



South Brisbane Transport and Mobility Study Report



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Executive Summary

Making sustainable travel choices easy

The South Brisbane Transport and Mobility Study reflects the community's aspirations to make sustainable travel easy and the first choice for communities in Brisbane's inner south.

This vision and the principles to the right were developed through a community-led engagement process where we listened to the diverse communities from the study area and used their feedback to guide our approach.



Support the community's transport priorities – walking, cycling and public transport.



Provide pathways and streets that are comfortable and convenient to use.



Deliver a transport network that is safe and inclusive for all users.



Provide a transport network that operates reliably and gives priority to sustainable transport modes.



Make the best use of the transport infrastructure already available in the area.



Harness the benefits from large transport infrastructure projects.



Support local economies through a transport network that connects key destinations and activity centres across Brisbane's inner south.

Outcomes

What will be the result of implementing the principles?

These outcomes have been used to shape the transport responses:



Healthy streets, sustainable neighbourhoods

Walking and cycling is the most convenient option for short trips

Increased safety

Accessibility for all

Liveable neighbourhoods



Convenient commuting

Pedestrian and cycle bridges

Easy to understand journeys

Convenient and reliable public transport

Direct commuter cycle network



Flexible networks

Efficient and reliable networks

A network responsive to customer needs and attitudes



Planning for tomorrow's networks

Emerging transport modes and technology are embraced

What do we mean by mobility?

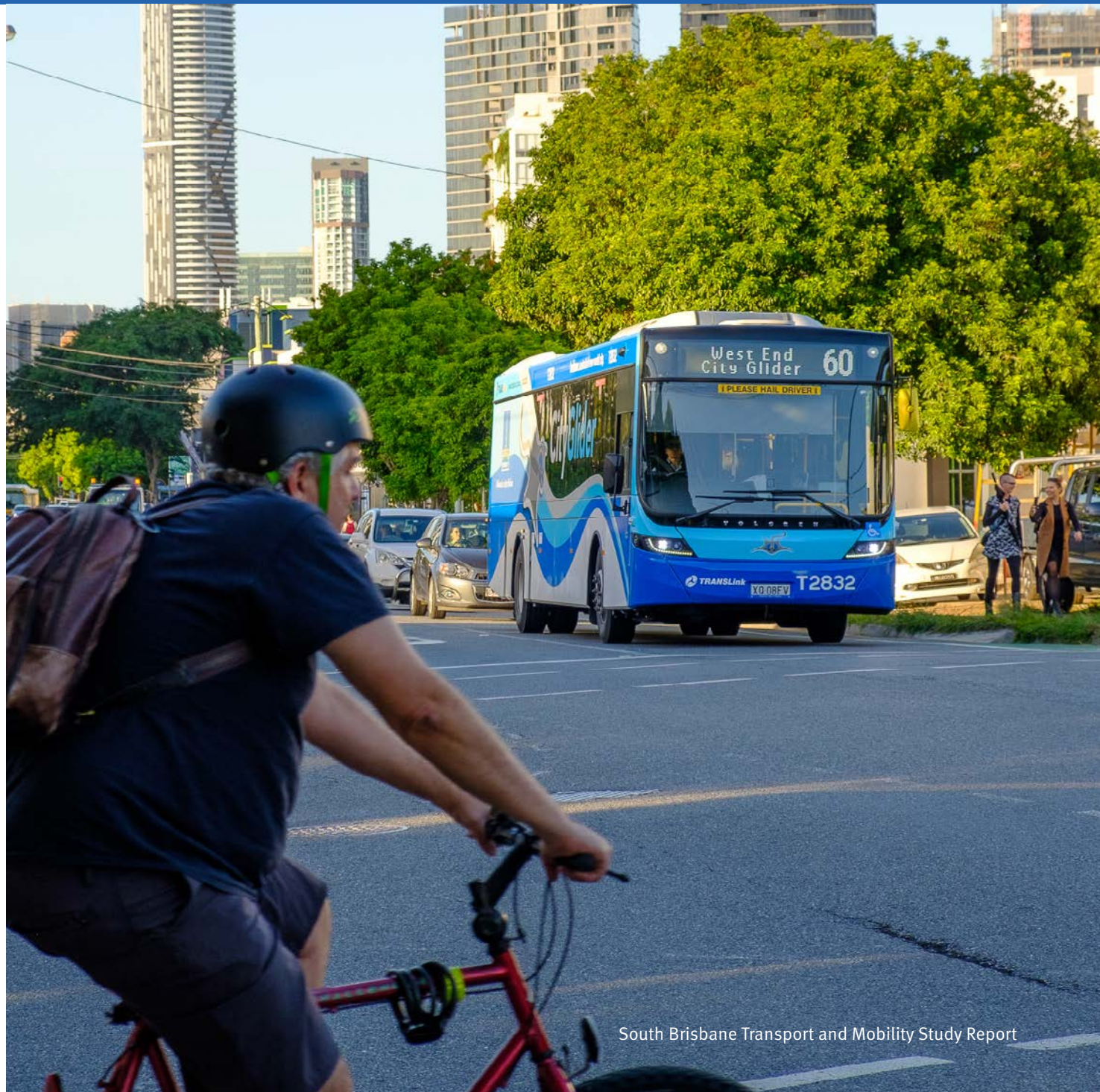
Mobility is more than the movement of people from A to B. It's about being able to get you where you want to go, when you want to go, safely and efficiently.

The vision to make sustainable transport choices easy in 2034 provides a clear direction and consistent platform to guide transport investment and development as the area grows and changes.

The study report sets out eleven outcomes for Brisbane's inner south with nearly 40 supporting responses to achieve the vision. The vision and actions will assist the inner south's transport network to keep step with the rapid growth and change planned for the area over the next 15 years to 2034.

The concentration of state-significant assets in Brisbane's inner south, such as the Cultural Precinct, hospitals, the Gabba and South Bank Parklands, and regionally significant rail, busway and motorway infrastructure make the operation of the local transport network of interest to the Department of Transport and Main Roads (TMR). TMR acknowledges BCC's jurisdiction over much of the local network in Brisbane's inner south.

It is important to note that implementation of local transport responses will need to be assessed against wider state government and city-wide council priorities.



South Brisbane Transport and Mobility Study

- South Brisbane study area
- Suburbs



Brisbane's inner south is changing

The study area

This study has been developed with a focus on Brisbane's inner south and key connections to surrounding precincts, including river crossings.

The study area encompasses the suburbs of West End, South Brisbane, Kangaroo Point, Woolloongabba, East Brisbane, Highgate Hill and parts of Annerley.

Brisbane's inner south has a unique urban identity, characterised by diverse land use and socio-demographic characteristics and transport opportunities. There are significant urban development and transport projects planned or underway, which have the potential to further change the urban form and travel needs of the area.

There is ongoing and increasing transport and mobility pressure in the rapidly changing inner south. Indicators of this include traffic congestion, a reliance on private vehicles, increased competition for parking and safety concerns for pedestrians and cyclists.



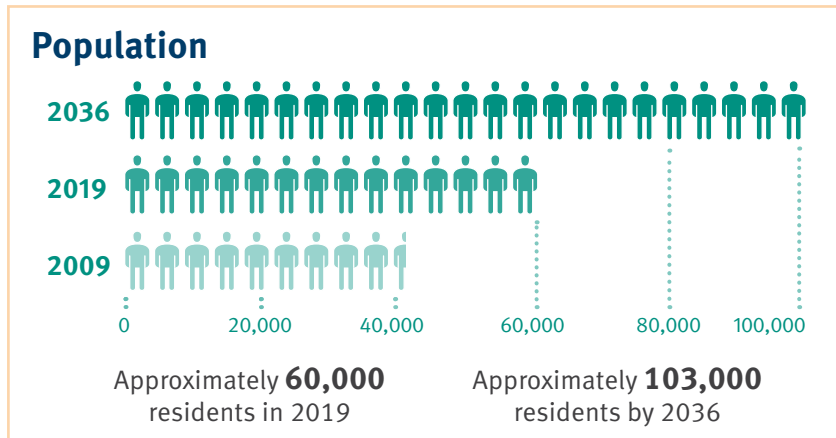


Understanding Brisbane's inner south community

In June 2017, there were approximately 53,000 people that called the Brisbane's inner south home. In the 10 years since 2007, the area's resident population grew at an average annual rate of 3.2 per cent.

This growth reflects the evolving changes to land use and development within the area.

Since 2006, there has been a shift in how the community lives, with a decrease in the proportion of residents living in separate houses and an increase in apartment living. Additionally, 60 per cent of households in the area have one or fewer vehicles, which is significantly less than Greater Brisbane at only 40 per cent.



Key employment industries

Health care and social assistance, professional, scientific and technical services, education and training

Population density and living arrangements

4,232 persons per square kilometre
(Greater Brisbane = 152 persons)

More than **60%** of households have one or fewer vehicles

Increasing proportion of people living in higher density apartments and dwellings

Travel to work

70% of residents travel less than 10 kilometres to work

57% of residents travel to work via vehicles¹

23% of residents travel to work via public transport

20% of residents travel to work via active transport such as walking, running or cycling

Employment

25% of residents live and work in the South Brisbane area

22% of residents travel to Brisbane CBD for work

1. Vehicles includes private car, truck, taxi and motorcycle

Activity generators in Brisbane's inner south

Brisbane's inner south is home to thriving communities and activity centres that generate significant numbers of network trips. These key generators are central to the fabric of the area and include major tourism, entertainment, education, health and research assets and activities.

These key trip generators include:

South Bank

Brisbane's premier recreation and tourism destination. Home to iconic parklands, restaurants and entertainment offerings, the precinct generates significant activity and, as a result, has a significant impact on local road and pathway infrastructure within South Brisbane.

Cultural Centre

Brisbane's centre for the performing arts, culture, history and literature. The Cultural Centre precinct is home to a wide range of cultural offerings including the Gallery of Modern Art, Queensland Museum, State Library of Queensland, Queensland Performing Arts Centre and Brisbane Convention and Exhibition Centre.

Mater Hill

A key precinct in Brisbane's health network. Home to the Mater Hospitals and the Queensland Children's Hospital, the precinct serves as a key destination for health services.

Woolloongabba

A key contributor to Brisbane's sporting identity and a future mixed-use precinct supported by Cross River Rail. Woolloongabba is undergoing significant transformation to harness the opportunities presented by the delivery of a Cross River Rail station within the precinct.

Boggo Road Ecosciences and the Princess Alexandra (PA) Hospital Precinct

A world-class knowledge, research and health precinct. The Boggo Road and PA Hospital precinct is a critical hub for medical and ecosciences, research and development organisations – and soon the Inner City South State Secondary College.

Kurilpa

Brisbane's newest riverfront precinct. Kurilpa has been earmarked as a future riverfront precinct that will be home to several major attractors.

Education

A concentration of education facilities. 11 primary and secondary schools, including West End State School, East Brisbane State School, Somerville House, St Laurence's College and Brisbane State High School, as well as campuses of Griffith University and TAFE are located within Brisbane's inner south.

The transport networks within South Brisbane are also influenced by activities in important surrounding precincts. These include:

Brisbane CBD

The dominant hub of economic activity in South East Queensland. Its location directly across the Brisbane River from South Brisbane makes it significant to the study area and its transport networks, especially as it is a key employment destination for the community and broader region.

University Campuses

Key education destinations in Brisbane including The University of Queensland (UQ) St Lucia Campus and the Queensland University of Technology (QUT) Gardens Point Campus. Brisbane's central universities support significant activity and are a key employment destination. As a result, thousands of people travel to and from each location daily.



