet people’s needs and provide suitable choices for movement of people and goods, taking a customer first approach.</td>
</tr>
<tr>
<td>Safety</td>
<td>Support the safety of people using our transport networks and those who may be impacted by our networks.</td>
</tr>
<tr>
<td>Equity</td>
<td>The benefits and cost of transport should be shared equitably within and across existing and future generations.</td>
</tr>
<tr>
<td>Accessibility</td>
<td>Provide accessible transport options to meet the needs of all residents and visitors.</td>
</tr>
<tr>
<td>Sustainability</td>
<td>Make transport decisions that are financially, socially and environmentally sustainable.</td>
</tr>
<tr>
<td>Environmental management</td>
<td>Manage transport to protect and enhance the city’s air, water, vegetation and natural habitats.</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>Transport infrastructure and services should be fit-for-purpose and deliver intended outcomes.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Transport provides easily understood and connected paths of travel from trip start to finish.</td>
</tr>
<tr>
<td>Reliability</td>
<td>Transport networks and services shall have a high reliability and resilience to external impacts.</td>
</tr>
<tr>
<td>Integration</td>
<td>Transport networks and services must work together and operate in partnership with land use and economic activities.</td>
</tr>
<tr>
<td>Demand management</td>
<td>Manage demands and influence transport choice for movement of people and goods to improve network efficiencies and reduce or delay the need for new infrastructure.</td>
</tr>
<tr>
<td>Asset utilisation</td>
<td>Address transport performance and whole-of-life economic, social and environmental costs and reduce or delay the need for new infrastructure.</td>
</tr>
</tbody>
</table>
Enhancing liveability

Why is this important?

Liveability can be defined as “the sum of the factors that add up to a community’s quality of life — including the built and natural environments, economic prosperity, social stability and equity, educational opportunity, and cultural, entertainment and recreation possibilities” (Partners for Liveable Communities).

Our subtropical environment and outdoor lifestyle are factors that influence people’s choice to live in Brisbane. Liveability outcomes underpin Brisbane Vision 2031 and are a major priority for Council and the Brisbane community. Liveability is also critical in attracting businesses, visitors and new residents to Brisbane. Our open space and natural areas, clean air, extensive public and active transport networks, cultural and creative resources, stable government and prosperous economy, help to bring people to Brisbane.

Our transport network can have both positive and negative impacts on our liveability. A high reliance on private vehicles exacerbates congestion, and increases air and noise pollution. This has adverse effects on amenity, public health and the natural environment.

Attracting more trips to sustainable modes of transport and reducing congestion are key strategies to improve Brisbane’s amenity, natural environment and liveability.
A clean, green, sustainable city

Transport contributes 14% of Australia’s carbon emissions linked to global warming and climate change.\(^{21}\)

In the last 20 years, there has been a 60% increase in kilometres driven by cars in Brisbane,\(^{22}\) leading to increased congestion, energy use and emissions.

Encouraging the uptake of sustainable transport options, including walking, cycling, public transport and motorcycles can significantly reduce the impacts of transport on our environment. The uptake of more energy-efficient power options such as solar and electric vehicles, in combination with improved battery technology, vehicle computerisation and engine technology, will also help to reduce greenhouse gas emissions.

Noise, gas and particulate emissions from transport can have negative environmental and health impacts, particularly for at-risk members of the community. Transport related air pollutants are known to affect respiratory and cardiovascular health. Hospitals, schools and residential areas particularly require consideration in the planning and design of the transport network to manage potential noise and air quality impacts. Reducing emissions will also enhance Brisbane’s appeal as a clean and attractive city.

Brisbane’s network of natural areas and waterways help protect and enhance the city’s rich ecology and habitats. Our public open spaces, natural areas and tree-lined streets also contribute to the comfort and enjoyment of the city’s residents and visitors.

Transport corridors can separate these areas, providing significant barriers for wildlife and ecological functions. Preserving the integrity and function of our natural and open space areas by providing safe and effective crossing measures for wildlife, for example, is critical in maintaining the distinctive landscape, environmental values and ecological functions of the city. Transport solutions should also maintain a ‘no net loss’ approach to open space and natural areas.

Transport can also affect the natural environment through water runoff carrying material and debris and heat from surfaces such as roads and pavements. Design features such as permeable paving can reduce runoff and filter pollutants from water. Alternative materials could be considered for pathways and hard coverings to reduce heat impacts.

Providing trees and vegetation along transport corridors, including local streets and pathways, provides valuable shade for transport users and assists in reducing overall city temperatures.

\(^{21}\) Department of the Environment and Energy, National Inventory by Economic Sector 2016, February 2018, p3
\(^{22}\) Bureau of Infrastructure, Transport and Regional Economics (BITRE), Yearbook 2017: Australian Infrastructure Statistics, Statistical Report, BITRE, Canberra, 2017, p84
Encourage reduction in private car travel by improving the attractiveness of sustainable transport options through high-quality public and active travel infrastructure.

Promote the uptake of low-emission vehicles, electric vehicles and technology to improve vehicle efficiency, emissions and noise.

Improve amenity and reduce impacts on the city’s natural environment in the planning, design and retro-fitting of transport infrastructure.

Design and operate transport networks in natural areas and waterways to protect environmental and ecological values.

Elements of Brisbane’s transport networks such as CityCat and ferry services and walking and cycling paths use some of the city’s natural areas and waterways. Appropriate design and management practices are required to provide the desired level of community accessibility while protecting environmental and ecological values of our natural areas and waterways.
Community health and wellbeing

**OUTCOME**

*Brisbane residents have improved health and wellbeing through greater use of walking and cycling to access work, education services and for recreation.*

Good health and wellbeing are fundamental to a sustainable, vibrant and prosperous community.

Health data for Australia shows an increasing rate of obesity across all age groups and an increase in many manageable health issues.

A sedentary lifestyle can lead to increased obesity and incidents of chronic disease like cardiovascular disease, diabetes, cancer and mental health.

Walking, running, cycling and other non-motorised transport options provide direct health and wellbeing benefits. Safe, easily understood and enjoyable walking and cycling environments connecting to where people want to go are key factors in attracting more people to take more trips by active transport. This includes the provision of safe, accessible and comfortable walking and cycling pathways and associated infrastructure.

Public transport is also important to an active lifestyle. Studies have shown people using public transport are likely to walk up to five times longer each trip than those taking a private vehicle trip.

Better integration of land use and transport planning can assist in encouraging an active and healthy lifestyle.

Raising the community’s awareness of the benefits of an active lifestyle and providing local walking and cycling facilities can encourage uptake of active transport. Age-specific, workplace and suburb-focused programs can take a targeted approach to changing behaviours by responding to the needs of a particular group or area.

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**率 of adult obesity in Queensland**

<table>
<thead>
<tr>
<th>Year</th>
<th>Overweight</th>
<th>Obese</th>
<th>Overweight/Obese</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-08</td>
<td>36%</td>
<td>51%</td>
<td>33%</td>
</tr>
<tr>
<td>2011-12</td>
<td>35%</td>
<td>55%</td>
<td>33%</td>
</tr>
<tr>
<td>2014-15</td>
<td>33%</td>
<td>51%</td>
<td>30%</td>
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</tbody>
</table>

Council’s award-winning Active School Travel program demonstrates the success of this approach.

