



# Connecting SEQ 2031

An Integrated Regional Transport Plan for South East Queensland

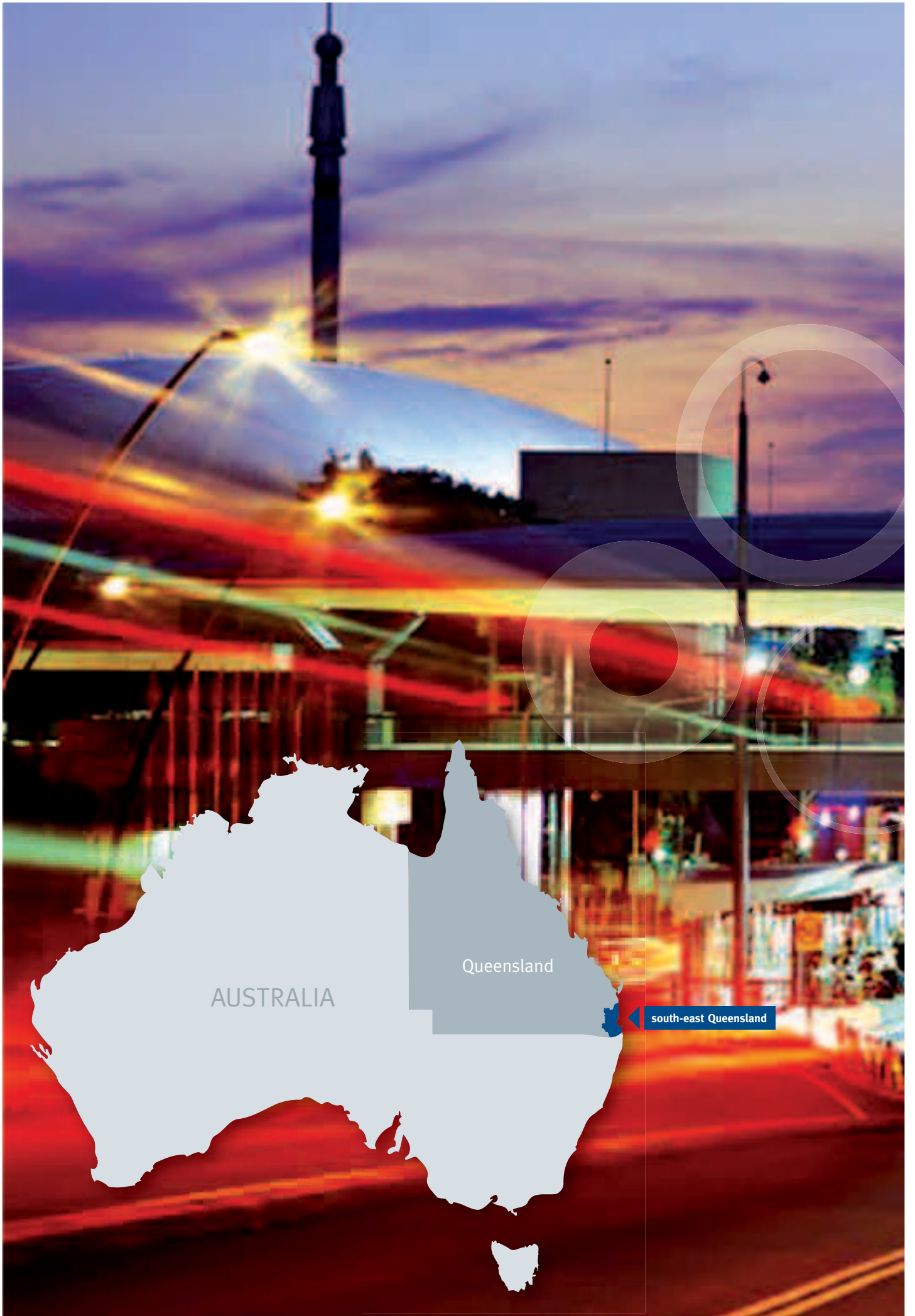


Tomorrow's Queensland:  
strong, green, smart, healthy and fair

**Toward**   
Tomorrow's Queensland



**Queensland**  
Government



AUSTRALIA

Queensland

◀ south-east Queensland

# Foreword

## Vision for a sustainable transport system

As south-east Queensland's population continues to grow, we need a transport system that will foster our economic prosperity, sustainability and quality of life into the future.

It is clear that road traffic cannot continue to grow at current rates without significant environmental and economic impacts on our communities.

*Connecting SEQ 2031 – An Integrated Regional Transport Plan for South East Queensland* is the Queensland Government's vision for meeting the transport challenge over the next 20 years. Its purpose is to provide a coherent guide to all levels of government in making transport policy and investment decisions.

Land use planning and transport planning go hand in hand, so *Connecting SEQ 2031* is designed to work in partnership with the *South East Queensland Regional Plan 2009–2031* and the Queensland Government's new *Queensland Infrastructure Plan*.

By planning for and managing growth within the existing urban footprint, we can create higher density communities and move people around more easily – whether by car, bus, train, ferry or by walking and cycling. To achieve this, our travel patterns need to fundamentally change by:

- doubling the share of active transport (such as walking and cycling) from 10% to 20% of all trips
- doubling the share of public transport from 7% to 14% of all trips
- reducing the share of trips taken in private motor vehicles from 83% to 66%.

These targets are ambitious, but will be met if the average south-east Queenslander changes just three of their 17 weekday trips each week from car to public or active transport.

The community has already shown support for the goals in *Connecting SEQ 2031*, with the feedback received during three months of public consultation on the draft plan in late 2010, endorsing its direction.

Rail remains the backbone of the future transport network, with its ability to efficiently move large numbers of people. The rail network will be expanded with new rail lines, including Cross River Rail and extensions to north-west Brisbane, Kippa-Ring, Maroochydore, Redbank Plains, Ripley, Flagstone and Gold Coast Airport.

In the interim, other initiatives have been proposed to improve the rail network's capacity, such as high frequency services over extended peak periods, and improved signalling and timetabling.

The bus network will continue to provide crucial urban links and complement the rail network, with more bus priority on major roads.

Walking and cycling will also be critical in reducing the number of car trips, and *Connecting SEQ 2031* identifies the improvements needed to make active transport an appealing and safe alternative.

Roads will continue to play a major role in moving traffic, freight, buses and cyclists. A key element of *Connecting SEQ 2031* is to create a better functioning hierarchy of roads.

New and upgraded intermodal freight terminals are proposed to accommodate future growth in freight in the region, as well as encourage more freight to be transported by rail.

*Connecting SEQ 2031* is the most comprehensive and far-reaching transport document produced by the Queensland Government in more than a decade. It has been developed with input from local councils, key stakeholders and the broader community, and draws on the best available Australian and international research. It is planned to be updated every five years, in conjunction with reviews to the SEQ Regional Plan.

*Connecting SEQ 2031* is not intended to be backed by full government funding. It is a vision to inspire action, prioritise investment and guard against complacency. The projects and actions contained in the plan will be used to assess funding needs, develop proposals for private sector interest and underpin bids for funding from all levels of government.

We look forward to governments, stakeholders and the community working together to implement this plan and transform the way we move around our region over the next 20 years.



The Honourable Anna Bligh, MP  
Premier and Minister for  
Reconstruction



The Honourable Anastacia Palaszczuk, MP  
Minister for Transport and Multicultural Affairs

# Table of contents

<b>Executive summary</b>	<b>3</b>	<b>7. Active transport network</b>	<b>72</b>
<b>Part A – Setting the scene</b>	<b>10</b>	Overarching principles	73
<b>1. About <i>Connecting SEQ 2031</i></b>	<b>11</b>	Supporting principles	76
<b>2. Transport challenges facing the region</b>	<b>16</b>	<b>8. Freight network</b>	<b>80</b>
<b>3. An overview of our plan for the future</b>	<b>21</b>	Overarching principles	84
Our key transport policy goals	21	Supporting principles	86
Our strategy for the future	22	2031 strategic freight network	87
Targeting success	24	<b>Part D – What it means for your community</b>	<b>89</b>
<b>Part B – Priorities for taking action</b>	<b>26</b>	<b>9. 2031 transport networks for the region's cities</b>	<b>90</b>
<b>4. Six priorities for action</b>	<b>27</b>	Brisbane City Council	91
❶ Creating compact and connected communities	28	Ipswich City Council	100
❷ Changing travel behaviour	33	Moreton Bay Regional Council	105
❸ Improving transport system efficiency and safety	37	Logan City Council	110
❹ Supporting economic vitality	40	Redland City Council	115
❺ Protecting environmental quality and health	43	Gold Coast City Council	120
❻ Delivering an integrated transport network	46	Sunshine Coast Regional Council	126
<b>Part C – Detailed network strategies for 2031</b>	<b>48</b>	<b>10. Rural communities</b>	<b>132</b>
<b>5. Public transport network</b>	<b>49</b>	Somerset Regional Council	133
Overarching principles	51	Lockyer Valley Regional Council	134
Supporting principles	52	Scenic Rim Regional Council	135
Rail revolution	54	<b>Part E – Putting the plan into action</b>	<b>137</b>
2031 bus networks and services	59	<b>11. Implementing <i>Connecting SEQ 2031</i></b>	<b>138</b>
Flexible public transport	63	Cost estimates for <i>Connecting SEQ 2031</i>	138
<b>6. Strategic road network</b>	<b>64</b>	Deciding investment priorities	139
Overarching principles	65	Reviewing and monitoring the plan	139
Supporting principles	66	<b>Glossary</b>	<b>141</b>
Initiatives to support strategic road network development	69		
2031 strategic motorway network	70		

# Executive summary

South-east Queensland is one of Australia's most desirable places to live and establish a business, and as such will continue to grow rapidly.

Our region's population is expected to grow from 2.7 million in 2006 to more than 4.2 million in 2031.

Providing for this growth while protecting our environment, lifestyle and safeguarding our future will mean a major change to the way we plan our cities, and to the way people and goods are moved.

## The challenges

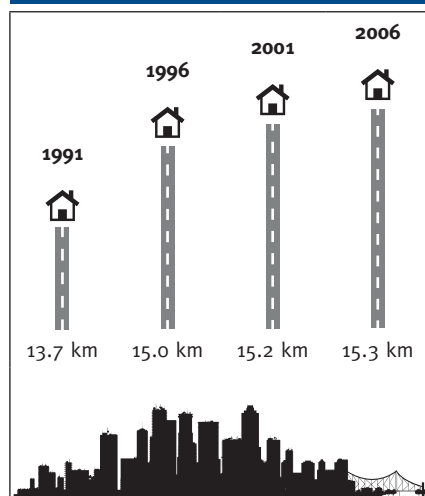
We can no longer plan our cities around cars and traffic growth. We need new policies to help develop cities so public transport, walking and cycling are more viable and attractive options.

Forecast population growth means the transport task will increase from just over 9 million trips a day in 2006 to about 15 million trips a day by 2031. Most trips are also getting longer due to the increasing size of our cities.

Tomorrow's transport system will need to support this growth to:

- enable the movement of goods and materials
- get people to and from work
- provide access to services and recreation.

### Average commute distance (region)



Source: Journey to work – ABS Census 1991–2006

## Compact and connected communities

The *South East Queensland Regional Plan 2009–2031* sets the region on a course towards more compact, better mixed urban development that supports public transport, walking and cycling.

*Connecting SEQ 2031* has been developed as the guiding transport planning and policy document to support the desired regional outcomes of the SEQ Regional Plan. In doing so, the plan adopts an integrated approach that considers land use planning and the various modes of the land transport system that move people and goods.

*Connecting SEQ 2031* identifies public transport hubs in selected centres throughout the region. These hubs support the regional land use pattern and planning framework established by the SEQ Regional Plan. They will best benefit from transport investment and land use change to support the achievement of the policy intent of the SEQ Regional Plan and *Connecting SEQ 2031*.

Instead of sprawling communities with dispersed services, the region's cities can develop around these hubs, as a community of multiple centres connected by corridors served by high frequency public transport services.

The services on these corridors will be frequent and run all day (6 am–9 pm), so passengers can just 'turn up and go'.

And alongside these public transport corridors, 'priority transit corridors' will allow for medium density (low rise) residential and mixed use development. A resident living in a 'priority transit corridor' would be able to easily walk to a local centre or employment, as well as accessing high frequency public transport to other centres.

This all leads towards a vision of an 'urban village' lifestyle in our cities, so people do not need to rely on cars to move around their community. These are '15-minute walkable neighbourhoods' where residential communities are centred on a range of local community services, shops, recreation and public transport services.

## Queensland Growth Management Summit outcomes

The Queensland Government held the Queensland Growth Management Summit in March 2010 and published its response in May 2010. The growth summit outcomes included policies to encourage growth in regional Queensland, which will reduce pressure on the south-east Queensland transport system.

Other growth management outcomes reflected in *Connecting SEQ 2031* include:

- setting ambitious targets for a swing to public and active transport
- supporting 'decentralisation' of jobs to centres outside the Brisbane CBD
- timely provision of infrastructure for new growth areas
- supporting considerable infill development oriented around public transport corridors.

### What is a sustainable transport system?

A sustainable transport system is resilient and capable of being continued over the longer term with minimal effect on the environment. It will:

- meet the access and equity needs of individuals, businesses and the community
- be cost effective to construct, operate and maintain
- offer choice, convenience and support economic activity
- reduce pollution and waste
- limit consumption of resources to sustainable levels.





## Our outcomes

*Connecting SEQ 2031* is the Queensland Government's proposed long-term transport plan to develop a sustainable transport system in south-east Queensland.

### A vision for sustainable transport

The vision of *Connecting SEQ 2031* is:

'South-east Queensland's transport system supports the lifestyle enjoyed by residents and visitors, enhances the state's economic vitality, is resilient and protects the natural environment.'

Achieving this transport vision would mean:

- Residents in urban communities would have easy access to jobs, shops, recreation and lifestyle opportunities, with a range of travel choices available for the majority of trips.
- Freight, business and commercial traffic would enjoy reliable travel times, with reliable access to key destinations within the region and quality links to other places outside the region.
- Rural communities would have safe access to local services and other parts of the region. Though private transport would still meet the majority of rural transport needs, options would be available for those who do not own a car or are unable to drive.

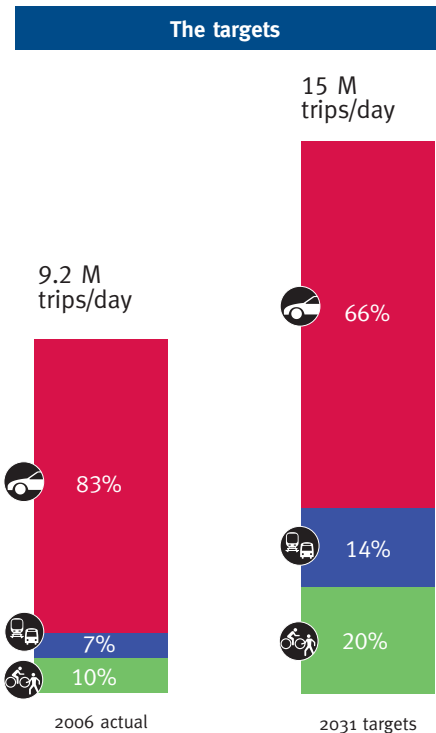
## Targets

As recommended by key initiative 2.1 in the government's response to the Queensland Growth Management Summit, *Connecting SEQ 2031* establishes ambitious targets to change the way the region moves during the next 20 years by:

- increasing the mode share of active transport from 10% of all trips in the region in 2006, to 20% by 2031
- increasing the mode share of public transport from 7% in 2006, to 14% in 2031
- reducing the mode share of private motor cars by about one fifth. This would mean the share of trips taken by private motor vehicles would decline from 83% in 2006 to 66% in 2031.

This may sound like a big task, but it can be achieved if the average south-east Queenslanders changes just three of their 17 weekday trips per week from car to public transport, cycling or walking.

*Connecting SEQ 2031* also establishes targets to reduce the very high proportion of students who are driven to school.



### Average composition of 17 weekday trips per person, south-east Queensland



To achieve the targets, the weekly travel patterns of the average south-east Queensland resident would need to change only incrementally.

## Connecting SEQ 2031 – indicative 2031 passenger rail network concept

### Rail revolution

*Connecting SEQ 2031* outlines the plan for a 'rail revolution'; a complete overhaul of the rail system to provide a modern, high capacity network that will mean, for most passengers, rail transport will be quicker and more reliable than driving a car.

New rail lines are included in the plan – expanding the reach of the rail network to more communities across the region.

### Rail network optimisation

A key component of the 'rail revolution' is to optimise the use of existing rail infrastructure before Cross River Rail is delivered, and support the future transformation of rail services after Cross River Rail is in place. This will include improved timetabling, signalling upgrades and new generation rollingstock.

### Cross River Rail

Cross River Rail is a proposed new north-south rail line in Brisbane's inner city, including a new tunnel under the Brisbane River and four new underground inner city stations. This will mean more frequent trains and better services for all of south-east Queensland's rail passengers.

Cross River Rail will allow a transformation of the way rail services operate in south-east Queensland.

### Rail network sectorisation

Enabled by Cross River Rail, the plan proposes to sectorise the rail network:

- **UrbanLink** – high frequency 'turn up and go', all stops services on the inner network
- **ExpressLink** – all day (6 am–9 pm) express services connecting outer Brisbane suburbs to destinations across the region
- **CoastLink** – express services from the Gold Coast and Sunshine Coast to Brisbane in about an hour.

There could also be all stops UrbanLink services on the Gold Coast and Sunshine Coast to cater for local travel in these growing cities.

### New types of rail services

#### Light rail on the Gold Coast

Light rail will provide high frequency services to transform the busy coastal movement corridor on the Gold Coast. Construction of light rail from the Gold Coast Health and Knowledge Precinct to Broadbeach is well under way, with completion scheduled for 2014.



*Connecting SEQ 2031* envisages light rail extending to Coolangatta, with a connection to regional rail services at Helensvale.

### Brisbane subway

With an extra 100 000 people forecast to live in inner Brisbane (CBD, Spring Hill, Milton, South Brisbane and Fortitude Valley) and employment numbers doubling by 2031, there will be about 2.4 million trips a day in the inner city (up from one million in 2006).

To help distribute these trips across the vibrant inner city core, an entirely new and separate Brisbane subway is proposed. The London Underground and New York city subway are well-known examples of this style of rail operation.

### Signature projects – rail revolution

#### Rail network optimisation

A package of initiatives to enhance the capacity and safety of the rail network.

#### Cross River Rail (planning near completion)

A new north-south rail line and stations in inner city Brisbane.

#### Rail network sectorisation

A major revamp of how services operate on the region's rail network.

#### Gold Coast light rail

Light rail from Helensvale to Coolangatta.

#### Brisbane subway

A high capacity, high frequency distributor system connecting central Brisbane.

#### North-west rail line

A new rail line from Cross River Rail to join the North Coast Line at Strathpine.

## Continuing to transform bus services

Buses will be crucial to achieving the target of doubling the share of trips on public transport from 7% in 2006 to 14% by 2031, and will carry more than half the two million daily passengers needed to meet the 2031 target.

### UrbanLink bus network

*Connecting SEQ 2031* identifies high frequency UrbanLink bus services on strategic corridors across the region as a key part of improving bus travel. The 'turn up and go' UrbanLink bus network will provide:

- service frequencies of 15 minutes or better off-peak, 10 minutes or better during the peak period
- high frequency, all day (6 am–9 pm), seven days per week
- quality shelters and information
- simplified high frequency network map with no need for a timetable
- a doubling of the proportion of residents within walking distance of 'turn up and go' services by 2031.

### Brisbane busway network

Significant sections of the busway network are now complete and have proven highly successful. The number of bus passengers has increased steadily since the opening of the South East Busway in 2001. The Northern Busway is planned to extend to Bracken Ridge and the Eastern Busway to Capalaba, with interim on-road bus priority treatments likely to be used beyond Chermside and Carindale.

### TransitWays

TransitWays are the next step toward a more sustainable, efficient public transport system, delivering on-road priority for multi-occupant vehicles, especially buses.

There are a suite of TransitWay treatments that can be delivered with a range of priority levels depending on the level of road congestion, number of buses and environmental and urban constraints. TransitWay projects will be rolled out across the region to support UrbanLink bus routes.

### 'Green links'

There will also be a focus on 'green links' to provide dedicated links for buses and active transport to overcome local access barriers. These could comprise:

- short sections of busway into major centres
- bridges for buses and active transport
- short cuts and bus gates.

## Connecting SEQ 2031 – indicative 2031 UrbanLink bus network concept



### Signature projects – bus

#### Eastern and Northern Busways

Extend the Northern Busway to Bracken Ridge and the Eastern Busway to Capalaba, with interim on-road bus priority treatments likely to be used beyond Chermside and Carindale.

#### UrbanLink bus services

High frequency 'turn up and go' UrbanLink bus services. Progressively redesign the bus network to provide effective feeder services to UrbanLink bus corridors.

#### TransitWay network

A network of on-road bus priority corridors to support UrbanLink and local bus services.

#### CoastConnect

A high frequency bus service with priority from Maroochydore to Caloundra via Mooloolaba and Kawana Town Centre.



## Roads

*Connecting SEQ 2031* sets a target to reduce the share of trips by private car from 83% in 2006 to 66% by 2031, with a major shift to sustainable transport modes (public transport, cycling and walking). In 2031, this will mean about nine million private and small commercial vehicle trips, more than 600 000 heavy commercial vehicle trips, and more than one million bus passenger trips on the region's road network each day.

Overall, private and small commercial vehicle trips on the road system would grow by 19%, or about 2.8 million trips per day, between 2006 and 2031. On trend, if the targets for more sustainable transport were not achieved, the number of daily road trips would increase to almost 12 million.

Even the reduced target of 19% growth is significant and is unable to be accommodated by the current road system. Further development of the region's strategic road network will be necessary to move essential traffic, avoid major congestion, and connect new communities and employment centres to the rest of the region.

New links will complete an orbital motorway network, and new multi-modal arterial roads will ensure accessibility for local traffic within new communities.

*Connecting SEQ 2031* creates a functional hierarchy of roads to ensure heavy traffic uses a connected network of motorways and highways, and trucks do not have to unnecessarily use suburban roads. This hierarchy includes:

- motorways and highways to move large volumes of traffic over longer distances between communities
- multi-modal urban arterial roads to provide connections for all types of transport within communities
- bypass and ring roads to remove through traffic from urban centres
- community boulevards to provide a high standard of amenity and local access to activity and town centres.

### Signature projects – road

#### Connected and managed motorways

Complete a series of projects to connect all parts of the motorway network.

Use technology to optimise performance and maximise capacity of the motorway network.

### Connecting SEQ 2031 – 2031 strategic motorway network



## Freight

Freight volumes are increasing much faster than population due to economic development, increasing levels of consumption and reliance on imported goods.

*Connecting SEQ 2031* establishes a program of action to develop a strategic freight network that supports 24-hour freight operations for the region where appropriate, and

### Signature projects – freight

#### Freight terminal strategy

Plan and facilitate development of new freight terminals at strategic locations, including Bromelton, and a new site north of the Brisbane River.

supports national priorities for moving freight, including competitive international gateways and developing our rail networks so more freight can be moved by rail.

## Active transport

*Connecting SEQ 2031* seeks to double the share of trips by active transport from 10% in 2006 to 20% by 2031. This could be achieved if the average south-east Queenslander changed just one to two of their 17 weekday trips each week from car to walking and cycling.

The most important priority for government is to provide a connected active transport network, focusing on those areas and connections that will best serve to get more people walking and cycling, more often. This includes active transport connections within and between activity centres.

The *South East Queensland Principal Cycle Network Plan* was released in 2007 and provides a master plan for the region's principal cycling routes to support local cycle networks. The *Queensland Infrastructure Plan* has a \$500 million allocation for cycling infrastructure. *Connecting SEQ 2031* seeks to target investment of these funds in priority connections between activity centres, and connecting people living within five kilometres of an activity centre by safe, direct active transport routes.

### End-of-trip facilities

Providing facilities like secure bicycle storage at public transport stations, workplaces and activity centres can encourage more people to walk and cycle. Policies and town plans will ensure end-of-trip facilities, including bicycle storage, lockers and showers, are included in major new buildings.



## Implementing *Connecting SEQ 2031*

*Connecting SEQ 2031* is an aspirational plan that promotes a generational change towards a sustainable transport system in our fast growing region.

It is not intended to be backed by full government funding. Many of the projects proposed are new and conceptual and have not been the subject of detailed cost estimates.

Business cases examining project need, scope, priority, affordability, funding options, timing and contribution to achievement of SEQ Regional Plan objectives will be developed for each project. These will be considered in decision-making processes about funding and timing of projects.

The estimated capital component for new and enhanced infrastructure is about \$125 billion. This estimate is based on 'pre-project' estimates across 20 years from July 2011 to June 2031. The Queensland Government alone will not be able to meet the funding task during the next 20 years.

Given the scale of funding required, the projects are dependent on significant Australian Government and local government support, with any contributions from the state being subject to fiscal capacity. *Connecting SEQ 2031* provides a planning framework that can be used to underpin bids for funding at all three levels of government.

*Connecting SEQ 2031* will inform investment of available funds to deliver maximum benefits across the transport system. *Connecting SEQ 2031* will inform the annual revisions of the *Queensland Infrastructure Plan*, specifically to ensure that the strategic intent of *Connecting SEQ 2031* is actioned.

### Signature projects – active transport

#### Complete 5

Prioritise completion of the active transport network within a five kilometre catchment of activity centres.

#### Connect To

Connect To will focus on providing safe and convenient pedestrian and cycle access to major public transport stations and stops, supported by holistic journey planning that incorporates walking and cycling routes.

#### Educated Ways

Educated Ways will focus on walking and cycling routes to schools and universities, in conjunction with school travel plans and other supporting strategies.

#### Priority principal cycle routes

Continue to develop priority principal cycle routes and active transport routes between activity centres.

## TravelSmart

The Queensland Government is investing heavily in new transport infrastructure, but it is not possible to build our way out of congestion. Part of the strategy to ease congestion is to use existing services and assets more efficiently.

*Connecting SEQ 2031* includes the TravelSmart program working directly with communities to increase the use of sustainable modes of transport.

TravelSmart projects target households, schools and workplaces, and provide information about local travel options to promote public transport, walking, cycling and carpooling. TravelSmart encourages people to think more about how their travel choices impact on their local community and environment.

A TravelSmart project completed in Brisbane's north in 2007 targeted about 75 000 households and achieved a 13% reduction in vehicle kilometres travelled, proving how individuals acting together can ease the burden on the transport system. This project achieved more sustainable transport in the study area by:

- increasing walking by 49%
- increasing cycling by 58%
- increasing public transport by 22%.

Based on the success of the Brisbane North project, the Queensland Government allocated \$22.6 million to deliver the TravelSmart Communities program to 324 000 households throughout Brisbane City, Sunshine Coast/Caboolture and the Gold Coast to 2012.

### Did you know?

It is easy to achieve the recommended 30 minutes of physical activity each day by using active transport for short trips.



## How *Connecting SEQ 2031* is structured

### Part A – Setting the scene

- About *Connecting SEQ 2031*
- Transport challenges facing the region
- Our plan for the future
  - a vision for sustainable transport
  - transport policy goals
  - our strategy for the future
  - targeting success

### Part B – Priorities for taking action

1. Creating compact and connected communities
2. Changing travel behaviour
3. Improving transport system efficiency and safety
4. Supporting economic vitality
5. Protecting environmental quality and health
6. Delivering an integrated transport network

### Part C – Detailed network strategies for 2031

- Public transport network
- Strategic road network
- Active transport network
- Freight network

### Part D – What it means for your community

- 2031 transport networks for the region's cities
  - Brisbane
  - Ipswich
  - Moreton Bay
  - Logan
  - Redland
  - Gold Coast
  - Sunshine Coast
- Rural communities
  - Somerset, Lockyer Valley and Scenic Rim

### Part E – Putting the plan into action

- Implementing *Connecting SEQ 2031*
  - Cost estimates
  - Deciding investment priorities
  - Reviewing and monitoring the plan

## Base and forecasting years used in *Connecting SEQ 2031*

There are no standard base and forecasting years adopted for transport planning in Australia. The *South East Queensland Regional Plan 2009–2031* uses 2031 as a forecast year. *Connecting SEQ 2031* uses the population projections and dwelling targets of the *South East Queensland Regional Plan 2009–2031* to ensure consistency across these strategic planning documents.

The computer transport models used by the Department of Transport and Main Roads require very detailed inputs, which rely on the latest available census data. At the time that *Connecting SEQ 2031* was prepared, the last census was conducted in June 2006, and this is therefore adopted as the base year in the transport models. Therefore, most of the base and forecast data quoted in *Connecting SEQ 2031* relates to the period between 2006 and 2031.

The Department of Transport and Main Roads also gathers travel data on a regular basis through its Household Travel Surveys. In some cases, travel data gathered after 2006 is quoted in *Connecting SEQ 2031*. There have also been a number of other documents used as references which use a different forecast year to 2031.

# Part A – Setting the scene

# 1. About *Connecting SEQ 2031*

*Connecting SEQ 2031* establishes a long-term plan to develop a sustainable transport system in south-east Queensland<sup>1</sup>. The plan adopts an integrated approach that considers land use planning and the various modes of transport.