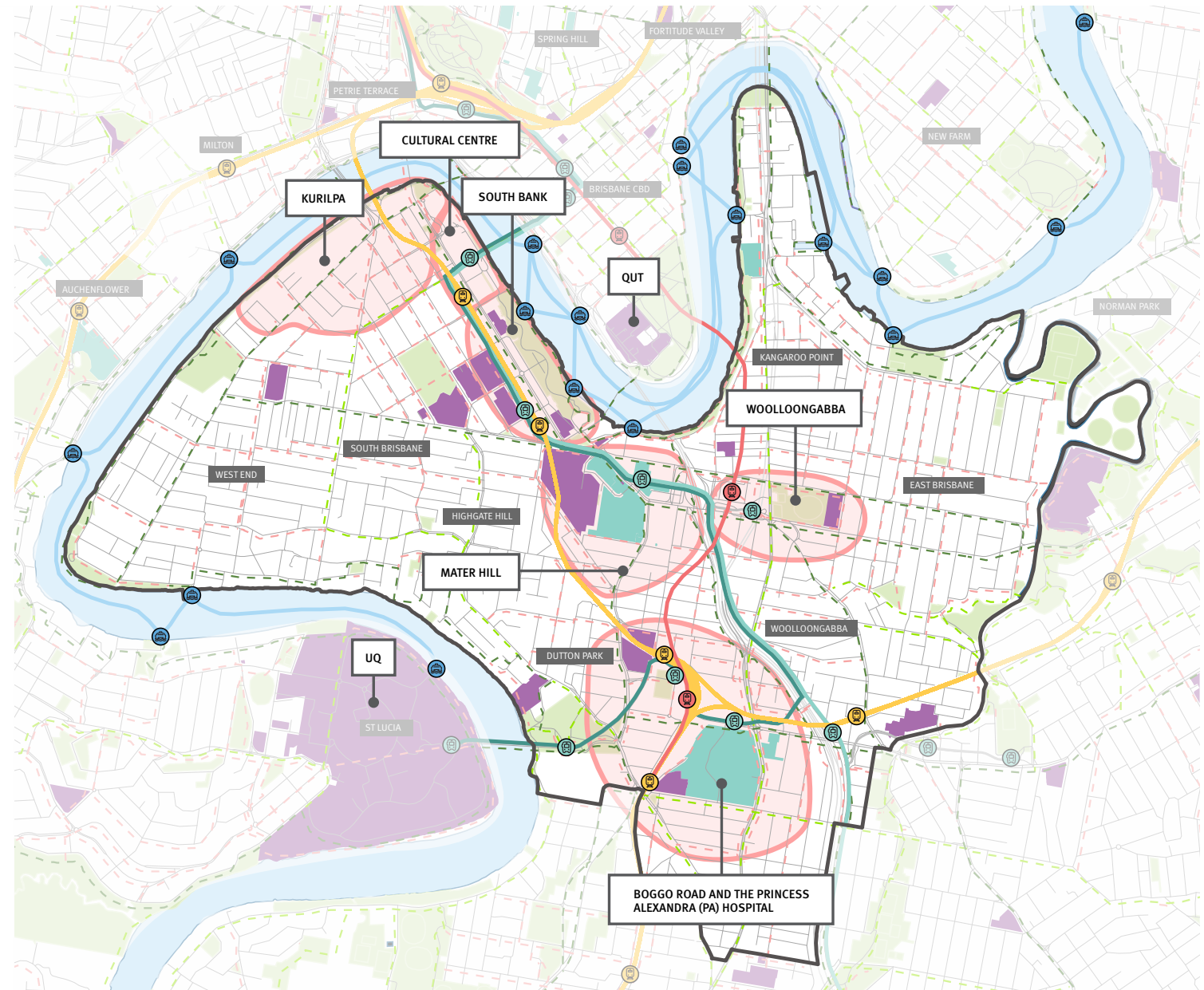
Key generators and supporting transport network

Legend

- SBTMS Precincts
- South Brisbane Study Area

- Public Transport**
- Busway Station
- Busway (Future Metro Line 1)
- Busway (Future Metro Line 2)
- Rail Station
- Rail Route
- Cross River Rail Station Precinct
- Cross River Rail Route
- Ferry Stop
- Ferry Route

- BCC Bicycle Network**
- Primary Cycle Route
- Secondary Cycle Route
- Local Cycle Route



Moving within and around Brisbane's inner south

Pedestrian and Cycle



The community has direct access to the Southeast Freeway Bikeway (Veloway One), Riverside Bikeway, Kangaroo Point Bikeway, Woolloongabba Bikeway, and dedicated pedestrian and cycle facilities through South Bank and along the Brisbane River.

Rail



Access to the train network is provided via stations located at Dutton Park, Park Road, South Bank and South Brisbane. These stations provide access to the Cleveland Line, Gold Coast Line and Beenleigh Line, which connect to all rail lines servicing Brisbane and surrounds via Roma Street.

Bus



There are many local bus services within Brisbane's inner south that stem from the primary routes along the South East Busway and Eastern Busway. Access to the busway services is via key stations located at the Cultural Centre, South Bank, Mater Hill, Woolloongabba, Boggo Road and the PA Hospital.

Road



Given its central location, Brisbane's inner south is serviced by several major Queensland Government and BCC controlled roads. These include:

- M3 Pacific Motorway
- Stanley Street
- Vulture Street
- Gladstone Road
- Cordelia Street
- Merivale Street
- Annerley Road
- Ipswich Road
- O'Keefe Street.

The suburbs of Brisbane's inner south are also serviced by a network of local and feeder roads that connect to the wider Brisbane network.

River Crossings



The Brisbane River borders much of the study area. The ability to cross the river is critical to the effective integration of Brisbane's inner south into the wider Brisbane area. There are several vehicular, pedestrian and public transport bridges that connect South Brisbane to surrounding locations including:

- Story Bridge – connecting Kangaroo Point, Brisbane City and Fortitude Valley
- Captain Cook Bridge – connecting South Brisbane, Kangaroo Point and Brisbane City
- Victoria Bridge – connecting South Brisbane and Brisbane City
- William Jolly Bridge – connecting South Brisbane and Brisbane City
- Go Between Bridge – connecting South Brisbane, Milton and Brisbane City
- Merivale Bridge – connecting South Brisbane and Brisbane City
- Goodwill Bridge – connecting South Brisbane and Brisbane City
- Eleanor Schonell Bridge – connecting Dutton Park and St Lucia.

Ferry Terminals



There are seven ferry terminals that service the inner south, connecting many of the city's most important destinations via a combination of CityCats, Cross River Ferries and CityHoppers:

- West End
- South Bank
- Maritime Museum
- Thornton Street
- Holman Street
- Dockside
- Mowbray Park.

Challenges and opportunities

Several current and emerging trends are shaping mobility in the study area and broader city. The following trends have been identified as factors shaping Brisbane's inner south transport network.

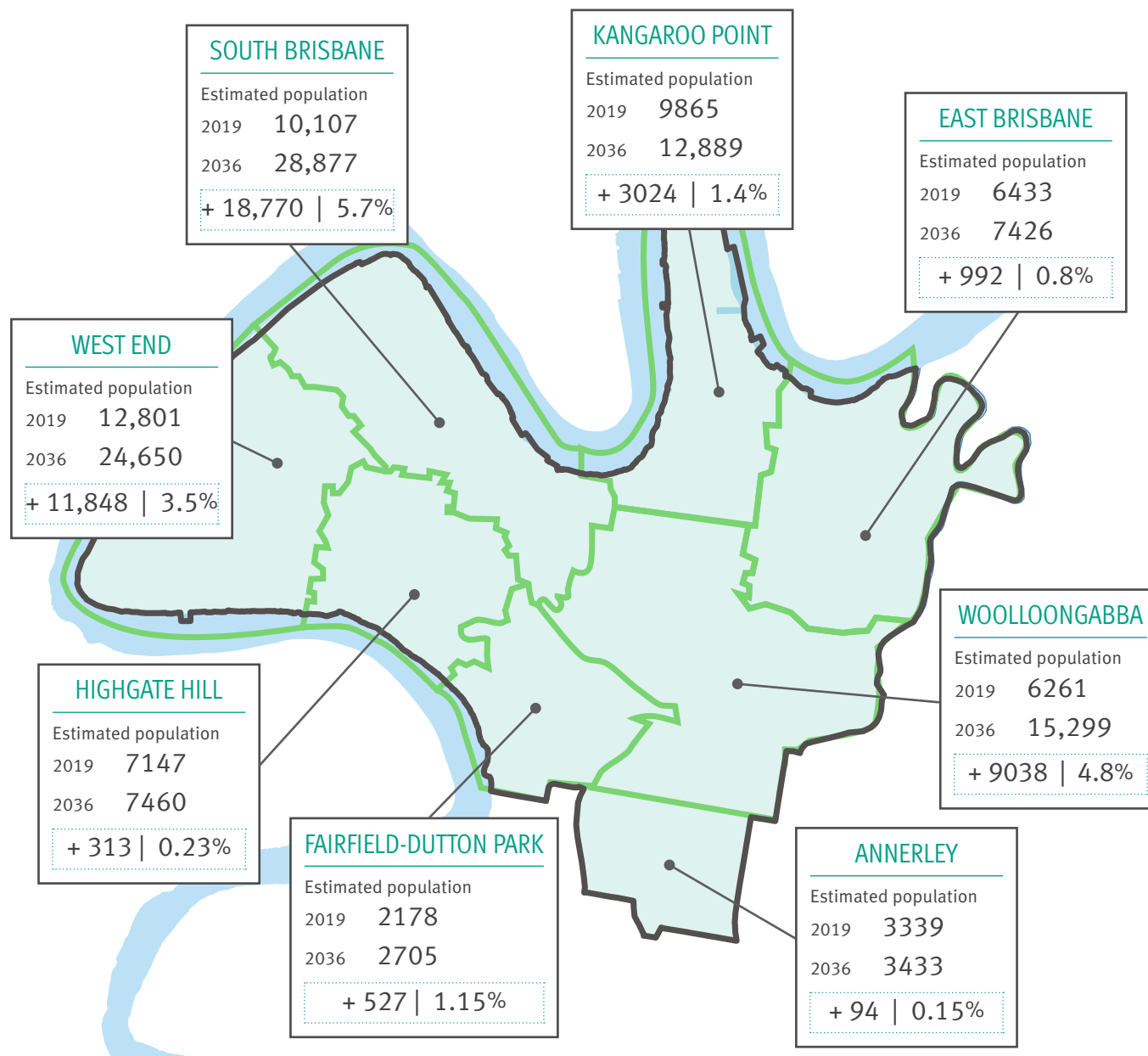
Population growth

By 2036, it is anticipated that the area's population will almost double to approximately 103,000 residents and represents an average annual growth rate of 3 per cent. This is significantly higher than the projected growth rate for Greater Brisbane at 1.7 per cent annually.

Much of this growth is anticipated to occur in the neighbourhoods of South Brisbane, Woolloongabba and West End, with 69 per cent inner south residents calling these suburbs home by 2036. This accelerating growth rate will have flow-on impacts for the mobility of residents and the wider community travelling to, from and through Brisbane's inner south.

Congestion

According to the Draft South East Queensland (SEQ) Regional Transport Plan 2018, each new resident to the region will make an average of three to four trips per day and most of these trips will be by car. Private vehicles currently dominate the way people travel in the study area, with more than 70 per cent of trips made by car. Increasing congestion will impact local trips, as well as freight and commercial movement, which has the potential to hold back economic growth in the region.



An ageing population

By 2036, approximately 15 per cent of the study area's population will be aged 65 years or older (up from approximately 10 per cent in 2016). To ensure the transport system is equitable, the network and services will need to cater for the mobility requirements of this aging population by considering factors that may limit mobility. These factors include difficulty climbing steps, walking, communicating, holding objects, standing, and hearing impairment or deafness, and vision impairment or blindness.

Health and wellbeing

In SEQ, roughly 35 per cent of all trips taken are less than three kilometres. A three-kilometre walk would take the average person 36 minutes to walk or nine minutes to cycle, therefore offering a viable alternative to motor transport.

The proximity of key destinations in Brisbane's inner south combined with improving active transport journeys for customers provide an opportunity for greater active transport mode share. Overall, Brisbane's inner south has all the components to grow an effective active transport system.