The popularity of personal activity monitors and apps and the availability of GPS trip planning on mobile devices have increased awareness of active transport options. Supporting the expansion of digital technologies and tailoring information to meet the needs of different community users will provide ready access to customised information to guide users to active transport options when planning or undertaking a trip.

Community health and wellbeing can be enhanced by undertaking sport and outdoor recreation activities. Good transport connections encourage the use of sport and recreation areas as well as providing for recreational use of the infrastructure itself.

### TRANSPORT DIRECTION

<table>
<thead>
<tr>
<th></th>
<th>Plan and deliver a network of accessible walking and cycling pathways and infrastructure to encourage more active lifestyle choices.</th>
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<tbody>
<tr>
<td>5</td>
<td>Provide safe, easily understood, comfortable and shaded walking paths and footpaths to connect to local services, shopping, schools and public transport.</td>
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<tr>
<td>6</td>
<td>Develop, implement and promote awareness and behaviour change programs to encourage more people to walk and cycle.</td>
</tr>
<tr>
<td>7</td>
<td>Use technology and other incentives to encourage people to adopt active travel.</td>
</tr>
<tr>
<td>8</td>
<td>Provide public, active and road transport connections to recreation areas, parks, open spaces and sporting facilities.</td>
</tr>
</tbody>
</table>
Meeting people’s needs

People undertake transport trips for a wide range of purposes. Individual trips can include travel to work, dropping children off at school, shopping, accessing services or attending an event. Freight, business-to-business trips and trade services trips support the operation of our city and the economy.

The options available for individual trips can vary. Factors affecting travel mode choice include trip purpose, start and finish locations, availability of different transport modes and personal mobility requirements. Identifying personal or business trips that can be undertaken by public and active transport can assist in reducing the need for private vehicle trips.

The diverse needs of the community, including older residents, people of different cultural backgrounds, people with young children and people with disability need to be met by the transport system.

The type and level of disability can also have an impact on transport accessibility. For example, provision of audio facilities at bus stops and stations and on buses can significantly improve access to public transport for people with a visual impairment.

Access to public and personal transport services is particularly important for people with people with disability as it can provide a degree of freedom to move about that may not always able to be provided by private car travel.

The Brisbane Access and Inclusion Plan 2012-2017 sets out Council’s framework for providing equitable transport accessibility for all residential areas, workplaces, services and recreation areas.

The Australian Government’s Disability Discrimination Act 1992 and Disability Standards for Accessible Public Transport 2002 provide direction for Council and other authorities on the provision and upgrade of public transport infrastructure to provide equitable access for all users.

Intergenerational differences can also influence travel patterns. Youth easily embrace new technology and travel options such as ride sharing and public transport. Alternatively, older people may have difficulty with new technology and rely on transport being highly accessible for their full trips.

Transport affordability is a key contributor to the cost of living. How far you travel, the route, frequency and the mode are all factors. Providing affordable transport options, including public transport and personalised transport to communities of highest need can ease cost of living pressures and encourage smart travel choices.

Consideration also needs to be given to the needs of marginalised sectors of the community including

“The transport network meets the needs of all users for personal, goods and service movements by providing equitable, affordable and accessible transport options.”

“Affordable, accessible and appropriate public transport for marginalised people is of critical importance to their general wellbeing and engagement in society.”

Feedback Draft Transport Plan for Brisbane — Strategic Directions, 2018
the homeless, low-income families and in areas with limited access to public transport. Improving access to transport services, including public transport, can have a significant impact on their ability to participate in society, access community services and access employment opportunities. Personalised transport options are providing more flexible transport alternatives to complement traditional public transport. Council Cabs provide services to seniors and those with mobility impairment. Council’s services provide affordable and accessible options for residential areas not serviced by TransLink. Taxis, ride sharing and community buses also assist in providing access across the city and options for the ‘first and last mile’ travel, linking to public transport.

**Paratransit services**

Paratransit transportation services, including community transport, provide on-demand or planned transport options for people unable to access mainstream public transport or private vehicle.

A range of community and private operators in Brisbane and South East Queensland currently provides paratransit services. Paratransit services often use small vehicles and mini-buses, provide pre-booked or demand-driven services and do not follow fixed routes or timetables. Where services are provided for the aged or people with disability, trained drivers provide door-to-door personal assistance. Paratransit services may also provide efficient ‘first and last-mile’ services in suburban areas, to link to conventional public transport services.

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Better journey experience

While the focus of travel is often on the destination, the quality of the journey is just as important. All users have the right to feel comfortable, safe and in control of their journey from start to finish.

Technology has significantly changed how we plan our transport trips. Smartphone apps, GPS and the internet are used to plan, access and track our personal transport trips and the delivery of goods and services. Real-time data on the operation of the transport network provides users more control of their journey, enabling consideration of alternative options including mid-trip. Information on traffic congestion and accidents can assist freight and service deliveries to be re-routed to more efficient routes. Information can also be provided to public transport users on disruptions to services and connecting services.

Tangible transport service information including wayfinding signage, public transport timetables and on-board announcements are still needed by many transport users. Signage integrated across networks contributes to user comfort and safety and improves network legibility.

Alternative information delivery mechanisms need to be considered, to assist people with differing needs including older residents, children, visitors and people with disability, for example. Specific approaches are needed to make transport accessible for some community members such as auditory messaging for people with a vision impairment.

The design of individual transport elements needs to consider the comfort and safety of intended users. To encourage more trips by active and public transport, every element of the journey needs to contribute to an enjoyable and stress-free travel experience.

Crime Prevention through Environmental Design (CPTED) principles can be used to identify and minimise risks to transport users. Installation of lighting can significantly improve safety for pedestrians, cyclists and public transport users at night. Providing seating and shade using trees and shelters can help to improve comfort in Brisbane’s subtropical climate.

Transport facilities should add to a ‘sense of place’ and be designed to reflect the unique and attractive qualities of Brisbane, its people and its subtropical lifestyle. Travelling along or on the edges of the Brisbane River is an enjoyable and uniquely Brisbane experience for visitors and residents alike. Iconic streets like James Street and Oxford Street benefit from the close and personal links between the transport network and the local urban environment. Integrating transport planning and design with the urban realm can enhance the attractiveness of public and active transport.
Many trips in Brisbane involve a change of transport mode. This can be as simple as walking from home to a public transport stop or station, driving to a park 'n' ride facility or changing from a local bus to a train service. Well-designed, safe, accessible and easily understood interchange facilities with integrated services and timely transfers make transport mode changes more seamless and will encourage people to choose the right mix for their journey.

**TRANSPORT DIRECTION**

15. Provide users access to real-time information about the transport network and alternative options to inform user decisions, including pre-travel planning.

16. Provide travel and wayfinding information via a range of delivery mechanisms that are easy to understand, accessible to everyone and help people to navigate our transport networks.

17. Incorporate safety and user comfort in the planning, design and management of transport infrastructure and services.

18. Design transport corridors, streets, pathways and public transport to contribute to a ‘sense of place’ that reflects Brisbane’s unique identity and lifestyle.

19. Plan, construct and manage attractive, easily understood, well-located and integrated transport interchange facilities to support end-to-end transport trips.
Transport to work: mainland state capital city comparisons

- Brisbane (LGA)
- Brisbane (UCL)
- Sydney (UCL)
- Perth (UCL)
- Melbourne (UCL)
- Adelaide (UCL)

An urban centre and locality (UCL) is a statistical region of concentrated urban development defined by the Australian Bureau of Statistics (ABS).