*Connecting SEQ 2031* has been developed as the guiding transport planning and policy document to support the desired regional outcomes of the *South East Queensland Regional Plan 2009–2031*.

*Connecting SEQ 2031* reinforces the SEQ Regional Plan's planning framework by seeking to optimise the location of activities in relation to the transport network, in particular identifying:

- optimal areas to locate employment in terms of transport accessibility
- centres and corridors where a good standard of public transport service will maximise the opportunities for higher density residential and office development.

*Connecting SEQ 2031* includes a multi-modal plan and policy response for public transport, active transport, private vehicles and freight. This plan will guide the prioritisation of available funds to deliver maximum benefits across the transport system.

*Connecting SEQ 2031* will inform the annual revisions of the *Queensland Infrastructure Plan*, which was released in 2011 to replace the *South East Queensland Infrastructure Plan and Program 2010–2031*.

The *Queensland Infrastructure Plan* will give momentum to transport infrastructure delivery across Queensland, including south-east Queensland, in the context of state-wide funding contestability spanning geographical and sectoral boundaries.

*Connecting SEQ 2031* will inform other state and local government planning schemes and transport plans.

It will also support state-wide outcomes and policies established in the Queensland Government's *Toward Q2: Tomorrow's Queensland* and *ClimateQ: toward a greener Queensland*<sup>2</sup>.

Specifically, it will support the achievement of key targets in *Toward Q2* that focus on:

- providing essential transport infrastructure to make Queensland the strongest economy in Australia
- making Queensland greener by cutting car use to reduce greenhouse emissions
- making Queenslanders healthier by reducing obesity<sup>3</sup>.

*Connecting SEQ 2031* supports the principles and opportunities identified in the *Queensland Regionalisation Strategy*. The proposed 2031 transport system will support economic activity and growth in the region, including in areas of state and national significance. In the longer term, growth in other regions of Queensland will help to reduce pressure on the south-east Queensland transport system.

The integrated approach of *Connecting SEQ 2031* is also intended to ensure the region's capital city, Brisbane, is aligned with the Council of Australian Governments' national criteria for capital city strategic planning.

## What is a sustainable transport system?

Many cities across the world are facing challenges from unsustainable travel patterns. These include growing traffic congestion, overcrowding on public transport, pollution, increasing dependence on oil based fuels and ageing transport infrastructure. This has impacts on quality of life, community health and economic vitality.

A sustainable transport system is resilient and capable of continuing to operate over the longer term with minimal effect on the environment. To be sustainable, a transport system must:

- meet the access and equity needs of individuals, businesses and the community
- be cost effective to construct, operate and maintain
- offer choice, convenience and support economic activity
- reduce pollution and waste
- limit consumption of resources to sustainable levels<sup>4</sup>.

Evidence of a sustainable transport system would be seen through:

- managed levels of congestion and system crowding
- reducing levels of pollution, carbon emissions and other environmental impacts
- resilience in the face of climate change impacts
- cost effective infrastructure and operating costs.



1 For the purposes of *Connecting SEQ 2031*, south-east Queensland covers the local government areas of Brisbane City Council, Moreton Bay Regional Council, Ipswich City Council, Logan City Council, Redland City Council, Gold Coast City Council, Sunshine Coast Regional Council, Scenic Rim Regional Council, Somerset Regional Council, and Lockyer Valley Regional Council, but excludes Toowoomba Regional Council, which will be included in transport planning for the Eastern Darling Downs region. While Toowoomba is not directly included, *Connecting SEQ 2031* does consider strategic transport links to Toowoomba city.

2 Queensland Government 2009 *ClimateQ: toward a greener Queensland*

3 Queensland Government 2008 *Toward Q2: Tomorrow's Queensland*

4 MVA 2005 *World Cities Research: Summary Report*.

# Major transport network enhancements since 1997

The previous *Integrated Regional Transport Plan* for south-east Queensland was released in 1997. This plan established a strong platform for a shift to more sustainable transport options and a move away from the car-dominated transport planning culture that had prevailed since the 1960s. Many improvements have been made to the transport system since 1997 – some of these major highlights are provided below.



## Public transport

### TransLink Transit Authority

TransLink was established in 2004 and has provided a platform for the integration of the public transport system.

Since TransLink was formed in 2004, patronage on public transport has increased by 45% – from 120 million annual boardings in 2003–04 to about 175 million annual boardings in 2009–10.

Some of TransLink's key initiatives include:

- establishing integrated fares and ticketing for the whole region, including introduction of the *go* card
- enhancing passenger information with 'stop-specific' timetables posted at more than 70% of bus stops
- continuing support of combined entry and public transport tickets to events at The Gabba (Woolloongabba), Suncorp Stadium (Milton) and Skilled Park Stadium (Robina). TransLink carried almost 2.5 million people to events in 2008–09.

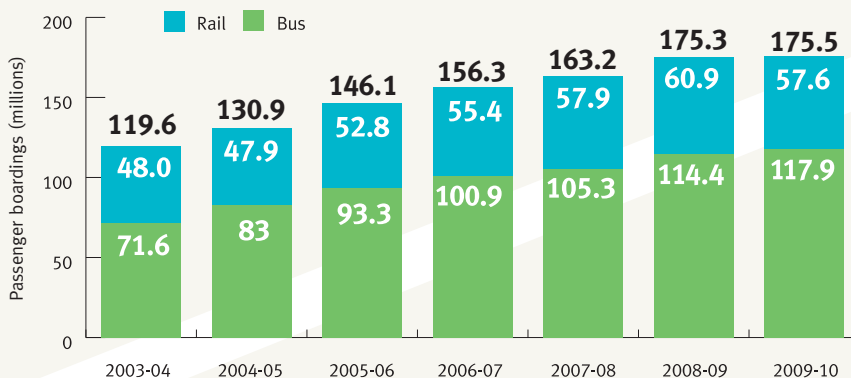
### Improvements to public transport services

There have been significant changes to the public transport system since 1997, including the following operational and service improvements:

- extension and upgrade of the rail network
- purchase of additional rollingstock for the rail network, from 113 (three car equivalent) in 1997 to a committed 211 (three car equivalent) by 2012
- delivery of the South East Busway and expansion of the busway network to include the Inner Northern, Northern and Boggo Road Busways
- roll-out of Bus Upgrade Zone (BUZ) services, providing frequent, all day services on key routes (in partnership with Brisbane City Council)
- upgrading bus and rail stations, including widespread roll-out of new bus shelters and expansion of park 'n' ride facilities

- introducing NightLink services between 1 am and 5 am from Brisbane CBD and Fortitude Valley on Friday and Saturday nights
- introducing NightLink services on the Gold Coast
- upgrading the standard of the bus fleet, with nearly 50% of the fleet now wheelchair accessible and significant improvements in disability access compliance for new and existing trains
- introducing a transport levy as part of local government rates (Gold Coast City Council, Sunshine Coast Regional Council) to fund improvements to the transport network, particularly public transport, cycling and walking
- commencement of construction for stage 1 of the Gold Coast light rail system (from Gold Coast Health and Knowledge Precinct to Broadbeach), with the preferred proponent to operate the light rail system announced in May 2011.

Figure 1.1 – annual public transport passengers 2003–04 to 2009–10



Source: TransLink Transit Authority public transport patronage data  
Note: Excludes passenger boardings on ferry services

Figure 1.2 – public transport enhancements since 1997

**Brisbane busway network**

- 1 South East Busway to Eight Mile Plains
- 2 Northern Busway to Kedron
- 3 Boggo Road Busway from Buranda to Dutton Park and the Eleanor Schonell Bridge from Dutton Park to University of Queensland (Brisbane City Council project)
- 4 Eastern Busway from Buranda to Stones Corner

**Bus priority initiatives**

- 5 Gold Coast Highway bus lanes
- 6 Waterworks Road transit lanes (Brisbane City Council project)
- 7 Smith Street transit lanes, Southport
- 8 Sippy Downs Green Link

**Rail network**

- 9 Caboolture to Beerburrum rail duplication including two new stations
- 10 new rail line to the Brisbane domestic and international airports (delivered by a private sector operator)
- 11 extension of the Gold Coast rail line to Varsity Lakes
- 12 duplication of the Ferny Grove line from Mitchelton to Ferny Grove, including station upgrades
- 13 two new tracks on the Ipswich rail line between Corinda and Darra including station upgrades
- 14 addition of a third track on the Salisbury to Kuraby rail line and seven station upgrades
- 15 Darra to Richlands rail line
- 16 Helensvale to Robina rail duplication
- 17 Ormeau to Coomera rail duplication





## Motorways and highways

Figure 1.3 – upgrades to motorways and highways since 1997

- 1 Gateway Motorway upgrades, including the Gateway Bridge duplication (Sir Leo Hielscher) and new Gateway deviation
- 2 Nundah bypass on Sandgate Road
- 3 Ipswich Motorway upgrades
- 4 Clem7 tunnel providing a connection for motorists travelling between the north and south sides of the city (Brisbane City Council project)
- 5 Ted Smout Memorial Bridge (including bus lanes and active transport provision) providing a second bridge between Clontarf and Brighton
- 6 Port of Brisbane Motorway upgrade (Port Connect)
- 7 Bruce Highway upgrades between the Gateway Motorway and Caboolture
- 8 Centenary Highway extension from Darra to Yamanto, via Springfield and Ripley
- 9 Tugun Bypass
- 10 Pacific Motorway upgrade to eight lanes from Logan Motorway to Smith Street and six lanes from Smith Street to Worongary
- 11 Sunshine Motorway upgrades
- 12 Pacific Motorway transit lanes from Upper Mt Gravatt to Eight Mile Plains
- 13 Logan Motorway upgrade
- 14 Inner City Bypass (Brisbane City Council project)
- 15 Gateway Motorway extension from Pacific Motorway to Logan Motorway
- 16 Airport intersection upgrade



**KEY**

- Existing major strategic road/motorway/highway
- Motorway/highway improvements since 1997







## Active transport and travel behaviour change



### Improvements to the active transport network

Major additions to the active transport network since 1997 include:

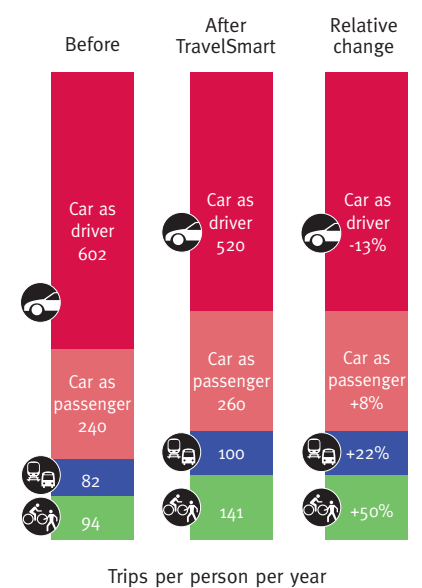
- Goodwill Bridge from Gardens Point to Southbank
- Kurilpa pedestrian and cycle bridge from North Quay to South Brisbane
- Go Between Bridge pedestrian and cycle facility
- Toowong pedestrian and cycle overpass of the Centenary Motorway
- Normanby cycle and pedestrian facility linking to the Roma Street Parklands
- Eleanor Schonell Bridge pedestrian and cycle facility
- Sir Leo Hielscher bridge pedestrian and cycle facility
- Ted Smout Memorial Bridge pedestrian and cycle facility
- Princess Alexandra Hospital cycleway beside the Boggo Road Busway
- Bicentennial Bikeway upgrade from Park Road to Little Cribb Street
- Eenie Creek Bridge and cycleways in Noosa
- cycle centres at King George Square and Royal Brisbane and Women's Hospital busway stations
- progressive delivery of V1 veloway from Brisbane CBD to Eight Mile Plains
- pedestrian and cycle crossings of the Brisbane River at Jindalee and Indooroopilly
- inclusion of cycling facilities in the upgrade or delivery of state controlled road projects
- provision of active transport facilities in major developments (for example, providing bicycle parking and showers in office buildings).

### Travel behaviour change

Improvements to transport infrastructure and services have been supported with travel behaviour change campaigns, including TravelSmart programs in communities, schools and workplaces across the region.

For example, a TravelSmart project was completed in Brisbane's north in 2007 and targeted about 75 000 households. It achieved a 13% reduction in vehicle kilometres travelled, proving how small changes in how individuals travel can ease the burden on the transport system.

Figure 1.4 – Brisbane north TravelSmart project results





## 2. Transport challenges facing the region

The strong population growth experienced in south-east Queensland during the past 30 years is forecast to continue at similar levels during the next 20 years. With population forecast to grow from about 2.7 million in 2006 to over 4.24 million in 2031, the current high level of dependence on private vehicles is not sustainable.

Action is necessary to avoid the negative consequences of unsustainable transport patterns, like air pollution, congestion, excessive reliance on oil based fuels, increasing greenhouse gas emissions and reduced access to essential goods and services.

Understanding the challenges is an important first step in gaining community support for long-term improvements that will place the region's transport system on a sustainable path. This chapter summarises the challenges which are then addressed in subsequent sections of *Connecting SEQ 2031*.

### Population growth

*Connecting SEQ 2031* is a companion document to the *South East Queensland Regional Plan 2009–2031* and therefore uses the population projections and dwelling targets of the plan as a basis for the future transport network.

For every 10 residents currently in the region, forecasts suggest there will be another six by 2031 and another 11 by 2056.

Each new resident makes an average of three to four trips per day, with most of these trips currently made by car. Forecast population growth will increase trips from about 9 million trips per day in 2006 to about 15 million by 2031. Freight and commercial traffic is forecast to more than double in the next 20 years, driven by lifestyle choices and business needing access to goods and materials on demand.

Accommodating the forecast growth in travel by continuing current travel patterns would have significant negative impacts on the quality of life for residents and visitors to the region (for example, excessive congestion, traffic noise and air pollution). It would also reduce the region's competitiveness in the pursuit of modern business and industry growth.

### Queensland Growth Management Summit outcomes

The government held the Queensland Growth Management Summit in March 2010 and published its response in May 2010.

The Growth Management Summit outcomes included policies to encourage growth in regional Queensland. This will help reduce pressure on the south-east Queensland transport system.

Other outcomes from the growth summit reflected in *Connecting SEQ 2031* include:

- setting ambitious targets for a swing to public and active transport
- supporting 'decentralisation' of jobs to centres outside the Brisbane CBD
- timely provision of infrastructure as new growth areas are developed
- supporting considerable infill development oriented around public transport corridors.

The population of south-east Queensland grew by more than 80 000 people in 2008–09. This is much higher in population terms than the rest of Queensland combined, which grew by about 36 000 residents.

Although growth has slowed in the years since then, sound planning for improved transport infrastructure and services and careful management of growth is essential for the region.

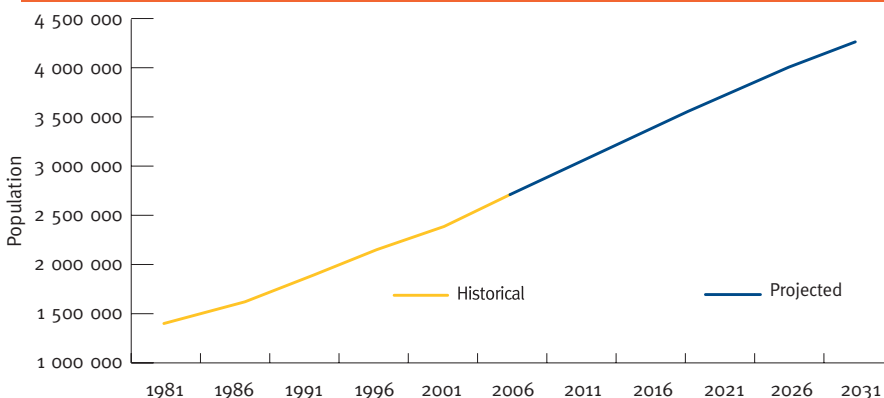
**Table 2.1 – forecast population growth in south-east Queensland**

South-east Queensland facts	In 2006	In 2031	Increase
Total dwellings	1 051 000	1 744 000	66%
Total persons	2 705 200	4 244 000	57%
Lone persons and couples without children	512 000	957 000	87%
Population over 65	327 000	854 000	161%

Source: Department of Local Government and Planning, *Queensland Population Projections, 2006*

Note: population numbers differ slightly to the SEQ Regional Plan due to exclusion of the Toowoomba Regional Council area from *Connecting SEQ 2031* analysis

**Figure 2.1 – population projections for south-east Queensland**



Source: Office of Economic and Statistical Research *population projections Queensland, 2008* edition, medium series by age and sex



### Low density development

Over the past four decades, the urbanised areas of the region expanded considerably and also grew at a faster rate than resident population, suggesting an overall decline in urban densities.

Ongoing development of low density suburbs based on car use works against achieving higher levels of sustainable transport by dispersing passenger demand and increasing the separation between residential areas and major destinations.

There is some evidence of more compact urban development occurring on a large scale in Brisbane city and parts of the Gold Coast, particularly in more accessible locations. An ongoing trend towards a more compact, diverse form of urban development will be essential to the achievement of a sustainable transport system.

**Table 2.2 – population growth and urban form in south-east Queensland**

	Population	Urban area
1991	1.9 million	1708 km <sup>2</sup>
2006	2.8 million	2801 km <sup>2</sup>
Growth	47%	64%

Source: ABS Census of population and housing 1991–2006

### Transport data sources

- The Department of Transport and Main Roads conducts regular surveys of travel movements in the region.
- TransLink gathers data on public transport use on a daily basis, and this is reported annually.
- The Australian Bureau of Statistics collects considerable information on vehicle ownership, living arrangements and journey to work by mode and distance in the national census every five years. At the time that *Connecting SEQ 2031* was prepared, the last year of available census information was 2006.

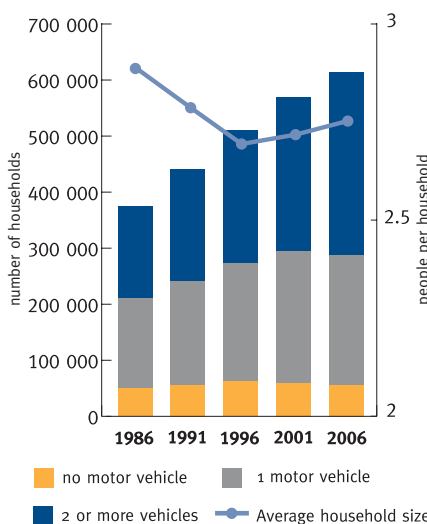
### Car dependency

Cars currently dominate the way people travel in the region, with more than 80% of all trips made by private car<sup>5</sup>. During the past 10 years there has been a steady decline in average vehicle occupancy, with most cars now having only one occupant in peak periods. While the car is a convenient transport option, unrestrained growth of private car use has the potential to incur huge costs in infrastructure and impact on economic activity.

Continued growth in car travel will increase congestion and impact on freight and commercial movements, thus increasing the cost of conducting business and transporting goods.

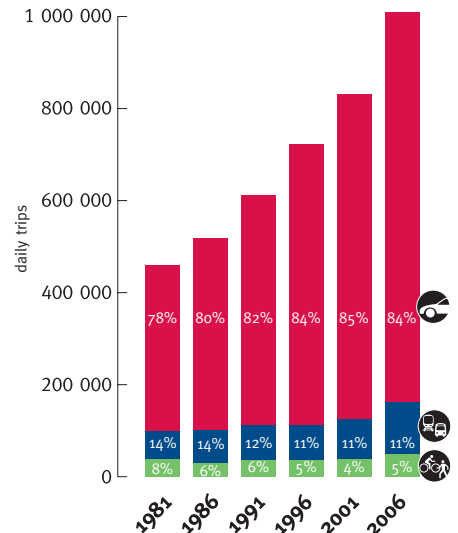
A transport system heavily dominated by car travel can also mean quality alternatives are not readily available, making it difficult for people who are unable to drive or afford a car to access employment, services and recreation opportunities.

**Figure 2.2 – Brisbane household vehicle ownership rates and household size**



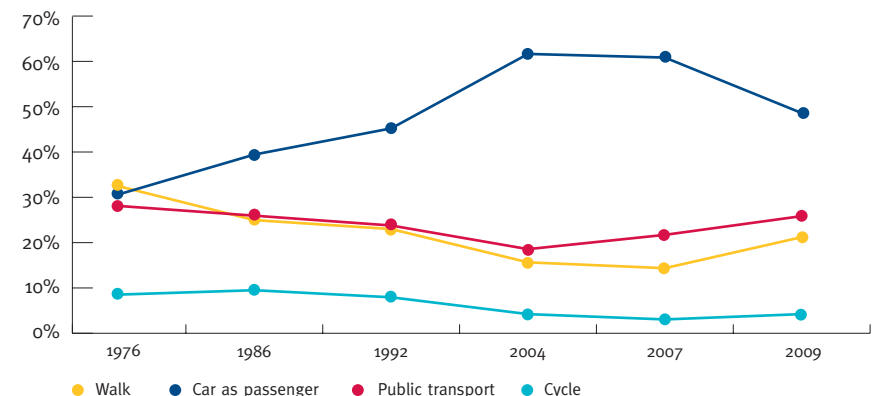
Source: ABS Census of population and housing 1986–2006

**Figure 2.3 – south-east Queensland journey to work mode share**



Source: ABS Census of population and housing 1986–2006

**Figure 2.4 – Brisbane city journey to school mode share**



Source: Department of Transport and Main Roads Household Travel Surveys

5 Department of Transport and Main Roads 2009 South East Queensland Household Travel Survey 2004–2008



### Congestion

Traffic congestion caused by unplanned incidents or by excessive demand relative to road capacity is increasing.

The region's road, rail and bus networks all experience regular congestion in weekday peak hours. More time spent travelling means less business and leisure time, impacting on the region's economy and lifestyle.

While the busiest motorways often seem to be clogged with trucks, evidence shows the vast majority of traffic on the roads is actually small private and commercial vehicles.

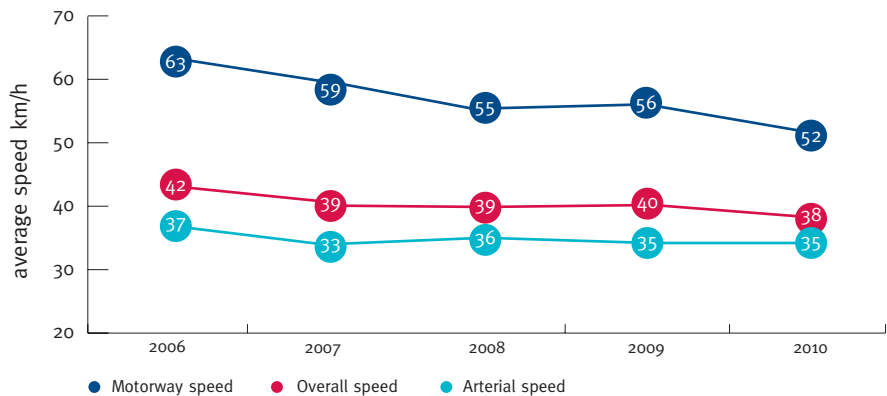
Trips that have the greatest effect on peak period travel are:

- trips to and from work and education
- car trips serving passengers, such as dropping a child at school.

Some parts of the motorway network are not supported by realistic alternative routes in the event of a major incident.

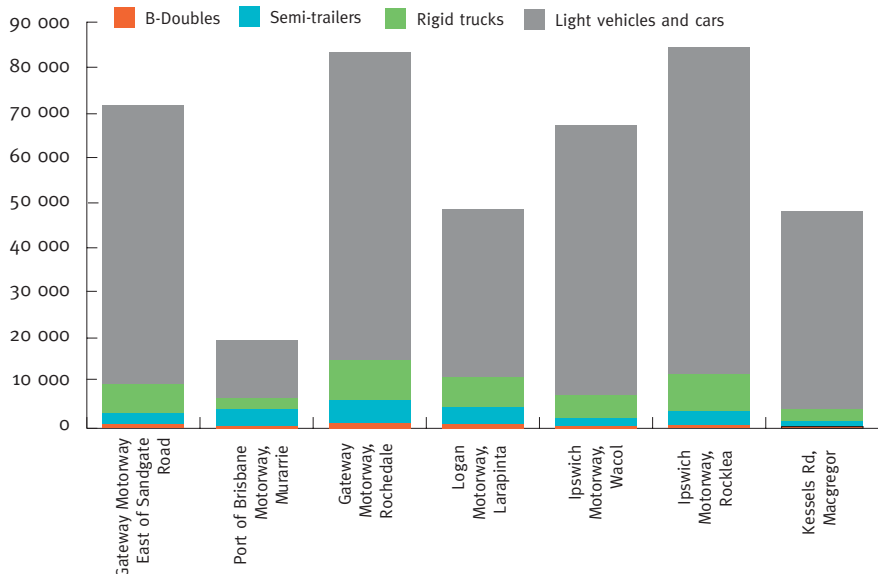
This results in expensive and frustrating delays which could be partially avoided by a more resilient network with alternative routes.

Figure 2.5 – average peak period travel speeds in south-east Queensland



Source: Department of Transport and Main Roads Travel Time Surveys

Figure 2.6 – vehicle types on key freight routes



Source: Brisbane City Council Vehicle Classification Survey 2008

## Economic health

Transport plays an essential role in the economic health of the region, bringing together raw materials, production and labour activities.

Currently, most freight is moved by road. If freight vehicles are consistently caught in traffic congestion, the region will lose its ability to attract and retain industry.

There is also a need to develop rail networks so more freight can be moved by rail.

The majority of freight and commercial vehicle movements take place in off-peak periods to avoid congestion. Many business-to-business trips also take place in the day-time off-peak.

Maintaining traffic flows during off-peak periods will be important in ensuring the future economic vitality of the region.

The motorway network plays a critical role in the movement of freight, and getting goods to destinations across the region will become an increasing challenge in more congested conditions. This includes 'first and last mile' freight movements through urban areas, which are crucial to getting goods to market.

## System efficiency

South-east Queensland already has an extensive transport system. It needs to be used more efficiently and the load shared around better. New technology, lower scale infrastructure improvements (for example bus lanes), travel behaviour change programs and travel demand management policies can be used to optimise the performance of the existing system.



Some parts of our busway network are carrying more than 12 400 passengers per hour (in one direction). For comparison, a typical motorway lane can carry about 2000 people per hour.

## Physical inactivity

Physical inactivity and excessive weight gain are major health concerns in Australia. Seven in 10 Queenslanders exercise very little or not at all, and six in 10 men, and four in 10 women are overweight or obese.

The Australian Government Physical Activity Guidelines recommend at least 30 minutes of physical activity on most, preferably all, days<sup>6</sup>. This can be easily achieved by using active transport for short trips. For the average person, it takes 12 minutes to walk one kilometre and three minutes to cycle one kilometre. In south-east Queensland, about 35% of all trips taken are less than three kilometres. A three kilometre walk would take 36 minutes to walk and nine minutes to cycle.

Making it easy to be active as a part of daily travel allows people to incorporate physical activity into their daily routine.

The active transport network in the region is incomplete. While there are many high quality walking and cycling facilities in place, they do not provide a connected network that allows people to safely walk and cycle between home and a range of destinations without mixing with heavy traffic.

## Safety and security

A growing population means more transport activity and therefore the potential for more crashes. The annual cost of road crashes from fatalities, injuries and damage to property in the region is estimated to be more than \$2.5 billion<sup>7</sup>.

Road safety improvements to existing roads and intersections must be a high investment priority. Ensuring safety for vulnerable road users, such as pedestrians and cyclists, will become increasingly important as more people choose these transport options.

Since most road accidents involve a breach of the road rules, ongoing improvements to enforcement, and increased awareness of the safety risks of poor driver behaviour also need to play their part.

Continuing to provide a safe public transport and active network will also be an important consideration for future planning. This includes ongoing improvement to security measures on public transport.

## Climate change and the environment

Transport is responsible for 12.1% of total greenhouse gas emissions in Queensland, with 85% from road transport<sup>8</sup>. However, in south-east Queensland, transport accounts for a much larger 22% of the region's total greenhouse gas emissions<sup>9</sup>.

If current transport trends continue, by 2031 road transport greenhouse gas emissions will increase by more than 150% on 1990 levels. As a major population centre, the region will need to play its part in achieving the Australian Government's target of reducing national greenhouse gas emissions by a minimum of 5% and up to 25% (depending on national and international developments) of 2000 levels by 2020<sup>10</sup>.

Other environmental factors that need to be managed include air pollution and impacts on land and water from transport activity.

In addition, the transport system will need to be planned, built and operated in a way that adapts to projected climate change impacts, such as sea level rise.

6 Australian Government 2009 *Physical activity guidelines* ([www.measureup.gov.au](http://www.measureup.gov.au))

7 Department of Transport and Main Roads road crash data, 2010; Bureau of Infrastructure, Transport and Regional Economics, 2009, *Cost of road crashes in Australia 2006*

8 Australian Government (Department of Climate Change) 2009 *Australian National Greenhouse Accounts, State Territory Greenhouse Gas Inventory 2007*

9 ICLEI Local Government for sustainability 2009 *South East Queensland Regional Plan climate change project: Phase 2 emissions analysis*

10 Queensland Government 2009 *ClimateQ: toward a greener Queensland* p 165



## Energy

Nearly 95% of Queensland's transport energy consumption in 2006–07 used petroleum products<sup>11</sup>.