Equity

Limited mobility, accessibility and flexibility can have detrimental outcomes for vulnerable members of the community. An equitable and accessible transport network requires integrated services that consider all the users of the network, across all locations.

Growing economic precincts

The Brisbane city centre is expected to expand beyond its traditional peninsula location to cross the river, becoming a network of inner city precincts that form the Capital City Regional Economic Cluster (REC) in *ShapingSEQ*. Key precincts in the Brisbane's inner south, such as South Bank or South Brisbane Knowledge and Technology Precinct, already generate significant economic activity.

Brisbane's inner south transport network will need to enable workers, residents and visitors to move efficiently and effortlessly within and between these inner-city precincts, which will be essential to the success of Brisbane's economy.

Visitors and tourism

The study area includes South Bank and associated attractions, which are key tourism destinations in Brisbane. In 2016, Brisbane welcomed more than 1.1 million international visitors and six million domestic visitors. These visitation numbers are anticipated to continue to grow into the future. As a key entertainment and cultural precinct, Brisbane's inner south area attracts a number of these international and interstate visitors, in addition to local visitors from across SEQ.

Consumer trends

New transport services such as ride-sharing and car sharing are examples of how consumer behaviour is changing in relation to transport. Consumer behaviour shifts and further innovations take place within the transport domain will influence demands on the transport network into the future.

Brisbane's inner south will likely be at the forefront of changing consumer trends given its inner-city location and relatively higher millennial population (22 to 37-year-olds), which is the driving force behind the sharing or collaborative economy.

Emerging technology

Emerging technology will impact on demand for transport. The nature and need for travel in the future will be impacted by new technologies, which can already be seen in teleworking trends, growth of online shopping, and e-wheeling on e-bikes and e-scooters. Future transport planning will need to be flexible to ensure it can respond to new technology and options for improved delivery of transport services.

Demand responsive transport

Demand responsive transport (DRT) is broadly recognised as a shared ride, passenger transport service with a flexible route and timetable that operates on-demand travel. Currently, DRT is used where there is not enough passenger demand for a traditional public transport service, such as a bus. These services can also be used to provide reliable first- and last-mile services (for example, a minibus) to improve customer access to mass transit routes. It is anticipated DRT's use will grow.

DRT services can be provided by either the public or private sector. For example, TransLink's trial of DRT in Logan (public), or Bridj available in Sydney (private). DRT as a growing transport trend may change how people move in and through Brisbane's inner south in the future.

Major transport projects

Several committed infrastructure projects and upgrades will greatly enhance the way people move within and around Brisbane's inner south. These include significant projects being delivered by both the Queensland Government and BCC to deliver a suite of major infrastructure projects, including:



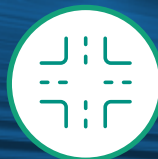
Woolloongabba Bikeway on Stanley Street and Annerley Road (completed)



Brisbane Metro – including stations at the Cultural Centre, South Bank, PA Hospital and Boggo Road and the re-purposing of Victoria Bridge through the removal of general traffic from the bridge to allow for improved pedestrian and cycle facilities.



Kangaroo Point Bikeway Upgrade



Vulture Street and Montague Road intersection upgrade.



Wynnum Road corridor upgrade



Cross River Rail – including new stations at Boggo Road and Woolloongabba

These projects will be complemented by localised improvements at various locations throughout the study area, these commitments are anticipated to greatly enhance transport and mobility opportunities within Brisbane's inner south and across Brisbane more broadly.



A community-led approach

To better understand the mobility issues and complexities of Brisbane's inner south and identify a way forward, we undertook extensive community and stakeholder engagement as well as a network analysis to identify initiatives to enhance local mobility.

The South Brisbane Transport and Mobility Study has been developed with a focus on three pillars: analyse all information available; listen to those that live in, work in and visit the area; and respond to key issues and opportunities identified through this process.

Situation Analysis

A strategic review of relevant local and state policies, plans and strategies, and high-level transport and mobility situation analysis, to define the transport, mobility and land use context related to Brisbane's inner south.

LOOK

Stakeholder and Community Engagement

A phased approach that focussed on in-depth community and key stakeholder engagement to understand the transport pressures and arising opportunities in the rapidly changing 'inner-south' of Brisbane. These activities were used to identify community reaction and sentiment regarding future transport priorities.

LISTEN

Transport Assessment

The identification and evaluation of key actions, including infrastructure and non-infrastructure responses, to address priority transport and mobility issues identified through situation analysis and engagement activities.

RESPOND

Dedicated focus on transport and mobility



A focus on supporting transport and mobility in Brisbane's inner south in the face of rapid change is timely and critical. It will be essential for residents, businesses and visitors to effectively move within, to and through the area and connect not only to its landmarks, but to Brisbane and SEQ more broadly.

The key commitments of Cross River Rail and Brisbane Metro will help to unlock the potential of Brisbane's inner south, presenting a strong opportunity to reshape the area's transport future. A plan to guide planning and investment activities, based on a shared vision, will be critical to long-term success and making the most of those opportunities.

Our guiding principles

A clear set of guiding principles were developed through robust and extensive community engagement and strategic analysis to provide the foundation of the study report's development. Achieving these outcomes will help make the choice easy to choose sustainable transport modes. These include:



Support the community's transport priorities – walking, cycling and public transport.



Deliver a transport network that is safe and inclusive for all users.



Make the best use of the transport infrastructure already available in the area.



Provide pathways and streets that are comfortable and convenient to use.



Provide a transport network that operates reliably and gives priority to sustainable transport modes.



Harness the benefits from large transport infrastructure projects.



Support local economies through a transport network that connects key destinations and activity centres across Brisbane's inner south.

Our study framework

This diagram shows the overall study framework and how the vision is intended to be realised. The guiding principles flow logically through eleven transport and mobility outcomes and their corresponding transport responses for action.

Guiding principles	Outcomes	Themes
<p>Our approach to achieving the vision</p> <ul style="list-style-type: none"> ■ Support the community’s transport priorities of walking, cycling and public transport ■ Deliver a transport network that is safe for all users ■ Make the best use of transport infrastructure already available in the area ■ Provide attractive and comfortable to use pathways and streets within the area ■ Enable a transport network that flows efficiently for those who need it most, especially emergency services and public transport ■ Harness the benefits from large infrastructure investments. ■ Support local economies through a transport network that connects key destinations and activity centres across Brisbane’s inner south 	<p>What will be the result of implementing the principles? These outcomes have been used to shape the transport responses</p> <hr/> <ul style="list-style-type: none"> ■ Walking and cycling is the most convenient option for short trips ■ Increased safety ■ Accessibility for all ■ Liveable neighbourhoods <hr/> <ul style="list-style-type: none"> ■ Pedestrian and cycle bridges ■ Easy to understand journeys ■ Convenient and reliable public transport ■ Direct commuter cycle network <hr/> <ul style="list-style-type: none"> ■ Efficient and reliable networks ■ A network responsive to customer needs and attitudes <hr/> <ul style="list-style-type: none"> ■ Emerging transport modes and technology are embraced 	<p>The broad categories into which the outcomes are grouped</p> <hr/> <p>Healthy streets, sustainable neighbourhoods</p> <hr/> <p>Convenient commuting</p> <hr/> <p>Flexible networks</p> <hr/> <p>Planning for tomorrow’s networks</p>

Lived experience and local knowledge

The lived experience and local knowledge of the communities within Brisbane’s inner south were at the centre of the study. Reflecting this commitment, a robust community engagement exercise led its development, enabling the community’s feedback to provide the study’s direction.

Stakeholders and the community had the opportunity to be involved through several engagement channels, including:

Community engagement booths

Booths provided an opportunity to engage the community on the ground and discuss issues face-to-face. They were the most visible and direct form of engagement, providing a convenient opportunity to collect the views of a large number of people.

Community group consultation

A group of key stakeholders with strong ties to the community were brought together to form a Stakeholder Reference Group and two Community Consultation Groups. These groups were engaged to provide ongoing input throughout the development of the study.

Individual consultation

Key stakeholders were invited to engage one-on-one to invest in the process and contribute feedback in greater detail.

Online survey

An online survey provided the greatest reach and scalability, while being easy and convenient for the community to provide input.

Interactive mapping tool

CollabMap provided the ability to gather important site-specific information at a time and place that suited stakeholders. The ability to pin-point specific inputs and comments from the community and key stakeholders to specific locations was important to the study development.

Awareness campaign

A suite of promotional material was developed and distributed to support the engagement process and study development. It encouraged community participation and highlighted the channels to participate.



The engagement process included:

14 community listening booths	6,000 postcards distributed	20,000 mailbox drops
620 completed surveys	71% resident survey respondents	11 weeks open
1,100 collabmap comments	275 collabmap commenting users	2,333 collabmap votes
305 collabmap voting users	3,586 collabmap page views	75% new collabmap visitors
20 individual consultations	18 stakeholder reference group attendees	16 community consultation group attendees

What we heard The following community priorities were identified:

Safety is critical to the community of Brisbane's inner south. There are a number of key 'hot spots' and opportunities to improve people's safety when using the local transport network through interventions such as speed and traffic management, separating different modes of transport, and pedestrian crossings and safe zones.

Connectivity of the network is key to people's ability to reach jobs, goods, services and activities and the ability of goods to reach markets. Opportunities to improve connectivity were highlighted and focussed on river crossings, cycle and walking paths, public transport routes and routes that traverse from the east to west of the study area.

Convenience for all types of journeys is important. Several opportunities to support a transport system that provides easy and efficient movement throughout the area were highlighted and include congestion management, car parking, trip duration, road hierarchy, active and public transport and the integration of other modes of travel.

The study has been developed with the current and future residents, businesses and visitors to Brisbane's inner south in mind. It recognises the changing needs, activities and connections that these groups have not only with the local area itself, but its place in Brisbane more broadly and its role as a key generator of activity within the city.

Choice of transport is fundamental to a successful multi-modal transport network. Opportunities to improve the choices for the community were identified in relation to the public transport operations, capacity and location as well as active transport.

Amenities within an urban environment must complement the transport network. Amenities provided in an area can impact a person's mode choice. Several opportunities to improve amenity include improving comfort and shade, wayfinding and signage, and improvements to pathways and roads.

Accessibility and mobility for all users of the local network is critical. The ability and capacity to connect from point to point, no matter the transport mode or mobility requirement, is central to providing efficient and easy movement throughout Brisbane's inner south. Several opportunities relating to accessibility and mobility were identified and focussed on kerb ramp access at specific locations, accessibility to public transport and specific pathways within the study area.

Affordability of travel is a significant feature of easy and efficient travel. The existence of specific toll routes and their impact on surrounding non-toll routes as well as the cost of public transport were key opportunities identified through consultation by Brisbane's inner south community.

Protecting the liveability of communities is essential in the face of significant growth and change. Protecting the diverse and unique characteristics that make the inner south an appealing place to live and visit is fundamental to people's quality of life and decisions. Access to and through green spaces, attractive street environments, slower speed environments and a shift to more sustainable modes of travel were key opportunities identified through consultation by Brisbane's inner south community.

The study has been shaped to reflect the sentiment of those who travel within the study area each day to support safer, interesting and engaging streets that supports easy and comfortable journeys between destinations.

Details of community feedback provided to the study are summarised in the accompanying South Brisbane Transport and Mobility Study Insight Report.



A shared vision

The South Brisbane Transport and Mobility Study Report seeks to capitalise on the opportunities presented by change and mitigate the potential impact of impending challenges on the transport and mobility within, to and from the area.

The eleven outcomes identified by the community for the Brisbane's inner south that will reshape the way that we move include. These outcomes are shown below and grouped into transport and mobility themes

Healthy streets, sustainable neighbourhoods
Walking and cycling is the most convenient option for short trips
Increased safety
Accessibility for all
Liveable neighbourhoods
Convenient commuting
Pedestrian and cycle bridges
Easy to understand journeys
Convenient and reliable public transport
Direct commuter cycle network
Flexible networks
Efficient and reliable networks
A network responsive to customer needs and attitudes
Planning for tomorrow's networks
Emerging transport modes and technology are embraced

The report provides a framework to guide future decision making relating to transport and mobility within the area. It has been informed by the community, key stakeholders and with consideration for the evolving nature of key precincts and infrastructure investments in the Brisbane's inner south.