Walking

Cycling

Public transport

Car (driver or passenger)
Delivering economic benefits

Why is this important?

Brisbane is Queensland’s economic engine room and will continue to support significant economic and employment growth.

We have a diverse industry base providing employment across a range of sectors. More jobs and economic activity means higher demand on the transport network. People need to be able to get to employment speedily and reliably. Goods and services need to be transported to, from and within Brisbane efficiently and with minimal delays.
Sustained growth of business and industry

The city’s economic growth and sustainability is reliant on the efficiency in which people, goods and services are moved around the city to meet the demands of businesses and industries.

The city’s transport networks need to align with and facilitate the continued growth and development of Brisbane’s economic and industry precincts.

Brisbane’s economy is increasingly expanding into high-value industries such as professional, scientific and technical services, health care, education and training, public administration and tourism. Transport and logistic services are important, and based around the growth of Brisbane International Airport and the Port.

The CBD and inner city area is Queensland’s major business, commercial and employment hub. It includes regional hospitals and health research hubs, universities and international student centres, entertainment and cultural precincts, retail and recreation activities.

Reliable and connected road, public and active transport networks within the CBD and inner city will strengthen Brisbane’s competitive advantage over other Australian centres.

Brisbane’s Global Precincts include knowledge, health, science, education and research institutions located in close proximity to benefit from synergies and foster innovation. The Boggo Road, Princess Alexandra Hospital and University of Queensland (UQ) precinct is an example of the agglomeration of education, medical and science institutions which can foster leadership in medical products and services.

Convenient, reliable travel options within and between precincts will foster growth. Affordable and accessible public transport options are also essential for these precincts.

Outside the inner city area, key economic activity areas include: regional centres at Chermside, Indooroopilly, Upper Mount Gravatt and Carindale; suburban technology parks and business centres; and MIAs — ATC MIA, SWIG MIA and the Northern MIA.

Efficient and reliable connections between economic activity areas and customers contribute to productivity and profitability. Extended travel times can increase the cost in moving goods and providing services.

Traffic congestion is a major cost to business and industry. Road management and travel demand strategies aim to ‘free-up’ road transport capacity for more efficient movement of freight and business services.

Our transport systems help Brisbane and SEQ business and industry to grow and prosper.
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<th>No.</th>
<th>TRANSPORT DIRECTION</th>
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<tbody>
<tr>
<td>20</td>
<td>Encourage high-quality integrated transport networks within and between economic activity centres to support businesses and industries in Brisbane.</td>
</tr>
<tr>
<td>21</td>
<td>Ensure the integrated transport network in the CBD, inner city and Global Precincts supports efficient and effective business-to-business travel.</td>
</tr>
<tr>
<td>22</td>
<td>Manage road network congestion and travel demand to facilitate the efficient and timely movement of goods, services and passengers.</td>
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</tbody>
</table>
Citywide economic precincts
Convenient commuting

As the economic centre for SEQ, Brisbane accounts for approximately 71% of all jobs in the Greater Brisbane Metropolitan Area and approximately 50% of jobs in SEQ.\textsuperscript{24}

With Brisbane’s employment projected to reach 1.25 million by 2041,\textsuperscript{24} managing commuter transport demand is one of the major challenges facing the city over the next 25 years.

The morning and evening commute peaks have a significant impact on the capacity and operation of all transport modes in the city. The impact is compounded by the concurrence with trips to educational facilities, including universities, TAFE and schools.

As a whole, travelling by car as a driver or a passenger makes up approximately 63% of commuter trips for Brisbane residents. This is lower than adjoining local government areas where car travel represents around 74% (Moreton Bay), 76% (Redland), 77% (Ipswich) and 78% (Logan) of residents’ commuter trips.\textsuperscript{25}

Commuter travel choices are heavily influenced by:

- the location of residential and employment areas
- distance and time of travel
- availability of transport services to and between destinations
- quality, safety, frequency and cost of service.

The impact of single driver car trips is a critical factor in creating congestion during the morning and evening commute. Approximately 80% of all car trips in peak hour at Moggill Road, Indooroopilly, are single occupancy vehicles.

People movements in one hour period during AM peak by mode

<table>
<thead>
<tr>
<th>Mode</th>
<th>Number</th>
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<tbody>
<tr>
<td>TRAIN</td>
<td>11,000</td>
</tr>
<tr>
<td>Central Station</td>
<td></td>
</tr>
<tr>
<td>BUS</td>
<td>12,000</td>
</tr>
<tr>
<td>South East Busway Inbound (Woolloongabba junction)</td>
<td></td>
</tr>
<tr>
<td>PEDESTRIAN</td>
<td>1550</td>
</tr>
<tr>
<td>Victoria Bridge</td>
<td></td>
</tr>
<tr>
<td>BICYCLE</td>
<td>750</td>
</tr>
<tr>
<td>Bicentennial Bikeway</td>
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</tbody>
</table>

The total number of trips to Brisbane is expected to more than double from approximately 250,000 per day in 2016 to approximately 516,000 per day in 2041.\textsuperscript{27}
To be sustainable, priority needs to be given to maximising the use of public and active transport for commuter trips, reducing the demand on private car trips and reducing road congestion. This will require a raft of transport measures and infrastructure investment across Brisbane and SEQ and significant changes in individual travel behaviours.

Investing in strategic upgrades to the public transport network, making it faster and more convenient to access destinations, even where interchanging is necessary, will attract more commuters to public transport and position Brisbane as a commuter-friendly city.

High-speed, high-capacity, ‘turn up and go’ mass-transit on rail, busway and metro trunk networks are the most effective way for moving large numbers of people to employment areas such as the CBD, inner city and major activity centres.

**Connecting Brisbane**, a joint Queensland Government and Council strategy, provides a framework for developing and modernising Brisbane’s public transport network. The citywide public transport network will be comprised of:
- fixed rail routes
- busway and metro routes
- high-frequency and express bus routes
- CityCat and ferry services
- cross-city and feeder bus routes.

An integrated network will require some passengers to change from one service or mode to another. The quality and efficiency of interchange nodes will be critical as will the frequency and coordination of different services.

Delivery of high-frequency, reliable public transport services to destinations outside the inner city is also needed to meet Brisbane’s future transport demands. Provision of improved cross-city public transport services, linked to CBD trunk networks, can assist in providing access to major employment areas at regional centres, business parks and MIAs.

In outer areas where densities are lower and public transport services are more dispersed, flexible, personalised transport options can complement public transport to provide complete door-to-door travel or satisfy shorter local travel requirements.

Park ‘n’ ride facilities are important for workers in suburban and semi-rural areas to access public transport. Park ‘n’ ride facilities should be located in convenient and accessible locations that improve access to public transport services with minimal impact on local amenity and road congestion.

On-road bus services will remain the primary public transport option in many areas of the city. Implementing on-road priorities for buses, including transit lanes and intersection priorities, could assist in mitigating the impacts of road congestion on travel times and reliability. In some cases, linking these services to high-speed, dedicated trunk rail, metro or busway services will assist travel.

In addition, motorcycles and mopeds can provide an alternative commute to low-occupant car transport. By lane filtering, motorcyclists can move through stationary and slow-moving traffic, allowing them to negotiate congested urban roads more effectively than cars. Council’s inner city motorcycle parking scheme has provided more than 1600 spaces to assist accessibility.