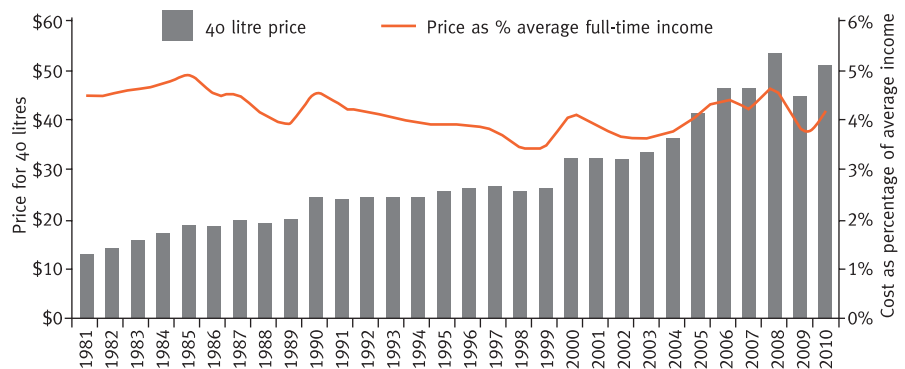
Any sustained increase in oil prices or chronic shortages of oil would increase the cost of living. This increase could also impact disproportionately on urban fringe communities and low income earners.

There are many opinions as to how and when oil shortages may impact lifestyles and how energy is used. For example, an increase in the cost of oil based fuels will not necessarily reduce car travel on a large scale.

The freedom of private car travel is very much a part of people's lifestyles and the community may respond in a variety of ways, such as purchasing smaller, more fuel efficient cars or cars that use alternative power sources.

Forecasting the extent of future change is very difficult. Accordingly, this plan is based on conventional forecasting methods which do not assume major increases in the relative cost of energy for motoring and no acute or sustained shortages of supply.

Figure 2.7 – cost of a weekly petrol fill-up: comparison in dollars and as a percentage of income



Source: Australian Bureau of Statistics 2009, Austroads 2008 and 2009

Within this context however, *Connecting SEQ 2031* establishes a very clear basis for urgently improving the viability, capacity and priority of modes which are not reliant on oil based fuels, especially electric passenger rail and non-motorised active transport.

In the event of dramatic increases in energy costs and/or sustained shortages of supply, these policy settings could be ramped up, so investment in electric rail and active transport would be given a higher priority, and provision of roads for general motor traffic is greatly reduced.

The discussion under 'Targeting success' in Chapter 3 provides more detail on the likely response in the event of energy shortages.

11 Queensland Government (Department of Transport and Main Roads) 2009 *Queensland transport facts*

## 3. An overview of our plan for the future

### A vision for sustainable transport

*Connecting SEQ 2031* aims to tackle the transport challenges and set the region on a path to a sustainable transport system. This journey will be assisted by establishing a transport vision that builds on the vision of the SEQ Regional Plan.

#### **SEQ Regional Plan vision**

The vision for south east Queensland is a region of interconnected communities with excellent accessibility and an extensive system of efficient public transport that contributes to reducing greenhouse gas emissions<sup>12</sup>.

#### **Connecting SEQ 2031 transport vision**

South-east Queensland's transport system supports the lifestyle enjoyed by residents and visitors, enhances the state's economic vitality, is resilient and protects the natural environment.

Achieving this transport vision would mean:

- Residents in urban communities would have easy access to jobs, shops, recreation and lifestyle opportunities, with a range of travel choices available for the majority of trips.
- Freight, business and commercial traffic would enjoy reliable travel times, with reliable access to key destinations within the region and quality links to other places outside the region.
- Rural communities would have safe access to local services and other parts of the region. Though private transport would still meet the majority of rural transport needs, options would be available for those who do not own a car or are unable to drive.

### Our key transport policy goals

To deliver the 2031 transport vision, *Connecting SEQ 2031* has established nine key transport policy goals. These support the government's strategic directions as conveyed in *Toward Q2*, the *Transport Coordination Plan* and the desired regional outcomes of the *South East Queensland Regional Plan 2009–2031*. Achieving these goals by 2031 would meet future travel and economic development needs while supporting the desired lifestyle of south-east Queensland residents. The goals are:

#### **Protecting amenity and liveability**

The transport system contributes to making the region a better place to be and enhances amenity in the region's communities.

#### **Ensuring equity and accessibility**

People can easily access goods, services, facilities and jobs, with many residents having these available locally or able to easily access them without using a car.

#### **Supporting economic prosperity and employment growth**

Freight and business traffic can move efficiently and reliably.

#### **Delivering transport efficiently**

Transport investment and land use patterns maximise the efficiency of the system, with a focus on getting the best use out of the network.

#### **Managing congestion**

Travel times are reliable and the cost of congestion is stabilised or reduced.

#### **Creating a low carbon and environmentally responsible transport system**

Greenhouse gas, environmental emissions and environmental impacts on land and water are reduced by increasing public and active transport use, reducing overall transport demand, using transport more efficiently and increasing the proportion of fuel efficient and alternative fuel vehicles in the fleet.

The transport system will adopt designs and technologies that minimise impacts on the region's biodiversity values, its habitat areas, waterways, wetlands and ecological corridors.

#### **Encouraging individual physical activity as a part of daily travel**

Active transport (walking and cycling) is a convenient, safe and attractive option for many trips.

#### **Developing a resilient system**

The transport network has alternative routes available when major incidents or events occur and the vulnerability to reduced oil supply, rising oil prices and climate change impacts is minimised.

#### **Delivering safety and security**

People feel safe and secure using the transport system and there is a steady reduction in the occurrence of crashes on the road, rail and active transport networks.

12 Queensland Government (Department of Infrastructure and Planning) 2009 *South East Queensland Regional Plan 2009–2031* p 10



## Our strategy for the future

As well as a clear vision and goals for the transport system, a sound strategy is needed that allows coordinated action, development of new projects and allocation of funding to where it will be most effective.

### Coordinating land use and transport decisions

Transport systems shape cities. Integrated planning is required to achieve the regional priorities identified in the SEQ Regional Plan and *Connecting SEQ 2031*.

The highlights to achieve better integrated transport and land use planning include:

- early provision of public transport in major new urban communities
- identification of public transport hubs and 'priority transit corridors' where increased residential and commercial development densities should be encouraged
- creating '15-minute walkable neighbourhoods', particularly in major new growth communities
- protecting land close to priority freight routes for freight generating uses.

### Expanding and modernising the rail network

*Connecting SEQ 2031* sets in place a plan for a 'rail revolution', focusing on improving the passenger rail network in the region. Rail is the most efficient people-mover and is best placed to respond to the growing passenger transport task. The 'rail revolution' is based on expanding the rail network into major new growth areas and modernising its operation to ensure more efficient use of the existing infrastructure.

Rail highlights of *Connecting SEQ 2031* include:

- Cross River Rail – a proposed rail line in the inner city, including a north–south tunnel under the Brisbane River and four new underground inner city stations.
- sectorisation of rail services, including:
  - UrbanLink services with more frequent and higher capacity trains operating inbound of Darra, Strathpine, Loganlea, Ferny Grove, Cleveland, Redbank Plains, Shorncliffe and the Brisbane Airport
  - ExpressLink services from Ipswich, Rosewood, Ripley, Helensvale, Caboolture North, Kippa-Ring and Flagstone
  - CoastLink services from Brisbane to the Gold Coast and Sunshine Coast.
- constructing a new rail line between the North Coast Line at Strathpine and Cross River Rail at Roma Street, using the predominantly government-owned North West Transport Corridor
- expanding the reach of the rail network to new growth communities, including Maroochydore, Kippa-Ring, Springfield, Ripley and Flagstone
- extending the Gold Coast Line south to Gold Coast Airport
- extending the light rail on the Gold Coast to Coolangatta
- a new Brisbane subway system from Toowong to Newstead/Bowen Hills via West End and the CBD, with extensions to Northshore Hamilton/Airport Village and Bulimba possible beyond 2031.

### Continuing to transform bus networks

Buses will continue to play a vital part of the transport network into the future, carrying over half of all public transport trips in 2031. Continuing to transform and upgrade bus networks across the region will therefore be important to respond to the region's transport challenges. *Connecting SEQ 2031* proposes a network of high frequency UrbanLink bus services be rolled out across the region, providing connections between local activity centres and connecting residential areas to the rail and busway network.

Highlights of the future bus network include:

- completion of the busway system, with extension of the Northern Busway to Bracken Ridge and the Eastern Busway (with interim on-road bus priority treatments likely to be used beyond Chermside and Carindale) and the South East Busway to Springwood
- a network of TransitWays across the region, providing priority for buses on arterial roads and ensuring the efficient use of the existing and future road network.



### Completing and better managing a network of motorways and highways

Roads will remain the most extensive part of the transport network, allowing supplies to get to industry, goods to get to markets, and people to get to work, schools, shops and recreation activities. *Connecting SEQ 2031* proposes to fill the major gaps in the existing road network and to better manage roads as one network, providing improved connectivity and efficiency for all road users.

The highlights to better manage roads include:

- introducing new technology to better manage private vehicle and public transport movements on roads (for example, through better information on travel times and options, and real time management of motorway flows)
- adopting a 'one network' approach to the planning and management of roads
- extending the road network to major new growth communities
- completion of the orbital motorway network for Brisbane, including the new north-south motorway from Toowong to Everton Park
- working with local government and developers to provide strategic arterial roads supporting motorways/highways through growing communities in Moreton Bay, the Sunshine Coast and Gold Coast.

### Completing and managing a network of strategic active transport corridors

Getting more people walking and cycling, more often, for more types of trips is an important part of achieving the transport policy goals of *Connecting SEQ 2031*. Increased active transport use in the community offers many benefits.

The highlights to get more people walking and cycling, more often include:

- completing an active transport network within a five kilometre catchment of activity centres that is safe, direct and connected
- providing priority principal cycle routes between activity centres and completing the principal cycle network
- improving integration with public transport stops and stations, including the provision of high quality end-of-trip facilities
- providing active transport connections to schools and tertiary education institutions
- providing pedestrian priority in activity centres through the development of bypass roads and 'community boulevards' where possible and appropriate
- ensuring end-of-trip facilities are provided in new developments.

### Targeting freight investment to support the economy

Transport systems build economies. Providing an efficient freight network will support and enhance the region's economic stability and growth into the future. Significant economic growth in the region will place additional strain on the freight network, and *Connecting SEQ 2031* identifies a need to target investment in facilities that will support efficient freight movement.

The freight highlights of *Connecting SEQ 2031* include:

- development of the Acacia Ridge freight terminal to full capacity
- a dedicated dual gauge freight line from Acacia Ridge to the Port of Brisbane
- connected and managed motorways to ensure efficient freight operation.

### Encouraging voluntary travel behaviour change

Investment in infrastructure alone will not be sufficient to meet the targets for more sustainable transport; a change in travel behaviours will also be required. *Connecting SEQ 2031* supports measures that encourage individuals to change their travel behaviour, including increased access to information and support networks.

The highlights to encourage a change in travel behaviour include:

- continuing TravelSmart activities at schools and workplaces to encourage travel behaviour change
- travel behaviour change programs sequenced with the delivery of major new transport infrastructure.





## Targeting success

*Connecting SEQ 2031* aims to change the way the region moves by increasing the role played by sustainable transport modes and reducing the dominance of private motor cars. To guide this process, it adopts regional mode share targets.

Mode share targets are not ends in themselves, but a way to assist decisions which will support continuous progress towards the key transport policy goals.

The targets are:

- increasing the mode share of active transport from 10% of all trips in the region in 2006, to 20% by 2031
- increasing the mode share of public transport from 7% in 2006, to 14% in 2031
- reducing the mode share of private motor cars by about one fifth. This would mean the share of trips taken by private motor vehicles would decline from 83% in 2006 to 66% in 2031.

To achieve these targets, the average resident in the region would need to change just three of their 17 weekday trips to walking, cycling or public transport.

The *Connecting SEQ 2031* targets are regional level targets and actual mode shares will vary across the region, depending upon the characteristics of local areas. For example, high density communities with good access to high frequency public transport services might be expected to achieve higher public transport use than low density areas with less frequent services. More detailed planning conducted by state and local government will review the regional level targets and establish local targets based on local projects and policies.

### Journey to school targets

Over time, a complex range of factors have changed the way students travel to school, resulting in a decline in the share of trips by public transport, cycling and walking. These include:

- concerns about safety and security
- more parents travelling directly to work after the school drop-off

Figure 3.1 – regional daily travel targets

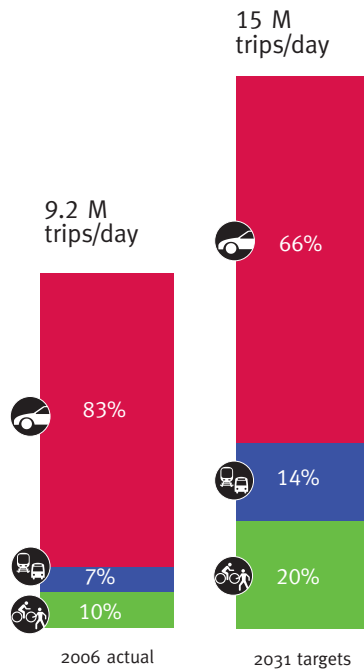
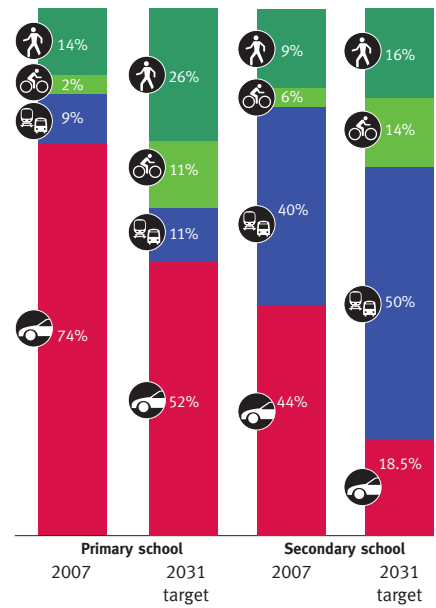


Figure 3.3 – 2031 journey to school travel targets



Source: 2007 mode share figures from South East Queensland Household Travel Survey

Figure 3.2 – average composition of 17 trips per person each week, Monday to Friday



To achieve the targets the weekly travel patterns of the average south-east Queensland resident would need to change only incrementally.

- a trend towards a higher proportion of private school enrolments, increasing the distance from home to school
- more before and after school extracurricular activities, eliminating access to school bus services
- increasing size of schools, meaning students come from a wider catchment.

*Connecting SEQ 2031* also establishes journey to school transport targets as an important part of encouraging a long-term cultural shift in travel behaviour.

Shifting some shorter school trips to cycling and walking will have flow-on effects in terms of managing congestion

around schools, as well as delivering health outcomes as school students increase their level of physical activity.

South-east Queensland travel survey results for 2009 show an increase in children using public transport and active transport modes to travel to school.

This indicates travel behaviour change programs targeted at schools, such as TravelSmart, Bicycle Education and Active School Travel (Brisbane City Council initiative) are beginning to influence travel behaviour for the journey to school.

Figure 3.3 shows the daily journey to school transport targets for primary and secondary school trips.

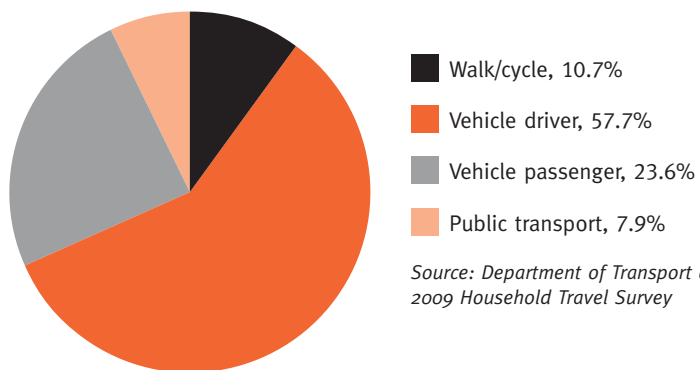


**Recent progress**

Recent surveys (see Figure 3.4) show a clear move towards increasing use of public and active transport in the region, with some areas achieving a greater shift than others.

Public and active transport have increased their market share by nearly 1% in just 3 years since 2006. These results reinforce the need to continually improve sustainable transport options at all levels of planning.

**Figure 3.4 – south-east Queensland 2009 daily mode share**



Source: Department of Transport and Main Roads 2009 Household Travel Survey

**How the Connecting SEQ 2031 targets were set**

Establishing targets that are achievable, yet still stretch the community to change travel behaviour as soon as possible is an important element of integrated transport planning.

Inputs to the target setting process for *Connecting SEQ 2031* included:

- computer modelling of forecast public and private transport use in 2031
- analysis of travel behaviour data, such as Australian Bureau of Statistics Census 'Journey to Work' and the Department of Transport and Main Roads' South East Queensland Household Travel Survey
- results of TravelSmart programs from across the region.

**Public transport mode share**

The computer models predict a significant shift to at least 11% public transport mode share with the transport infrastructure and services proposed to be in place by 2031. The target for public transport is 14%.

There are other factors that have not been captured in the computer modelling process which will support a greater shift to public transport and active transport, including:

- probable changes in land use and development style that will occur in response to improved public transport, such as more compact urban form along major transit corridors
- the effects of an ageing population and changing lifestyle preferences which may see a reduction in the present demand for large suburban housing lifestyles
- the possibility of substantial rises in the cost of operating private vehicles.

It is therefore probable that the transport models underestimate the potential shift that could occur to public transport, hence a higher target has been established by *Connecting SEQ 2031*.

**Active transport mode share**

The current computer models are not yet capable of analysing change in travel choices to active transport due to the complex variables in decision making for this mode.

Targets for increased active transport use for each local government area were therefore established based on the possible amount of trips that an average resident may be expected to take by active transport instead of car. In most cases, this is only one or two trips in a working week.

**Reviewing the targets**

Taking these matters into account, the targets are considered to be ambitious, yet achievable.

The targets will guide transport policy and investment decisions taken each year by state and local government in the region. Further guidance on deciding investment priorities is provided in Part E.

Progress towards the targets will be monitored as part of the Department of Transport and Main Roads' South East Queensland Household Travel Survey and the Australian Bureau of Statistics Census 'Journey to Work'.

The appropriateness of the targets will be reviewed as part of the regular updates of *Connecting SEQ 2031* (planned to be every five years to coincide with the SEQ Regional Plan review). This review will take into account the changed circumstances in the region, including oil supply and fuel costs.

## Part B – Priorities for taking action

## 4. Six priorities for action

*Connecting SEQ 2031* contains more than 150 strategic policies, actions and projects to develop a sustainable transport system in the region. Action will begin immediately and will be monitored, reported on and reviewed regularly. Not everything in the plan is currently affordable or needs to be done as a high priority. To help focus future action on the most important transport needs, six 'priorities for action' with essential 'key actions' have been established. Although they are numbered, the numbering does not imply an order or rank. All six priorities are considered to be vital to success.

### 1. Creating compact and connected communities

Ensuring the transport system supports desired regional outcomes of the SEQ Regional Plan

- New urban development – coordinate the early provision of public transport to support growth areas and development areas.
- 'Centres access hierarchy' – establish public transport and employment hubs, based on the regional activity centres designated in the SEQ Regional Plan, to support efficient public transport and enhance the operation of 'trunk and feeder' network design.
- '15-minute walkable neighbourhoods' – establish neighbourhoods centred on a range of community services, leisure activities and public transport services within a 15 minute walk of people's homes.
- 'Priority transit corridors' – encourage increased density and a greater mix of infill housing, local employment and community services along strategic public transport corridors.
- Accessible business and industry areas – protect land close to priority freight routes for business and industry uses.

### 2. Changing travel behaviour

Making it easy for people to choose sustainable travel options

- School based travel behaviour change programs to support generational change in school travel culture.
- Workplace oriented programs to encourage sustainable work travel and help manage peak period congestion.
- TravelSmart communities programs to support households to make sustainable travel choices every day.
- Travel behaviour change initiatives packaged with the delivery of major new infrastructure.
- Public transport use to be encouraged outside peak periods through pricing incentives and an all day (6 am–9 pm) high frequency network.

### 3. Improving transport system efficiency and safety

Using cost effective measures to improve the efficiency, reliability and safety of the transport system

- One network – integrated management of state and local government-owned roads to maximise performance.
- Information and communication technology – use of new technology to maximise throughput on the road and rail networks, improve safety and enhance traveller information.
- Incident response – faster and more efficient management of incidents to reduce delays.
- Road user priority – deliver TransitWays to provide priority and add capacity for buses and other multi-occupant vehicles where it will improve the number of people able to be moved on a corridor.

### 4. Supporting economic vitality

Ensuring the transport system supports economic development and growth

- Strategic freight routes – provide important freight routes to cater for freight and complete missing links in the freight network.
- Intermodal freight terminals – expand existing and plan for new intermodal freight terminals.
- Quality public transport to centres – service regional activity centres with high frequency public transport to get people to work and customers to businesses.

### 5. Protecting environmental quality and health

Ensuring the transport system protects the environment

- Cleaner vehicles – support a shift to low emission buses, cars, trains and vessels.
- Sustainable transport – support sustainable travel behaviour, including a decrease in private car use and more freight on rail.
- Climate change adaptation and mitigation – support transport planning, building and operations that take climate change impacts into account.

### 6. Delivering an integrated transport network

Expand and upgrade the transport network to provide a complete and fully functional multi-modal network (full details of improvements for public transport, road, active transport and freight networks are included in Part C).



## 1 Creating compact and connected communities

### Principle

Land use policies will be coordinated with strategic transport policies and investment to support:

- early provision of public transport in major new urban communities
- walking and cycling for local trips
- public transport for longer trips and regular commuter travel
- reliable freight and heavy vehicle access to the priority freight routes.

### Policies to support compact and connected communities

- 1.1 Promote the 'centres access hierarchy' and 'priority transit corridors' to enable better coordination of public transport investment with higher density development.
- 1.2 Facilitate the development of walkable neighbourhoods centred on local community services, leisure activities and public transport services through the concept of '15-minute walkable neighbourhoods'.
- 1.3 Promote the 'priority freight network' and connected and managed motorways network to encourage industry, logistics and low density employment to locate in areas with direct access to airports, sea ports, intermodal freight terminals and markets.

Policies enacted through the first SEQ Regional Plan in 2005 have seen a shift towards more infill development and higher density communities in some parts of the region's cities. However, the predominant form of new urban development remains as new 'greenfield' neighbourhoods in outer suburban areas.

Some of these new neighbourhoods are located and designed such that private car travel is the most convenient (and sometimes only) option for residents. There is also a sustained trend towards larger homes and reduced access to local services and shops.

This dispersed pattern of settlement can make walking and cycling less attractive, as well as reduce the effectiveness and increase the cost of public transport operations.

More diverse, compact urban communities are needed to shift the focus to sustainable forms of transport. This means reducing the distance between residents and the community services, education and shops they need to access on a daily basis, and providing high frequency public transport services to get them to jobs and other services and activities.

When development is more compact and contains a greater mix of uses, walking and cycling will be more attractive options for shorter trips, and public transport demand will be concentrated and more viable for longer trips.

Creating compact and connected communities means designing new communities better and integrating land use development with transport facilities and services.

### The South East Queensland Regional Plan 2009–2031

The SEQ Regional Plan (through Desired Regional Outcome 8) establishes a clear policy and legislative platform to achieve compact settlement as the region enters its next phase of growth<sup>13</sup>. Specifically, it requires:

- urban development to be within the designated urban footprint
- 50% of the future dwelling growth to be within existing urban areas to capitalise on existing investments in infrastructure and public transport services
- a diversity of uses and employment opportunities in new developments at densities that support walkable communities and allow efficient provision of public transport services
- higher density and mixed use development around regional activity centres and high frequency public transport corridors
- priority to be given to new development areas that are in proximity to existing communities, or where direct transport linkages to existing urban areas can be established early in the development

- transport and land use planning to occur concurrently and development to be sequenced with transport infrastructure provision
- management of car parking supply in regional activity centres and around high frequency public transport corridors to support more walking, cycling and use of public transport
- protection of the strategic freight network, while managing the impact of freight movement in urban areas
- land accessible to freight priority corridors, intermodal terminals and ports is protected for industry, logistics and other lower density uses that generate high volumes of commercial or freight trips.

### Supporting the SEQ Regional Plan

*Connecting SEQ 2031* reinforces the regional land use pattern and planning framework of the *South East Queensland Regional Plan 2009–2031* by seeking to optimise the location of activities in relation to the transport network, in particular identifying:

- optimal areas to locate employment in terms of transport accessibility; 'the right business in the right place'
- public transport hubs and 'priority transit corridors' where increased residential and commercial development densities should be encouraged.

13 Queensland Government (Department of Infrastructure and Planning) 2009 *South East Queensland Regional Plan 2009–2031* p 90

**'Centres access hierarchy'**

*Connecting SEQ 2031* establishes a 'centres access hierarchy', which identifies the relative level of public transport service to the regional activity centres identified in the SEQ Regional Plan. The 'centres access hierarchy' complements the intent of the SEQ Regional Plan by defining how the transport network will respond to and support the planning framework that it establishes.

The centres identified in the hierarchy are those that will best benefit from transport investment and land use change to achieve the transport policy goals of *Connecting SEQ 2031* and the desired regional outcomes of the SEQ Regional Plan. Implementation of the 'centres access hierarchy' will foster improved regional connectivity and support greater self-containment of trips by locating jobs at highly accessible activity centres dispersed across the region.

The network design principles outlined in the public transport strategy (see Chapter 5) include a progressive transition to 'trunk and feeder' networks within the major urban areas. The establishment of public transport hubs across the region will provide a clear focus for the development of 'trunk and feeder' networks by providing logical interchange points for public transport services.

The 'centres access hierarchy' is one tool to achieve more integrated transport and land use planning and is intended to inform future land use planning (including centres master planning), public transport service and active transport network planning, and investment decision-making by state and local governments.

The 'centres access hierarchy' includes three levels of public transport hubs:

- regional hubs
- sub-regional hubs
- district hubs.

These hubs will all have high frequency public transport services operating every 15 minutes or better, all day (6 am–9 pm), seven days a week.

**Regional hubs**

Regional hubs are the four major CBD-style centres in the region, being Brisbane CBD, Ipswich Central, Southport and Maroochydore. The regional hubs will form the terminus and interchange point for most trunk public transport services that operate in that part of the region.

These four regional hubs will ultimately be connected by high frequency passenger rail, or light rail in the case of Southport. Integration between these services will provide convenient interchange opportunities to transfer to public transport services travelling to other parts of the region.

These centres are all nominated as Principal Regional Activity Centres (or higher in the case of Brisbane CBD) in the SEQ Regional Plan and are consequently already a focus for high density infill development. They are also well located to provide major transit hubs for a wide range of public transport services and have the potential for ongoing land use intensification, particularly for 'public transport contestable' land uses.

**Sub-regional hubs**

Sub-regional hubs are the next level in the 'centres access hierarchy' and will be directly connected by high frequency public transport services to the nearest regional hub. These hubs will be an interchange point for multiple high frequency public transport services, providing access to other areas of employment, education or services. They support the regional hub by acting as a secondary interchange for local and sub-regional services.

The sub-regional hubs in the 'centres access hierarchy' are nominated as either Principal or Major Regional Activity Centres in the SEQ Regional Plan. These centres should be the secondary locations for in-centre 'public transport contestable' activities.

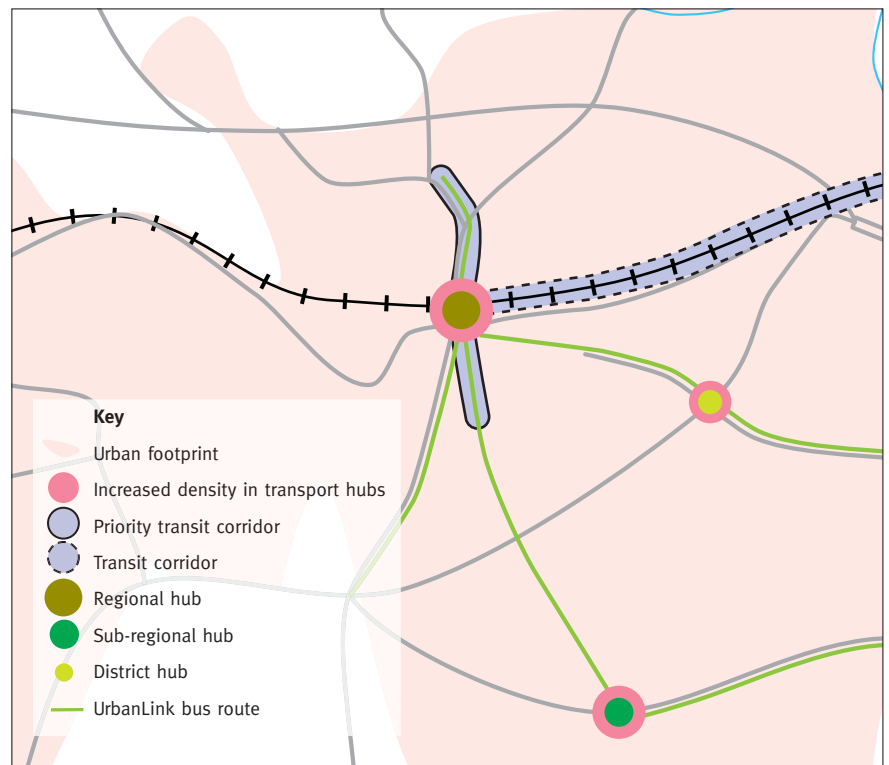
**District hubs**

District hubs are the third tier hub in the 'centres access hierarchy' and fulfil a more localised function. These hubs form an interchange point at areas of significant employment activity and are directly connected to the regional or sub-regional hubs in the area.