Benefits of reduced reliance on cars



It will become increasingly important to provide the community with travel options. Providing opportunities for safe and convenient walking, cycling and public transport trips will reduce reliance on cars.

Reduced reliance on cars to get between destinations with ease may:

- Improve the safety
- Ease congestion within the area
- Support healthier lifestyles and engagement within neighbourhoods
- Improve air quality and reduce greenhouse emissions
- Reduce the cost of living through reduced costs associated with car ownership.

A future network that makes the choice of walking, cycling and public transport an easy choice for the community and visitors protects the long-term sustainability of the network and provides for a positive future for inner urban neighbourhoods.

Supporting future growth and change

Moving towards higher density living: The revitalisation and regeneration of previously industrial and commercial areas brings a raft of opportunities to activate neighbourhoods within the area, and support new transport and mobility options and economic growth.

Growing and changing precincts: The transport and mobility network will need to have capacity to sustainably and efficiently move greater volumes of people who live, work and spend leisure time in the area.

Enhancing the transport network

Encouraging the use of sustainable transport modes: Supporting residents and visitors to reduce their dependency on private vehicles by providing reliable and frequent public transport services, and safe and convenient active connections will decrease capacity constraints and congestion on the fixed road network.

Improving safety: Supporting people to be safe within the neighbourhoods of Brisbane's inner south will positively influence transport and mobility. Adopting a safe system approach – safe road users, safe vehicles, safe speeds and safe roads and road environments – will reduce the risk of crashes for all modes within the area. Improvements to personal safety, delivered through increased active surveillance and quality public realm, will help to feel empowered to choose active and public transport options.

Reducing network user conflicts: Providing an effective and connected network of walking and cycling facilities, ideally separated from general traffic, within Brisbane's inner south will improve the efficiency and safety of travel, reduce potential conflict and encourage active transport mode choices for the growing local community.

Providing convenient and reliable public transport: Opportunities to provide flexible and frequent public transport services to cater to increasing population and transport demand will support improved transport and mobility outcomes for the community.

Improving the efficiency of the transport network: Opportunities that enable the movement of people and goods to move efficiently on the transport network by leveraging existing investment and projects, supporting the right traffic to use the right roads and balancing the growth in travel demand through emerging technologies, will increase the effectiveness of the transport network within Brisbane's inner south.

Improving quality of life

Improving amenity and public realm: The revitalisation of neighbourhoods and places in the area provides opportunity to develop consistent place-making design that results in high quality public realm for the community and visitors.

Delivering inclusiveness and equity in transport networks: Providing all members of the community with access to a wide choice of transport and mobility options, enhanced information to make informed travel choices, and removing social or physical conditions or barriers, will be critical to supporting movement to, from and within Brisbane's inner south.

Supporting an environmentally sustainable transport network: A future in which transport and mobility in Brisbane's inner south is resilient to environmental change and reduces environmental impact will be increasingly important. Opportunity exists to support sustainable transport and mobility options to improve network resilience and the community's ability to move to, from and around the area in the long term.

Harnessing emerging technology and trends

Adopting changing ways of travel and transport delivery to improve customer experience: Continuing to support customer-led infrastructure and emerging technologies, such as ride sharing, demand responsive travel and Mobility as a Service (MaaS), has the potential to transform the transport network, improving the efficiency of travel and total customer experience.





Collaboration in delivery

TMR operates regionally significant networks within the study area, including the rail network, South-east Busway and M3 Pacific Motorway. TMR is also responsible for setting the regulatory framework for road network and passenger transport operations.

BCC manages and operates the local road and cycle networks in Brisbane's inner south. The responses in this study align with the transport directions and desired outcomes identified in BCC's Transport Plan for Brisbane under four citywide themes — enhancing liveability, delivering economic benefits, harnessing innovation and evolving the network. They are also consistent with the principles and priority actions set out in *ShapingSEQ*, the draft SEQ Regional Plan.

Reflecting BCC's direct responsibility for the operation and management of Brisbane's inner south local road network, many of the responses will require implementation by BCC through existing programs, committed funding or through partnership with TMR. Some of the responses will be delivered directly by TMR.

While the responses are identified transport priorities for the area, all responses are subject to planning and investment decision making processes. Funding and prioritisation will be evaluated in line with city and statewide program assessments.

Taking action for South Brisbane

Over the next 15 years, many transport responses will be investigated and delivered to achieve the outcomes of the study report. To support this, a suite of transport responses has been identified under four key themes to respond to the core community and stakeholder priorities raised through engagement.

These responses have been developed by placing the customer, the community and what they value at the heart of identifying possible solutions.



Healthy streets, sustainable neighbourhoods



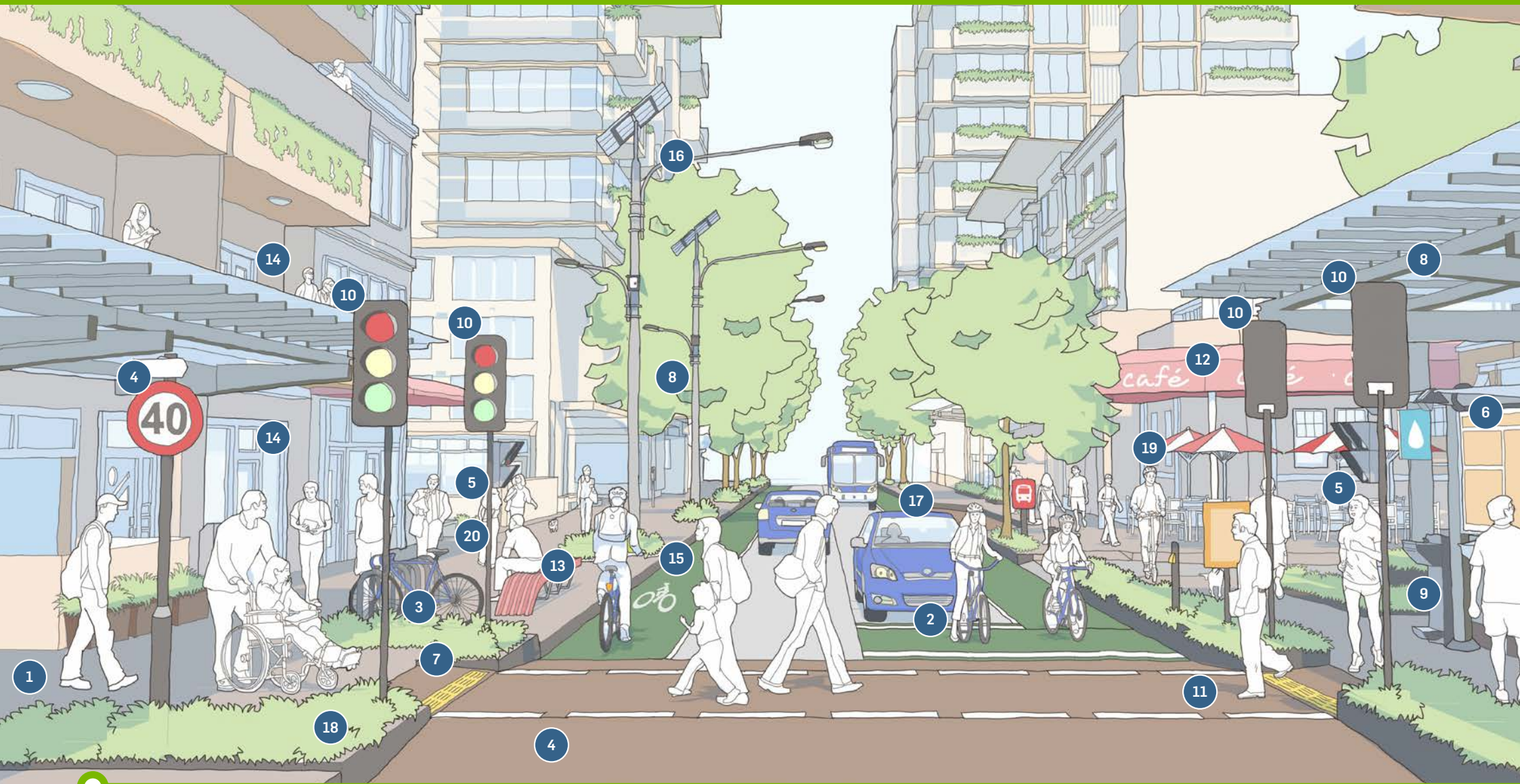
Convenient commuting



Flexible networks



Planning for tomorrow's networks





Healthy streets, sustainable neighbourhoods

Transport networks influence the character of neighbourhoods and the creation of healthy streets. Sustainable neighbourhoods are at the heart of the study.

Streets that cater for people as well as vehicles have many benefits for both the individual and the community. Attractive street environments encourage active travel, high foot traffic is good for business and a reduced reliance on private vehicles is good for the environment.

Principles of a healthy street

- 1 Wide footpaths for pedestrian comfort and wheelchair access.
- 2 Pavement marking separation between vehicles and active transport users in high activity areas to improve safety and encourage 'would-be' cyclists.
- 3 On-street secure bicycle parking.
- 4 Safe road speeds and visual cues that match the speed environment, including signage, use of varied surface materials and traffic calming devices, reinforce positive driver behaviour and improve safety.
- 5 Smart pedestrian crossing technology to improve safety by detecting movement and adjusting the amount of time required to cross.
- 6 Neighbourhood or precinct maps at key destinations or intersections to improve wayfinding and signage for pedestrians and cyclists.
- 7 Kerb ramp access to allow for safe crossing, tactile paving to improve equitable access and navigation, and pick up / set down areas around key destinations allow pram users and people with disabilities to safely and comfortably navigate the pedestrian environment.
- 8 Awnings and shelter over activated frontages, street trees, seating and pedestrian shelters are important to provide shade and comfort to pedestrians and cyclists in Brisbane's sub-tropical climate.
- 9 Drinking facilities to promote pedestrian comfort and encourage greater active transport take-up.
- 10 Intersection improvements to improve safety for active transport users, including signal cycle times that reduce delays to pedestrians and / or traffic signals that provide priority to cyclists.
- 11 Safe crossing points to prioritise pedestrian and cyclist safety and ease of navigation.
- 12 Street activation contributes to more interesting and attractive streets, safety and casual surveillance, community interactions, and higher foot traffic to the benefit of local businesses and shops.
- 13 Places to stop and see and rest promote comfort for pedestrians of all ages and abilities and make for a more attractive pedestrian experience.
- 14 Non-residential uses at ground level and development overlooking the street provides casual surveillance to improve perceptions of safety and security.
- 15 A street environment that is not dominated by cars and that prioritises pedestrians and cyclists reduces conflicts and improves comfort and safety.
- 16 Lighting and activation at night to improve safety and comfort.
- 17 Removal of on-street car parking can improve safety and encourage greater use of active travel.
- 18 Landscaping within the street provides shade, cooling, and a more welcoming and attractive public realm.
- 19 Allowance for new mobility services, including ridesharing and micromobility (e.g. electric scooters, docked and dockless shared bikes, e-bikes).
- 20 Pathways and streets that are attractive, safe and comfortable to use will help make sustainable travel choices easier to make and support the community's preference for walking, cycling and public transport.

Outcome 1: walking and cycling is most convenient for short trips

Walking and cycling are efficient and reliable ways to travel. They are healthier, safer, more sustainable, and contribute to the liveability of a community. Brisbane's inner south is already leading the way, with lower than average (greater Brisbane) private vehicle ownership and use for work commutes. More than 70 per cent of the workforce travel less than 10 kilometres for employment, however almost 60 per cent of people still drive.

Aim: to make walking or cycling the most convenient option for these trips.