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24 Department of Infrastructure, Local Government and Planning, The State of Queensland, ShapingSEQ: South East Queensland Regional Plan 2017, Brisbane, August 2017, p54
26 Building Queensland, Cross River Rail Business Case, August 2017, p50
27 Queensland Treasury, Regional Employment Projections Data Tables, 2010-11 to 2040-41, June 2017
Cycling is attracting a growing proportion of commuter trips, even for distances over 10km. Attractive, direct, safe and easily understood pathways to major activity centres along key commuter corridors and the provision of end-of-trip facilities in many workplaces has supported this change. Electric bikes are also making cycling a viable option for some in the community, making travelling longer distances possible.

Walking is a part of most commuter trips. Providing safe and easily understood pedestrian links between public transport services and home, work and other activities will provide an improved whole-of-trip experience.

In the high-density CBD and inner city areas, improving pedestrian pathways and connectivity can significantly reduce the need for car-based trips.

Many workplaces such as hospitals, factories and ports, and industries such as entertainment and hospitality require commuter transport services outside of conventional business hours.

Likewise, many industrial areas have their job base spread over a wide area making it difficult to service by conventional public transport. Innovative options to enhance public and active transport in these areas will help to reduce demands on the road network.

**TRANSPORT DIRECTION**

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<tbody>
<tr>
<td>23</td>
<td>Promote effective and sustainable commuter public and active transport networks linking residential areas to employment hubs.</td>
</tr>
<tr>
<td>24</td>
<td>Support an integrated, safe, accessible and affordable citywide commuter public transport network underpinned by a high-speed, high-frequency, high-capacity mass-transit system.</td>
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<tr>
<td>25</td>
<td>Develop a robust, accessible and reliable cross-city public transport network linked to major activity areas and trunk public transport corridors.</td>
</tr>
<tr>
<td>26</td>
<td>Develop an accessible, connected and direct commuter cycling and pedestrian network linked to public transport hubs, employment and activity centres.</td>
</tr>
<tr>
<td>27</td>
<td>Develop integrated, connected and accessible pedestrian networks for the CBD, inner city and regional centres.</td>
</tr>
<tr>
<td>28</td>
<td>Provide for the use of two-wheeled commuter modes including motorcycles and mopeds.</td>
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<td>29</td>
<td>Facilitate well-located park ‘n’ ride facilities linked to high-capacity public transport services in suitable suburban areas.</td>
</tr>
<tr>
<td>30</td>
<td>Develop opportunities to establish personalised transport and paratransit options in suburban and low-density urban areas.</td>
</tr>
<tr>
<td>31</td>
<td>Develop innovative commuter transport solutions for low-density employment areas and non-conventional business hours activities.</td>
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</tbody>
</table>
Moving freight safely and efficiently is essential to Brisbane’s economic growth and productivity. Balancing the efficient movement of freight with community safety and amenity is a key challenge.

Road, rail, air and sea freight networks need to be planned, designed and managed to respond to expected growth, taking advantage of supply chain innovations and technology improvements. This can be best achieved through close working relationships between government, industry and transport providers.

Planning for the growth of the freight and logistics industry, responding to new logistics technologies and its integration with the transport network will contribute to the productivity of the sector.

Heavy vehicle routes: On-road freight movements are increasingly being delivered by larger vehicles. Future directions will also see greater use of automated and semi-automated vehicles for the movement of containers and bulk commodities. The definition of major heavy freight routes, with separation from sensitive land use, will be critical in responding to and benefiting from these innovations.

The Port: Brisbane’s Port supports exports and imports servicing SEQ, regional Queensland and northern New South Wales. Protection of port land and facilities from encroachment of incompatible land uses and continued development of landside transport access to and from the Port is required to maintain the Port’s competitive advantage as a freight hub.

Airports: Air cargo is a growing export opportunity for Brisbane. Brisbane Airport’s 24-7 hours of operation and access to multiple national and international markets makes it attractive for air freight. Archerfield Airport may also provide opportunities to develop specialised air cargo services.

A safe, fit-for-purpose and integrated freight transport network that provides for the efficient movement of goods to, from and within the city.

More than 90% of all freight movements within SEQ are by road-based transport.  

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Rail freight: The rail network is relatively underutilised in the movement of freight within Brisbane. Freight capacity, efficiency and safety can be improved by maximising the use of rail for container and bulk material movements, particularly to and from the Port. Future rail opportunities include the proposed Inland Rail project and potential dedicated rail link to the Port.

Urban freight: The movement of freight within the urban environment to centres, businesses and homes is critical to the city’s operation. Urban freight includes a wide range of vehicles from courier vans and light commercial trucks to semi-trailers. Urban freight often includes the ‘first and last mile’ freight distribution function. Urban freight movements need to be incorporated into land use and transport planning.

Construction industry: The construction industry is a major contributor to the movement of materials and bulk products around Brisbane. While it is essential to ensure that construction activities can be undertaken in a cost-efficient and timely manner, effective management of construction traffic is required to mitigate impacts on sensitive land uses and other road users.

New technology: New and emerging technologies such as automation and drones are likely to have impacts on the freight industry. Automation of the freight industry is well-advanced in some areas such as the waterfront container terminals at the Port. Future automation of rail, freight trucks and modal transfer stations could significantly improve freight efficiencies and reliability.

TRANSPORT DIRECTION

32 Engage with business and industry to identify their transport needs and develop robust and sustainable freight transport solutions.

33 Plan and develop strategic freight networks for Brisbane and SEQ including supply chain networks linking to regional, national and international markets.

34 Plan for efficient and safe urban freight movements and minimise the amenity impacts on local neighbourhoods.

35 Support and facilitate freight functions at the Port of Brisbane, Brisbane Airport and major industry areas.

36 Ensure major construction activities have safe, efficient and robust traffic management plans that meet the needs of industry while protecting local communities from potential impacts.

37 Facilitate the rollout of new technology to improve the efficiency, safety and competitiveness of the freight network.
Supporting the tourism and visitor industry

Tourists and visitors, including business travellers, international students and local tourists, are an important and growing component of Brisbane’s economy.

Brisbane is a gateway for tourists visiting Queensland and SEQ. Brisbane Airport, Brisbane Cruise Terminals, Roma Street station and the national road network all provide gateway access into Brisbane, contributing to a visitor’s first impression of our city. Fast and reliable transport connections to the Gold Coast, Sunshine Coast and hinterland regions are required.

Visitor transport networks need to be of high-quality, easy to use, affordable and available at different times of day. Our transport networks facilitate safe and enjoyable trips from gateways to accommodation and activities and can be a significant component of the visitor experience to our city.

Public and active transport options provide an ideal opportunity to see and explore the city and its unique features. Integrated payment options and accessible, multi-lingual transport information readily available before and during their visit will enhance the travel experience.

Tourism transport also needs to be accessible for visitors with special needs, including older users and people with disability.

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<tr>
<th>VISITORS TO BRISBANE 29</th>
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<tr>
<td>2017</td>
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<tr>
<td>International visitors</td>
</tr>
<tr>
<td>1,237,000</td>
</tr>
<tr>
<td>Domestic visitors</td>
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<tr>
<td>6,711,000</td>
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<tr>
<td>TOTAL VISITORS</td>
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<td>7,948,000</td>
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Value to Brisbane’s economy year ending 2017 $6.2 billion

“Convenience, accessibility and connectivity has a significant influence on the attractiveness of a destination and the propensity for visitors to stay and disperse across the region.”