Many district hubs identified in *Connecting SEQ 2031* are located in specialist activity centres and enterprise opportunity areas identified in the SEQ Regional Plan.

The SEQ Regional Plan nominates preferred minimum development densities for each type of regional activity centre. The *Transit Oriented Development Guide*<sup>14</sup> prepared by the Queensland Government further nominates indicative land use mix for different transit oriented development typologies. Reference should be made to these documents to determine appropriate density and mix of activities in transport hubs.

Figure 4.1 – 'centres access hierarchy'



14 Queensland Government (Department of Infrastructure and Planning) 2010 *Transit Oriented Development: guide for practitioners in Queensland*



### 'Priority transit corridors'

The SEQ Regional Plan, through Desired Regional Outcome 8, identifies a range of policies to integrate transport and land use and increase development densities. One of these policies is to locate major trip-generating activities, such as employment, along strategic public transport corridors.

These corridors are areas along key public transport routes where mixed use, public transport supportive activities and development comprising 40 dwellings or about 80 jobs per hectare or higher are desired to occur.

- **'priority transit corridors'** are areas where an increase in density can start immediately<sup>15</sup>
- **'transit corridors'** have the same features as 'priority transit corridors' but are not an immediate opportunity or priority.

The application of transit oriented development principles along corridors served by high frequency public transport will provide a higher level of connectivity for the community and a greater concentration of public transport demand, making it more viable to provide a higher level of service. 'Priority transit corridors' will also support the regional activity centres in assisting to achieve infill development targets established in the SEQ Regional Plan.

*Connecting SEQ 2031* nominates 'priority transit corridors' for each local government area and these are identified in Part D. Corridors were selected based on the following key criteria:

- supports a regional activity centre
- provides a committed high frequency public transport service, with multiple or overlapping services running in both directions all day, every day
- higher density development, consistent with regional and local planning frameworks

- represents an opportunity for urban redevelopment and regeneration.

Land use change along the 'priority transit corridors' will be achieved through local government planning schemes and government investment programs. This may include major transit oriented development projects, where this aligns with the SEQ Regional Plan.

The Queensland Government released the *Transit Oriented Development Guide* in October 2010, which provides detailed guidance on how transit oriented development principles will be applied in Queensland. This guide should be used to inform planning in a priority transit corridor.

### '15-minute walkable neighbourhoods'

The Queensland Growth Management Summit outcomes included a vision of '15-minute neighbourhoods' as one model of how to create compact communities across the region.

This means creating residential communities based on a walkable neighbourhood catchment (that is, 15 minutes walk) that is centred on a range of local community services, shops, recreation and public transport services.

This concept can be applied in major new growth communities, and can also be progressively achieved through ongoing infill development.

This neighbourhood design approach is based on traditional neighbourhood design concepts, when private vehicle ownership was much lower and so communities were smaller and less car-dependent.

However, the '15-minute walkable neighbourhood' concept needs to be adapted to suit the circumstances of the region now, when most people have access to a car.

In future, to 2031 and beyond, employment will continue to consolidate in major centres throughout the region, with the strongest employment growth anticipated in the Brisbane CBD.

Therefore, while the aim is to provide local services and facilities within a 15-minute walkable catchment of residential neighbourhoods, most journeys to work will be longer and will require the use of motorised transport.

To address these longer trip demands, high frequency public transport will be located at the core of walkable neighbourhood catchments.

This will allow residents to walk or cycle to their nearest centre and, from there, use public transport to readily access more jobs, education opportunities and services in the CBD and other centres across the region.

The scale and type of retail and commercial services and community facilities within the 'centre' of the '15-minute walkable neighbourhoods' will be directed by local governments through their local planning schemes.

The density of residential development within these '15-minute walkable neighbourhoods' will also be determined by local governments.

The highest density of residential and centres development is expected to occur in the regional activity centres identified in the SEQ Regional Plan and in the 'priority transit corridors' identified in this plan.

*The Transit Oriented Development Guide* and the *Next Generation Planning Handbook*<sup>16</sup>, produced by Growth Management Queensland of the Department of Local Government and Planning, provide further guidance on how to apply the walkable neighbourhood concept in different local contexts.

<sup>15</sup> Queensland Government (Department of Infrastructure and Planning) 2009 *South East Queensland Regional Plan 2009–2031* p 96 and p 140

<sup>16</sup> Queensland Government (Department of Local Government and Planning) 2011 *Next Generation Planning: A handbook for planners, designers and developers in South East Queensland*



### Development areas and identified growth areas

New development and growth areas (identified in the SEQ Regional Plan) should be designed around existing or planned major public transport corridors, supported by connected active transport, feeder public transport and a local urban arterial road network. Ensuring an appropriate arterial road network is in place will mean local traffic does not need to use motorways, and allows long distance trips and high value commercial traffic to operate in a less congested motoring environment.

The development of new growth areas nominated in the SEQ Regional Plan and the Queensland Growth Management Summit will be coordinated with the planned provision of road, active and public transport infrastructure. Part D identifies the transport network requirements for these development areas, including critical infrastructure and services to guide investment decisions and ensure transport corridors are protected.

There are five major new rail lines proposed, some specifically to connect to major new growth communities. It is vital that development of these new rail lines be undertaken through a strong

partnership between state and local government, as well as the private sector. The Australian Government also has a role to play, as evidenced through federal funding of the Moreton Bay Rail Link and the Gold Coast Light Rail projects.

The Queensland Growth Management Summit outcomes include an action to investigate options to fund infrastructure to new growth areas.

However, due to rapid development and budget pressures, it may not always be feasible to provide rail lines for new communities in a timely manner. In such cases, it is possible the rail solutions will be pre-empted by early provision of interim bus solutions to send a clear message that the design of these new communities is to rely more and more on public transport, not private transport.

Bus solutions provided in advance of rail may include various bus priority treatments. In cases where interim bus solutions are provided in advance of rail, the government will remain committed to a longer term rail solution.

The SEQ Regional Plan requires new residential developments to achieve a minimum yield of 15 dwellings (net) per hectare, with a better mix of land uses to support viable public transport<sup>17</sup>.

Higher residential densities and clustering of employment and other activities can support cost effective delivery of more frequent services.

### Accessible business and industry areas

The current 'priority freight network' for the region is identified in the *South East Queensland Regional Freight Network Strategy*<sup>18</sup> and the SEQ Regional Plan<sup>19</sup>.

To provide for efficient freight movement and to limit impacts on residential communities, it is important to locate major business and industry areas in areas with good accessibility to the 'priority freight network'. These areas are termed 'accessible business and industry areas' and are identified in Part D.

Accessible business and industry areas will be reserved exclusively for freight-intensive land uses that generate significant heavy vehicle movements. This includes uses such as warehouses, heavy and general industry, marine and aeronautical support industries and services. These areas should be protected from incompatible land use (for example, housing) through local government planning schemes.

## Recent achievements

### Compact urban form

- ☑ The SEQ Regional Plan establishes a clear policy to intensify development around major public transport nodes or corridors. These transit oriented developments have features which concentrate passenger demands and support walking to access local services.
- ☑ The Varsity Station Village project is transforming vacant industrial land into a modern and valuable community space, with a focus on accessible transport. A new rail station at Varsity Lakes will be surrounded by a variety of housing types, employment opportunities, shopping and social activities.
- ☑ Kelvin Grove Urban Village is a partnership between the Queensland Government and the Queensland University of Technology (QUT). This master-planned community brings together residential, education, retail, health, recreational and business opportunities. It includes extensive walkways, and residents and visitors have access to the busway network via the QUT Kelvin Grove station on the Inner Northern Busway.
- ☑ In 2010, planning commenced for the proposed Yeerongpilly transit oriented development site in Brisbane. The Queensland Government is working with Brisbane City Council to prepare a plan for this catalyst transit oriented development site, and development is set to commence in mid 2011.
- ☑ Coorparoo Junction was approved as a transit oriented development site in 2011. This project is also a partnership between the Queensland Government and Brisbane City Council.
- ☑ In October 2010, the Department of Local Government and Planning, through Growth Management Queensland, released the Transit Oriented Development Guide. This resource, which includes a suite of guidelines and planning tools, provides guidance to practitioners on how to apply transit oriented development principles throughout Queensland.
- ☑ Development schemes for declared urban development areas have been approved and are operating at Bowen Hills, Northshore Hamilton, Fitzgibbon and Woolloongabba. The Urban Land Development Authority is also progressing draft development schemes for Ripley Valley, Caloundra South, Yarrabilba and Greater Flagstone.

17 Queensland Government (Department of Local Government and Planning) 2009 *South East Queensland Regional Plan 2009–2031* p 91

18 Queensland Government (Department of Transport and Main Roads) 2007 *South East Queensland Regional Freight Network Strategy 2007–2012*

19 Queensland Government (Department of Local Government and Planning) 2009 *South East Queensland Regional Plan 2009–2031* p 150



### Key actions – creating compact and connected communities

Category	Action Number	Description	Lead
Connected centres	1.1	Rail connections to activity centres (refer to priority action 6 for more detail).	TMR
'Centres access hierarchy'	1.2	Develop activity centres as regional, sub-regional and district public transport hubs as identified in the local government maps. These 'hubs' will form the basis for concentrating public transport services on centres with a high potential for development of tertiary education, medical and commercial offices, and intensified (higher density) residential activity to support increased public transport use.	LG
'Priority transit corridors'	1.3	Develop 'priority transit corridors' at locations identified in the local government maps. These will allow for medium density (low-rise) residential and compatible mixed use commercial development.	LG
		Develop transit corridors at locations identified in the local government maps.	LG
Transport and land use integration for development areas and identified growth areas	1.4	Coordinate major new land use development with provision of transport infrastructure and services, including public transport (either in advance of or in conjunction with development) through infrastructure agreements.	DLGP/ TTA/ LG
		Develop a best practice guideline (as part of the State Planning Instruments program) with design tools for land use planners and road designers to consider the transport and land use interface in activity centres.	TMR/ DLGP

LG – local government; DLGP – Department of Local Government and Planning; TMR – Department of Transport and Main Roads; TTA – TransLink Transit Authority

## 2 Changing travel behaviour

### Principle

Manage travel demand through changing travel behaviour as a cost effective way to manage congestion and make the best use of the existing transport system.

### Policies to change travel behaviour

- 2.1 Focus on expanding the TravelSmart program to promote, support and sustain a shift to public transport, cycling and walking.
- 2.2 Support local government initiatives to manage parking in activity centres well serviced by public transport.
- 2.3 Disperse peak-hour travel pressures and reduce the growth of travel demand through incentives to change travel behaviour.
- 2.4 Encourage changes in working hours and in freight logistics arrangements to spread the peak load on the transport network.

A shift away from unsustainable travel habits requires investment in alternatives as well as sustained changes in travel behaviour. Behavioural change can reduce or spread peak demand and make better use of the existing transport network. It can also avoid costly investment in facilities that are needed for only a few hours each day.

People tend to fall into travel habits early in life and these can be hard to change, even though most people may agree in principle with the need to protect lifestyles and the environment. Many people also do not feel responsible for collective problems like congestion or pollution because they cannot solve them on their own. This can lead to individuals putting travel behaviour change in the 'too hard' basket.

Behavioural change can be achieved by practical measures, like discounted off-peak public transport fares, which promote off-peak travel. These measures can be enhanced by education campaigns to address the attitudes of individuals and ask them to reconcile contradictions between their stated values and their actual behaviour.

### TravelSmart

The TravelSmart program employs a range of measures to target the attitudes and behaviours of individual members of the community and promote opportunities for change.

TravelSmart's primary aims are to reduce vehicle travel by using alternative, sustainable transport modes and sharing rides.

A reduction in the total amount of travel reduces congestion, emissions and other environmental impacts, as well as saving money for individual users. It also reduces individuals' vulnerability to oil supply shortages and can improve their health.

The *ClimateQ* response to climate change also identified that less vehicle travel will reduce emissions of greenhouse gases and contribute to a healthier Queensland.

TravelSmart programs involve the Queensland Government working together with local governments, businesses, schools and the community. Supporting individuals to change just three trips out of their 17 weekday trips each week from car to public transport, cycling or walking would achieve the target to reduce the share of trips by car from 83% to 66%.

TravelSmart programs can be used to maximise the take-up of new public transport, cycling or walking transport initiatives. TravelSmart activities will be undertaken in conjunction with the delivery of new infrastructure or services to encourage early up-take of these improvements.

TravelSmart programs operate in communities (suburb or city-wide scale), schools and workplaces.

### TravelSmart Communities

TravelSmart Communities works directly with households to increase the use of sustainable modes of transport across the whole community.

A TravelSmart Communities program targeted about 75 000 households in north Brisbane in 2007. This project achieved more sustainable transport in the study area by:

- reducing vehicle kilometres travelled by 13%
- increasing walking by 49%
- increasing cycling by 58%
- increasing public transport by 22%.

Based on the success of the Brisbane North project, the Queensland Government allocated \$22.6 million to deliver the TravelSmart Communities program to

324 000 households throughout greater Brisbane, Sunshine Coast/Caboolture and the Gold Coast to 2012.

A comprehensive evaluation of these communities projects will be undertaken to understand travel habits and attitudes and how this was influenced by the TravelSmart program.

### TravelSmart Schools

School based car trips contribute to a number of growing problems on Queensland roads. More children are being driven to school than ever before. The percentage of primary school children being driven to school has increased from 55% in 1992, to 74% in 2006. However, there has been some shift in recent years to more public transport and active transport use for school trips.

Options that can be undertaken to continue to improve this as part of a TravelSmart schools initiative include:

- raising awareness of alternative options
- developing a school travel plan that reduces car trips
- coordinating walking and cycling groups.

### TravelSmart Workplaces

Work trips are the major contributor to peak-hour traffic congestion in south-east Queensland. It is therefore important for organisations to promote and encourage the use of sustainable transport modes for journeys to and from a workplace, and trips made to access other businesses.

Organisations interested in becoming a TravelSmart Workplace can receive government assistance to develop travel plans outlining how they will increase sustainable transport use, and play a part in managing traffic congestion.

## Carpooling

Carpooling is where people share a car to a common destination to reduce travel costs, fuel use, pollution and traffic congestion.

Carpooling is promoted by TravelSmart as an alternative for people who live a long distance from their workplace, or feel excluded from other sustainable travel choices, such as walking and cycling, due to their residential location or other factors.

Personal security is often cited as a concern with carpooling as people are apprehensive about travelling with strangers.

Workplace carpooling can help address this concern as the staff have their workplace in common.

## Public transport incentives

The government will continue to explore innovative options for providing incentives to use public transport through fare products and other benefits.

This could include employer funded *go* card benefits as part of salary sacrificing.

Schemes based on this approach are common in the United States and are being coordinated in other parts of Australia.

They may become more viable in Australia, if supported by the Australian Government with reforms to fringe benefits taxation.

## Encourage public transport use outside peak periods

Encouraging trips outside peak periods will help manage congestion and use transport resources more efficiently across more of the day.

The ongoing improvements to rail and bus services (see Chapter 5) to provide a high frequency network operating all day (6 am–9 pm) will also make it possible for people to adapt their travel patterns to suit more diverse, modern lifestyles.

With a good service in place all day (6 am–9 pm), people can travel when it suits them, enjoying the same convenience as is traditionally provided for public transport users during the peak period.

## Car parking

The availability and cost of car parking in major centres and other key attractions has a strong influence on a person's choice of whether to drive or use an active transport or public transport option. If parking is cheap or free and is readily available, more people will choose to drive.

In the case of major centres which attract many trips, this can cause congestion on roads feeding to the centre, and fill the centre's streetscape with motor vehicles.

Large car parking areas also reduce the attractiveness of centres and often mean people have to walk longer distances through car parks to access their destination. The centre can become a place for cars, not people, and overall become a less attractive destination.

The Brisbane CBD is a popular destination that is very well serviced by public transport. It is also a unique centre in the region, and many of its businesses are 'head offices' that are not highly mobile in respect of being able to locate in other parts of the region.

Land is very expensive in the CBD and car parking is expensive to provide, resulting in daily charges for parking that reduce the attractiveness to workers of driving to the CBD.

It is clear that the preferred access to the CBD for the majority of people will remain via active or public transport.

In 2008, public transport carried 73% of all trips to the CBD in the morning peak, with 7% by active transport and 20% by car<sup>20</sup>.

With improvements to public transport, new bikeways, and more buildings incorporating showers and bicycle storage, travel to the Brisbane CBD by non-car modes can only increase.

The region's other major centres present a different situation. They are all at different stages of development and none enjoy the maturity reached by the Brisbane CBD.

Policies in the SEQ Regional Plan and *Connecting SEQ 2031* seek to consolidate 'public transport contestable' land uses, like office employment and comparison shopping in these regional centres.

While growth of car parking needs to be restrained, policies that too quickly reduce the supply of car parking and increase its cost could strangle the growth of these centres.

For example, many regional businesses are more mobile and could seek a location in an office park or other centre where parking is free.

What is needed in regional centres is a balance between car access that encourages people to use the regional centres, yet manages the supply and location of parking so as not to undermine amenity.

Where major public transport investments are planned over time, this can mean a gradual transition to increased reliance on public and active transport, and redevelopment of the broad acre car parks for commercial and higher density residential development in line with transit oriented development principles.

Regeneration of development along these lines could occur in the regional and sub-regional hubs identified in *Connecting SEQ 2031*. Short term access to these centres, for example for off-peak travel to attend appointments, may continue to rely on driving and parking, hence a reasonable level of short term parking supply will need to be maintained.

The Queensland Government recognises the delicate balance that needs to be achieved between centre prosperity and car parking supply and location in regional centres. It will continue to work closely with local governments to prepare development plans for centres that include an access strategy, and the right mix of driving and parking versus other modes of transport.

The suggested approaches involve focusing development around a major transit interchange in a central location with good pedestrian links, and locating car parking around the periphery of the centre on a ring road system. Appropriate town planning and parking regulation provisions may also be enacted by local government to support these access strategies.

20 Queensland Government (Department of Transport and Main Roads) *South East Queensland Household Travel Survey 2008*



### Formal car share schemes

Commercial car share schemes provide the opportunity for people to share access to a pool car on a pre-booked basis.

Typically, cars are located around the city either on or off-street and are taken from and returned to an allocated space.

They provide one way for people to reduce their need to own a car, and could be particularly effective in reducing the need for a household to purchase a second or third car.

The government encourages private sector interests to consider the viability of car share schemes which could be applied in particular situations, such as major transit oriented communities or large building developments.

However, allocation of public kerbside parking for car share schemes presents equity issues and would need careful consideration of the potential broader benefits of the car share scheme to the community.

The Queensland Government will work with any local government interested in incorporating car share schemes into development planning, but has no particular policy on the allocation of kerbside space to support car share schemes.

## Case studies

### TravelSmart schools in Noosa

A TravelSmart project undertaken at three schools in Noosa in 2009 demonstrated the potential to change school travel behaviour. Tewantin State School, Noosaville State School and Good Shepherd Lutheran College took part in the project, which involved the development of school travel plans, classroom activities (such as cycle skills classes) and distribution of access guides showing community facilities, cycleways and public transport information.

Around 1300 households took part in the project, funded jointly by the Queensland Government and the local council. At the end of the project, one third of families were estimated to no longer use their cars as the main mode of transport, walking increased by one third, cycling almost tripled and carpooling nearly doubled.

### Brisbane City Council Active School Travel Program

Brisbane City Council works with local schools to encourage more students to walk and cycle to school. Each year, 21 schools are selected, with the council supporting schools to maintain motivation and commitment towards sustainable and long-term behaviour change. In 2007, participating schools achieved an 11% reduction in car trips and, in 2008, participating schools increased carpooling and achieved a 24.8% reduction in sole family car trips.

### TravelSmart Workplace, Queensland Museum, Southbank

In 2009 and 2010, the Queensland Museum at Southbank participated in a TravelSmart workplace project. There was strong management support for a shift to sustainable modes of transport, and the results show that employees were successful in reducing the vehicle kilometres travelled for journeys to and from work. Results included a reduction of vehicle kilometres travelled by car of almost 10% per participant, a 2.5% increase in walking trips (contributing to a 20% increase in walking trip distance), and a doubling of cycling trips.

The shift towards more sustainable forms of transport was the result of a travel plan that focused on providing better information and mode specific incentives and activities to optimise the use of sustainable travel by employees. A range of activities were conducted, including a TravelSmart information station and transport kit, cycling skills session, Ride to Work and Walk to Work days, self defence class and personal journey planning sessions.

## Key actions – changing travel behaviour

Category	Action Number	Description	Lead
TravelSmart	2.1	Expand the TravelSmart program in line with the roll-out of new transport networks and services and targeting trips to schools and workplaces.	TMR
		Complete evaluation of the TravelSmart communities project at Brisbane South, Gold Coast and Sunshine Coast/Caboolture and use results to inform future TravelSmart projects.	TMR
Peak spreading	2.2	Promote off-peak public transport travel by developing an all day network of frequent services.	TTA
Public transport incentives	2.3	Upgrade public transport stations and transfer facilities to support a whole-of-journey approach to public transport travel.	TTA
		Continue to develop and enhance passenger information and trip planning facilities.	TTA
		Continue to investigate the viability of further incentives to encourage a shift to public transport use, such as employer funded <i>go</i> card benefits as part of salary sacrificing.	TMR

TMR – Department of Transport and Main Roads; TTA – TransLink Transit Authority

## Recent achievements

### ☑ **TravelSmart communities**

The 2007 Brisbane North TravelSmart Communities project was jointly funded by the Department of Transport and Main Roads, the Australian Greenhouse Office (Australian Government) and Brisbane City Council, in partnership with TransLink. Project results include:

- 49% increase in walking and 50% increase in cycling
- 22% increase in public transport use
- 13% reduction in vehicle kilometres travelled in private cars
- 28 000-tonne reduction in greenhouse gas emissions per year, equivalent to the annual electricity use of around 2100 households.

### ☑ **Flexible workplace program**

The Department of Transport and Main Roads conducted a flexible workplace trial across government offices in central Brisbane during 2010. Some results include:

- a 34% decrease in morning peak-hour travel and a 32% decrease in afternoon peak-hour travel among participants
- decrease in total travel with participants telecommuting and working compressed work weeks
- 36% of participants reported a more enjoyable commuting experience with less traffic, less congested public transport and/or shorter waiting time.

### ☑ **Busways**

Delivery of the busway network for Brisbane is well under way and some of the benefits delivered by the busways include:

- higher public transport use, with 20% patronage growth on the South East Busway compared to 12% on average growth for all Brisbane Transport services in 2005–06
- efficient use of space, with parts of the South East Busway moving more than 12 000 passengers an hour (one-way) during peak times
- fast, reliable, congestion-free travel, with busway passengers able to count on trips taking the same time each day
- reduced greenhouse gas emissions, with a half-full bus (about 30 passengers) producing around four times less greenhouse gas emissions per person per trip than an equivalent car trip. In the peak period, with higher passenger loads on buses, the environmental benefits would increase.

### ☑ **Car parking supply**

Brisbane City Council has limited the increases in supply of parking in the city frame area to a reasonable maximum since 1986, and has tightly managed the development of new public carparks. The success of this policy is reflected in public transport now exceeding 70% in the morning peak<sup>21</sup> for all trips to the CBD and immediate surrounds.

### ☑ **Public transport incentives**

An example of a successful scheme is the integration of public transport fares with major event ticketing at stadiums in the region. Suncorp Stadium has a scheme supported by parking controls and a comprehensive public transport plan which regularly achieves more than 90% mode share for public transport to major events.

### 3 Improving transport system efficiency and safety

#### Principle

Wider application of cost effective measures that improve the efficiency and reliability of the transport system will reduce the need for the costly expansion of capacity.

#### Policies to improve transport system efficiency and safety

- 3.1 State agencies and local governments will adopt a 'one network' approach to planning and managing strategic roads, including the relationship with adjacent land uses.
- 3.2 Travel-time reliability will be improved through incident management schemes and use of intelligent technology to optimise movement of traffic.
- 3.3 TransitWays, bus priority and/or active transport facilities will be included on road corridors regularly affected by congestion, particularly where new, alternative traffic routes and infrastructure are provided.
- 3.4 Motorways and strategic freight routes will be managed to ensure reliable travel times for freight.
- 3.5 Rail system capacity will be improved by upgrades which enhance the efficiency of the existing network.

Expanding transport system capacity is expensive and has impacts on the surrounding community. An important feature of *Connecting SEQ 2031* is to make the best use of investments we have already made by optimising the performance of the existing transport network.

Measures to improve the efficiency of the transport system include:

- managing the various components of the network as a single system, not a series of separate facilities
- using electronic monitoring technology and automated data to review and optimise performance in real time, as well as providing real time traveller information
- responding effectively and consistently to unplanned incidents
- assigning road user priority to public transport and freight vehicles on congested parts of the network where appropriate
- improving rail utilisation by increasing train frequency and providing more off-peak services.

#### One transport network

The transport network comprises facilities to move traffic, trains, ferries, pedestrians and cyclists. These facilities are managed by various state, local and private sector entities.

*Connecting SEQ 2031* is an integrated plan that considers all modes of land transport, and access to sea and air transport terminals, in a single process. It fosters an integrated approach in planning and operation of the various elements of the transport system.

Management of the public transport system in the region is now well integrated, with coordination of public transport operational planning and contracting by the TransLink Transit Authority, and a single Department of Transport and Main Roads addressing all modes. The Department of Transport and Main Roads also works in close partnership with local governments to plan and operate an integrated transport system.

#### One road network approach

Strategic roads are the primary links in the transport network and need to be managed as an integrated network. Currently, about 80% of the region's roads and streets are controlled by local government, with the remainder controlled by the Department of Transport and Main Roads.

*Connecting SEQ 2031* recommends ongoing coordination arrangements between state and local governments to ensure roads are planned and managed in a coordinated manner, and an agreed hierarchy of strategic and local roads is developed across the region. New traffic management centres combining state and local network management have been established in Brisbane, the Gold Coast and Sunshine Coast.

*Connecting SEQ 2031* proposes to develop a completed regional motorway network and manage the network using technology to maximise capacity and improve safety.

Improved local planning processes developed by the Department of Transport and Main Roads through its State Planning Program will ensure new urban arterial roads are provided in growth corridors to avoid over-reliance on the strategic motorway and highway network.

#### Information and communication technology

Further development of electronic technology through the traffic management centres and the management of motorways will allow for monitoring and management of the motorway and arterial road network in real time.

The technology will be able to monitor and vary speed limits and traffic flows on ramps and intersections so traffic flow is optimised across the network.

The technology will also allow the provision of real time travel information so people can choose the best mode and time to travel. The previously separate traffic signal management systems of the state and local governments will be made inter-operable to provide integrated management of traffic flows on state and local roads.

#### Incident response

Delays from unplanned traffic incidents account for up to 60% of delay hours on the road network each day.

While the safety of crash victims remains paramount, ongoing improvements will be made to manage the impact of incidents on the road network.

These will include an ongoing program of incident management to deliver better detection, improved emergency service responses and better clearance methods. Specific measures include electronic surveillance and new traffic response vehicles to ensure safe site procedures and rapid clearances.

### Road user priority

More than 50% of public transport passengers are carried by bus on the road network. Road freight also dominates the freight task. Congestion on the road network at peak periods is unavoidable and roads need to be managed to encourage people to use public transport or share rides.

As part of *Connecting SEQ 2031*, a network of TransitWays (see page 61) will be rolled out across the region to provide priority for buses, while recognising the need to keep general traffic moving.

In areas close to major freight terminals and industrial zones, it may be necessary to prioritise high capacity freight traffic.

### Rail system capacity and safety

Track and junction upgrades to the existing rail network and improved signalling on the rail system will boost capacity, improve reliability and enhance safety.

The rail system will also benefit from new rollingstock and timetable revisions to expand shoulder services, which will encourage people to travel outside the current peaks.

Increasing use of the *go* card and off-peak pricing will continue to spread passenger loads throughout the day.

Rail system safety and efficiency can be enhanced by providing clearways for express services, removing open level crossings from major roads and providing more stabling locations to minimise 'dead running' of trains at the start and finish of services.

### Transport connections across natural or built barriers

There are many natural and built form barriers that limit the permeability of the transport network. Barriers include rail lines and major motorways. Rivers are an example of a natural barrier.