By building on existing programs to get more people to walk and cycle more often, the Queensland Government will work with BCC, the community, employers and schools to provide attractive, safe and accessible routes to key destinations.

Responses:

- 1a Investigate potential solutions to improve pedestrian and cycle connectivity, particularly on key local roads at:
 - Melbourne Street, north of Grey Street
 - Russell Street, between Grey Street and Merivale Street
 - Vulture Street and Stanley Street, near the Woolloongabba Cross River Rail and Busway stations.
- 1b Engage with the community, schools, universities and major employers to foster an active transport community culture that promotes and supports walking and cycling as desired modes of travel.
- 1c Champion community ideas and projects that broaden and boost programs to educate road users about walking and cycling and cultivate good city cycling etiquette.
- 1d Prioritise pedestrian and cycle movements at key intersections and along key travel desire lines to reduce pedestrian delays and provide crossing opportunities. Develop pedestrian models for the busiest locations.
- 1e Expand separated and off-road networks throughout Brisbane's inner south, prioritising safe and connected off-road facilities that are separated from vehicle traffic. Investigate opportunities to reduce conflict and separate walkers and cyclists where appropriate, for example on busy recreational and commuter routes.



The Queensland Government is committed to encouraging greater participation in cycling through the *Queensland Cycling Strategy 2017-2027*. The strategy also sets out a framework for partnering with local governments to greatly expand and connect cycle networks around the state through the implementation of *Principal Cycle Network Plans*.

TMR will continue to work with BCC to refine the principal cycle network for the South Brisbane area as part of the *South East Queensland Principal Cycle Network Plan* and published priority route maps to focus and guide joint investment by both organisations.



The Queensland Government is also preparing the first *Queensland Walking Strategy 2019–2029*, which will provide the framework for promoting walking as an accessible, active transport mode across the state, delivering health benefits for Queensland and access to important destinations such as schools, shops and public transport.

○ Benefits of walking and cycling

- They do not discriminate or exclude based on affordability.
- They contribute to building active neighbourhoods which are more liveable, have higher levels of social capital and community cohesion, and lower levels of crime.
- They are easy ways to incorporate regular exercise into your day.
- They are fun social activities for all ages.
- They can improve mental wellbeing by reducing feelings of stress, anxiety and depression.
- They reduce the risk of disabling and costly chronic diseases.
- They lead to fit and active workers who are more productive, take fewer sick days and make a positive contribution to our economic wellbeing.
- They reduce Queensland's carbon footprint and contribute to clear air, and sustainable environments.

Outcome 2: increased safety

Safety is fundamental to people's quality of life and the travel decisions they make. Enhancing both road safety and personal safety of all users is essential to create a transport system where people feel confident walking, cycling and using public transport at any time of the day or night.

Aim: to make the transport network safer for all users at all times of the day and night.

A transport network that reflects a safe system – safe road users, safe speeds and safe roads and road environments – is key to achieving this outcome.

Key areas identified as hot spots by both the community and historical crash data include Montague Road, Dornoch Terrace, Gladstone Road, Annerley Road, Melbourne Street, Vulture Street, Stanley Street, Main Street and Ipswich Road. The Mater Hill precinct area was also highlighted due to high levels of pedestrian activity, school and commuter traffic and heavy vehicles, community members highlighted.

Key factors contributing to road safety include:

- traffic volumes
- the design of road infrastructure
- the degree of separation between vehicles and active transport users
- lighting and pedestrian crossings
- traffic management.

Speed has the greatest impact on pedestrian safety. Research has shown that even a small difference in vehicle speed can make a significant difference to the danger of serious injury. If a car hits a pedestrian at 50 km/h, the driver is twice as likely to kill the pedestrian than if the car had been travelling at 40 km/h.²

Having vehicles travelling at safe speeds, providing adequate and accessible crossing opportunities, and supporting the right traffic on the right roads are essential to improved road safety in our communities.

Additionally, if people do not feel safe walking or taking public transport, then people are more likely to drive. During the consultation process, personal safety was a key issue for late-night workers, particularly those working within the health precincts. Through the continued incorporation of design elements that help to create safe environments and better activation at night, people should feel safe to move around their community at any time of day or night. Areas of focus include along key routes, surrounding transport hubs, hospital precincts, the Cultural Precinct and West End as well as the areas surrounding businesses with non-conventional hours.



54% of cyclists who provided feedback stated they do not feel safe riding in the area.



71% said they would ride more often if they felt safer.



81% of pedestrians who completed the survey said safer pedestrian crossings and paths would encourage more walking, with 42% not currently feeling safe crossing roads at traffic intersections in the area.



36% of survey respondents who do not use active modes of transport also stated that safety through the area would have to be improved to encourage them to use active modes. Safety is also one of the biggest barriers to public transport use.

2. Transport for NSW, Centre for Road Safety, *Safe speed limits*, 2019

Responses:

- 2a** Identify suitable locations for the introduction of lower vehicle speeds by:
- Trialling the reduction of speed limits to 40 km/h in residential precincts at key locations across the study area
 - Piloting the reduction of speed limits to 30 km/h on selected residential streets in the study area.
- 2b** Continue speed limit reviews on key connecting roads and locations where there is high pedestrian and cycle activity and on roads in urban renewal areas.
- 2c** In locations where a speed limit reduction has been identified, investigate and deliver changes to the surrounding urban environment to provide visual cues that match the new speed environment and reinforce positive driver behaviour. Changes may include improved public realm, signage, modifications to road design and landscaping.
- 2d** Continue to plan, design and deliver improvements to key intersections to improve safety, increase efficiency and manage local congestion. In addition to infrastructure upgrades, attention should also be given to pedestrian signal times and reducing delays to pedestrians, as well as path improvements to facilitate pedestrian movements.
- 2e** Incorporate smart pedestrian crossing technology into new and improved intersections and pedestrian crossings. The technology uses sensors to detect the movement of walkers and adjust the amount of time required to cross. Priority intersections include those with long crossing distances, high traffic and pedestrian volumes, those frequently used by mobility-impaired pedestrians and cyclists, and crossings near hospitals.
- 2f** Work with South Bank Corporation to monitor and improve safety at the southern approach to the Goodwill Bridge and make changes as necessary to reduce conflicts between pedestrians, cyclists and vehicles.
- 2g** Continue to implement treatments that improve personal safety at key destinations, public transport hubs and pathways through the application of Crime Prevention Through Environmental Design (CPTED) principles and better activation of areas at night. Treatments may include upgraded lighting, CCTV and passive surveillance, and well maintained public spaces.



Universal Design: Creating inclusion for everyone

Universal Design is a design philosophy that ensures that products, buildings, environments and experiences are accessible to as many people as possible, regardless of their age, level of ability, cultural background, or any other differentiating factors that contribute to the diversity of our communities.³ The seven principles of universal design are:

- 1 Equitable Use**
The design is useful and marketable to people with diverse abilities.
- 2 Flexibility in Use**
The design accommodates a wide range of individual preferences and abilities.
- 3 Simple and Intuitive Use**
Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills or current concentration level.
- 4 Perceptible Information**
The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
- 5 Tolerance of Error**
The design minimises hazards and the adverse consequences of accidental or unintended actions.
- 6 Low Physical Effort**
The design can be used efficiently and comfortably and with a minimum of fatigue.
- 7 Size and Space for Approach and Use**
Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

Outcome 3: accessibility for all

All Queenslanders have the right to participate in their community equally, and the transport network needs to provide all community members with an opportunity to access jobs, education, social activities and essential services. Passenger transport is often the only means of independent travel for people with a disability or those who cannot drive.

Aim: to create a single integrated transport network accessible to everyone.

An inclusive and accessible transport network incorporates Universal Design Principles: removing social and physical barriers to access and mobility and providing integrated services that consider all users of the network, across all locations. This includes not only on the public transport service itself, but better-informed journey planning and better customer experiences to and from the service and their destination.

The Queensland Government is already improving access to transport services through the Disability Action Plan 2018-2022. However, barriers that impede accessibility may remain, resulting in potential social and economic exclusion of the elderly or people with a disability.

As part of this study, more than 11 per cent of survey respondents stated that they or a family member had mobility needs. More than 60 per cent of this group said the transport system Brisbane's inner south did not adequately meet these requirements. 46 per cent of survey respondents who have mobility needs, or a family member with mobility needs, did not feel they were able to access public transport with ease.

Responses:

- 3a** Assess parking and pick up / set down areas around key destinations and deliver improved facilities to cater for people with disabilities.
- 3b** Publish enhanced mapping and transport information on accessible routes and facilities to assist people with disabilities to make informed travel decisions.
- 3c** Assess pathways to key destinations, particularly transport hubs, to identify and prioritise treatments to enhance convenient and safe access for people of all abilities. Treatments may include removing obstacles, widening footpaths for wheelchair access, introducing tactile paving and pram ramps and providing seating.

3. Victorian Health and Building Services Authority, Victoria State Government.

Outcome 4: liveable neighbourhoods

The rapid rate of growth experienced in Brisbane's inner south is a sign of its appeal as a lifestyle destination. However, this rapid growth should be balanced with people's quality of life.

High reliance on private cars can decrease the effectiveness of the transport network and negatively impact public amenity. On the other hand, uptake of sustainable transport modes can have health, wellbeing and economic benefits for the community. Creating high quality public realm streetscapes that are attractive, safe and provide connected green spaces with shade and shelter helps to encourage people to walk or cycle instead of using their car.

Aim: to help retain the liveable neighbourhoods of Brisbane's inner south.

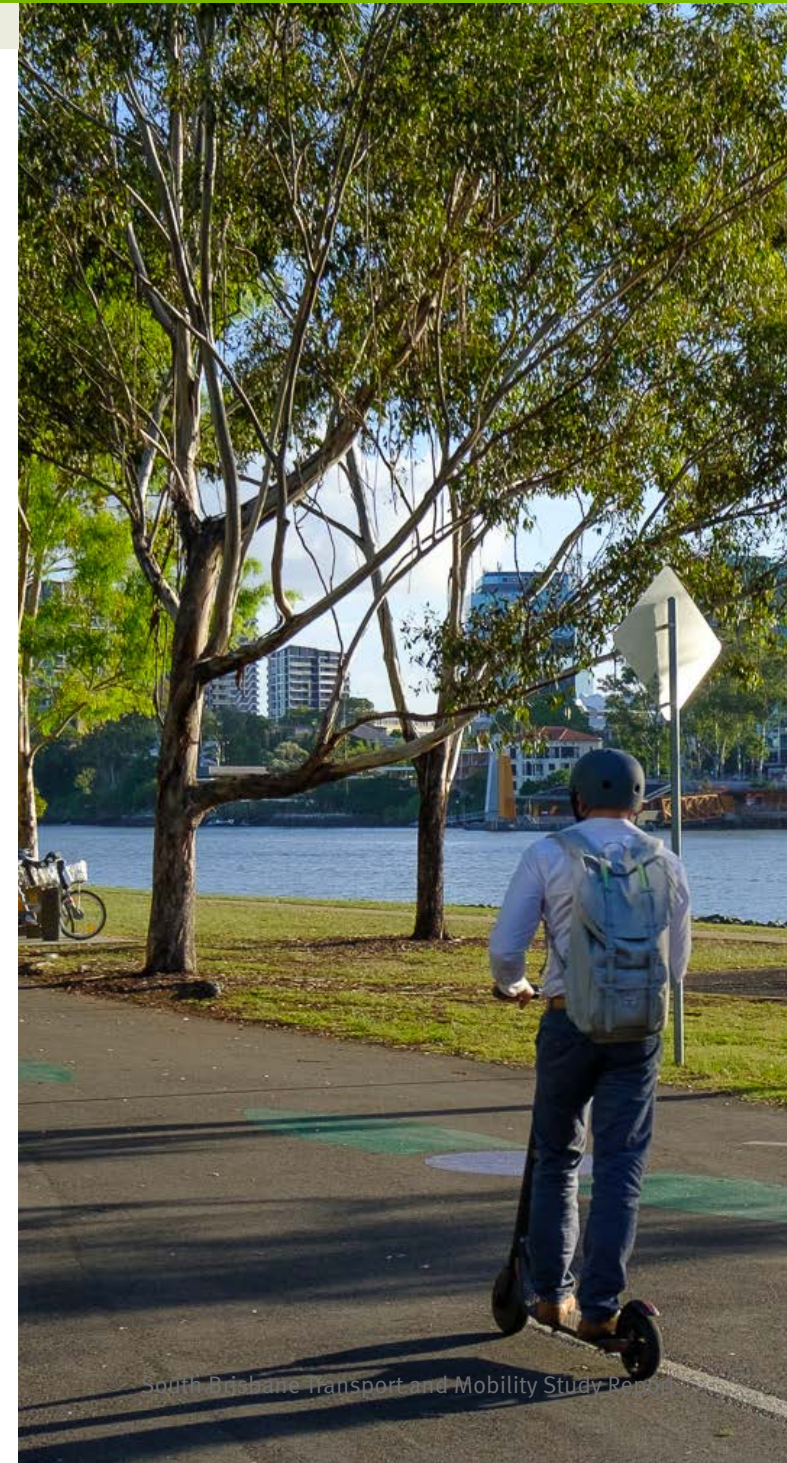
Shading featured strongly in the study's community engagement due to Brisbane's climate. The community have suggested areas for improvement including Victoria Bridge, South Bank train station, Lytton Road near Mowbray Park, and pathways leading to Park Road train station.