Feedback on the Draft Transport Plan for Brisbane — Strategic Directions, 2018

29 Tourism and Events Queensland, Brisbane Regional Snapshot — Year Ending September 2017, 2017, p1
Experiencing the Brisbane River

The Brisbane River is an important part of the visitor experience to our city as well as a transport corridor. The iconic CityCat and CityFerry network provides a visitor-friendly way to experience Brisbane from the water. Future initiatives in the River Access Network include a number of River Access Hubs and provision for water taxis.

Brisbane hosts a wide range of State, national and interstate sporting and cultural events and festivals, conventions, exhibitions and business events. Facilities include Suncorp Stadium, the Gabba, and Brisbane Exhibition and Convention Centre. Growth in entertainment and tourist industries means that the demands on transport services in the CBD and inner city are moving towards 24-7 operation.

Night time public transport services are provided on key links between the CBD and regional centres. Free public transport is provided for major sporting and some entertainment events. Extending public transport service hours and frequencies to meet visitor and community needs will ensure Brisbane retains its role as a New World City.

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Harnessing innovation

Why is this important?

We live in a fast-changing world where new and sometimes disruptive technology and world events can significantly alter our city environment, economy and transport system.

Compared to twenty years ago, low-cost air travel has made our community more mobile on a national and global scale; semi-automated vehicles and low-emission engines have made cars safer and more reliable; smart phones, GPS and the internet have changed the way we receive information and find our way around our transport network. Cities that demonstrate how they adopt smart solutions (technology-enabled or other) are more likely to attract skilled workers and students who in turn contribute to the local economy and local community in their own creative and innovative way.
Innovative transport systems

Transport systems are not static. Transport networks, operating systems, vehicles and information technology continue to evolve at a rapid pace.

Mobility as a Service (MaaS) describes the emerging move from personally owned forms of transport (predominantly cars) to use of transport services provided by or shared with others. If implemented successfully, MaaS options may provide opportunities to reduce the reliance on private car ownership and its associated infrastructure, including parking spaces.

MaaS systems include:
- taxis and ride sharing
- public transport
- car and bike sharing
- paratransit and community transport
- shared parking
- food and goods delivery services.

MaaS systems may also use a range of new technologies, apps, GPS, online booking systems and in the future, AVs to manage their operations. Integrating these transport modes in the Brisbane transport network will provide more flexible and robust ways of managing future transport tasks.

Employment in manufacturing and industrial areas is changing and employment in education, health, technology and entertainment is growing. These activity centres tend to be more densely developed than traditional industrial areas, providing greater opportunities for public and active transport.

The potential to work from outside the standard office and to engage in education and training outside the traditional school and university environment gives people more choice and opportunity in how they spend their day. Working from home or working from local business centres can reduce the demand on peak-hour commutes to the CBD. Our transport systems need to be responsive to these changes including providing more cross-city services outside of the normal commuter peaks.

Emerging systems also change the way the people interact with transport providers. The rise in sharing places more control in the hands of the consumer and private industry than in traditional transport modes. Raising awareness and educating the community on these changes will be important.

Design innovations can assist in achieving better transport outcomes, often at a lower cost than conventional treatments. ‘Smart intersections’ are able to use digital technology to change their operations based on real-time, site-specific information. Constantly reviewing, trialling and adopting cutting-edge transport design ideas to meet the needs of the Brisbane community will ensure we maintain a sustainable and accessible transport network.

Planning and regulatory frameworks will need to be adapted and developed to manage transport system innovation.
TRANSPORT DIRECTION

43 Develop strategies and regulatory frameworks to manage the growth of Mobility as a Service (MaaS) transport modes in Brisbane.

44 Develop transport network solutions that respond to changing work trends, education, communities and lifestyles in Brisbane.

45 Invest in innovative transport design, infrastructure and management solutions to improve the efficiency and effectiveness of Brisbane’s transport systems.
Technology-enabled solutions

The strategic use of technology improves the efficiency and effectiveness of Brisbane’s transport networks and services.

Technology has led to significant changes to the way we work, study, socialise with our friends and enjoy our Brisbane lifestyle.

The Brisbane Metropolitan Transport Management Centre (BMTMC) and Transurban Motorway Management Centre provide cutting-edge management of road and bus transport networks through use of Intelligent Transport Systems. These and future technologies will help us monitor our networks and will allow for better data gathering to inform future planning, enable fast responses to incidents, optimise performance and improve network reliability.

The widespread use of vehicle and personal GPS, phone apps for information on public transport, taxi and ride sharing services and computerised tracking of the delivery of goods and services are all making transport much more personalised.

Most of these new technologies are being provided by the private sector to meet growing community demands. Engaging with transport authorities to provide access to real-time travel data across all transport modes can assist in developing new initiatives for Brisbane.

Automation and semi-automation of transport services and vehicles is gaining momentum in terms of applications, capabilities and use on transport networks. Automation technologies are well-advanced in some sectors including the Port freight handling systems, aviation management systems and smart features in many new cars.

The next decade is expected to deliver significant changes towards increased automation of transport services including public transport, freight movements and personal transport.

Development of the regulatory framework for autonomous vehicles is largely being led by the Australian and Queensland Governments. However early planning is required from transport authorities to identify potential changes to transport infrastructure (roads, busways, rail etc.) that may be needed to accommodate autonomous and semi-autonomous vehicles in the future.

Future public transport services need to have high efficiency and reliability and provide flexibility to meet changing demands. Queensland Rail is developing a new operating system to manage the urban train network. Off-board electronic tickets, all-door boarding and new generation buses will provide opportunities to improve bus services. Use of mobile technology to provide on-demand public transport services are being trialled overseas.

Technology can also be used to improve transport accessibility for people in the community not able to access conventional private vehicle or public transport services. Development of on-board bus audio messaging for people with a visual impairment and other communication and information tools using new technology will assist community members.
Informing future transport network decisions

Data on how the transport network is used every day to move people and goods to where they need to go is fundamental to transport and urban planners and decision makers in deciding on operating strategies and where to invest in new infrastructure or services and in assessing the impact of changing land use.

Transport data is collected across different modes and authorities. Often, while the data is useful for its specific intended purpose, the data has not easily been able to be transferred between different authorities. Open data — data that can be used, re-used and distributed by anyone — has great potential. A collaborative and agreed approach across government and the private sector to the capture, storage, management, sharing and release of data regarding all transport networks in a timely way will contribute to better transport outcomes for Brisbane.

Advances in technology will provide new ways to collect data and enable faster data analysis. Critical thinking, scenario planning, rapid risk assessment and quality data analysis are part of the toolkit needed to assess, respond and thrive in times of rapid change.

TRANSPORT DIRECTION

46 Improve the efficiency and effectiveness of transport networks through Intelligent Transport Systems and technology-enhanced systems.

47 Monitor and adapt to disruptive technologies and facilitate innovative private investment in transport services and delivery.

48 Facilitate the collection, sharing and analysis of data to support transport planning and decision-making.

49 Facilitate opportunities for future automation of transport vehicles in the planning, design and development of our transport networks.