For road based traffic, these barriers form bottlenecks and undermine the resilience of the network. They may also mean that existing infrastructure is under-utilised.

A barrier which forces a longer trip may mean the difference between walking and cycling for a local trip, or taking the car. Barriers can also create safety issues where pedestrians and cyclists must cross them.

Initiatives to improve permeability, and thus the efficiency and safety, of the transport network could include:

- grade separation for local traffic or active transport to allow access across a motorway
- local scale river crossings for local traffic, public transport or active transport
- 'green links' and bus short-cuts
- elimination of open level crossings on rail lines.

### Reducing 'dead running'

'Dead running' (or 'dead heading') occurs routinely when a bus or rail service starts or finishes at a location away from a bus depot or train stable. The 'dead' leg of the trip does not earn revenue but still incurs full operating costs. As part of making the system more efficient, new depots and stabling facilities will be planned alongside new routes and service upgrades to minimise 'dead running' time and distance.

## Recent achievements

### ☑ New traffic management centres

New traffic management centres have been established in metropolitan Brisbane, Nerang on the Gold Coast and at Maroochydore on the Sunshine Coast. These centres provide a base to coordinate incident responses and maximise efficient operations of the road network.

### ☑ Incident response

Since the joint Queensland Government and Brisbane City Council Brisbane Metropolitan Transport Management Centre was established in 2006, the average time it takes to clear a road crash on the Brisbane network has reduced from one hour to 50 minutes.

Each year, the centre responds to almost 40 000 incidents on the Brisbane road network, including more than 6000 crashes, 20 000 vehicle breakdowns and 2500 planned events, such as changed traffic conditions due to roadworks or sporting events.

This joint effort is helping to manage the network efficiently, with an independent assessment of the centre estimating a reduction in congestion costs by as much as \$27 million a year.

### ☑ TransLink *go* card

The *go* card has revolutionised public transport ticketing in the region by combining an integrated fares system with a prepaid card. Using a *go* card cuts individual boarding time from about 11 seconds to just three, which translates to a time saving of up to seven minutes on an average bus trip.



**Key actions – improving transport system efficiency and safety**

Category	Action Number	Description	Lead
One network	3.1	Plan and manage the road network as 'one network', regardless of ownership.	TMR/LG
Road system efficiency, particularly for public transport and freight	3.2	Ensure local government and state government traffic management signal systems are interoperable so all signals are coordinated.	TMR
		Improve traffic flow through ongoing upgrades of traffic signal management and incorporating bus priority.	TMR
		Implement a TransitWay network across the region to provide priority on the road network for buses.	TMR/LG
		Progressively remove open level rail crossings on major roads, with the following as a high priority: <ul style="list-style-type: none"> <li>• Telegraph Road, Fitzgibbon</li> <li>• Robinson Road, Geebung</li> <li>• Beams Road, Carseldine</li> <li>• Boundary Road, Coopers Plains</li> <li>• Cavendish Road, Coorparoo</li> <li>• Lindum Road, Lytton</li> <li>• Todds Road, Lawnton.</li> </ul>	LG
		Plan new bus depots and bus layover facilities as part of bus network planning and service upgrades to reduce 'dead running' of buses.	TMR/LG
Managed motorways	3.3	Manage motorways using intelligent transport technology to improve the reliability and safety of travel on the region's motorway network and improve traveller information.	TMR
Rail system efficiency and safety	3.4	Purchase rollingstock to support the transformation of the rail network to a higher capacity system.	QR
		Provide additional services to improve frequency of 'shoulder' services outside the current peak period.	TTA
		Establish network separation to provide 'clearways' for express services and increase frequency for all stops services.	TTA/QR
		Introduce advanced communications based signalling and automatic train protection systems to improve safety and increase rail network efficiency, capacity and reliability.	TMR/TTA/QR
		Investigate measures to improve the efficiency of rail freight corridors for longer freight trains.	QR/TMR
		Plan new rail stabling facilities as part of new rail service improvements and rail corridors to minimise 'dead running' of trains and reduce junction conflicts.	QR/TMR/TTA
Incident management	3.5	Continue to enhance systems to identify, respond to and clear incidents on the road and rail systems.	TMR

TMR – Department of Transport and Main Roads; TTA – TransLink Transit Authority; QR – Queensland Rail; LG – Local Governments

## 4 Supporting economic vitality

### Principle

Ensure the transport system supports economic development and growth of employment by connecting:

- industries, suppliers and markets
- businesses to other businesses
- labour to employment.

### Policies to support economic vitality

- 4.1 Service major employment centres with high frequency public transport.
- 4.2 Manage motorways and strategic freight routes to ensure travel time reliability for freight.
- 4.3 Protect land for use by freight-intensive industrial and commercial activities close to freight terminals and logistics centres, motorways, highways and other priority freight corridors.
- 4.4 Direct heavy vehicle movements that do not have a local destination away from the suburban road network.
- 4.5 Ensure the freight network supports the movement of freight by the most efficient mode.

Without efficient freight movements, the region's economic growth will be restricted and availability of consumer goods will be reduced.

To achieve its economic potential, the region needs a modern, reliable and high capacity freight network of rail lines, roads, and intermodal freight terminals that can move increasing volumes of goods without impacting on the amenity of cities.

Transport investment will support the SEQ Regional Plan policy of developing a diversified economy that aims to retain local jobs and build on the regional and sub-regional competitive advantages<sup>22</sup>.

*Connecting SEQ 2031* will also contribute to the *Toward Q2* target of making Queensland Australia's strongest economy by providing transport infrastructure to support growth.

### Strategic freight routes

The road freight task in Brisbane is forecast to grow by 3.7% per year to 2020, compared to 3% per year forecasts for Sydney and Melbourne<sup>23</sup>. Areas likely to experience major increases in road freight activity include:

- Brisbane CBD (primarily light commercial vehicles)
- Australia TradeCoast
- Acacia Ridge, Yatala, Brendale, Virginia, Wacol and Swanbank
- regional business centres, such as Ipswich and Southport
- new industrial land areas, such as Ebenezer, Bromelton and Park Ridge.

To meet demands for road freight, a connected and resilient network of managed motorways will be developed by upgrading existing motorways and providing strategic missing links. This network will support higher mass limit vehicles and could, where appropriate, support 24-hour operation of freight vehicles, providing improved freight access and efficiency in freight operations.

Freight volumes through the Port of Brisbane are expected to increase substantially in the next two decades. Containerised trade is expected to triple with a forecast increase of 7.4% per year until 2025, above the national forecast average of 5.4% per year.

As a result, heavy vehicle movements through the Port of Brisbane is expected to increase from 5000 vehicle movements per day in 2006 to 15 000 by 2031<sup>24</sup>.

Increasing the share of containerised freight movements carried to the port by rail will reduce pressure on roads servicing the port.

### Intermodal freight terminals

The existing major intermodal freight terminals are at Australia TradeCoast and Acacia Ridge. To provide for growth and support increased rail freight, two additional terminals will be needed by 2031.

Sites identified as potential candidates for new intermodal freight terminals include:

- Bromelton
- Ebenezer (in conjunction with the possible inland standard gauge rail from Melbourne)
- north of the Brisbane River on the North Coast Line
- Charlton Wellcamp Enterprise Area (within the Toowoomba local government area).

22 Queensland Government (Department of Infrastructure and Planning) 2009 *South East Queensland Regional Plan 2009–2031* p 112

23 Bureau of Transport and Regional Economics 2006 *Working Paper 71 – Estimating urban traffic and congestion cost trends for Australia cities* p 42

24 DP World Brisbane 2008 *Submission to Infrastructure Australia, Stage 2 Port of Brisbane Motorway*



### High capacity public transport to centres

The relationship between where the labour force lives and employment locations affects the likely growth in demand for transport and the ability of businesses to access labour. The region currently suffers from a major imbalance between the location of employment and residential development.

Brisbane city provides the economic core of the region, containing more than 50% of jobs but only 38% of the population in 2006<sup>25</sup>. Without government intervention, this situation is unlikely to change significantly by 2031.

The SEQ Regional Plan aims to address the imbalance by ensuring major new communities include local and regional employment opportunities and by locating employment centres at strategic points throughout the region<sup>26</sup>.

However, in a diverse region with such a broad range of lifestyle choices, it is inevitable that people will not always live close to where they work.

The commuter role of the transport network is vital in connecting workers to jobs.

Interaction between businesses is also vital to support growth and diversification of the region's economy. Cities and regions develop because businesses like to cluster together to gain the benefits of shorter travel distances. Ensuring 'business-to-business' trips can be made efficiently will assist the region's cities to attract and retain business and industry growth.

Since modern businesses need to access business in other parts of Australia and overseas, reliable connections to the region's airports are also vital to supporting economic growth.

Commuter travel and business-to-business travel will be supported by connecting the region's major centres with high quality public transport. This will allow:

- businesses to access a broader pool of labour from the region's major residential areas
- business travellers to access other business services located in any centre across the region, as well as ready access to the region's airports for domestic and international business travel.

### Trucks off suburban roads

Each day, about 140 000 heavy articulated vehicle movements and more than 200 000 medium rigid truck movements occur on metropolitan Brisbane's road network. It is estimated that about 80% of these movements use the suburban arterial road network for a substantial part of their journey.

To a lesser extent, the region's other major cities also experience movements of heavy vehicles that could be using a strategic motorway network if it was fully in place.

Many of these suburban movements are necessary due to local delivery destinations, while others occur due to a lack of a viable alternative route, or a desire to avoid a congested area or tolled motorway.

Strategies to remove unnecessary truck movements in metropolitan Brisbane are already being put in place through construction of the Clem7, Airport Link and Gateway Motorway upgrades. There are also measures in place to restrict heavy vehicles using the Brisbane Urban Corridor as a through route.

Construction of a western bypass at Ipswich will remove many heavy vehicle movements from the Ipswich suburban road network. The existing and planned major industrial areas on the Gold Coast and Sunshine Coast are already well located with good access to the major road network.

In the future, a complete orbital motorway network around Brisbane will provide a basis for directing and regulating heavy vehicle movements out of the suburban arterial road network. The orbital motorway network of Brisbane will include:

- upgraded Gateway, Logan and Centenary Motorways
- the Legacy Way tunnel to the Inner City Bypass and Airport Link
- a new north–south motorway from Legacy Way to Everton Park, with a connection to the Bruce Highway.

Additional intermodal freight terminals will be co-located with compatible land uses to enhance the efficiency of freight distribution. The terminals will be located away from residential areas and with good access to priority freight routes to keep trucks off suburban roads.

25 Australian Bureau of Statistics, 2006, *Census of Population and Housing*

26 Queensland Government (Department of Infrastructure and Planning) 2009 *South East Queensland Regional Plan 2009–2031* pp 111-114



### Key actions – supporting economic vitality

Category	Action Number	Description	Lead
Road freight	4.1	Develop a resilient network of connected and managed motorways suitable for higher mass limit vehicles and 24-hour operation of freight vehicles where appropriate.	TMR
		Develop and implement a plan to remove truck movements from urban areas through regulation and electronic enforcement.	TMR
Rail freight	4.2	Improve freight segregation on the suburban rail network and upgrade the North Coast Line with freight refuges for 1500-metre trains (will also enhance safety).	TMR
		Undertake improvements to freight and passenger rail conflict points at Corinda Junction and the Roma Street/Exhibition configuration.	TMR/ QR
		Upgrade the Dutton Park to Salisbury corridor to provide a dedicated freight track on the existing dual gauge track (facilitated by Cross River Rail and provision of additional underground passenger rail tracks) to accommodate rail freight accessing the Port of Brisbane, Acacia Ridge, Bromelton and the North Coast Line.	TMR
		Protect a corridor for a standard gauge, non-electrified rail link from Rosewood to Kagaru (Southern Freight Rail Corridor) in conjunction with the possible inland freight rail line from Melbourne.	TMR
		Investigate and adopt a target for increased freight by rail to and from the Port of Brisbane.	TMR
		Investigate feasibility to achieve short-haul transfer of freight by rail from the port to intermodal terminals elsewhere in the region (rail shuttles).	TMR
Intermodal freight terminals	4.3	Investigate, procure and protect suitable sites for future road-rail intermodal freight terminals at possible locations of Ebenezer, Bromelton, a site north of the Brisbane River on the North Coast Line and the Charlton Wellcamp Enterprise Area.	TMR
		Expand capacity of Acacia Ridge to accommodate 1500-metre trains.	TMR
		Improve road access to Acacia Ridge from the Logan Motorway.	TMR

TMR – Department of Transport and Main Roads; QR – Queensland Rail

## Recent achievements

### ☑ Gateway Motorway upgrade

The Gateway Motorway has been upgraded to six lanes between Nudgee Road and Mt Gravatt–Capalaba Road, with a second Gateway Bridge and Gateway deviation.

### ☑ New motorway connections

The Clem7 tunnel (Brisbane City Council project) opened in March 2010. Together with Airport Link (scheduled for completion in 2012), this will form a motorway standard connection from the Pacific Motorway (M3) at Woolloongabba to the Gateway Motorway (M1).

### ☑ Strategic rail network upgrades

Strategic upgrades of the rail network will support rail freight movements, including: duplication of the rail line from Caboolture to Beerburrum, additional track capacity from Corinda to Darra, construction of Cross River Rail to free up capacity on the dual gauge rail line to the port, and grade separation of the Beaudesert Road open level crossing at Acacia Ridge.



## 5 Protecting environmental quality and health

### Principle

A shift to a sustainable transport system involves long-term efforts to reduce carbon emissions, other environmental impacts and reliance on fossil fuels. A sustainable transport system will have a strong focus on a cleaner fleet, a reduced need to travel, greater use of public and active transport modes and will be resilient and adaptable to climate change.

### Policies to improve environmental quality and health

- 5.1 Provide for a shift towards a more fuel efficient and lower carbon emitting vehicle fleet (private vehicles, buses, taxis, trains and trucks), including low carbon transport technologies, such as electric vehicles and alternative-fuel hybrid vehicles.
- 5.2 Encourage a shift to public transport.
- 5.3 Support active transport as the lowest impact form of transport.
- 5.4 Encourage the transport of goods to shift from road to rail freight along specified corridors.
- 5.5 Support transport planning, design, construction, maintenance, governance arrangements and operational decisions that take into account projected climate change and its potential impacts on the transport system.
- 5.6 Employ innovative planning and design approaches to avoid or minimise transport impacts on our natural environment, including on habitat areas, ecological corridors and air quality.

All the key action areas in *Connecting SEQ 2031* will focus on environmental quality and health, including encouraging cleaner vehicles and increasing the attractiveness of active transport.

Policies and actions for the 'compact and connected communities' key action area strongly reinforce the improvement of active transport as a mainstream mode of transport by concentrating attractions within easy walking or cycling distance of residential areas.

In terms of improving environmental quality and health, *Connecting SEQ 2031* will contribute to the following targets of *Toward Q2: Tomorrow's Queensland*:

- 2020 target: cut Queenslanders' carbon footprint by one third with reduced car and electricity use. *Connecting SEQ 2031* will increase the use of sustainable transport modes (walking, cycling, public transport and more freight on rail)

- 2020 target: cut obesity by one third with *Connecting SEQ 2031* providing more opportunities for people to choose active transport options (cycling and walking) as part of daily travel.

### Cleaner vehicles

The use of cleaner vehicles will be promoted by government programs to encourage the purchase of fuel efficient and low emission vehicles<sup>27</sup>. This includes a target to reduce greenhouse gas emissions from the Queensland Government fleet by 50% by 2017.

Campaigns to educate drivers to operate vehicles in a way that conserves fuel and reduces emissions (termed eco-driving) will also be implemented.

Cleaner buses will play a strong role in reducing air pollution. The government will continue to support compressed natural gas buses in Brisbane and trial low-emission, diesel-electric hybrid buses.

The Queensland Government will also actively work to encourage greater use of new, low carbon transport technologies, such as electric vehicles and alternative-fuel hybrid vehicles. This work will include examining likely infrastructure needs and impacts of these new technologies.

27 Queensland Government 2009 *ClimateQ: toward a greener Queensland*

## Mode shift to sustainable transport

Active transport (walking and cycling) will receive increased policy emphasis as a mainstream mode of urban transport, rather than being seen as a supporting mode for motorised transport.

State and local governments will adopt a 'whole of journey' approach to active transport planning to deliver a connected network of safe on and off-road active transport facilities. This will include providing end-of-trip facilities with secure bicycle parking and showers in activity centres and at strategic public transport stations.

Investment in roads entering activity centres, education precincts and transport hubs will focus on managing roads as multi-modal facilities catering for walking, cycling and buses, with a less dominant role for private vehicle traffic.

More freight on rail is also supported, which will deliver environmental benefits, as well as help keep trucks off suburban roads.

## Climate change adaptation

Climate change is expected to increase the frequency and severity of extreme weather events. There could also be gradual onset of rising sea levels and highly variable rainfall.

Despite greenhouse gas mitigation efforts, climate change may still result from past emissions. One of the challenges is to adapt to the effects of climate change by developing strategies to protect areas at risk.

The planning process in the region can reduce risks from natural hazards and the projected effects of climate change through:

- avoiding development of transport facilities in areas vulnerable to climate change impacts, like rising sea levels
- improving design measures for transport infrastructure to increase their resilience to climate change impacts, such as extreme weather.

## Environmental protection

The Department of Transport and Main Roads recognises the importance of protecting biodiversity and has undertaken research and development projects on the impacts of road infrastructure (and the traffic it carries) on natural habitat and fauna.

The outputs from this scientific research were captured in three manuals:

- Fauna Sensitive Road Design Volume 1: Past and Existing Practices
- Fauna Sensitive Road Design Volume 2: Preferred Practices
- Roads in Rainforest: Best Practice Guidelines for Planning, Design and Management.

The manuals provide technical assistance on methods to address impacts on a broad range of habitat values. They are based on scientifically examined methods and encapsulate learnings from various road infrastructure projects. The manuals will continue to be used by government agencies, land developers and wildlife experts.

## Recent achievements

The Queensland Government spent a record \$100 million on cycling in 2009–10. The state government and local governments have increased their focus on end-of-trip facilities and active transport routes by:

- ☑ **Cycle centres**  
Delivering the King George Square (420 bicycle parks) and Royal Brisbane and Women's Hospital (750 bicycle parks) cycle centres which provide secure bicycle and clothing storage, showers and bike repair facilities.
- ☑ **End-of-trip facilities**  
Ensuring local planning regulations require incorporation of end-of-trip facilities in new office buildings. End-of-trip facilities have been included in government buildings in the CBD and included in the Queensland Building Code.
- ☑ **Green bridges**  
Constructing the Eleanor Schonell Bridge as a green bridge for buses and active transport users only. Delivering the Goodwill Bridge, Kurilpa Bridge, and a bridge over the Centenary Motorway at Toowong, for active transport users only.
- ☑ **Active transport included in major projects**  
The Gateway Motorway upgrade project includes a 4.2-metre-wide shared facility built as part of the Gateway Bridge (M1) duplication.

The Ted Smout Memorial Bridge from Brighton to Clontarf includes a 4.5-metre-wide shared pedestrian and cycle facility which will form a link in the Moreton Bay Cycleway.

The Princess Alexandra Hospital bikeway built by the Boggo Road Busway Alliance in conjunction with the busway, provides an overpass over Ipswich Road to Annerley Road. This cycle facility provides a link connecting the South East Freeway to the University of Queensland.

- ☑ **New and improved active transport corridors**  
The Normanby Pedestrian and Cycle Link (opened in September 2007) connects the Victoria Park bikeway via a tunnel to the Roma Street Parklands. The link provides easy access to the King George Square Cycle Centre and the CBD.

Bicentennial Bikeway upgrade between Park Road and Little Cribb Street.

On-road cycleway connecting Brassall to Riverlink.

The Eenie Creek cycle and pedestrian bridge provides safe access over Eenie Creek Road for residents and students.

Continued development of a network of active transport routes along Gold Coast beaches and waterways.



### Key actions – protecting environmental quality and health

Category	Action Number	Description	Lead
Cleaner vehicles	5.1	Ensure government purchasing policies require fewer vehicles in the fleet and encourage the purchase of fuel efficient and electric vehicles.	TMR LG
		Investigate incentives or campaigns to reduce greenhouse gas emissions from the transport fleet, such as the effectiveness of eco-driving in reducing vehicle emissions.	TMR
		Undertake a low emission bus trial using diesel-electric buses.	TMR
		Include incentives in TransLink bus contracts for operators to use low emission buses.	TMR TTA
		Encourage taxi licensees to operate low emission vehicles.	TMR
		Investigate measures to support cleaner vehicles, including lower registration fees and supporting infrastructure (such as switching stations and infrastructure for plug-in electric vehicles).	TMR
Sustainable transport	5.2	Complete a connected network of active transport routes within a five kilometre catchment of activity centres, and complete the principal cycle network.	TMR LG
		Adopt a policy for the provision of active transport facilities on public land, in buildings and private developments, including end-of-trip facilities in particular commercial, industrial and community use development proposals.	TMR LG
Climate change adaptation	5.3	Develop an evidence based climate change adaptation policy position and action plan to inform climate change adaptation for the transport system and to facilitate the prioritisation of key adaptation work.	TMR
Environmental protection	5.4	Work with key stakeholders to identify and prioritise opportunities to improve environmental outcomes, such as improved wildlife movement through regional greenspace corridors.	TMR LG TTA
		Ensure transport construction, maintenance and operations minimise impacts on air, land and waterways.	TMR LG TTA

TMR – Department of Transport and Main Roads; LG – local government; TTA – TransLink Transit Authority

## 6 Delivering an integrated transport network

### Principle

The transport network will be expanded to address deficiencies and connect communities with the most sustainable mode to enable the system to cope with a significant increase in travel demand.

### Policies to guide completion of an integrated network

- 6.1 Focus new investment on achieving a region of inter-connected communities where transport contributes to a safe, healthy and accessible lifestyle.
- 6.2 Make public transport, active transport and freight networks the priority for capacity enhancement projects.
- 6.3 Rail will be the backbone of the future passenger transport system – investment priority will include ensuring the region is connected by efficient, high frequency rail, light rail and the Brisbane subway.
- 6.4 Transform bus networks through continuing the Brisbane busway network, rolling out bus priority on radial and cross-town routes and delivering of high frequency UrbanLink bus services across the region.
- 6.5 Focus road network development on completing a connected and managed strategic road network, supported by multi-modal arterial roads for local travel.

Capacity enhancements focused on getting the right trips on the right modes is an important priority of *Connecting SEQ 2031*.

While investment in new road facilities will always be required, building more roads to cater for peak period traffic demands will not support a shift to more sustainable transport modes.

*Connecting SEQ 2031* emphasises the role of rail to increase the efficiency of passenger movements and support a longer term generational change toward compact urban settlement patterns, as specified in the SEQ Regional Plan.

A brief overview of the initiatives to complete the integrated transport network are included below. Further details of the network strategies for public transport, roads, active transport and freight are included in Part C.

### Public transport network

#### Rail network sectorisation

There will be a major revolution in the way rail services operate across the region's rail network. This will ensure the system meets a broader range of traveller needs. The new rail system will include three core service types:

- **UrbanLink** – high frequency, all stops services all day, seven days a week. The first stage will be for services inbound from Redbank Plains, Darra, Ferny Grove, Strathpine, Shorncliffe, Brisbane Airport, Cleveland and Loganlea. In the longer term, this style of service could also run between Helensvale and the Gold Coast Airport and between Beerwah and Maroochydore on the Sunshine Coast

- **ExpressLink** – transform outer suburban rail services to provide faster travel times from Ripley, Ipswich, Rosewood, Helensvale, Caboolture North, Kippa-Ring and Flagstone
- **CoastLink** – fast, express rail service from Brisbane to the Gold Coast and Brisbane to the Sunshine Coast, with a travel time of about one hour.

#### Cross River Rail

Cross River Rail is a new rail link to address the future bottleneck in the inner city rail network. Cross River Rail will make the 'rail revolution' possible, providing the essential extra capacity to support the ongoing expansion of the rail network and the addition of higher frequency rail services.

With a \$25 million commitment from the Australian Government and Queensland Government, planning for Cross River Rail is almost complete. Construction of Cross River Rail is anticipated to commence in 2015, with operation commencing in 2020.

#### Brisbane subway

A separate subway system for inner Brisbane will be developed to improve public transport network coverage and capacity into the more densely populated urban areas. The initial line will cross from Toowong to West End, pass under the CBD and then link to Bowen Hills and Newstead. Planning for the subway will commence from 2015.

#### Light rail on the Gold Coast

Light rail will provide a catalyst for land use change along the busy high density coastal corridor. Further extensions of light rail and bus rapid transit options on the Gold Coast will be investigated as passenger demand builds on strategic bus routes.

#### Bus network

There will be continued transformation of bus networks through:

- completion of the busway network, with extension of the Northern Busway to Bracken Ridge and the Eastern Busway to Capalaba
- development of a network of TransitWays across the region, providing priority for buses and ensuring more efficient use of existing road space.

Service improvements will include high frequency UrbanLink bus services on strategic routes, including cross-town routes, with upgraded facilities and information at stops.

There will also be a focus on ensuring integration between the bus and rail networks, allowing passengers to easily transfer and access more destinations across the region.

### Road network

#### Motorway network

Road construction will include the ongoing development of a connected and managed motorway network. This will include completing an orbital motorway network for Brisbane.

The Pacific Motorway and Bruce Highway will be upgraded to continue their role as motorways bypassing centres on the Gold Coast and Sunshine Coast. Long-term strategic road needs beyond 2031 will be limited to a focus on connecting new development areas identified in the SEQ Regional Plan and will be partly funded through developer contributions.



**Multi-modal road corridors**

To support the creation of the orbital motorway network for Brisbane and completion of a connected network of managed motorways across the region, the government will work in partnership with local government and land developers to plan and develop a network of supporting multi-modal urban arterial roads.

These facilities will be managed to support intra-urban movements and reduce the need for local traffic to access the strategic motorway network.

Multi-modal urban arterials will include facilities for cyclists and pedestrians, as well as providing strategic corridors for buses.

They will be access-controlled and, in most cases, intersections would be at-grade.

Where required, bus priority measures will be provided. In cases where arterials comprise part of the principal cycle network, they may also contain high capacity, segregated veloway style facilities, or on-road cycle lanes on lower demand sections.

**Key actions – delivering an integrated transport network**

Category	Action Number	Description	Lead
Cross River Rail	6.1	Construction of a new rail link with underground stations through the inner city, connecting the North Coast/Caboolture Line with the Gold Coast/Beenleigh Line.	TMR
Rail network sectorisation	6.2	Transform the suburban rail network into two service types (UrbanLink and ExpressLink) as identified in the rail network services concept (see chapter 5). This will increase capacity across the south-east Queensland rail network.  The short to medium-term investment priority will be to commence progressive roll-out of UrbanLink services with new high capacity rollingstock. In the longer term, UrbanLink services could be rolled out on the Gold Coast and Sunshine Coast.	TMR/ TTA
Expand the reach of the greater Brisbane rail network	6.3	Expand the reach of the suburban rail network, including: <ul style="list-style-type: none"> <li>• Moreton Bay Rail Link from Petrie to Kippa-Ring</li> <li>• Richlands to Redbank Plains</li> <li>• Salisbury to Flagstone</li> <li>• Ipswich to Ripley</li> <li>• developing major park 'n' ride stations in strategic locations where access to the railway station by sustainable transport modes is limited</li> </ul>	TMR/ TTA/ QR
CoastLink network Sunshine Coast to Brisbane to Gold Coast	6.4	Implement extensions, upgrades and service structures required to facilitate fast CoastLink services, including: <ul style="list-style-type: none"> <li>• duplicate the Gold Coast line from Coomera to Helensvale</li> <li>• extend the Gold Coast line from Varsity Lakes to Gold Coast Airport</li> <li>• construct the Sunshine Coast rail line from Beerwah to Maroochydore</li> <li>• duplicate and upgrade the North Coast Line from Beerburum to Landsborough</li> <li>• a new rail line from Cross River Rail to Strathpine.</li> </ul>	TMR/ TTA/ QR
Brisbane subway	6.5	Commence planning for a Brisbane subway as a distributor for passengers around the inner city. The priority for investment will be from Toowong to Bowen Hills/Newstead via West End and the CBD, with future extensions to be planned for beyond 2031.	TMR
Light rail (Gold Coast Rapid Transit)	6.6	Complete the light rail corridor from Helensvale to Coolangatta. Investigate the potential for additional east-west light rail corridors as part of multi-modal investigations.	TMR
Strategic road network	6.7	Complete strategic road network projects and preserve strategic road corridors identified in the local government maps (Part D). The investment priority will be to create a connected orbital motorway system for metropolitan Brisbane.	TMR LG
Brisbane busway network	6.8	Complete development of Brisbane's busway network, with the continuation of the Northern Busway to Bracken Ridge and the Eastern Busway to Capalaba. The priority for investment will be: <ul style="list-style-type: none"> <li>• extending the Northern Busway to Chermside, with interim bus priority to Bracken Ridge</li> <li>• extending the Eastern Busway to Carindale, with interim bus priority to Capalaba</li> <li>• extending the South East Busway to Springwood.</li> </ul>	TMR/ TTA
Bus network	6.9	Investment priorities for the bus network include: <ul style="list-style-type: none"> <li>• progressing delivery of TransitWays to support UrbanLink bus services</li> <li>• implementing high frequency UrbanLink bus services</li> <li>• expanding the coverage and frequency of local bus services</li> <li>• developing strategic park 'n' ride locations for bus passengers</li> <li>• developing a policy for provision of public transport in rural communities.</li> </ul>	TMR TTA LG
Active transport network	6.10	Undertake a comprehensive program to improve active transport connections to major centres, educational institutions and public transport stops and stations.	TMR LG

TMR – Department of Transport and Main Roads; LG – local government; TTA – TransLink Transit Authority; QR – Queensland Rail

## Part C – Detailed network strategies for 2031



## 5. Public transport network

### Signature Projects – Rail Revolution

#### SP1 Rail network optimisation

A package of initiatives to enhance the pre-Cross River Rail and post-Cross River Rail capacity and safety of the rail network, including new technologies to optimise the performance of the rail network and delivering new generation rollingstock.