Through new transport infrastructure projects such as the Brisbane Metro and Cross River Rail, opportunities exist to capitalise on renewal activities to support improvements to the public realm and improve the quality of life for residents and visitors to the area. Trialling the closure of streets for community events to some or all motorised traffic may also help residents view their streets differently, promoting the benefits of a vibrant community and reduced car dependency.

76 per cent of survey respondents indicated more shading and rest facilities along pathways were important factors to encourage them to walk more through the area. Similarly, 78 per cent thought better lighting and visibility were important for pedestrians. 71 per cent of survey respondents who believe public transport users are poorly catered for in the area said better street lighting and shading were important to increase usage.

Responses:

- 4a** Support the local community to trial temporary closing of streets to motorised traffic for community activities.
- 4b** Support the creation of an interesting and pleasant environment that allows increased access green space networks and the river.





Convenient and reliable commuting

Convenient and easy to use public and active transport networks provide the community with viable alternatives to private car use.

Strategic upgrades to the transport network (new direct connections, upgraded infrastructure and improvements to the public transport system), can provide faster and more convenient to access destinations, even where interchanging is necessary.



Outcome 5: pedestrian and cycle bridges

Increasing the number of direct cross-river walking and cycling bridges will help to connect communities and encourage sustainable transport choices.

Aim: to enhance direct cross-river connectivity.

During consultation, the inner south community indicated a strong interest in new walking and cycling bridges for both the West End to Toowong and West End to St Lucia links. A West End to Toowong bridge has the potential to unlock opportunities for Brisbane's inner south community to directly and sustainably access the education, employment and public transport hubs west of the river.

A new walking and cycling bridge between West End and St Lucia may also unlock the benefits of direct access from the riverside active transport routes by bypassing the difficult topography of Highgate Hill and encouraging more cycling and walking to UQ.

A business case investigating a new pedestrian and cycle bridge connecting Kangaroo Point and the Brisbane CBD is currently being led by BCC with funding assistance from the Queensland Government. Green bridges linking West End to Toowong and West End to St Lucia have been nominated in BCC's Green Bridge Strategy.

As part of this study, more than 70 per cent of survey respondents indicated that more river crossings throughout the study area would improve access to key destinations, with priorities being the Kangaroo Point to Brisbane City, West End to St Lucia, and West End to Toowong connections.

Responses:

- 5a** Investigate new strategic active transport crossings of the Brisbane River, including new pedestrian and cyclist connections between West End and Toowong, and West End and St Lucia.
- 5b** Planning and decision-making for supporting public transport (ferry and bus) infrastructure and services as well as cycle infrastructure to maximise connectivity of the green bridges as part of a well-integrated transport system.



Outcome 6: easy to understand journeys

An easy to use and accessible public transport system is essential to encouraging sustainable travel choices. Simple, easy to access information is the foundation of a user-friendly transport network.

Aim: to help you to get to where you need to go.

The areas around and within stations can be difficult to navigate and interchanges between services can be complex, which can reduce the convenience of public transport. This is also true for active routes, such as footpaths and cycleways. Good wayfinding signage can minimise confusion for visitors and those taking trips for the first time. Priority areas to enhance wayfinding signage include Melbourne Street, South Bank Train Station, the Cultural Centre Bus Station and between South Bank and the Cultural Precinct.

The implementation of consistent and intuitive wayfinding at public transport hubs and around key destinations such as South Bank and the Cultural Precinct can deliver a positive customer experience, which will influence later travel decisions.

More than 50 per cent of survey respondents stated improved directional signage on pedestrian routes would encourage them to walk more. Cyclists echoed this sentiment, with 52 per cent calling for improved directional signage on bike paths to encourage greater usage. Nevertheless, 87 per cent of public transport users know where to find information on their travel options, and 85 per cent of public transport users know how to plan a journey.

Responses:

- 6a** Enhance wayfinding for residents and visitors between key destinations and public transport hubs through improved network legibility, information and signage:
- Introduce neighbourhood / precinct maps at key transport hubs to help visitors find local destinations.
 - Introduce neighbourhood / precinct maps at activity nodes and key intersections to help visitors find point of interest and transport hubs.
 - Improve accessibility and wayfinding between South Bank Rail Station and South Bank Bus Station to create a seamless interchange experience.
 - Investigate measures to promote local travel options between the highly visited areas of the Cultural Centre, South Bank, Mater Hill, and West End precincts.
 - Establish a common name for Park Road Rail Station and Boggo Road Bus Station.

- 6b** Support the development of enhanced travel information apps, including ongoing improvements to the TransLink Journey Planner, as well as enabling third party app development via continued release of transport data.



Dutton Park

Dutton Park

Queensland TRANSLINK

Outcome 7: convenient and reliable public transport

More high frequency, reliable public transport services will be needed to cater for the growing population and employment centres located in Brisbane's inner south.

Aim: to make public transport a convenient choice for travel.

During peak periods high frequency public transport services operate on the busways, rail network, the Brisbane River and trunk bus routes across the inner south. Lower frequency urban services run throughout the day. Some key inner south services and locations such as the CityGlider (Route 60) bus service, the bus routes connecting to UQ, and the platforms at the South Bank Busway station experience pressure during peak times.

Service improvements delivered by Brisbane Metro and Cross River Rail projects will alleviate some of these pressures through the provision of extra services, however additional measures may maximise the benefits of these existing services.

To support 24-hour communities, it is important to service those activities that operate outside conventional business hours. Hospitals, entertainment precincts and tertiary education require commuter transport services outside regular business hours. The provision of services during these times or adoption of innovative options will help make the choice to use public transport easier for these users. The introduction of Smart Ticketing systems that will allow customers to pay for public transport using debit and credit cards will also enhance user experience and increase the convenience of using public transport for residents and visitors alike,

Destinations such as the Cultural Centre, hospitals and education facilities in the area have the opportunity to promote convenient public transport to these facilities.

The Blue CityGlider (Route 60) is one of the city's most heavily patronised bus services and its popularity is expected to continue to increase in line with the planned population growth along the route, notably on Montague Road. The provision of additional services through timetabling on this route is hard to achieve due to its existing high- frequency in peak periods.

However, the introduction of higher capacity buses, such as articulated buses, in combination with bus priority treatments would cater for the increased demand of this popular service.

In East Brisbane, community members highlighted the difficulty in accessing the CBD via buses over the Story bridge.

Almost 70 per cent of survey respondents who use taxi or ride share services do so outside public transport operating hours. Similarly, 80 per cent of public transport users who believed they were poorly catered for in the area said more frequent services would encourage them to use public transport more. 73 per cent agreed that evening, late-night and weekend services were important factors. 49 per cent of public transport users said the services they use in the area were often overcrowded. 83 per cent of survey respondents who use public transport in the study area thought better connected travel routes that take passengers where they want to go was important in encouraging more public transport usage.

Smart Ticketing



- Smart Ticketing replaces the existing go card system with a new customer-centric Smart Ticketing solution.
- Smart Ticketing will enable customers to pay for travel using contactless debit and credit cards, smartphones and wearable devices as well as current payment methods including go card and cash.
- The project will deliver a new integrated ticketing and journey planning app, along with improvements to real-time.
- All modes of the TransLink network in South East Queensland receive the new system.
- It is anticipated the new system will be designed, developed and progressively rolled out by 2022.

Responses:

- 7a** Investigate and deliver upgrades to public transport infrastructure and fleets to improve operational performance, capacity, reliability and customer experience, including:
- Improved real time information on public transport via mobile notifications as well as on-platform and in-service messaging
 - Customer-friendly, smart payment options and user-focused messaging
 - Ease of access and transfer between services
 - Expanded platform capacity at key busway stations particularly at Cultural Centre and South Bank
 - Expanded capacity of the Blue CityGlider (Route 60) service through the introduction of articulated buses
 - Enhanced priority for buses on key public transport routes and at congestion hot spots using technology and infrastructure improvements to facilitate faster and more reliable running times.
- 7b** Work with UQ (St Lucia) to align public transport timetables with lecture schedules and late night / early morning classes.
- 7c** Explore opportunities for additional cross-town services using the Story Bridge to link destinations north and south of the Brisbane River.
- 7d** Work with Queensland Performing Arts Centre (QPAC) to identify opportunities to maximise patrons' use of public transport, such as free public transport travel included in ticket prices.
- 7e** Provide improved pedestrian access to the Woolloongabba Cross River Rail station site from Woolloongabba Stadium, Logan Road/ Stanley Street businesses and the Mater Hill precinct.



Outcome 8: direct commuter cycle network

Improving the direct connectivity and quality of the cycle network will enhance the safety and attractiveness of cycling.

Aim: for more people to cycle more often.

Cycle infrastructure needs to be connected and provide access to key destinations.

In Brisbane's inner south there are several strong 'desire lines' for cycling. To maximise the potential of these popular cycle routes, infrastructure design should be consistent, well connected, and avoid hazards and obstructions.

Better-connected cycle facilities (on and off-road paths) and simplifying 'difficult to navigate' routes such as between Mowbray Park and Kangaroo Point have the potential to increase active transport uptake by improving comfort and safety.

Several key Principal Cycle Network routes do not yet have dedicated and continuous cycle facilities. These include the Stanley Street and Vulture Street couplet and between Annerley Road and the Princess Alexandra Hospital (PA Hospital).

The inner south is a significant recreational destination in Brisbane and caters for recreational cyclists, scooter riders, skateboarders, and pedestrians. The increasing travel demand from people commuting for transport and recreation will put pressure on the network's ability to meet the needs of all users. Conflicts are a community concern at the Goodwill Bridge, underneath the Victoria Bridge and along the Riverside Promenade at South Bank. Growing demand has the potential to lead to increased user conflict if not well managed.

93 per cent of respondents thought it was important to have more dedicated off-road paths and bikeways for cyclists. 91 per cent of respondents thought better separation from vehicle traffic (for example, priority on roads and at intersections) was important in encouraging people to cycle more.

Responses:

- 8a** Investigate and deliver safe, high quality cycle infrastructure by continuing to review and complete the Principal Cycle Network in the study area, including:
- Missing links in the network
 - Improved cycle connection from Lower River Terrace from the V1 at Kangaroo Point to the Kangaroo Point Bikeway
 - A grade separated cycle connection integrated with the Cross River Rail Boggo Road station between the EcoSciences Precinct and the PA Hospital bikeway
 - Extending the Woolloongabba Bikeway along Stanley Street to Norman Creek and along Vulture Street to West End
 - Planning for connections to the proposed Kangaroo Point-CBD walking and cycling bridge.
- 8b** Incorporate technology at traffic signals along key cycle routes that better detects cyclists and/or provide the priority to cyclists to cross the road to improve the cycling experience at intersections.