50 Facilitate use of technology to improve accessibility to transport services, including by people with disability.
Robust organisations and partnerships

All levels of government and some non-government organisations contribute to the planning, funding, delivery and maintenance of Brisbane’s transport networks.

The multiple agency ownership of the Brisbane transport network is often unseen by the community. Travellers expect to have a seamless ‘one network’ journey when moving around the city.

Continuing to develop an integrated shared vision and direction for the management of transport within Brisbane across local, state and federal government and industry will enable resources to be prioritised to achieve the best outcome for the city and region.

The rapid rate of change in national and global events, including technology change, requires transport authorities to demonstrate agility to respond more quickly and flexibly to challenges and opportunities. Creativity, innovation and willingness to change conventional approaches to the provision of infrastructure and services will be required to meet these challenges.

Governments have a lead role in providing a robust regulatory base for transport. The rapid roll-out of drones and the projected growth in automated and semi-automated vehicles are currently well ahead of government regulatory processes.

Achieving timely delivery of appropriate policy and regulation to ensure public safety and to protect people’s rights is a priority for all levels of government.

The way transport infrastructure and services are funded, including the impact of subsidies, and the spread of funding responsibilities across different user groups, is not well-known or understood by the community. Providing greater clarity around the cost and funding of transport infrastructure and services can assist people to make more informed travel choices and understand funding and investment decisions.

Traditional funding models of government-only funding of infrastructure and services is not keeping pace with growing demand on our transport system. Alternative transport funding initiatives, such as public private partnerships, user pays systems and private industry transport providers have been successfully used in Australia and globally. Identifying a mix of potential funding options suited to the Brisbane environment will provide a more robust and viable transport system.

Private industry is becoming more and more responsible for the delivery of transport innovations, often in partnership with government. Innovations such as ride sharing, car sharing, GPS and travel apps are the result of private industry initiatives. Expanding opportunities to embrace and work with private industry will provide a competitive edge in managing future transport demands for the city.

Transport authorities and stakeholders in Brisbane are responsive and work together effectively and collaboratively to be well-placed to anticipate and respond to change.
Collaboration with universities, research institutes and industry bodies is also key to harnessing innovation. Brisbane is home to a number of world-class universities and research centres, all with the proven ability to propose potential outcomes and solutions. These institutions can provide the research and ideas to improve our transport systems. Transport authorities such as Council and the Queensland Government can provide the mechanisms to implement and refine these ideas in practice. Effective collaboration can provide a winning edge to addressing the city’s future transport needs.

TRANSPORT DIRECTION

51 Collaborate with key partners and integrate transport planning and delivery functions in Brisbane and SEQ to deliver transport services as one network.

52 Develop organisational processes and partnerships to better anticipate and respond to new transport opportunities for the city.

53 Apply a coordinated approach to innovation in transport technologies and business models through a framework of assessment, risk management, and regulatory and legislative review and reform.

54 Develop strategic partnerships between transport authorities, universities and industry research teams to advance transport planning, delivery and management outcomes for Brisbane.
Evolving the network

Why is this important?

Brisbane has well-developed and mature transport networks.

Making the most of existing networks, improving the attractiveness of sustainable transport options and ensuring networks perform their desired function and are safe and resilient is important.

Effective integration with land use and connections within and between transport modes is also crucial in meeting customer demands for safe, efficient and connected end-to-end journeys.

High-performing networks are cost-effective and financially sustainable. Building more infrastructure will not always be the best solution. Innovative approaches and smart solutions to optimise use of existing infrastructure, manage demands on the network and the strategic provision of new infrastructure need to be considered to ensure our transport networks continue to meet the city’s transport needs.
Integrated land use and transport

Decisions about transport and land use should be considered together to achieve the best overall outcome for the community.

Transport and land use integration for SEQ is managed through the regional plan, ShapingSEQ, and for Brisbane through City Plan. A core component of both plans is the accommodation of much of Brisbane’s growth through consolidation and infill development in existing urban areas.

The CityShape component of City Plan provides the framework for the integration of land use and transport for Brisbane. CityShape designates areas intended for future residential and economic development and identifies the core transport corridors servicing these growth areas. Under CityShape, future development will be concentrated in the CBD, inner city, regional centres, economic activity areas and nodes along primary public transport corridors.

Our centres provide community access to a wide range of services, including business, retail and community services, and in some cases higher education and health services. While road-based transport services to and within centres are important, they should not dominate the centre or detract from the walkability and amenity of the centre.

Land use and transport delivery needs to be sequenced to ensure effective integration and to deliver high levels of accessibility as development occurs. Delays in providing transport services can result in poor accessibility for new developments or high congestion levels on existing networks. Conversely, premature investment in infrastructure may have high financial costs with low initial benefits.

In Brisbane, the Local Government Infrastructure Plan (LGIP) provides the framework for linking urban development and transport infrastructure delivery.

Projected additional dwellings in Brisbane LGA 2016-2041

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30 Department of Infrastructure, Local Government and Planning, ShapingSEQ: South East Queensland Regional Plan 2017, Brisbane, August 2017, p108

Transport Plan for Brisbane — Strategic Directions Brisbane City Council
Brisbane is becoming increasingly urbanised with most land use changes and transport network upgrades taking place within existing built up areas. Planning and protection of transport corridors and facilities from potential land use conflicts lessens economic and social impacts associated with future infrastructure development.

Major community facilities such as universities, hospitals, sporting and entertainment centres in Brisbane generate significant transport demands. Developing and implementing precinct-specific transport strategies for these facilities can reduce demands on the road network and support more sustainable transport choices.

Local facilities, particularly schools, are also high transport generators. Retro-fitting transport services to these facilities is often difficult and disruptive to local communities. Proactive consideration and integration of effective transport solutions should be a major factor in the selection of sites for new community facilities, including schools, and the upgrade of existing facilities.

**TRANSPORT DIRECTION**

55. Planning and delivery of transport will be consistent with and support the intents of ShapingSEQ and City Plan.

56. Develop high-quality public and active transport services to and within the CBD, inner city and Principal Regional Activity Centres.

57. Integrate walking and cycling infrastructure to support convenient active travel to and within activity centres including connections to the wider transport networks.

58. Coordinate and sequence the planning and delivery of transport infrastructure and services to maximise community and industry outcomes.

59. Identify and protect land required for future transport upgrades and manage land use activities to protect existing and future transport corridors and infrastructure.

60. Plan for high levels of connection with public and active transport for significant developments including major public facilities, universities, hospitals, schools and sporting venues.
Well planned, designed and managed networks

The efficiency, legibility and functionality of our transport networks are fundamental to moving people, goods and services around Brisbane.

Each of the city's transport networks — pedestrian, cycling, public transport and roads — plays an important role in moving people, goods and services around our city.

Walking is a component of most trips, including connections to public transport. Walking is also the major form of movement in high activity areas such as the CBD, entertainment areas and centres.

Safety and connectivity are key factors in the pedestrian network. This includes improvements to pedestrian crossings at busy intersections, provision of continuous pathways to public transport services and activity areas, and improved safety around at-risk areas, such as schools and hospitals.

Developing pedestrian-friendly areas, including shared zones and dedicated pedestrian pathways can assist improving pedestrian mobility. Car-free days in high activity areas can change the focus to emphasise urban spaces and pedestrian movements.