#### SP2 Cross River Rail (planning near completion)

A proposed new north–south rail line in Brisbane's inner city, including a new tunnel under the Brisbane River and new underground inner city stations.

#### SP3 Rail network sectorisation

Modernise and restructure the region's rail network to provide three new tiers of service.

UrbanLink – high frequency, all stops services all day (6 am–9 pm), seven days a week.

ExpressLink – transform outer suburban express rail services to provide faster travel times with a consistent stopping pattern all day.

CoastLink – fast, express rail services will operate from Brisbane to the Gold Coast and Brisbane to the Sunshine Coast, with a travel time of about one hour.

#### SP4 Light rail (Gold Coast Rapid Transit)

Complete the light rail corridor from Helensvale to Coolangatta, with a connection to the Gold Coast Airport, and identify possible east–west extensions inland from the coastal spine.

#### SP5 Brisbane subway

Develop an entirely separate Brisbane subway system, with Toowong to Newstead/Bowen Hills via West End and the CBD as the first line. This will provide a high capacity, high frequency, distributor system connecting central Brisbane destinations and distributing passengers from the bus and rail network across the intensely developed core of inner Brisbane.

#### SP6 North-west rail line

Construct a new rail line from the North Coast Line at Strathpine to Cross River Rail to service communities in Brisbane's north-west and supporting UrbanLink, ExpressLink and CoastLink services.

### Signature Projects – Bus

#### SP7 Eastern and Northern Busways

Construct the Eastern Busway to Carindale and the Northern Busway to Chermiside and continue planning to extend busways to Capalaba and Bracken Ridge respectively, with interim on-road bus priority treatments likely to be used beyond Carindale and Chermiside.

#### SP8 UrbanLink bus services

Develop a connected network of high frequency UrbanLink bus services across the region with the supporting local bus network redesigned to provide effective feeder services to UrbanLink public transport corridors.

#### SP9 TransitWay network

Develop a network of on-road bus priority corridors across the region to support UrbanLink and local bus services, providing priority to buses and other multi-occupant vehicles, and ensuring more efficient use of existing road corridors.

#### SP10 CoastConnect

Establish an UrbanLink bus service with on-road priority from Maroochydore to Caloundra via Mooloolaba and Kawana Town Centre.

### Existing public transport projects

Significant investment is proposed under the *Queensland Infrastructure Plan* and the *Transport Plan for Brisbane 2008–2026*, including:

- additional trains
- expanding the bus fleet
- expanding the total CityCat fleet to 19 vessels by 2012.

In conjunction with these fleet upgrades, investment in fixed infrastructure includes:

- Moreton Bay Rail Link from Petrie to Kippa-Ring
- Gold Coast Rapid Transit Project to deliver light rail from Gold Coast Health and Knowledge Precinct to Broadbeach
- Northern Busway from Windsor to Kedron

- Eastern Busway from Buranda to Coorparoo
- bus lanes and bus access facilities on the road network across the region
- funding support to assist local governments to ensure 100% of bus stops comply with *Disability Discrimination Act 1992* standards by 2022.

### TransLink – a single network

The *Integrated Regional Transport Plan* released in 1997 saw the establishment of the TransLink integrated public transport network with one ticket and no transfer penalties across all public transport modes.

The Queensland Government's TransLink Transit Authority provides a single authority for planning and managing services, providing passenger information and receiving feedback on urban public transport in the region. TransLink's network includes:

- rail services operated by Queensland Rail under contract to TransLink
- buses run by private sector contractors and Brisbane Transport under contract to TransLink
- ferries operated under a funding agreement by Brisbane City Council.

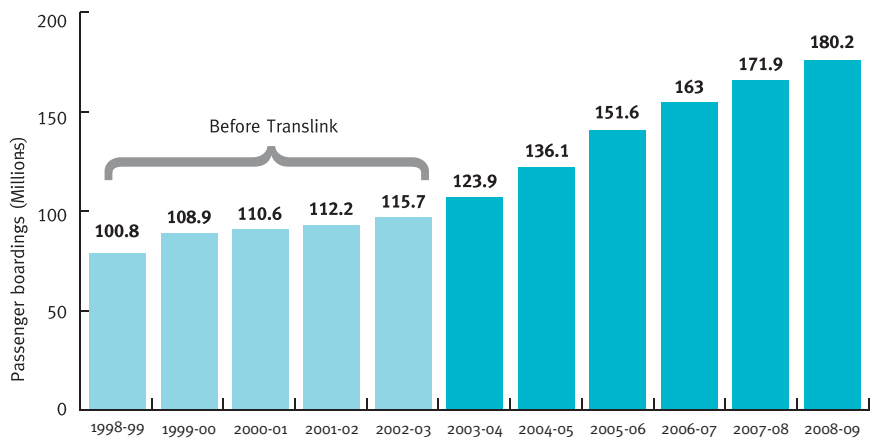
TransLink is working with state and local government partners and the private sector to ensure all the major urban areas of the region have an integrated network of public transport services that is easy for people to understand and use.

### The growing public transport task

*Connecting SEQ 2031* establishes a target of doubling the share of trips made on public transport between 2006 and 2031.

This will see public transport's share of travel in the region increase from 7% in 2006 to 14% of all trips – an average growth rate of 4.7% per year from 2006 to 2031.

Figure 5.1 – public transport patronage growth 1998-99 – 2008-09



Source: TransLink Transit Authority patronage data

Between 2004 and 2009, public transport patronage grew around 8% per year (Figure 5.2), indicating the target is achievable with continued investment in infrastructure and services.

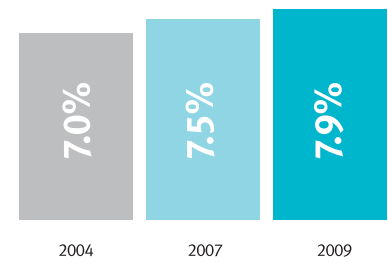
While shifting more trips to public transport will support the key transport goals of *Connecting SEQ 2031*, it means much more investment in public transport infrastructure and services will be needed. However, it will also mean less expenditure on costly upgrades to road corridors for private cars.

Daily rail passenger kilometres are forecast to increase from 3.8 million in 2006, to more than 13.5 million by 2031.

By comparison, bus passenger kilometres would increase from 3.5 million to 10.4 million per day in the same period<sup>28</sup>.

This difference is the result of rail being better suited to longer trips. However, bus will continue to carry more passenger trips than rail due to its greater network coverage.

Figure 5.2 – south-east Queensland public transport mode share 2004–2009



Source: Department of Transport and Main Roads Household Travel Surveys 2004–2009

Figure 5.4 – daily public transport trips 2006 and 2031 if targets achieved

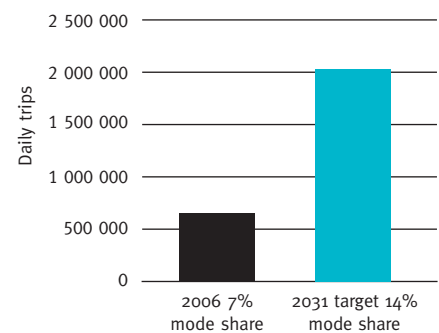


Figure 5.5 – increase in trips 2006–2031 if targets achieved

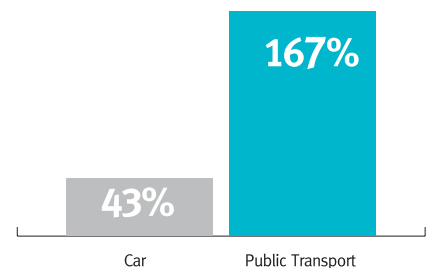
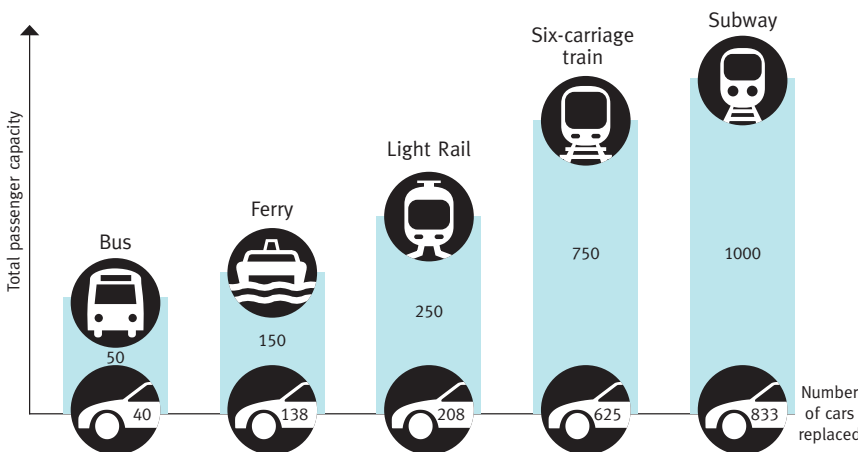


Figure 5.3 – public transport vs private vehicle capacity comparison



28 Department of Transport and Main Roads 2009 *Transport Modelling for Connecting SEQ 2031*



## Overarching principles for an integrated public transport network

PT1 Design a system that is easy to use and understand

PT2 Provide a quality journey from the decision to use public transport, to arrival at the destination

### PT1 A system that is easy to use and understand

Connecting SEQ 2031 establishes that public transport system patronage will need to almost triple by 2031, from about 620 000 trips per day to over 2 million.

Adding more capacity needs to be done in a way that simplifies the network and improves the efficiency and overall attractiveness of the system.

In major movement corridors, increasing demands will require high capacity public transport. Rail is able to carry the highest volume of passengers and is the most cost effective solution where demand is high and a quality service is required.

Future investment will establish rail as the backbone of the network. An expanded rail network will be supported by bus services to fill the gaps and to link communities not serviced by rail to the rail and busway network.

For trips in the densely settled parts of the region, passengers will easily be able to plan trips by consulting a simplified map of the high frequency public transport network, and will not need to look at a timetable.

### PT2 A quality public transport journey

A public transport trip has many dimensions, from the decision to use the service to arrival at the destination, as shown in Figure 5.6.

The aim is to provide public transport passengers with quality service and facilities at all points of the trip.

While some aspects may work well, they can be undermined by poor quality facilities or service in other areas.

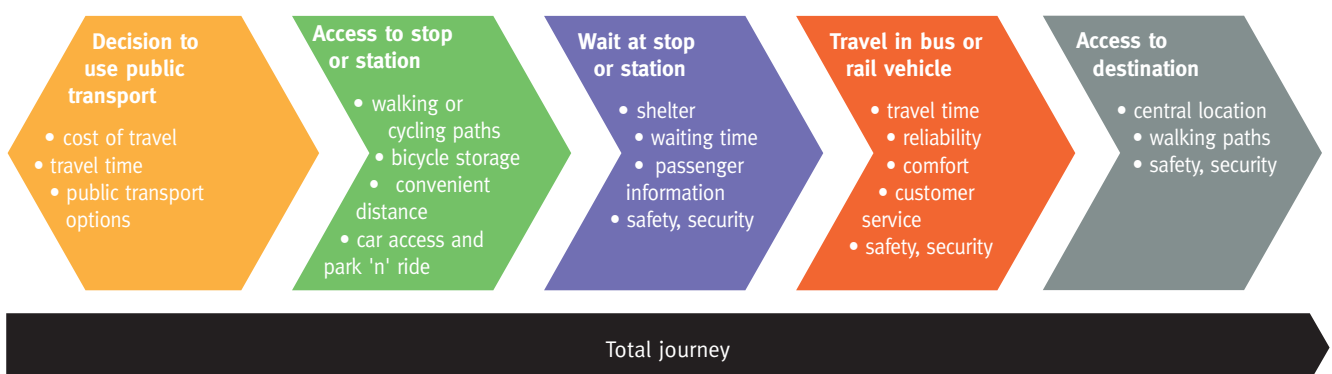
For example, the benefits of improved bus travel times from major investment in infrastructure can be undermined by lack of shelter or long boarding delays at stops, poor customer service from a staff member, or inconsiderate behaviour from other passengers.

The ability to easily access stops and stations can also impact on a passenger's experience.

Planning for the future public transport system needs to adopt a people-centred approach which pursues quality in all aspects of the system, where the customer's perspective is considered from the moment they consider making a trip, to arrival at their destination.

Some public transport journeys will require passengers to use more than one public transport service. Ensuring transfers are seamless and easy to negotiate is a key component of providing a quality public transport journey.

Figure 5.6 – a quality public transport journey ... from decision to destination



## Supporting principles for an integrated public transport network

PT3	Develop a network that operates at a good level of service <b>all day</b> , with peak period supplementary services
PT4	Provide a clear network of <b>high frequency UrbanLink bus, light rail and rail services</b> where passengers can 'turn up and go'
PT5	Use <b>'trunk and feeder' design</b> to enable local access to key destinations across the region
PT6	Encourage people to <b>access public transport by walking and cycling</b> , while recognising the need for car feeder roles in some markets
PT7	Use <b>fare products</b> to encourage people to shift from car transport, and to manage and direct passenger growth

### PT3 An all day network

Traditional approaches to the delivery of public transport services focused on providing for weekday peak period journeys to and from work. Off-peak and weekend services were run at much lower frequencies, meaning the majority of the fleet and driver resources were utilised for only a few hours of the day.

Modern lifestyles require more diverse travel options, with work trips now comprising only one-fifth of all travel. To better service modern travel patterns and make public transport an attractive travel choice for different trip types, the future public transport network will be re-designed as an all day network (that is, 6 am–9 pm).

The majority of services will need to operate all day, seven days a week. During peak periods, higher-frequency trunk services and extra supplementary services like commuter 'rockets' will provide for the higher passenger volumes.

### PT4 UrbanLink 'turn up and go' rail and bus network

TransLink will progressively roll out a network of high frequency UrbanLink services on strategic rail, light rail and bus routes. This UrbanLink 'trunk' network will operate at headways of 15 minutes or better, seven days a week. This will allow passengers to simply 'turn up and go', without needing to consult a timetable.

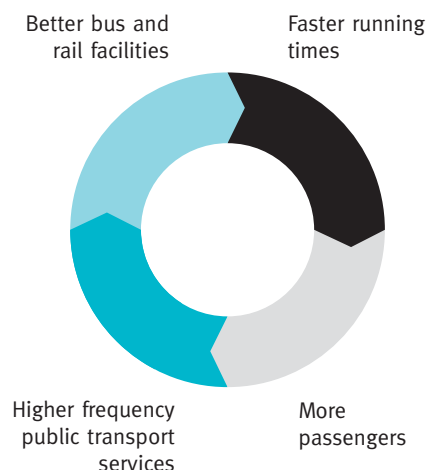
Delivery of the high frequency UrbanLink network establishes a self-reinforcing cycle whereby the attraction of more passengers allows a further increase in frequencies. Higher passenger volumes also make it viable to invest in infrastructure improvements to support faster travel times, which in turn also attracts more passengers.

The success of a high frequency network is already proven in Brisbane, with the BUZ (bus upgrade zone) routes, introduced by Brisbane Transport from 2002, resulting in increases in peak and off-peak passengers.

### The UrbanLink network: 'turn up and go'

- a connected network of high frequency passenger rail, light rail and buses
- services run along major corridors to connect activity centres and residential communities
- frequency of 15 minutes or better off-peak, 10 minutes or better during peak periods
- high frequency, all day (at least 6 am–9 pm), seven days a week
- quality shelters and passenger information
- operate on rail, busways or the road network, with supporting bus priority measures to minimise impacts of traffic congestion
- passengers consult a simplified high frequency network map with no need for a timetable
- a doubling of the proportion of south-east Queensland residents within walking distance of 'turn up and go' services by 2031.

**Figure 5.7 – UrbanLink services establish a self-reinforcing cycle that continually builds patronage**



### PT5 Trunk and feeder design

As the public transport system expands, moving to a 'trunk and feeder' design will improve services and make it easy to understand for passengers. Under a 'trunk and feeder' design, the trunk UrbanLink bus and rail routes are supported by local bus feeder services to provide easy connections to multiple destinations across the region's centres.

The alternative is the traditional 'single seat' bus planning approach, which attempts to provide a large range of services connecting all parts of the city to its centre. This approach results in a complicated service network with low frequencies on almost all routes.

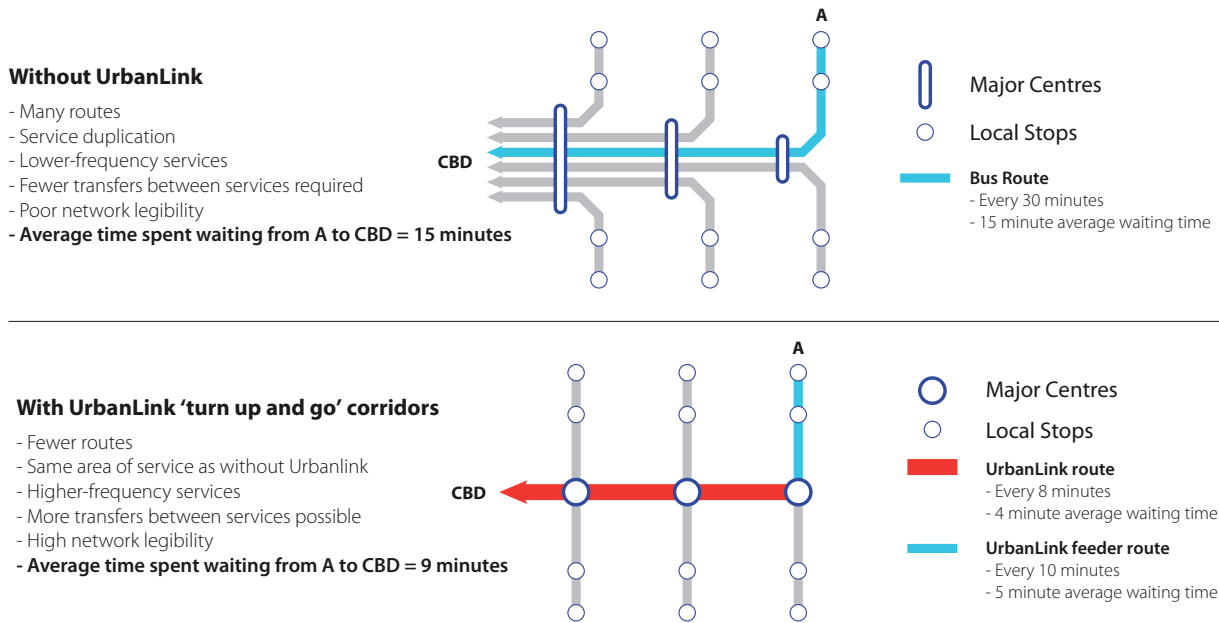
Figure 5.8 (next page) illustrates how a 'trunk and feeder' network design allows demands to be consolidated, enabling high service frequencies on the trunk routes. This will support delivery of the UrbanLink 'turn up and go' services, with shorter wait times on trunk routes and a better level of service on feeder routes. Strategic transfer points will be located at transit hubs (see Part B, priority for action 1), allowing passengers to access destinations anywhere in the region.

'Trunk and feeder' services need peak period supplementary services to ensure a crowded feeder service does not meet a crowded trunk service. Principle PT3 discusses how the 'all day' network, operating on 'trunk and feeder' design, will be supplemented by specialised rocket or express services.

Existing 'single seat' services will be upgraded to improve efficiency and the 'trunk and feeder' design will be applied to new services and service upgrades as demand grows.

Establishing the 'centres access hierarchy' described in Chapter 4, and improving the quality and efficiency of key public transport stations will also support a move towards a 'trunk and feeder' network design. The TransLink Transit Authority has a program for the development and upgrade of stations, which includes identifying the role of stations in a formal hierarchy to inform the station design and facilities needed.

Figure 5.8 – 'trunk and feeder' system concept for an 'all day' network



**PT6 Access to public transport**

**Cycling and walking**

Increased walking and cycling to public transport will expand the coverage of sustainable transport options right to the door. It will also deliver environmental and health benefits and reduce the need for expensive, space-consuming park 'n' ride facilities.

Major initiatives to encourage walking and cycling to access public transport include:

- providing information on walking and cycling in the TransLink journey planner tool to allow passengers to select routes based on their level of skill, confidence and ability
- providing end-of-trip facilities at strategic rail and busway stations
- providing an additional 20 000 bicycle parking spaces at rail stations across the network by 2031 (about 250 spaces per station)
- construct 'missing links' in the active transport network around key public transport stations and major stops.

**Kiss 'n' ride**

Passenger set down, or 'kiss 'n' ride', provides an important means of access for people who are unable to walk or cycle to catch public transport.

Providing kiss 'n' ride facilities for people with mobility difficulties encourages people to use public transport rather than drive all the way to their destination.

Rail and busway stations will be designed to ensure kiss 'n' ride facilities are in place at appropriate locations, providing a safe zone to pick-up and drop-off passengers.

**Park 'n' ride**

Park 'n' ride is an important element of the public transport network that links passengers from low density areas not directly serviced by public transport to the trunk system.

Park 'n' ride facilities cost about \$10 000 per car space, and generally users expect to pay no fee to use them. Park 'n' ride is expensive and is not a preferred option for people who can use other sustainable modes, like feeder buses, walking or cycling to access the trunk system.

Connecting SEQ 2031 proposes additional park 'n' ride spaces be provided by 2031 in strategic locations where access by other modes is limited.

The TransLink Transit Authority already has a program to deliver 2600 additional park 'n' ride spaces between 2009 and 2012.

New park 'n' ride facilities will be located in line with the following principles:

- generally 10 kilometres outside the Brisbane CBD and one to three kilometres outside other activity centres identified in the SEQ Regional Plan
- away from areas identified for transit oriented development, transit hubs or identified as 'priority transit corridors' (see part D for locations of transit hubs and 'priority transit corridors')

- in areas with good access to the major arterial road network.

Opportunities for reciprocal use of parking facilities in centres, such as for daytime park 'n' ride and night time commercial uses, will also be explored.

**PT7 Fare products**

Increasing use of the go card for fare collection on bus services will reduce travel times. Using a go card cuts average individual boarding time from around 11 seconds to just three.

This translates to a time saving of up to seven minutes on an average bus service. In conjunction with the roll-out of the high frequency public transport network, some peak period services will accept only go card as fare payment to avoid delays in passenger boarding.

Off-peak price discounting will encourage more passengers to travel off-peak. This will help manage the growth in peak demand and reduce the requirement for costly infrastructure investment to cater for peak periods.

Other fare products that can be considered include pre-purchased tourist tickets and employer funded go card benefits as part of salary sacrificing.



## Rail revolution

*Connecting SEQ 2031* outlines the plan for a 'rail revolution'; a complete overhaul of the rail system to provide a modern, high capacity network that will mean, for most passengers, rail transport will be quicker and more reliable than driving a car.

This will be supported by a shift in public transport planning and investment to a greater focus on rail.

The capacity of the inner city rail network is constrained and is expected to reach capacity some time between 2016 and 2018, depending on growth.

With Cross River Rail not expected to be completed until 2020, the 'rail revolution' will begin immediately with a rail network optimisation plan targeting initiatives and supporting investment to increase capacity on the rail network before the construction of Cross River Rail.

The construction of Cross River Rail will enable the full benefits of the 'rail revolution' to be realised.

Together with strategic network upgrades and ongoing rail network optimisation initiatives, Cross River Rail will enable a transformation in the way train services operate, to an operating strategy based around three core service types:

- UrbanLink
- ExpressLink
- CoastLink.

The 'rail revolution' also covers continuing investment in future stages of the light rail network on the Gold Coast, and a new subway system for inner city Brisbane.

### Rail network optimisation

A key component of the 'rail revolution' is to optimise the use of the existing rail infrastructure prior to Cross River Rail, and to support the future transformation of the rail network and services once Cross River Rail is in place.

Key initiatives to optimise existing capacity and maintain reliable services include:

- track capacity upgrades and stabling
- more trains to provide additional peak and shoulder peak services
- improved network sectorisation
- removal of operational crossing conflicts
- improved timetabling and service planning
- targeted inner city signalling upgrades.

### Signalling upgrades

The existing rail network is equipped with a variety of signalling technologies that have been deployed since the mid-1970s. Improving the signalling system by modernising it and adding more circuitry and signals can allow for more trains per hour to utilise the broader network.

Advanced signalling technology would allow for communications based signalling, which will improve safety, and can also be configured to reduce headways substantially, and therefore increase line capacity.

Investigations as part of the rail network optimisation plan will confirm the best signals upgrade strategy for the next 20 years.





### Cross River Rail – a catalyst for the rail revolution

Cross River Rail is a proposed new north-south rail line in Brisbane's inner city, including a new tunnel under the Brisbane River and four new underground inner city stations. This will mean more frequent trains and better services for all of south-east Queensland's rail users.

Cross River Rail will allow a transformation of the way rail services operate in south-east Queensland. Progress on Cross River Rail can be followed online at [www.crossriverrail.qld.gov.au](http://www.crossriverrail.qld.gov.au).

In 2008, the *Inner City Rail Capacity Study* identified a need for Cross River Rail due to a bottleneck in the inner city through Central and Roma Street stations. This bottleneck restricts the number of additional rail services that could be added to meet growing passenger numbers.

More than 53 000 people per day currently travel into the inner city by train between 7 am and 9 am<sup>29</sup>.

Rail investigations conducted for *Connecting SEQ 2031* estimated this number will increase to between 70 000 and 80 000 by 2016, and between 150 000 and 200 000 by 2031.

The peak period capacity of the rail system would need to expand to about four times its current capability by 2031 to meet this demand.



Delivery of Cross River Rail, combined with existing rail infrastructure and new service initiatives will make it possible to move up to 240 000 people by rail into the inner city during the two hour peak.

The benefits of Cross River Rail to the south-east Queensland rail network will include:

- significantly increasing the capacity of the inner city rail network
- making it possible to sectorise the rail network, meaning that all three types of services (UrbanLink, ExpressLink, CoastLink) can be operated across the region
- allowing for increased frequency of CoastLink services between Brisbane and the Sunshine Coast and Gold Coast
- providing additional freight rail capacity on the constrained sections of the network between Salisbury and the Port of Brisbane, allowing more freight to be carried on rail to and from the port
- enabling construction of a new rail line between Cross River Rail and Strathpine using the predominantly government-owned North West Transport Corridor
- enabling expansion of the reach of the rail network to Maroochydore, Coolangatta, Kippa-Ring (Moreton Bay Rail Link), Redbank Plains, Ripley and Flagstone.

29 Queensland Rail 2008 Passenger Load Survey

## Rail network sectorisation

The delivery of new infrastructure, including Cross River Rail, will enable a sectorisation of the entire south-east Queensland rail network. This will transform the way train services operate based around three core service types: UrbanLink, ExpressLink and CoastLink.

### UrbanLink

UrbanLink services will start the transformation of the existing rail network and be a catalyst for major regeneration and higher density development along rail corridors.

UrbanLink services will operate at higher frequencies, boosting the capacity of the rail network in metropolitan Brisbane, including to the airport.

The delivery of UrbanLink services is underpinned by the construction of Cross River Rail and the acquisition of new rollingstock.

Commencing delivery of UrbanLink services on sectors of the existing rail network in metropolitan Brisbane is a high priority for passenger rail, with many parts of the network already close to capacity. In the longer term, local UrbanLink services could also operate on the Gold Coast rail line between Helensvale and the Gold Coast Airport and the new Sunshine Coast rail line from Beerwah to Maroochydore.

### ExpressLink

The outer sections of the greater Brisbane metropolitan rail network will be operated as ExpressLink services. These services will use existing trains and will start at the end points of the greater Brisbane rail network, which, in 2031, are expected to be Ripley and Rosewood (via Ipswich), Kippa-Ring (via Petrie), Flagstone (via Salisbury), Helensvale and Caboolture North.

The ExpressLink network will operate much the same as express services operate today, running all stops to a change point (where UrbanLink services terminate), then stopping only at major transfer locations and activity centres. They will provide express connections in both directions, all day (6 am–9 pm), which will provide a simplified, easy to understand network of express services.

Delivery of ExpressLink services will occur in parallel with delivery of UrbanLink services.

### CoastLink

The proposed 2031 rail network includes CoastLink services to connect the Gold Coast and Sunshine Coast to central Brisbane in about one hour, stopping only at major stations. A reliable, one hour inter-city travel time to the growing coastal centres will:

- reinforce the SEQ Regional Plan principal activity centres as key locations for business with high quality connections to the Brisbane CBD, supporting business growth at these centres
- reduce long distance private vehicle travel due to increased public transport patronage achieved by the new services.