Flexible networks

Local transport networks will need to continue to adapt to meet the changing demand from growing residential, business and visitor activity in Brisbane's inner south. It will not be possible to continually expand existing networks to meet increased demand.

The road and public transport networks will need to be carefully managed to optimise performance and prioritise 'preferred trips' while minimising adverse impacts on local communities.



Outcome 9: efficient and reliable networks

Road transport will continue to perform a critical function in moving people and goods within Brisbane's inner south. Reliability and efficiency of road operations can improve the travel time of people and goods and enhance liveability through improved access. However, building our way out of congestion is not a practical sustainable option.

Aim: to get the most out of the existing road network.

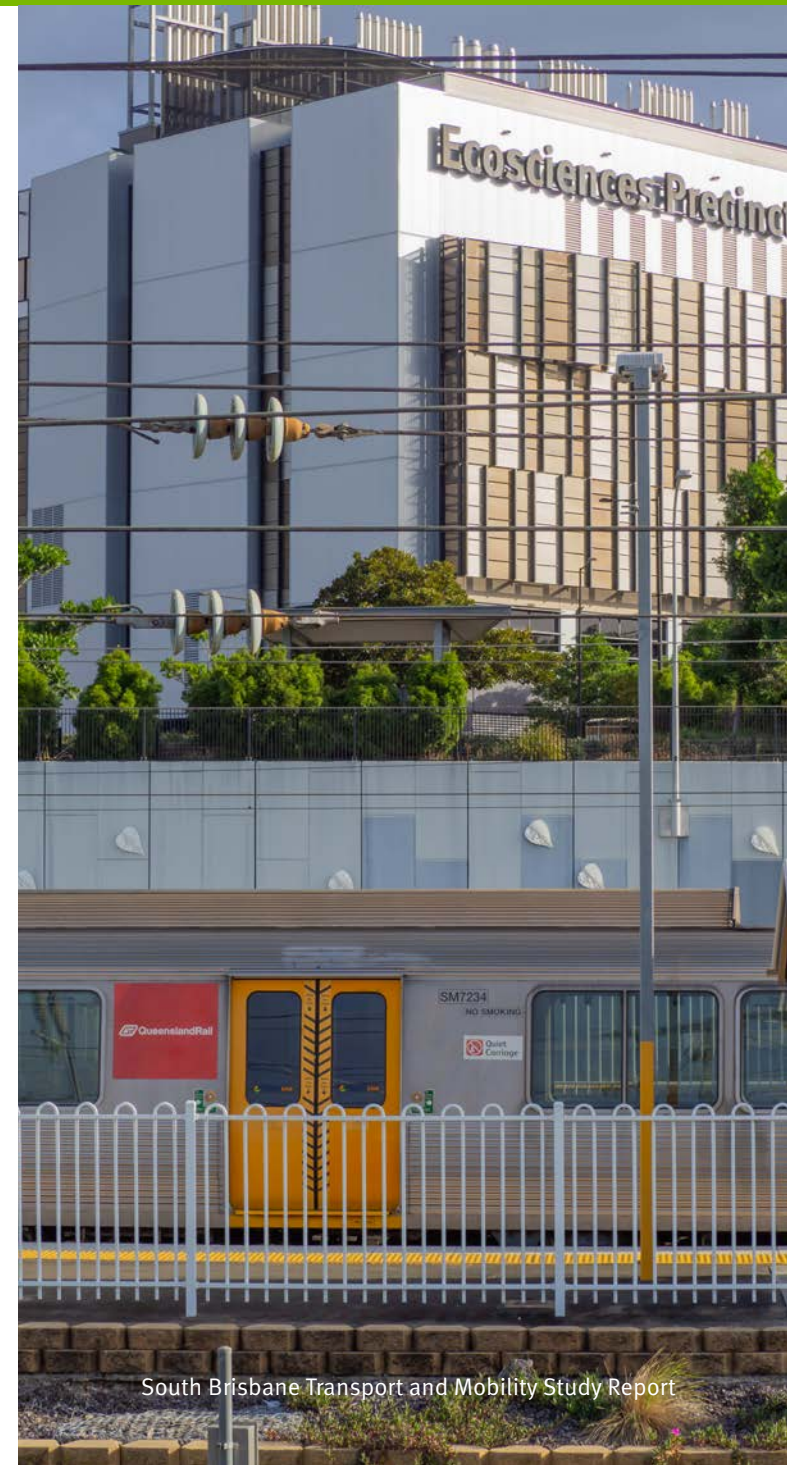
Optimising and balancing the space on the existing road network to prioritise the movement of space-efficient modes of travel, such as public transport and cycling, will get the most out of what is already in place. This may be achieved through demand management tools such intelligent transport systems, the development of network operation plans that encourages traffic use of the appropriate roads, and by providing bus priority on key corridors, for example along Montague Road.

When asked “what do you think is the biggest transport or mobility issue in the area”, the most popular response (25 per cent) was “Efficiency and reliability of the network and services”. With 71 per cent of survey respondents who drive in the area saying they regularly experience congestion.

Almost 80 per cent of survey respondents said they did not believe the current transport system in the area could support this future growth without further investment.

Responses:

- 9a** Continue to develop and implement transport management technologies and intelligent transport systems to enable dynamic, real-time management of the network to maintain reliable operations, reduce the impacts of incidents, events and prioritise the movement of public transport.
- 9b** Work collaboratively with BCC, industry and key stakeholders, such as the Cultural Precinct, South Bank Corporation and emergency services to develop coordinated servicing strategies and manage cumulative impacts of major construction activity.
- 9c** Refine existing Network Operating Plans to enhance emergency access to Queensland Children's Hospital, Mater Hospitals, and Princess Alexandra Hospital (PA Hospital).



Outcome 10: a network responsive to customer needs and attitudes

Brisbane's inner south is changing and so too are customer expectations and attitudes. The transport network must adapt to be responsive to diverse needs of the community.

Aim: to adapt the network as customer needs change.

As the surrounding land uses change, it is important the road environment evolves to support the needs of the community and businesses.

The transformation of Grey Street and Little Stanley Street to vibrant pedestrian-orientated streets that offer high quality public realm and encourage people to spend time is an example of a transport network adapting to changing customer needs.

Montague Road in West End has transformed over the past 10 years. This key road is providing the principal access to an area transitioning from industrial uses to intensive mixed land uses, including dense residential activity.

However, community consultation has highlighted that changes to the road environment have not kept up with the surrounding land use changes. The footpath environment, kerbside allocation, pedestrian crossings and intersection improvements need to match current and emerging demand.

The strong residential growth in the Brisbane's inner south will place additional pressure on the provision of both off-street and on-street parking supply. The role of parking in the transport network is relatively complex, presenting both opportunities and challenges. Parking can be important for access to homes, employment, education and key services, and is often used to access other modes of travel such as public transport.

However, on-street parking is often a significant cause of conflict for cyclists in areas where there is no off-road

cycle facility. Parked vehicles can reduce sight lines for pedestrians and vehicles and reduce opportunities for safe drop off and pick up of people and goods. The provision of parking will become a balancing act between reducing the economic costs associated with parking and conflicting needs of the community.

49 per cent of survey respondents stated that they were frustrated with people using their street for car parking and 68 per cent felt a review of on-street parking and loading bay arrangements was also important to enhancing safety. Stakeholder consultation suggested that the removal of on-street parking reflected the best use of road space – transport over parking – and would provide an opportunity to trial low-cost cycle projects to encourage greater use of active travel. Grey Street, Montague Road or Vulture Street were identified by the community as opportune areas for trials.



Responses:

- 10a** Work with key stakeholders to develop a precinct transport plan for the Mater Hill precinct, including the intersection of Vulture Street, Dock Street and Stanley Street to improve hospital access and increase safe movement for pedestrians and cyclists travelling through the precinct.
- 10b** Support South Bank Corporation to review the functionality of Grey Street and Little Stanley Street to deliver an enhanced pedestrian environment.
- 10c** Actively manage the increasing demand for on-street parking by:
- Reviewing the existing on-street parking locations and timeframes, balancing the needs of the local community. Outcomes may include peak period bike lanes, new and expanded disability parking, increased short-term parking, loading zones and pick up zones
 - Encouraging greater use of spare capacity in off-street parking to balance the benefits and impacts of parking on the local community
- 10d** Expand and optimise pick up/set down areas around key destinations to support access via on-demand services and for people with disabilities.
- 10e** Develop corridor plans for the following key roads to review functional requirements and identify improvements that balance the needs of local and through trips, particularly at:
- Montague Road
 - Stanley Street (east) between Vulture Street and Caswell Street
 - Vulture Street between Montague Road and Stanley Street (east)
 - Annerley Road between Ipswich Road and Stanley Street
 - Gladstone Road between Annerley Road and Vulture Street
 - River Terrace.



Mater Hill precinct

Why it is so important to get it right

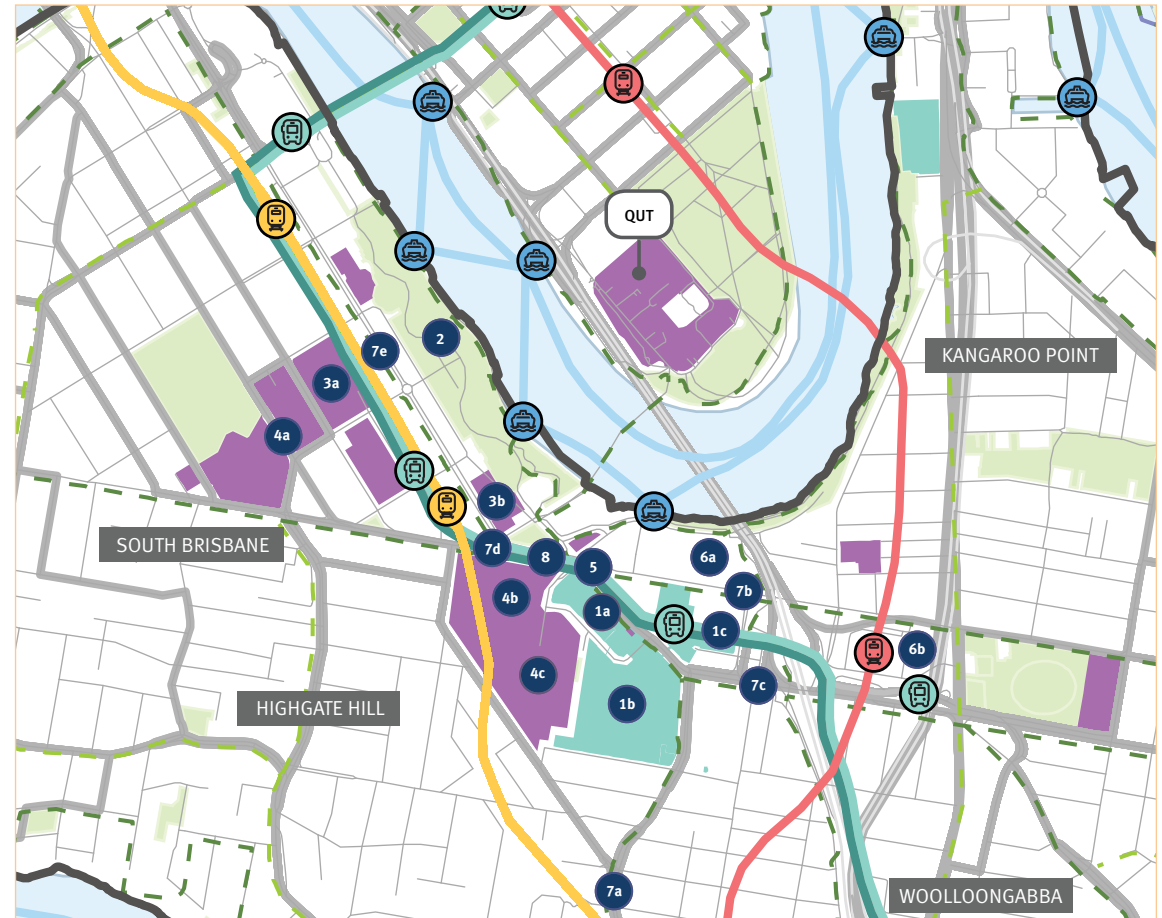
The Mater Hill precinct has a strong focus on health and knowledge. The major community facilities in the precinct include the Queensland Children’s Hospital, the Mater Hospital and Mater Private Hospital, schools, key transport hubs and South Bank. Each generates significant transport demands both for employees but also individuals seeking a range of community and medical services.