Improving the connectivity, safety and quality of the bikeway network has the potential to significantly increase the number of cycling trips in the city. Developing separated cycling facilities on major routes, providing lighting for evening and early morning trips and providing end-of-trip facilities can assist in making cycling a more attractive transport option.

Network connectivity and legibility are critical for transport users, particularly pedestrians and cyclists. In some cases, the absence of key connections and poor network legibility may discourage potential network users. Completing critical network links can improve community confidence in using our active and public transport networks.

The Brisbane River, other waterways, major roads and rail lines are all barriers to the movement of people, goods and services around Brisbane. New cross-river bridges and improved crossings of road and rail corridors can assist in providing a more connected and accessible active transport networks.

The Brisbane Metro and Cross River Rail projects propose dedicated public transport crossings of the Brisbane River.

As a major metropolitan city, Brisbane’s future transport network needs to be underpinned by a high-speed, high-frequency, integrated public transport network. Connecting Brisbane provides the framework for developing a world-class trunk network and well-located and designed interchanges. Walking, cycling, local public transport and personalised transport will be used to provide end-to-end transport links in the network.
Proactive planning is required to identify, plan for and preserve future public transport and mass-transit transport corridors and facilities. Establishing coordinated, long-term planning for the extension of Brisbane’s public transport networks, including key links to adjoining local government areas, is critical to managing transport demand growth on a sustainable basis.

The road network is and will continue to provide for the majority of transport movements across the city. Road network congestion has significant social, economic and environmental costs.

However, continuing to build new road infrastructure or widening existing road corridors is not a long-term, sustainable solution. Management of congestion needs to be undertaken on a holistic basis with a combination of infrastructure improvements, operational changes and demand management strategies.

The BMTMC monitors and manages the city’s road network, including traffic signal operations and on-road incidents.

Planned upgrades to the network are undertaken through corridor, intersection and local network projects.

Road network upgrades consider the requirements for pedestrians, cyclists, public transport, freight and general traffic.

Parking is a key component in the city’s transport networks, including both on-road (kerbside) parking and off-road parking (commercial and private car parks and public parking areas). Management of parking can have an influence on traffic volumes and distribution as well as affecting street amenity and the movement of pedestrian and cyclists.

The Brisbane Parking Taskforce recommendations have provided for improved management of on-street parking across the city. Parking management will continue to be a key element in managing transport outcomes for the CBD and inner city areas.

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**Maximising benefits from infrastructure investment**

**Existing transport infrastructure represents a significant community funding investment over many years.**

Sound management of our existing transport assets, including whole-of-life management and optimising utilisation of assets, can significantly reduce the need or affect the timing of new infrastructure. Emerging technologies can be used to better monitor and report on asset condition and new technologies and materials can assist in extending asset life.

Where new infrastructure or services are necessary, they should complement and strengthen the existing networks, be fit-for-purpose and provide best value to the community over the life of the asset.

A whole-of-life approach to infrastructure investment that considers capital, operating, maintenance and renewal costs will support sound investment decisions.
Transport hierarchy plans provide a strategic framework for aligning the transport network function with the urban environment. Designation of arterial, local and specialised network links (e.g. freight routes) can assist in providing for efficient transport movements and providing appropriate access to land use activities. Transport planning in our major corridors must consider priority across transport functions (pedestrian, cyclist, public transport, motor vehicles, etc.) to ensure decisions reflect long-term, sustainable outcomes. As a well-established city, there is often limited ability to widen transport corridors without impacting on existing land uses and urban communities. Optimising and balancing the allocation of space within these corridors will enable more efficient use of these limited resources.

Integration of different transport networks can facilitate reliable and safe movement across the city. Intermodal transfer nodes are important for the movement of people (e.g. car to public transport) and goods (e.g. road freight to rail freight). Integration of services within a specific network are also important, such as the transfer of public transport patrons between different service routes. Separation of networks is also important where there are potential functional conflicts. Planning for all transport networks needs to balance the degree of integration or separation required at different points in the network.

“Population growth pressure on the road system will need to be offset by an increase in more efficient public and active modes in order to avoid increased road congestion.”

Congestion management

Congestion on our road network has a significant impact on bus services, freight networks and business as well as delaying private vehicle movements.

Travel demands on the road network are heavily influenced by the morning and afternoon commuter and school peak travel times. Outside of these times, the road network is capable of meeting normal transport demands. To be sustainable, congestion management needs to focus on the movement of high-capacity passenger vehicles, freight and business services and not on the movement of single-occupant private cars. Assistance is also required from the Queensland Government and SEQ local governments to manage the unconstrained movement of private vehicles into and out of Brisbane in peak periods.
TRANSPORT DIRECTION

61. Develop or update functional and integrated transport network hierarchy plans for all Brisbane transport networks.

62. Plan, design and develop transport corridors taking into account the balanced demands for active, public, freight and car-based transport movements.

63. Evaluate network deficiencies and implement sustainable short, medium and long-term network upgrades to maintain connected and efficient transport networks.

64. Manage transport congestion across all transport networks to provide for more sustainable transport options.

65. Plan, develop and manage an integrated, efficient and accessible public transport network consistent with Connecting Brisbane and integrated with SEQ regional networks.

66. Take a whole-of-life approach to planning, funding, building, maintaining and operating our transport assets.

67. Continually review transport design standards to provide high-value, safe, sustainable and fit-for-purpose infrastructure.

68. Investigate and implement opportunities to improve active and public transport movements across transport barriers including new strategic ‘green bridge’ crossings of the Brisbane River.

69. Allocate and manage parking to support sustainable transport and land use outcomes.

Floating bus stops on Annerley Road as part of the Woolloongabba Bikeway — indicative only.
Travel demand management and behaviour change

Private motor vehicle use has had an enormous impact on Brisbane’s urban form and our travel behaviour. Car travel is the dominant mode of transport across the city and peak demands lead to congestion across the network despite new and upgraded infrastructure.

With population and employment growth forecast for Brisbane and the SEQ region, continued growth in travel by private vehicle will be unsustainable. Travel behaviours will need to change, supported by strategic investment in sustainable transport options and maximising the use of existing infrastructure.

Upgrading and providing new road infrastructure in a well-established city comes at considerable financial, environmental and community cost. Adverse impacts can include property resumption, fracturing communities, loss of green space, increased emissions and diversion of government funding from other programs. Travel demand management and travel behaviour change strategies make better use of our existing transport network and reduce or delay the need for new infrastructure.

A key demand strategy to manage congestion on the road network is to encourage a reduction of single-occupant car trips, particularly in peak periods, through providing appealing alternatives for current road users and improving travel times for high-occupancy vehicles. Fewer trips by low-occupancy cars and more use of public and active transport options can effectively ‘free up’ space for the movement of goods and services relieving or delaying the need for building new road infrastructure. Switching to public transport and other multiple-occupant vehicles can reduce emissions and move more people more efficiently.

Managing travel demand can also include reducing the number of trips by changing other behaviours, for example, telecommuting, and consolidating trips for shopping and accessing services. Changing travel times can also assist in managing demand. Off-peak movement of goods and services and priority allocation for preferred movements are examples of this.

Programs such as Council’s Active School Travel program have been very successful in changing travel behaviour for parents and students across a wide number of primary schools in Brisbane. Developing programs targeted at workplaces and wider community sectors including commuters, universities, high schools and hospitals can be equally successful.