This approach is similar to the European model of smaller cities with their own commuter systems, with connections between each city. For south-east Queensland, rail investment must be strongly matched to economic development, land use and urban development policies to ensure that the necessary jobs are created in the growing coastal cities.

Providing CoastLink services also minimises the need for investment in motorway and highway upgrades to cater for regional movements.

The 2031 passenger rail network concept is illustrated in Map 5.1 (see page 58).

Under *Connecting SEQ 2031* targets, by 2031 there will be:

**190%**  
increase in daily rail boardings

**500 000**  
additional daily rail boardings

**265%**  
increase in km travelled by rail

### UrbanLink services

- no need to consult a timetable, with frequent 'turn up and go' services
- short distance, all stops service
- high capacity trains with more doors and standing areas.

### ExpressLink services

- fast, express running services (competitive or faster than car) between outer suburbs and inner Brisbane
- easier for passengers to understand with the same stopping patterns on all services
- allows for transfers at key stations to access multiple destinations
- encourages people to travel off-peak.

### CoastLink services

- express services from Brisbane to Gold Coast and Brisbane to Sunshine Coast (each in about one hour travel time)
- an attractive inter-city peak and off-peak service frequency
- inter-urban trains capable of higher speed operations (160 km/h), provided with on-board wireless internet and other business facilities.



### Light rail on the Gold Coast (Gold Coast Rapid Transit)

The Gold Coast light rail project is being delivered by the Queensland Government in partnership with the Australian Government and the Gold Coast City Council.

The project will deliver a transport system that is accessible, frequent, reliable and integrated with the existing transport network to ensure it meets the needs of the Gold Coast community and visitors, now and into the future.

The first stage of the project will deliver light rail from the Gold Coast Health and Knowledge Precinct to Broadbeach by 2014. This first stage will involve:

- Early and Enabling Works have commenced to prepare the corridor for construction and includes road widening, the relocation of public utilities, accommodation works such as the reinstatement of driveways, fencing and car parks and the construction of a station shell at the Gold Coast University Hospital.
- The Operator Franchise will construct, operate and maintain the light rail system for 15 years. The Operator Franchise work will include stations, depots, bridges and the construction of the actual light rail system, including supply of vehicles. The preferred proponent to operate the light rail system was announced in May 2011.

*Connecting SEQ 2031* enhances the role of light rail on the Gold Coast, and envisages a corridor extending from Helensvale to Coolangatta to serve the growing coastal corridor. It will intersect with the Gold Coast rail line at strategic locations, providing improved public transport connectivity to the rest of the region. Further east–west extensions of light rail or bus rapid transit on the Gold Coast will be investigated as passenger demand on buses grows.

### New Brisbane subway

By 2031, there will be about 2.4 million trips per day in inner Brisbane (within about five kilometres of the CBD), up from about one million in 2006. A subway system for Brisbane will support the expected growth and expansion of the inner city.

This will be a new system in the transport network, with separate operations to existing rail infrastructure. The London underground and New York subway are well-known examples of this style of rail operation.

The Brisbane subway will provide a high capacity, high frequency distributor system connecting central city destinations and linking passengers from the bus and rail networks to destinations not within a comfortable walk of existing stations.

The priority corridor for delivery by 2031 will be from Toowong to Bowen Hills/Newstead via West End. This corridor would be under the CBD and intersect with existing rail and busway stations. Planning for this corridor will commence in 2015.

Longer term opportunities to expand the Brisbane subway could include:

- Bowen Hills/Newstead to Airport Village via Northshore Hamilton
- Newstead to Bulimba
- potential conversion of some sections of Brisbane's busway network to subway to increase public transport capacity.

### Benefits of light rail

- can mix safely with pedestrians and general motor traffic
- able to carry 160–300 passengers per vehicle, safely and comfortably
- light and airy inside with space for luggage and wheelchairs
- light rail can carry up to 10 000 passengers per hour
- the length and capacity of light rail vehicles can be increased to meet the demands of the Gold Coast's fast growing population
- a fixed light rail route is simple to use for the high visitor population
- encourages urban renewal along the entire corridor.

### Brisbane subway features

- fully segregated operations, not impacted by incidents or congestion on the passenger rail network (or road network)
- lower infrastructure unit costs than suburban rail tunnels
- high capacity 20 000–40 000 passengers/hour/direction
- automatic train protection with high reliability and improved safety
- ultra high frequency (headway to 90 seconds)
- closely spaced stations for higher accessibility
- vertical integration with existing rail and bus stations.

Map 5.1 – indicative 2031 passenger rail network concept





## 2031 bus network and services

*Connecting SEQ 2031* plans to continue the transformation of the regional bus network by delivering UrbanLink bus services on strategic routes across the region, supported on some key corridors by bus priority infrastructure.

Buses will need to carry more than half of all passengers to achieve the 2031 target to almost double the share of trips by public transport.

Under *Connecting SEQ 2031*, daily bus passenger boardings will increase by 250% between 2006 and 2031, and the total number of kilometres travelled by bus passengers each day will increase by nearly 200%.

Most bus services in the region operate on roads, usually in the same lanes as general traffic. During peak times, congestion significantly impacts the travel times and reliability of these buses.

An important factor in ensuring the success of UrbanLink bus services will be providing priority for buses on congested roads. *Connecting SEQ 2031* will support reliable and fast bus travel times on strategic corridors by:

- completing the Brisbane busway network
- delivering TransitWays to provide on-road priority for buses.

Under *Connecting SEQ 2031* targets, by 2031 there will be:

**250%**  
increase in daily bus boardings  
**940 000**  
additional daily bus boardings

### 2031 UrbanLink bus network

The network planning principles identified in this chapter will underpin the design of new bus networks as service levels within existing urban areas are increased.

The 2031 UrbanLink bus network is a connected network of high frequency trunk bus routes that include quality passenger facilities and vehicles.

The UrbanLink bus network combines services operating on busways, dedicated 'green links' or green bridges, on-road bus priority and arterial roads.

The UrbanLink bus network will include more cross-town routes as centres across south-east Queensland develop.

This will provide for anywhere-to-anywhere travel in sub-regions. In Brisbane, this will reduce the need for all trips to travel through the CBD.

The early planning of the UrbanLink bus network will inform land use decisions, giving direction on locations where a high standard of public transport can support an increase in residential and employment density. The public transport hubs and 'priority transit corridors' identified through *Connecting SEQ 2031* will provide the basis for this integrated transport and land use planning.

UrbanLink bus services on 'priority transit corridors' will be given priority for roll-out to support opportunities to increase residential and employment densities.

This concentration of passenger demands will support high frequency operations and investment in TransitWay facilities.

Map 5.2 (see page 62) illustrates a concept plan for the 2031 UrbanLink bus services network for south-east Queensland and associated infrastructure to provide bus priority on key corridors.

### UrbanLink bus services

- simplified network of trunk bus routes, providing improved cross-town connectivity
- no need to consult a timetable, with frequent 'turn up and go' services
- easier for passengers to understand with the same stopping patterns on all services
- all day (6 am–9 pm), seven days a week service
- supported with bus priority where needed.

The UrbanLink bus network identified in *Connecting SEQ 2031* will be subject to further evaluation through the TransLink Transit Authority's network planning to determine priority and timing.

### Other bus services

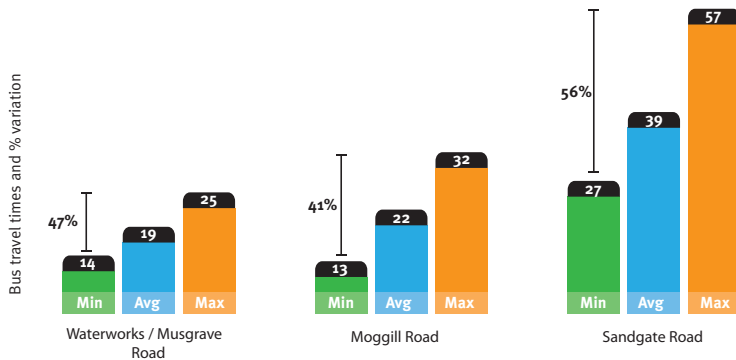
While there is an emphasis on creating an UrbanLink bus network, local bus services will continue to provide the fine fabric of the public transport network.

This will include local bus services in urban areas.

Where rail services are not available in urban areas to fulfil long-haul transport demands, buses may also provide a similar function to ExpressLink rail services, bringing commuters from outer suburbs to major employment centres.

TransLink will continue to determine service standards based on local demands.

Figure 5.9 – variation in bus travel times (in minutes) in AM peak



Source: Department of Transport and Main Roads South East Queensland Travel Survey 2009

### Bus and multi-occupant vehicle priority infrastructure

Providing priority for buses through congested parts of the road network makes journeys faster and travel times more reliable. As well as the obvious benefits to customers of more reliable services, productivity of bus and labour resources is improved, which reduces the number of additional buses needed to cater for passenger growth.

Bus lanes, T2 and T3 lanes, queue jumps at congested traffic signals, and indented bus bays help multi-occupant vehicles and buses avoid delays during peak periods, especially along the most congested routes or sections of roads.

These improvements provide more efficient and reliable travel times, encouraging more people to choose public transport.

Figure 5.9 shows travel time variability for travel from the CBD to the Gap via Waterworks/Musgrave Road, which has a number of transit lane treatments, including T2 lanes, compared to Moggill and Sandgate Roads, which do not have transit lanes.

This shows that bus travel time is more reliable on the corridor with transit lanes in place.

On major arterial roads, *Connecting SEQ 2031* suggests there should be a general preference for providing additional capacity for buses and other multi-occupant vehicles, as opposed to taking away lanes previously used for general motor traffic capacity.

### Brisbane busway network

The *Integrated Regional Transport Plan for South East Queensland* released in 1997 ushered in Brisbane's busways, which are recognised internationally and across Australia as world's best practice in bus rapid transit systems.

The busways have proved extremely popular with the public, carrying more passengers each day than all the city's major motorways.

The busway system will be completed over the next 20 years. As the region enters its next phase of maturity and continues to grow in size, the focus will shift to modernising the rail system and expanding it to accommodate a much larger public transport task.

Significant sections of the busway network are now in place and busways have proven highly successful, supporting large increases in bus passengers since the opening of the South East Busway in 2001.

*Connecting SEQ 2031* supports the continued transformation of bus travel through completing the Northern and Eastern Busways to provide high quality bus corridors to Brisbane's north and east.

### Eastern Busway

The Eastern Busway is a city transforming project. It will act as a catalyst for the growth and development of the Eastern corridor in accordance with the goals set out in the *South East Queensland Regional Plan 2009-2031*.

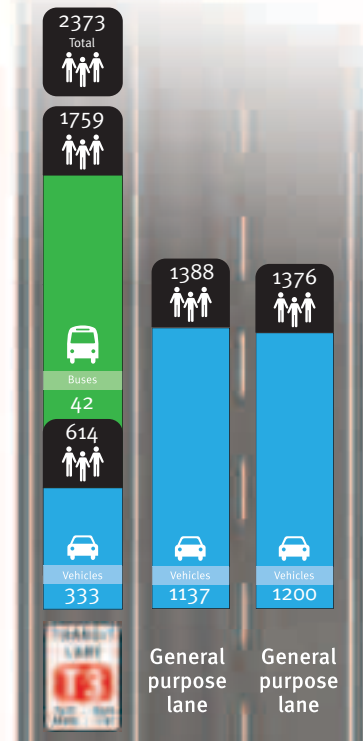
The busway is the key to managing urban congestion in Brisbane's eastern corridor. The long term vision of the Eastern Busway is to provide a 20 kilometre busway between the University of Queensland and Capalaba, to be implemented in stages. It will separate buses from general traffic to give bus passengers a congestion-free run on fast, frequent and reliable services.

The completed sections of the Eastern Busway have already reduced travel times for people travelling from the Eastern Suburbs of Capalaba, Chandler, Carindale, Carina, Camp Hill, Coorparoo, Stones Corner and Buranda.

The Queensland Government has funded the first two Stages of the Eastern Busway. Stage 1 is a dedicated busway between the Eleanor Schonell Bridge (at the University of Queensland) and the South East Busway at Buranda. It was completed in 2009. In August 2011, Stage 2a (a dedicated busway between Buranda and Main Avenue, Coorparoo) was completed.

Future Eastern Busway planning will focus on addressing where the problems of bus passenger travel times and reliability are the greatest.

Figure 5.10 – person and vehicle throughput in the AM peak (one hour)



Source: Department of Transport and Main Roads 2009 Survey of Vehicle and Person throughput on Kelvin Grove Road

The Northern Busway is planned to extend to Bracken Ridge. The Eastern Busway will extend to Capalaba, with interim on-road bus priority treatments likely to be used beyond Chermiside.



### TransitWays

TransitWays are the next step toward a more sustainable, efficient public transport system, delivering on-road priority for multi-occupant vehicles, especially buses.

TransitWays will enhance the efficiency of UrbanLink bus services and support the vision of *Connecting SEQ 2031*, by:

- moving more people, allowing a corridor to handle significant growth in carrying capacity
- improving public transport operational efficiency by reducing bus travel times and improving reliability
- improving satisfaction with public transport, supporting a shift away from car travel
- delivering cost effective infrastructure solutions.

There are a suite of TransitWay treatments that can be delivered with different levels of priority depending on the level of road congestion, numbers of buses, and environmental and urban constraints.

These treatments will range from providing passenger information, signal priority and coordination and on-road parking controls to provision of indented bus bays, transit and bus lanes. The fundamental operating approach of TransitWays includes:

- branding along the full length of the route and at each bus stop, so all road users and bus passengers are aware it is a TransitWay with UrbanLink bus services
- a requirement for every boarding passenger to use *go* card to minimise time spent at bus stops
- provision of real time information in buses and at stops. Detailing the actual arrival times of buses helps passengers to plan their trip.

### CoastConnect

Planning along the Caloundra to Maroochydore corridor has been under way for some time as part of the CoastConnect project which will deliver the first priority bus spine along the coastal urban area of the Sunshine Coast. This project aims to improve bus travel time and reliability and set the scene for a transformation of public transport services on the Sunshine Coast to accommodate future growth.

CoastConnect will deliver on-road bus priority solutions, such as bus/transit and cycle lanes, upgrading bus stations and stops and giving buses priority at congested intersections. Further TransitWay treatments will be considered closer to delivery of the project.

Modelling for the project shows that the proposed measures are expected to reduce bus travel times by up to 13 minutes between Maroochydore and Caloundra.

The final route alignment for CoastConnect was announced in 2011 and the staged delivery of the project is estimated to occur after 2014.

#### TransitWay benefits

- improve public transport operational efficiency by reducing bus travel time and increasing reliability
- allow a corridor to handle significant growth in carrying capacity
- save travel time for people using TransitWay facilities
- improve satisfaction with public transport, supporting a shift towards the use of public transport over cars
- provide cost effective infrastructure solutions to road system efficiency and bus priority.

### 'Green links'

There will also be a focus on 'green links' across the region to provide dedicated space for buses and active transport.

'Green links' will generally be short links to overcome local access barriers. These could comprise:

- short sections of busway into a major town centre
- dedicated bridges for buses and active transport, such as the Eleanor Schonell Bridge which links the University of Queensland to West End, the CBD and the Eastern Busway
- short cuts and bus gates, such as the 200 m 'green link' from the Sunshine Coast University to Sippy Downs, which has improved road safety and saved 10 minutes on every bus trip.

'Green links' can significantly reduce travel distance and time for bus passengers and active transport users. These facilities are one way in which to overcome natural and built barriers (for example, waterways).

New 'green links' will be investigated across the region to overcome local barriers to public and active transport travel. The proposed 'green links' are identified in Part D.

Map 5.2 – indicative 2031 UrbanLink bus network concept







## Flexible public transport

Many residents already live in low density areas that cannot be serviced by scheduled public transport services.

In areas with low population density (fewer than 10 dwellings per hectare), more flexible options than traditional public transport services are needed.

For some people, including the elderly and people with special needs, private motor vehicle and mainstream public transport services are not suitable travel options. A taxi may be the only real alternative, though it is too expensive for most people to use for all trips.

### A policy framework for developing low volume public transport should ensure services:

- are unrestricted in terms of who can use them and are able to service multiple travel needs
- make use of the latest technology to match passengers with rides to ensure vehicles are utilised efficiently
- leverage off existing transport services, assets and infrastructure (for example, by utilising spare capacity on existing services and/or idle vehicles)
- are supported by recurrent funding and promote cross program, cross government collaboration and partnerships
- are provided by professional transport operators (whether commercial or not-for-profit).

Queensland's population is ageing even more rapidly than it is growing, with residents aged over 65 forecast to increase from 327 000 in 2006 to about 854 000 in 2031, an increase of 161%, compared to a general population increase of only 57%<sup>30</sup>.

This will increase the proportion of the region's population over 65 from 12.5% to 22% in just 25 years.

The leading edge of the post-war baby boom will reach age 75 around 2020, meaning a large wave of people with high mobility expectations will reach a point where driving a car is increasingly less viable. This will exacerbate road safety challenges and increase demands for age-friendly public transport.

An important disincentive for frail aged drivers to voluntarily cease driving is the lack of any realistic alternative to private car transport. Mainstream public transport is not always an appropriate option, even though the system is being made accessible to people with mobility difficulties.

### The important role of taxis

Taxis play an important role in supporting the overall transport task in Brisbane, providing a flexible door-to-door service, as well as 24-hour operations.

Taxi public transport services are provided on a commercial basis, with taxi licences administered by the Department of Transport and Main Roads.

Offering new options for providing more flexible taxi arrangements, such as multi-hire so the cost of the fare to an individual is reduced, can fulfil an important function in the overall transport network. More flexible arrangements can help fill the gap between private and public transport in low density parts of south-east Queensland and rural communities.

### Service needs

With an ageing population and an increasing rural population, the region will need to develop other public transport models that cater for:

- low volumes of passengers
- multiple trip purposes to access centres for the daily business of shopping, appointments and social activities
- a wide range of target groups, if not the community at large.

These new models will need to ensure the ready availability of services with more flexibility to service areas of specialised or weak demand.

Council Cab services are being rolled out by many local governments in the region, though eligibility to use these services is usually somewhat restricted.

Department of Transport and Main Roads will work with TransLink, local governments and other service providers to address low volume needs on a local basis, consistent with an overall framework. Steps to support this will include:

- ensuring self-help tools are available for local groups (for example, the *Community-based Transport Queensland Guidelines*)<sup>31</sup>
- ensuring an enabling regulatory framework
- developing a transport policy framework for low volume public transport, including guidelines and standards.

Principles for the provision of flexible public transport services to rural communities in the region are detailed in Chapter 10, Part D.

<sup>30</sup> Queensland Government (Department of Local Government and Planning) 2006 *Queensland Population Projections*

<sup>31</sup> Queensland Government (Queensland Transport) and Local Government Association of Queensland 2006 *Community-based Transport Queensland Guidelines*



## 6. Strategic road network

### Signature projects – Road

#### SP11 Deliver a network of connected and managed motorways

A series of strategic road projects are proposed to complete the motorway network. New technology will be used to optimise performance and maximise capacity of the motorway network, and provide real time information on travel times.

Road transport is the dominant means by which people and goods are moved around the region. Roads are versatile facilities and can carry not only private vehicles but large and small commercial freight vehicles, buses, taxis, cyclists and pedestrians. Hence 'road' is not a mode of transport, but a network of facilities able to be used by multiple modes of transport.

Roads will remain the most extensive part of the transport network, connecting communities to each other and allowing:

- supplies to get to industry
- goods to get to markets
- people to get to work, education, recreation and other destinations.

As regions grow, urban space becomes more constrained and valuable. Roads take up very large amounts of urban space, and inevitably the region must choose between providing more road space or using existing road space more efficiently. Heavy road traffic also reduces the appeal of communities through noise and air pollution. The need to maintain liveability and protect the environment is a vital consideration in road planning.

Given the cost and impact of roads, it is imperative that they be used efficiently. This means that efficient and essential means of transport, like buses and commercial freight vehicles, need priority on parts of the road network that are in high demand.

### Existing strategic road projects

#### Motorways and highways

- Ipswich Motorway upgrade
- Cunningham Highway upgrade: Ripley Road to Ebenezer
- Warrego Highway (A2) upgrade
- Mt Lindesay Highway upgrade: Green Road to Jimboomba
- Gateway Motorway upgrade: Mt Gravatt–Capalaba Road to Nudgee Road
- Airport Link
- East–West Arterial Road upgrade: Airport Link to Gateway Motorway
- Bruce Highway (M1): additional lanes from Boundary Road to Caboolture
- Pacific Motorway (M1): additional lanes and interchange upgrades from Nerang to Worongary
- Pacific Motorway (M1): Coomera interchange improvements (Exit 54).

#### Multi-modal urban arterial roads

- Gold Coast Highway: additional lanes from Government Road to Stevens Street
- Hope Island Road: additional lanes from Pacific Motorway to Columbus Drive
- Nerang–Broadbeach Road upgrades: bus lanes and intersection upgrades
- Maroochydore Road: additional lanes from Bruce Highway to Martins Creek.

*Connecting SEQ 2031* recognises the fundamental value of roads in the transport system of a rapidly growing region. It seeks to manage and expand the network in a way that meets the essential needs of all users, while supporting a major shift to sustainable transport.



## Overarching principles for developing the road network

- R1 **Plan and manage strategic roads as one network** irrespective of jurisdiction
- R2 **Design and manage roads for all users**, including active transport users

### R1 Plan and manage strategic roads as one network

While an individual road may be the primary responsibility of state or local government, planning and managing the strategic road network as one network will maximise the efficiency and performance of the region's roads.

*Connecting SEQ 2031* recommends a coordinated road management approach with local governments in Queensland. In the region, this approach will be adopted to ensure that the movement of traffic and the assignment of priority to certain users are planned and managed in a coordinated framework.

A particular need is to ensure new growth communities are provided with a network of local urban arterial roads, so they do not rely on a connection to the nearest motorway or highway for local road transport needs.

### R2 Design and manage roads for all users

Recognising that roads need to cater for a broad range of users is central to the approach taken to developing the 2031 strategic road network in *Connecting SEQ 2031*. This can be achieved by planning and managing the strategic road network as multi-modal corridors, with priority given to supporting delivery of the key transport policy goals established in Chapter 3.



Managing congestion, which is primarily caused by private motor traffic, is an important goal.

However, protecting amenity and liveability, improving environmental performance and supporting economic prosperity are also essential.

Congestion management needs to be supported by policies which reduce the need to travel and provide quality alternatives to car travel, as well as supporting strategic road capacity improvements.

Managing the arterial road network in the region will consider the following:

- ring roads and bypasses will be used to move local traffic around activity centres, so that centres become walkable and attractive
- arterial road improvements will include walking and cycling facilities (either on-road or off-road) or include walk and cycle friendly design
- appropriate interaction with adjoining land uses to promote a safe and amenable environment for all users, including pedestrians
- priority will be provided for freight traffic where needed and possible (for example, freight lanes and priority ramp signalling access at interchanges with the motorway network where there are high volumes of heavy vehicles).
- urban arterial roads are multi-modal corridors, with a high priority given to the needs of buses, cyclists and pedestrians



## Supporting principles for developing the road network

- R3 Provide a **strategic road hierarchy**, with a clear function for each road in the network
- R4 Develop a **completed, resilient network of strategic roads**
- R5 Protect **urban amenity** and quality of life when designing roads

### R3 Strategic road hierarchy

Planning and managing roads in line with a functional road hierarchy allows the right type of traffic to be assigned to the right road. This ensures efficient movement of traffic and protects amenity in urban communities. *Connecting SEQ 2031* adopts a functional hierarchy of strategic roads, which includes:

- high capacity, high speed **motorways and highways** to move large volumes of traffic, including freight traffic, over longer distances
- **multi-modal urban arterial roads** to provide connections within communities and cater for a range of road users, including pedestrians, cyclists, public transport, private vehicles, as well as commercial delivery vehicles ('first and last mile' freight)
- **bypass and ring roads** to remove traffic from activity centres
- **community boulevards** to provide amenity through activity and town centres, designed to cater for low volumes of traffic, with priority given to pedestrians, cyclists and public transport.

It is also vital to match the engineering design and physical access arrangements to the desired function of the road. *Connecting SEQ 2031* establishes the following guidelines for planning and managing the functional road hierarchy.

#### Motorways and highways

Motorways and highways are the highest level in the road hierarchy, intended for major freight movements, interstate traffic and movement of regional traffic between major cities. They may be two to eight lanes wide and the posted speed limit is usually 100 km/h or 110 km/h, with access limited to widely spaced interchanges.

The speed and design of motorways and highways means they are not safe environments for pedestrians or cyclists and are generally unsuitable for public transport, except for long distance, express services.

Motorway and highway design standards should be used only where the road needs to carry high volumes of traffic, particularly freight, over longer distances.

If built in inappropriate locations where a lesser standard of road is required, motorway standard facilities can attract increased levels of local car traffic, which impacts on the road hierarchy functionality and works against the achievement of higher levels of public transport and cycling.

Planning for roads within new communities should generally avoid the creation of high standard motorway facilities within the urban fabric.

In some cases, motorway development may need to be undertaken through suburban areas. This should occur only when it forms part of an orbital motorway network or a bypass of an activity centre. In these cases, appropriate design features need to minimise visual and noise impacts.

In general, measures introduced on motorways to improve person-carrying capacity will focus on better management of all vehicle flows through improved incident detection and clearance, variable speed limits and ramp metering.

The region's rural highways provide vital connections between urban centres and the region's towns and villages. Though not built to motorway standard, these roads will be upgraded where required to improve safety and flood immunity, and reduce travel times.

Generally, the posted speed limit will be 100 km/hr, and provision will be made for safe operation of heavy vehicles. Cycling is allowed on highways that are not declared

a 'motorway', and safe provision for cyclists should be made on rural highways. As a minimum, this will usually be a wide shoulder surfaced with smooth asphalt concrete or similar.

#### Multi-modal urban arterial roads

Multi-modal urban arterial roads provide for high volumes of local traffic within cities and may include transit or bus lanes where there is high demand for public transport.

The posted speed limit will be 60–80 km/h and vehicle access is limited to well-spaced intersections, generally at-grade.

Multi-modal urban arterials will include bus priority measures where needed to ensure efficient and reliable public transport.

Active transport will be provided for, with quality footpaths for walking and either on or off-road facilities for cycling.

An arterial road should be developed as a multi-modal urban arterial road when it is primarily required to accommodate traffic for trips to and between activity centres, public transport and freight deliveries for local business. Most new arterial roads in the region will fall into this category.

Arterial road design must also recognise the existing and desired characteristics of the urban environment, with emphasis given to landscaping, vistas and surrounding land uses.

Planning for new multi-modal urban arterial roads will occur as part of local government town planning and structure planning processes for new communities. This will ensure a well designed road hierarchy is incorporated into the development of new growth areas.

The areas where new multi-modal urban arterials need to be investigated are shown on the local government maps in Part D.



### Bypass roads

Ring roads and bypass roads are used to move through traffic around activity centres, to enable centres to become walkable and attractive. Car traffic inside the ring is given a low priority and walking, cycling and public transport are emphasised. There may be special priority arrangements for delivery vehicles either through kerb space allocation and/or special-purpose lanes or streets within the centre.

Ring roads and bypasses are generally created by upgrading existing roads or streets and may be two or four lanes. Bus priority may be appropriate on some sections, though it is more likely a bus 'green link' would be provided direct to the heart of the centre. Car parking can be located adjacent to the ring road to reduce traffic entering the town centre.

In some centres, finding an appropriate corridor to provide a bypass will be difficult and other innovative solutions may be needed.

### Community boulevards

Community boulevards are low-speed, multi-modal roads in centres, providing priority for buses, cyclists and pedestrians<sup>32</sup>.

Cross-movement for pedestrians between land uses on either side of the road is an important factor in the design of community boulevards.

Community boulevards will place a higher emphasis on amenity, with quality landscaping, built form, seating, shading and lighting.

The design of the road creates legibility for users, and a slower speed environment supports surroundings and ensures the safe sharing of the space for all modes.

Where possible, car parking and access driveways are predominantly at the rear of sites fronting the boulevard to maximise access for pedestrians, cyclists and bus passengers.

Community boulevards will generally be developed along existing arterial or sub-arterial roads passing through activity centres, particularly at locations identified as hubs in the 'centres access hierarchy' (see Part D). They will support the creation of 'priority transit corridors'.

Where an existing arterial road currently carries high volumes of traffic through an activity centre or place of community significance, such as an entertainment precinct, restaurant 'eat street' or beachside suburb, it should be developed as a community boulevard.

Community boulevards may need to be supported by the development of parallel arterial roads or bypass roads around centres. Regional traffic and, in particular, non-essential heavy vehicle movements, will be encouraged to use alternative routes rather than community boulevards.

It is a priority of *Connecting SEQ 2031* to develop a best practice guideline (as part of the State Planning Instruments program) with design tools for land use planners and road designers to consider the road and land use interface in activity centres in an integrated manner.