The major roads through the precinct also serve the broader study area – Annerley Road, Vulture Street, Stanley Street and the M3 Motorway. Congestion is a daily occurrence throughout the precinct, particularly in the afternoons when school and hospital staff finish times occur. This congestion also impacts M3 Motorway operations and the

local street functionality. During consultation, it was reported that this congestion causes difficulty for patients, staff and emergency services’ timely access hospitals, which is necessary to serve its essential community service 24/7 365 days a year.





Recent hospital and bikeway development has seen improvements in the quality of the streetscapes and public realm around the Queensland Children’s Hospital. However, the continued growth and development of the precinct will place significant additional demand on the existing transport network.




Developing and implementing a coordinated precinct transport plan focussing on safety and the efficient and reliable movement of people will help to make it safer for people to walk and cycle.





Legend

Public transport


-  Busway station
-  Busway (future Metro Line 1)
-  Busway (future Metro Line 2)
-  Bus routes

-  Rail station and route
-  Cross River Rail Station precinct and route
-  Ferry stop and route

Bicycle network

-  Primary cycle route
-  Secondary cycle route

Buildings

-  Education
-  Hospital
-  Recreation areas

Health Institutions

Staff and visitors have specialised transport interests, including safety and frequency of services for shift workers and challenges for hospital visitors and patients with mobility constraints.

The Mater Hill precinct is likely to see further development and intensity of development associated with the existing health and research land uses. This growth and development will place significant additional demand on the existing transport network.

In addition, the network will have to accommodate the new residential population as well as new workers to the area. The increased number of people may exacerbate the existing accessibility and permeability issues associated with major roads and public transport network which traverse the area.

Effective accessibility to and around the precinct is important to support emergency health facilities and services and the delivery of medical care for the community and visitors 24 hours a day, 365 days of the year.

- 1a. Queensland Children's Hospital
- 1b. Mater Hospital
- 1c. Mater Private Hospital.

South Bank and Cultural Precinct

Feature a diverse and frequent calendar of major events attracting large volumes of people. The precincts are currently experiencing, and will continue to experience, significant growth and change. This growth and change will place significant additional demand on the existing transport network in this location; active, public and road networks.

In addition, the network will have to accommodate the high number of tourists visiting the cultural attractions in the area. The growing numbers of customers may impact the effectiveness and comfort of mobility experienced in the area.

- 2. South Bank Parklands.

Tertiary Education

Future growth in student numbers is unknown, although public transport and mobile access for students is especially important as a cohort likely to embrace new and innovative initiatives.

- 3a. South Bank Institute of Technology
- 3b. Griffith University South Bank Campus.

Secondary Schools

Contribute to significant congestion on road and public transport networks either side of school hours. Stakeholder consultation also suggested that active transport use for students was low due to safety concerns and congestion related to school hours also impacted hospital operations and carpark utilisation for patients.

- 4a. Brisbane State High School
- 4b. Somerville House
- 4c. St Laurence's College.

Near Misses

Near-misses within the Mater Hill Precinct were identified during stakeholder consultation. Increasing congestions, competing modes and a diverse range of road users creates a significant potential for conflicts.

- 5. Stanley Street / Vulture Street / Dock Street / Graham Street intersection.

Growth in Residential Population

Growth in residential population with high density development accommodated in close proximity to the precinct will place additional demand on the existing network.

- 6a. Vulture Street / Lower River Terrace precinct
- 6b. Woolloongabba Priority Development Area.

Main Roads

The main roads through the precinct physically separate key generators and detract from the pedestrian and cyclist experience due to the high volumes of traffic and inconsistent streetscape and public realm quality, creating safety concerns. Congestion is a daily occurrence throughout the precinct, during peak periods and particularly in the afternoons when school and hospital staff finish times occur simultaneously.

The growth and development of the precinct will place significant additional demand on the existing transport network, potentially increasing congestion.

- 7a. Annerley Road
- 7b. Vulture Street
- 7c. Stanley Street including M3 on/off ramps
- 7d. Merivale and Cordelia Street Couplet
- 7e. Grey Street.

Pedestrian Desire Lines

Highly trafficked major roads intersect pedestrian desire lines between the residential areas, hospitals, schools and public transport stations and South Bank Parklands.

- 8. Pedestrian Desire Lines





Planning for tomorrow's networks

The way we travel is changing. The transport system is facing a period of significant transformation with new digital and transport technologies emerging at a rapid pace.



Megatrends

Digital technologies, such as smart phones, open data and the creation of mobile applications have made it easier to collect, analyse, and distribute transport information. These emerging technologies offer new opportunities to make it easier to get to your destinations by improving the efficiency of travel and total customer experience.

Brisbane's inner south is well placed to pilot and trial these new ways of travel due to its:

- proximity of key destinations
- mix of residents, commuters and visitors
- good public transport connections
- community's willingness to adopt new technologies.

By embracing the uptake and trial of new technology, the inner south will help establish SEQ as a 'smart region.'

In 2018, TMR worked closely with the Commonwealth Scientific and Industrial Research Organisation's (CSIRO) Data61 to understand and plan for the challenges, risks and opportunities that the future may hold for transport in Queensland. The five megatrends⁴ facing future forms of mobility are:

1 On the move:

Demand for transport has grown, with people travelling more and increasingly likely to consume goods and services purchased online.

2 Digital dividends:

Emerging technologies look to become increasingly capable, affordable and widespread. Automated vehicles, connected infrastructure, drones and big data analytics all have the potential to make the transport system more efficient, cheaper and more responsive to demand.

3 Virtually there:

Advances in technology are enabling more processes to be automated or completed online, transforming the way we work, shop and access services. This will impact how much, when and why people travel, and the infrastructure needed to support the transport task.

4 A lighter footprint:

Geopolitical pushes towards electric vehicles, shifts in consumer preferences and emerging shared mobility models offer significant opportunities to reduce the environmental and safety burden of transport.

5 Empowered consumers:

Transport users increasingly expect personalised, on-demand services that cater to their specific needs. The evolution of more individualised transport services could encourage new models of freight distribution and pay-as-you-go charging models for transport users.

4. *Time Travel: Megatrends and scenarios for Queensland Transport out to 2048*, CSIRO Data61, 2018.

Outcome 11: emerging transport modes and technology are embraced

The future will see more mobility services delivered to reflect customer preferences. The high uptake of ridesharing and micromobility (electric scooters, shared bikes and other vehicle types) within Brisbane's inner south indicates that many residents and visitors to the area are early adopters of new ways of travelling.

Aim: to facilitate future forms of mobility that support customer needs.

A shift in attitudes and values is changing the way transport businesses and providers operate. New transport services such as ridesharing and car sharing are examples of how consumer behaviour is changing in relation to transport. As consumer behaviour shifts, further innovations take place within the transport domain, such as adopting Mobility as a Service, will influence the demands placed on the transport network into the future. It is expected that transport will need to be both adaptive and responsive to individual needs as consumer expectations evolve.

Millennials and young consumers are the driving force behind the growth of the access or collaborative economy. This group are more willing to rent goods and services on demand rather than acquiring them permanently. Brisbane's inner south has a much higher proportion of this age group (15-44), which means it is likely to be at the forefront of changing consumer trends. As a result, delivery of future mobility will need to be flexible and responsive to changing consumer trends.

New modes of travel such as e-bikes or motorised scooters are becoming increasingly popular with a range of sharing schemes becoming available. With more than one million trips already taken on Lime scooters since their introduction to Brisbane in November 2018, these modes have the potential to move people out of cars for short distance, first mile and last mile trips by allowing people to travel faster than walking and cycling, even over difficult terrain.

The continued uptake of e-wheeling for short distance trips has the potential to free up road capacity for public transport or those who need to travel further. E-wheeling sharing at public transport interchanges has the potential to grow public transport use by better connecting people to the transit network.

While customers and markets ultimately determine if new technology is widely used, governments play a key role in enabling the use of new technology through regulation and collaboration with industry, research and the community.

Responses:

- 11a** Monitor the outcomes of national trials and research initiatives (such as iMOVE) to identify emerging solutions available to improve the safety and movement of vulnerable road users, including interactions with vehicles that could be piloted within the study area.
- 11b** Build the regulatory framework to support the uptake of alternative modes of transport, such as electric vehicles and bikes and e-wheeling (such as motorised scooters and bikes).
- 11c** Support and pilot the development of Mobility as a Service initiatives.
- 11d** Explore ways to support demand responsive transport and ridesharing options in the area particularly in providing the first mile/ last mile of travel for integrated public transport trips.

What is Mobility as a Service?



Future mobility is being driven by electrification of vehicles, big data, collaborative consumption of assets enabled by information platforms, automation and customer expectations. The consumer is at the centre of this future vision, rather than the producer/supplier. Customers will make travel choices based on factors that matter most to them – travel time, service frequency, cost, comfort or emissions.

Transport is becoming more personalised.

MaaS is a service model that enables customers to seamlessly plan, book and pay for journeys using multiple transport options via a single customer interface. It will also connect customers to facilities for walking and cycling, such as walking routes or bike hire schemes. At its most evolved, MaaS can also incorporate offering additional services like event tickets, accommodation, food deliveries and shopping.

MaaS schemes are currently being trialled around the world. These schemes integrate taxi, public transport, car services and bike sharing into a single monthly user access plan.

TMR are aiming to create a single integrated transport network that is accessible to everyone by:

- supporting establishment of a MaaS ecosystem
- rethinking mobility
- enabling and brokering services
- setting and monitoring performance.

Brisbane's inner south is considered a prime candidate for the piloting of a MaaS scheme in Queensland due to the area's concentration of public transport services, number of significant activity generators, and demographic profile of Brisbane's inner south with a community of proven early adopters of emerging technology.



Delivering outcomes

The South Brisbane Transport and Mobility Report outlines a vision to make sustainable travel choices easy, allowing the community and visitors to Brisbane’s inner south to move within and around with ease – even in the face of rapid growth and development that is earmarked for the area over the next 15 years.

The Queensland Government is already making progress in implementing some key responses, with more than 15 per cent of responses already being delivered or committed to. Building on this, the Queensland Government will:

- use the study to progress detailed planning of specific responses
- consider funding and delivery options and track our performance in delivering on the guiding principles of the study
- continue to engage with the community to confirm that our responses are meeting their needs.

The purpose of this study report is to guide the development of Brisbane’s inner south transport network over the next 15 years in a fast-changing environment. The guiding principles underpinning the study report reflect short-term goals that will deliver a long-term change.

The study report and responses will need to adapt to our changing environment, changing technology and changing customer needs. We have already seen major technological developments and new ways of travelling in recent years. The increase in the ability to share information, new payment methods, new modes of travel and the ease of accessing internet on-the-go have already changed customer’s interactions with the transport system. This trend is expected to continue, and the Queensland Government wants to be ready to harness the opportunities created by technology – not to pre-empt future developments.

Delivering change: a one network approach

The study report identifies several strategic responses. How these are incorporated into transport planning is not yet determined as their delivery is subject to detailed planning, business case processes, funding availability, the developing network and changing customer needs.

Notwithstanding jurisdictional responsibilities across the state and local road network, public transport services and facilities, effective delivery of study outcomes will rely on coordination, cooperation and partnerships with the Queensland Government and BCC.