Making information easily available to the community on the true cost and impact of transport options, the alternatives available for their specific trip needs and the benefits of choosing more sustainable travel options can significantly improve people’s willingness to consider change.

Improving the accessibility, quality, safety, cost and convenience of more sustainable travel choices such as walking, cycling, public transport and vehicle sharing and pooling will
support travel behaviour change. Targeting transport infrastructure delivery to facilitate community travel behaviour change is critical. Transport pricing structures can also influence travel demand and travel choice. For example, variable road tolls or charges based on time and location of travel can act as deterrents to reduce trips on congested roads in peak periods. The real and perceived cost of public transport, car ownership and parking can all influence people’s travel choices. Successful development and implementation of transport pricing strategies is best undertaken jointly by all levels of government in consultation with industry and the community.

**Workplace travel plans**

Workplace travel plans can incorporate a combination of workplace design, access to alternative transport options, employee education and awareness and business leadership for change.

Workplace travel plans support organisations and employment centres (e.g. shopping centres and hospitals) to make changes to how employees travel to and from work and how they complete business-related trips during their work day to improve access to sustainable travel choices and significantly reduce reliance on private vehicle travel and parking spaces.

Sustainable travel choices by customers or clients can also be encouraged through providing information on sustainable transport options to access a work site. For employees, altering work hours away from peak travel times and telecommuting where possible can deliver significant travel time savings.

Working with specific industries, such as the freight and logistics industry can identify changes in operating times, vehicle types and route selections that can reduce the impact of congestion in delivery times and improve industry effectiveness.

**TRANSPORT DIRECTION**

| 70 | Engage with the community, business and industry to gain an understanding of motivating factors and barriers to changing travel behaviours. |
| 71 | Identify desired travel behaviours across a range of trip purposes and develop and implement robust travel behaviour change programs to encourage the uptake of desired travel behaviours. |
| 72 | Develop and implement targeted travel behaviour change programs for high-activity locations, including universities, hospitals, schools, business centres and the CBD. |
| 73 | Provide alternative transport options to encourage and support consumer demand change and travel behaviour choice. |
| 74 | Monitor and review transport pricing impacts on travel behaviour and mode choice. |
Our transport networks need to be safe, resilient and flexible to meet existing and future customer needs. Eliminating death and serious injury on our transport networks is a primary principle of transport design, management and operation. Safety considerations must include all transport network users as well as those who are affected by the network such as people living adjacent to transport corridors. Safety is a critical consideration for pedestrians and cyclists as our most vulnerable road users. Separation of pedestrians and cyclists from general traffic movements is a key mechanism for improving safety. Real and perceived safety issues are often quoted as a major barrier in choosing cycling or walking as a transport option. Improving safety can encourage more trips by active transport, particularly for people who are not confident in cycling on the road network.

Gaps in the primary bikeway network can expose cyclists to potential safety risks when they are required to share general traffic lanes when travelling between sections of dedicated bikeway. Providing separated on-road lanes and completing off-road pathways will improve safety. Provision of pathways and bridges over barriers such as major roads, rail lines and waterways can also improve safety as well as providing more direct connections. Speed contributes to the severity of a crash, particularly where a pedestrian or cyclist is involved. The implementation of a 40km/hr speed limit in the CBD in 2009 has seen a reduction in reported pedestrian-related incidents fall from 58 in 2008 to 21 in 2016.\textsuperscript{31} Traffic research indicates that the severity of pedestrian and cyclist injuries significantly reduces where traffic speeds are lowered.\textsuperscript{32}

Council’s Local Area Traffic Management (LATM) program aims to manage traffic in local neighbourhood areas to provide safer streets. Reduced speeds in school zones and infrastructure works undertaken to improve safety around schools also assists. Lower speed zones (40km/hr) or use of shared zones could be considered as part of a suite of safety improvements for high-volume pedestrian and cycling areas (CBD, inner centres, school zones etc.).

Pedestrian safety can be improved by providing sealed, connected footpaths of suitable width and maintaining pathways in good condition. Safety at interfaces between pedestrians and cars or pedestrians and bicycles can be enhanced through infrastructure design. Improved pedestrian facilities in the CBD and centres where there are higher pedestrian numbers will also help to improve safety. This may include provision of increased footpath space, longer crossing times at traffic signals or scramble-crossings at key intersections.

\textsuperscript{31} Department of Transport and Main Roads, Webcrash 2005-2016, 2017
\textsuperscript{32} The International Transport Forum, Speed and Crash Risk — Research Report, 2018, p6
Grade separation of pedestrians and vehicles such as elevated walkways and overpasses could also be considered in appropriate locations.

Planning of new development can incorporate ways to improve pedestrian and cyclist safety by including provision for separated pathways and improving active transport connections to facilities.

The interface between trains, pedestrians, cyclists and motor vehicles at level crossings is a growing safety challenge. With greater rail frequencies, increased freight tonnages and higher road traffic volumes, the potential for incidents at level crossings has increased. As well as the safety impacts, these incidents affect the operation of the wider transport network. Infrastructure and operational solutions to eliminate or reduce the interface of different transport modes at these crossings require cooperation and investment from all levels of government.

**Safer Roads, Safer Queensland; Queensland’s Road Safety Strategy 2015-21** has provided guidance to transport agencies to move towards a vision of zero road deaths and serious injuries. Sweden’s Vision Zero transport safety program has been highly successful in decreasing road fatalities and transport service injuries over the past 20 years. Development of a Brisbane transport safety plan could provide direction and guidance for long-term safety improvements on our networks.

The transport network plays a critical role in weather events, disasters and major incidents through supporting access for emergency services. Effective functioning of the network at these times can be aided through disaster management, security planning and mitigation measures that address a range of scenarios (man-made, natural event or major maintenance).

Redundancies in our transport networks, particularly public transport networks, will provide effective contingencies when the functioning of individual network elements are hindered or disabled due to critical events or incidents.

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**Transport safety and improvement programs**

All levels of government have contributed to initiatives to improve safety on our transport networks. This reflects the importance of transport safety.

The Australian Government’s Black Spot Program and Council’s Bikeway Lighting Program are well-established examples. Reduction of traffic speeds in the CBD and school zones has also assisted.

Improvements to planning, design, operation and monitoring have improved safety over time and will continue to be a priority for Brisbane’s transport network.

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33 Sweden Vision Zero, www.visionzeroinitiative.com
Transport Directions

Transport Plan for Brisbane — Strategic Directions

1. Support and implement transport network safety upgrade programs and projects.

2. Separate incompatible transport uses particularly in high-volume or high-speed environments.

3. Investigate, plan and implement transport safety improvement programs in the CBD, residential neighbourhoods, school zones and high-pedestrian activity areas.

4. Support the improved management, removal or grade separation of rail level crossings.

5. Develop a Brisbane transport safety plan to guide transport planning design and management.

6. Incorporate disaster management, security and mitigation considerations, including emergency services operations, in planning and operation of transport networks.

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Crashes involving pedestrians by severity in CBD* 2005-2016

- Fatality
- Hospitalised
- Medically treated
- Minor injury

Introduction of 40km/hr CBD speed limit in April 2009

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34 Department of Transport and Main Roads, Webcrash 2005-2016, 2017

* Excludes State-controlled roads including Riverside Expressway and associated on/off ramps