### Nundah Village – a bypass supporting urban renewal

Sandgate Road is an arterial road through Brisbane's inner north, with about 60 000 vehicles per day using the road.

Nundah Village is a shopping and community centre surrounded by a residential area that is characterised by restored colonial era homes and more modern medium density housing and schools.

Over many years, its shopping centre experienced a decline due to traffic, parking, noise and an unfriendly pedestrian environment brought about by the high volume of traffic using Sandgate Road.

A road tunnel was opened in 2002 and has taken the majority of the traffic out of Nundah Village, providing a catalyst for urban renewal.

New shops and restaurants have opened in the village and new apartments are being developed around the village to take advantage of its improved lifestyle and ready access to the centre of Brisbane.

The centres of Nundah and Toombul are the subject of ongoing interest for transit oriented urban renewal.

32 Westerman H 1998 *Cities for Tomorrow: Integrating transport, land use and the environment* Austroads: Sydney



#### R4 Develop a completed, resilient network of strategic roads

In some parts of the region, the strategic road network is incomplete and arterial roads are called upon to meet demands for long distance freight and passenger travel.

This results in congestion, a poor mix of heavy long distance vehicles and local car traffic, and reduced amenity along the road corridor.

There is also an over-reliance on some sections of the motorway network. When there is a major incident on these sections of motorway, the metropolitan road network can be brought to a standstill.

Further improvements to the strategic road network in the region will be needed to provide a completed network that is resilient to:

- major incidents
- possible climate change impacts, such as rising sea levels and extreme weather events
- possible long-term changes to settlement patterns and economic activity.

#### Connected and managed motorways

*Connecting SEQ 2031* proposes to complete and better manage the motorway network. The aim is to provide a high speed, high capacity network across the region that is suitable for heavy freight vehicles, and improve network resilience by ensuring alternative, high capacity routes are available in the event of a major incident.

The components of the proposal are:

- connected motorways: a completed and connected network of motorways and highways across the entire region
- managed motorways: will enable dynamic operation in changing conditions, ensuring traffic volumes entering and using motorways are matched to capacity, and optimising motorway safety and efficiency.

This proposal is discussed on page 70.

#### R5 Consider urban surroundings in road design

Linking the functional road hierarchy to land use planning can ensure the right match between traffic volumes and urban amenity along road corridors.

Shifting high volume and heavy vehicle traffic to bypass roads, motorways and major arterials allows urban areas to become places designed for people, not vehicles.

Projects to complete the motorway network could reduce traffic volumes on some arterial roads. Where this occurs, upgrades to the arterial roads could be completed to improve integration with adjoining land use along the arterial road.

The management of urban arterial roads must allow for infill and regeneration along corridors that provide trunk routes for public transport.

Managing arterial roads to support bus priority and urban renewal will provide support for urban infill and the compact urban form objectives of the SEQ Regional Plan.

Where an arterial road is identified as a high frequency bus corridor, the Queensland Government and local governments will work together to develop land use plans for the corridor to facilitate mixed use and higher density development.

In addition, some arterial roads can be converted to multi-modal urban arterials or community boulevards to improve safety and amenity for all road users.

On a more local scale, a bypass road for a congested activity centre may be an appropriate solution to provide for through traffic movements and deliver benefits to support future development of the centre.

## Initiatives to support strategic road network development

### Servicing major new development areas

While investment priority will be given to efforts to support infill and redevelopment, there will be the need for new development areas to accommodate between 600 000 and 800 000 residents by 2031.

The SEQ Regional Plan identifies eight major residential and employment development areas, and three major employment development areas within the urban footprint<sup>33</sup>. Some of these residential and employment development areas were also announced as major new growth communities as part of the Queensland Growth Management Summit outcomes.

The provision of roads, public transport and active transport connections to and within these new development areas needs to be sequenced in line with the progress of development.

The Queensland Government will work with local governments and developers to coordinate transport investment with development timelines in these locations, so sustainable travel behaviour is supported in the early stages of development.

This will mean that infrastructure agreements need to include significant funding of new road connections and public transport will need to be negotiated by local government and developers.

Since in some cases investment in rail may lag behind land use development, it will be important to ensure high frequency bus services can operate efficiently on the road network in the early stages of development.

### Multi-modal urban arterial roads in new communities

Some urban areas in the region have been developed and connected to a motorway as a virtual island with no arterial links to surrounding areas. A lack of urban arterial roads for local trips means the motorway is used for short trips.

This results in congestion for longer distance traffic and freight traffic, which impacts on the region's economic vitality. It is also a safety issue, with high volumes of traffic entering and exiting the motorway network.

Motorways are the most expensive type of roads to build and maintain and the function of motorways to provide for longer distance travel needs to be protected. Urban arterial roads are more cost effective for local trips, and have the added benefit of being able to cater for the needs of all modes.

Transport plans should be developed for all major new growth communities to address how passengers and goods will be transported within and outside that community. These plans must include new multi-modal urban arterial roads catering for local traffic and public and active transport, which are funded and constructed as part of the development process.

### Enhancing existing urban arterial roads

Many existing urban arterial roads will be upgraded, as shown on the maps in Part D. Where appropriate, these upgrades will provide for operation of the road as a multi-modal urban arterial road. The features identified earlier in this chapter, such as provision for safe operation of buses and bicycles, will be incorporated in those upgrades.

### Protection of priority freight corridors

*Connecting SEQ 2031* establishes a plan for the future strategic freight network. This will enable new freight and industry enterprises to establish in optimum locations.

Sites with ready access to interchanges on the motorway network will provide reliable access to the port, intermodal terminals and markets internal and external to the region. These sites should be identified and protected for freight generating uses and buffered from sensitive uses and passenger network conflicts.

*Connecting SEQ 2031* also identifies the transport network requirements for the SEQ Regional Plan's enterprise opportunity areas to guide investment decisions and enable corridor protection.

### 'Rural roads'

The region's strategic road network includes roads required to service rural and semi-rural settlements.

These roads are important because they provide the primary transport connection between these communities and larger urban settlements within and outside the region.

Ensuring rural connections are safe, have adequate flood immunity and sufficient capacity remains a major focus for road network planning in the region.

### Catering for emerging technologies

New technology will continually evolve to assist in the management of the road network. The managed motorways proposal (see page 68) is one example of how technology will be used in the future.

This proposal includes using real time traffic incident and alternative route planning information on navigational systems and mobile phones.

Another emerging technology is cooperative transport technology, where vehicles communicate with each other and with kerbside infrastructure to improve detection of hazards and provide warnings of speed limit changes. These systems are being trialled around the world and may be widely used by 2031.

### Preserving existing corridors

Several major corridors, and smaller parcels of land preserved by government in the past, are not proposed to be used for transport purposes by 2031.

These corridors will continue to be preserved for future transport purposes that may emerge as the region continues to develop. They could serve motorised transportation needs that emerge beyond 2031, or be used for other purposes, such as 'green links' and active transport corridors. They will not be sold off or relinquished for non-transport purposes. Corridors to continue to be preserved include:

- the Moggill Pocket Arterial Road/ Moggill–Warrego Highway Connection
- the Samford Valley sub-arterial
- the Dinmore to Gailles transport corridor.

33 Queensland Government (Department of Infrastructure and Planning) 2009 *South East Queensland Regional Plan 2009–2031* p 107



### Developing multi-modal urban arterial roads

The concept of multi-modal urban arterial roads involves integration of walking, cycling and public transport into the design and management of the road to encourage the use of sustainable modes of transport.

*Connecting SEQ 2031* includes a strong focus on developing multi-modal urban arterial roads with the following characteristics:

- generally provide turn protection
- possible provision of, or corridor protection for, a bus lane in high growth or strategic public transport corridors
- vehicle access restricted to well spaced intersections (at grade)
- recognition of the existing and desired urban environment with emphasis given to landscaping and vistas where appropriate
- provision for public transport, walking and cycling with on-road bus priority and cycle facilities where needed
- regular opportunities for pedestrians to cross safely
- trees and landscaping improve amenity and provide physical separation for cyclists and pedestrians
- posted speed to be appropriate to a multi-modal user environment, generally a maximum of 80 km/h
- kerbside parking generally not permitted, with parking at the rear of properties that is accessible from side streets through planned intersections
- buildings address the road, but do not have direct driveway access.

## 2031 strategic motorway network

### Connected and managed motorways

#### Completing the motorway network

Projects to complete the motorway network include:

- completing an orbital motorway network for metropolitan Brisbane
- Centenary Highway upgrade Toowong to Ipswich Motorway (M5)
- Centenary Highway upgrade Logan Motorway to Cunningham Highway (M5)
- Gateway Motorway upgrade to six lanes north of Nudgee Road to Deagon Deviation (M1)
- Port of Brisbane Motorway upgrade
- Bruce Highway (M1) upgrade (Caloundra Road to Curra)
- Pacific Motorway (M1) upgrade (Nerang to Tugun)
- Legacy Way (M5).

Beyond these immediate priorities, strategic priorities include:

- Warrego Highway upgrades (A2)
- Toowoomba bypass second range crossing
- Gateway Motorway southern extension to Jimboomba
- Southern Infrastructure Corridor
- Mount Lindesay Highway deviation west of Beaudesert to Bromelton
- Western Ipswich bypass
- Centenary Highway extension to Amberley.

The 2031 strategic motorway network is illustrated in Map 6.1.

#### Managing the motorway network

Technology will play a major role in managing traffic to optimise performance and maximise capacity. In peak periods, demand regularly exceeds capacity, resulting in significant congestion. It can take hours before the network is again operating efficiently within capacity.

Use of technology can help provide a more reliable service, even with high traffic volumes. This is done through controlling the volume of vehicles entering motorways and smoothing the merge conditions.

Techniques for managing motorways include:

- ramp signalling – to control the number and type of vehicles entering the motorway at interchange ramps. Ramps need adequate length for vehicles waiting to join the traffic stream. Ramps can give priority for freight, public transport or high occupancy vehicles as required
- lane use management – varying the purpose of the lane in real time, to allow breakdown clearances and better use of special-purpose lanes to clear incidents
- varying speed limits – managing traffic at a safe speed to allow traffic to arrive at a potential congestion point more evenly and avoid flow breakdown and accidents
- incident management – detecting and clearing incidents to minimise impacts on traffic flow
- traveller information – to advise motorists of conditions and assist in safely negotiating incidents and changing lanes earlier to reduce merging delays
- speed detection and special purpose lane enforcement.



Map 6.1 – 2031 strategic motorway network



## 7. Active transport network

### Signature projects – active transport

#### SP12 Complete 5

Prioritise completion of the active transport network within a five kilometre catchment of activity centres.

#### SP13 Connect To

Provide safe, direct and convenient pedestrian and cycling access to public transport stops and stations, supported by holistic journey planning that incorporates walking and cycling routes.

#### SP14 Educated Ways

Improve walking and cycling routes to schools and tertiary education institutions, in conjunction with school travel plans and other supporting strategies.

#### SP15 Priority principal cycle routes

Continue to develop priority principal cycle routes and active transport corridors that are separated from general traffic, providing trunk connections into and between activity centres.



Active transport refers to transport options that rely primarily on human power. The most common forms of active transport are walking and cycling, but it also includes roller blades, roller skates and scooters.

In Queensland, a person can also legally ride a lower powered form of electric motorised bicycle transport on roads and road related areas where the vehicle is fitted with an electric motor generating no more than 200 watts<sup>34</sup>.

Active transport is efficient, healthy, sustainable and a sociable form of transport that can have many benefits for an individual and for a community. Increasing active travel is an easy way of increasing daily physical activity and providing community health benefits. Active transport options are low cost and environmentally friendly, emitting no air or noise pollution and consuming no fossil fuels, which improves the health and amenity of communities.

Bicycle sales in Australia are increasing, and have outstripped car sales for the tenth year in a row. This is a positive trend, but the amount of people walking and cycling has remained static over the past few decades due to urban sprawl and an increase in car-dependent suburbs.

*Connecting SEQ 2031* seeks to double the share of active transport trips from 10% in 2006 to 20% by 2031.

Meeting this target needs strong and coordinated investment in active transport networks and facilities and a willingness for individuals to change their travel behaviour.

The target is achievable if every resident shifted just 1–2 of their 17 weekday trips each week to walking or cycling.

Currently, almost 50% of car trips are less than five kilometres long, which is an easy cycling distance for most people, and those under two kilometres are an easy walking distance.

A large proportion of these short trips are for shopping and education purposes. One in four residents in the region have said that they would consider cycling for their main weekday trip and nearly half the population have access to a bicycle.

This suggests there is a large market of trips that could potentially be shifted to walking and cycling, providing there is quality, connected infrastructure in place.

### Queensland Cycle Strategy

In response to the Queensland Growth Management Summit, the Department of Transport and Main Roads developed the *Queensland Cycle Strategy 2011-2031*.

The vision for the strategy is 'more cycling, more often on safe, direct and connected routes'.

This will be achieved by working with local governments on four priority areas for action:

- building safe, direct and connected cycle networks
- growing a cycling culture
- creating cycle-friendly communities
- developing a cycling economy.

*Connecting SEQ 2031* builds on these priorities and identifies regional priority actions and initiatives for active transport modes.

Investment in south-east Queensland will be targeted to the infrastructure and facilities that will have the most community benefit and attract the biggest mode shift to walking and cycling, with a particular focus on filling the gaps in the network in high activity areas.

The user groups targeted in this plan include people who walk or cycle to destinations within activity centres (for example, employment, shopping, community services), education (tertiary and school) and trunk public transport routes.

<sup>34</sup> Motorised bicycles are required to adhere to the same road rules as bicycles and have the same rights and responsibilities. Motorised bicycles are exempt from registration and compulsory third party insurance.



## Overarching principles for developing the active transport network

- A1 Develop a **complete network of safe, direct and connected active transport routes**, focused on short trips
- A2 Ensure **new communities are walk and cycle friendly**, providing improved infrastructure and an attractive and comfortable walking and cycling environment
- A3 Create an **active community culture** that embraces walking and cycling as a part of daily life

### A1 Complete network of safe, direct and connected active transport routes

The *South East Queensland Principal Cycle Network Plan* identifies a 3140 kilometre network of principal cycle routes across the region.

These principal cycle routes form the trunk network, connecting regional activity centres and providing sub-regional linkages. Local walk and cycle networks, planned and delivered by local governments, complement the principal cycle network, serving local communities and activity centres.

The first priority of this plan is to provide a connected active transport network, focusing on those areas and connections that will get the most people walking and cycling, more often.

To meet the targets, planning and investment need to be coordinated between local and state government to ensure that new infrastructure is targeted to fill major gaps in the network and to provide a quality of facility that is safe, direct and 'fit for purpose'.

To be effective, active transport infrastructure investment must be:

- connected – infrastructure investment in active transport needs to be targeted to fill the missing gaps in networks
- coordinated – networks extend across local government boundaries and planning and delivery of networks needs to respond to this
- 'fit for purpose' – active transport infrastructure needs to be designed and delivered to meet the needs of most existing or potential users of the infrastructure.

Experience in the past 10 years has shown that, where there has been strong investment in infrastructure, the community have responded with increased take-up of active transport.

#### Network safety

Safety is currently a major barrier to people walking and cycling, particularly where it requires use of an on-road facility where cyclists mix with general traffic.

There are many types of cyclists with a broad range of skills and ability. Some cyclists rarely use off-road paths, such as primary school children, who may not have the skills to ride on busy roads, even if there is a dedicated bicycle lane.

New facilities will continue to be a combination of on-road or off-road, and where possible will seek to provide safe separation from general traffic and other hazards, such as opening car doors.

Trials will also be undertaken to test the safety and suitability of new types of separated active transport infrastructure.

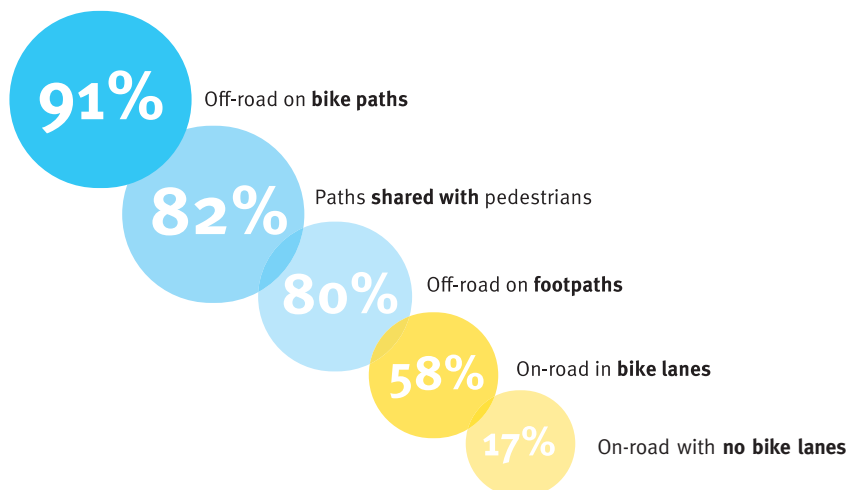
Enhanced safety along active transport routes will also be promoted through targeted traffic speed limit reductions on roads.

The state government has adopted a cycling infrastructure policy to ensure that, along principal cycle routes, facilities are provided for cyclists in road upgrade projects.

The majority of off-road active transport facilities will be shared between pedestrians and cyclists.

These off-road facilities need to be appropriately designed to provide sufficient capacity and safety for all users, including people with prams and people in wheelchairs.

Figure 7.1 – situations where cyclists report feeling safe



Source: Queensland Transport 2009 Sustainable Transport Survey



### A2 New communities are walk and cycle friendly

Almost 50% of new residential development in the region will be in new communities, and it is important that they are appropriately designed to encourage walking and cycling.

New communities need a connected street network that provides safely for walking and cycling trips. This is best achieved through a grid or adapted grid street layout.

Active transport networks will need a hierarchy of routes and the type of facility required will depend upon the role of the route and the predominant types of users on the route.

Multi-modal urban arterial roads in new communities will be important walking and cycling routes. It is important that an appropriate quality of facility be provided in these corridors as they will provide a connection between local and principal/regional networks.

Facilities will provide for the safe separation of pedestrians and cyclists from traffic along these multi-modal corridors. In many cases, it will be appropriate for off-road pathways and on-road bicycle lanes to be included in new multi-modal urban arterial roads.

### A3 Active community culture

Getting more people walking and cycling more often also requires a change from the current car dominant culture to one where walking and cycling are a regular part of everyday life for most people in the region.

This requires a change in community attitudes and behaviour, particularly toward the sharing of road space.

Increased awareness between all road users and general acceptance of cyclists as legitimate road users will improve safety on roads and paths, making active transport modes more attractive to a wider range of people.

Education, training and publicity will be used to promote the benefits and rights of walking and cycling to individuals and the community, including the professional community.

This will include programs that convey the clear message that pedestrians and cyclists are legitimate road users.

Cyclists must also play their role in promoting an active transport users' code of conduct to improve the respect shown by motorists to other road users, and between pedestrians and cyclists.

Personalised programs, such as TravelSmart, already include messages about the benefits of travel behaviour change.

Workplace programs and locality based travel plans can potentially link to other state and national initiatives, such as 'find your 30' (minutes of activity per day), ride to work, walk to work and walk to school days.

An applied research project is under way to quantify the cost and health benefits of active transport.

A joint partnership between the Department of Transport and Main Roads and Queensland Health, the project will be based around specific infrastructure in four geographic areas and involve up to 20 Queensland schools.

Tools for measuring the cost-benefit and health benefits of active transport strategies and infrastructure will be refined.

This will allow governments to evaluate the health and economic benefits of promoting walking and cycling.

#### Events

Active transport events and activities (such as Bike Week, Walk to Work Day and Ride to School Day) provide an opportunity to increase awareness and reduce barriers to walking and cycling.

These events can be used to educate the community about the benefits of active transport, provide tips and tricks to safe walking and cycling and to improve dissemination of information about active transport networks.

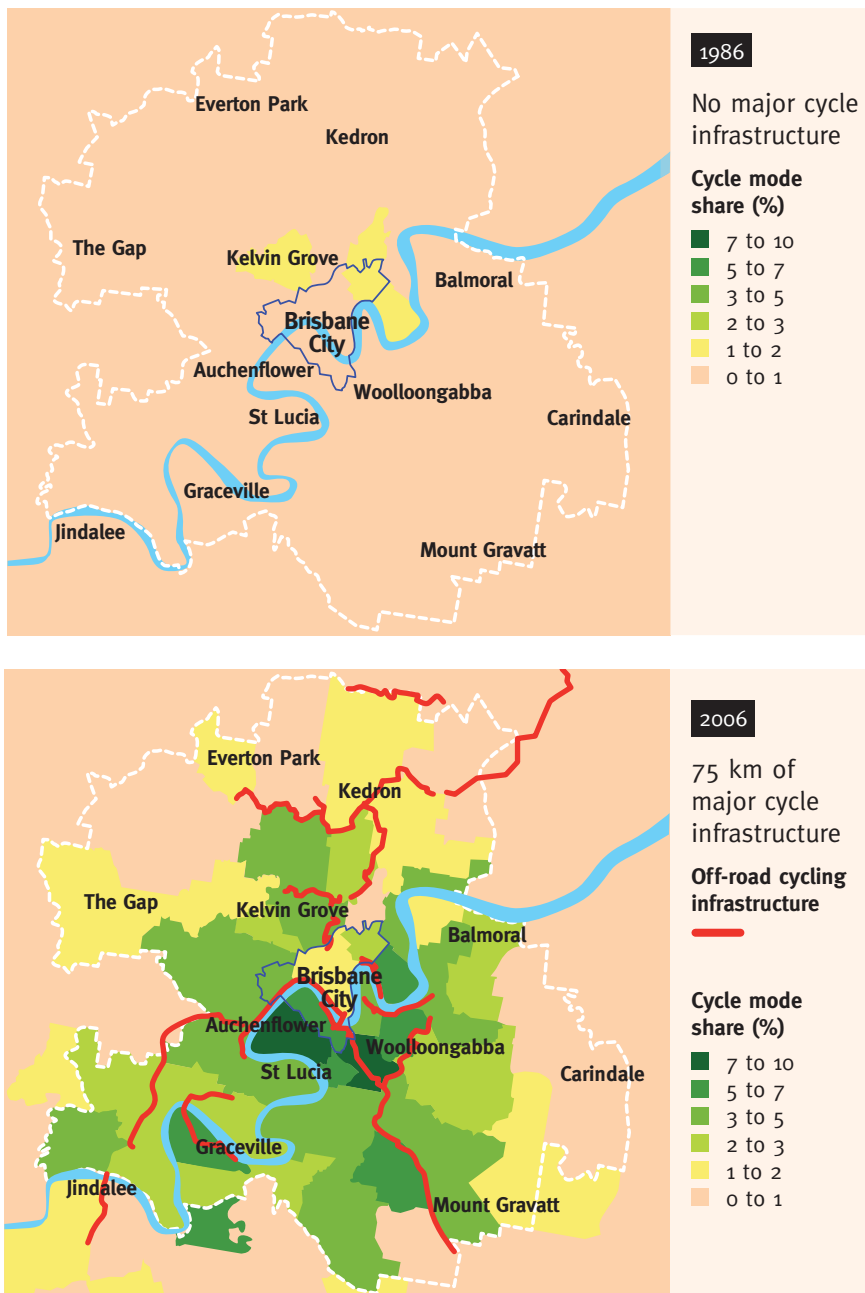
These large scale events also provide an opportunity to get people to make their first longer walk or cycle trip in a safe and encouraging environment. A successful first long trip can build people's confidence and encourage them to continue to walk and cycle for everyday trips.

The Queensland Government will continue to deliver education campaigns aimed at promoting the benefits of walking and cycling, as well as reinforcing safety messages and acknowledging the validity and rights of all road users, including pedestrians and cyclists.

## Cycling investment in inner Brisbane: a cycling success story

There has been significant investment in off-road cycling infrastructure across Brisbane, particularly in inner suburbs over the past two decades. This investment has seen a significant increase in people cycling in these areas, which suggests there is a latent demand in the community, as shown in Figure 7.2, where cycling has increased dramatically following investment in cycling infrastructure.

Figure 7.2 – change in cycle mode share in inner Brisbane 1986–2006



### Cycling facts

- in Brisbane between 2005 and 2008, there was a 50% increase in cyclists on key cycle routes
- between 2001 and 2008, there was a 42% increase in people participating in regular recreational cycling in Queensland
- between 2001 and 2006, there was a 17% increase in people choosing to ride to work in Brisbane
- about 10 000 people participated in the 100 kilometre Wilson HTM Brisbane to Gold Coast Cycle Challenge in October 2009 compared to 5400 in 2007.

### More cycling projects are under way

- Northern bikeway section 1 (Kedron to the central business district)
- Northern bikeway section 2 (Kedron to Aspley)
- Delivery of a cycle corridor as part of the Port of Brisbane Motorway upgrade
- Brisbane City Council plans to complete the widening of the Bicentennial Bikeway from Toowong to the CBD
- Redland City Council plans to complete missing links in the Moreton Bay Cycleway and provide cycle facilities on the Moreton Bay Islands
- Ipswich City Council plans to complete the Goodna Creek Bikeway extending from Collingwood Park to Redbank, cycle facilities linking Ipswich CBD to the Amberley Air Force Base and extending Brassall Bikeway to Wulkuraka
- Gold Coast City Council plans to construct bikeways in Varsity Lakes and green bridges to improve access between canal estates
- extensions to the V1 bikeway linking Brisbane CBD to the Gold Coast
- Sunshine Coast Regional Council has released their Active Transport Plan 2011–2031, a strategic plan for active transport infrastructure, including on-trip and end-of-trip facilities.

## Supporting principles for developing the active transport network

- A4 Complete active transport networks within a five kilometre radius of activity centres and around educational institutions and public transport
- A5 Prioritise Cycle Network Program funding on the **principal cycle network** within five kilometre catchments of activity centres and along priority principal cycle routes
- A6 **End-of-trip facilities**, such as showers and bicycle storage, are provided for walkers and cyclists at key destinations
- A7 **Improve legibility and reduce barriers** to walking and cycling

### A4 Connections to activity centres, education and public transport

A high proportion of trips for work, shopping, social and recreation, and educational purposes are less than five kilometres.

Completing active transport networks in these high activity areas, filling the gaps with safe, direct and connected routes will maximise the opportunity for people to use an active mode more often.

Priority projects for completing a safe, direct and connected active transport network include Complete 5 (activity centre connections), Educated Ways (connections to educational institutions) and Connect To (connections to public transport stops and stations).

### Complete 5

Activity centres provide a wide variety of local attractions and trip destinations, including employment, retail, education, as well as an increasing proportion of residential uses through infill development.

Improved planning and investment in active transport networks within centres will target one market with potential for generating a shift of trips to active transport modes.

A five kilometre catchment around centres is considered optimal for cycling trips (and less for walking) as:

- around 80% of all cycle trips and almost all walking trips are less than five kilometres
- almost 50% of all car trips are less than five kilometres
- around 85% of the region's population live within five kilometres of a regional activity centre
- 65% of the principal cycle network is within five kilometres of these regional activity centres.

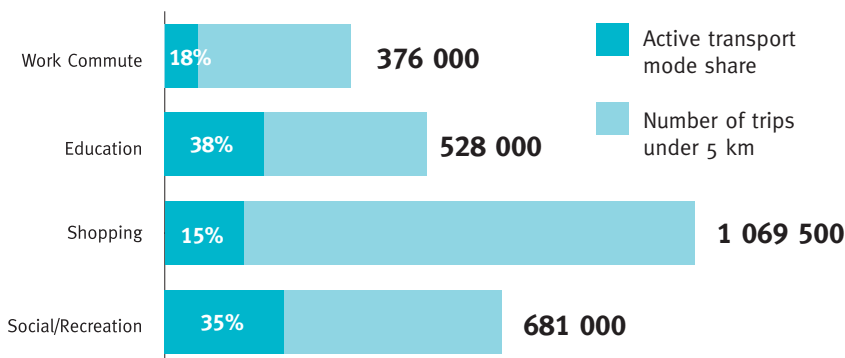
The 'Complete 5' initiative involves the planning, development and upgrade of networks within this five kilometre catchment, and any centre master planning exercise should take account of this catchment.

Under the current regional planning framework, improved access, amenity and priority for pedestrians and cyclists within centres is a key focus.

The walking and cycling environment within centres is also an important part of place making, and this is being recognised in master planning activities for the region's activity centres.

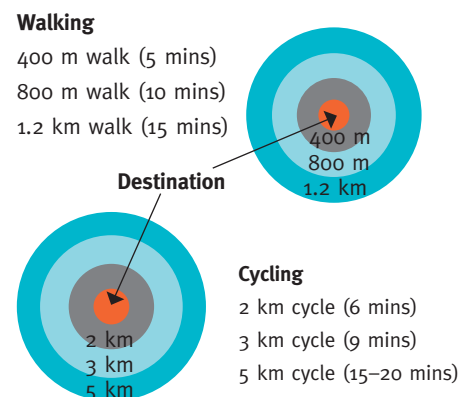
Trip distance and journey times are critical considerations in people's decision-making about how to access centres and destinations within centres.

Figure 7.3 – daily trips in south-east Queensland less than five kilometres



Source: Department of Transport and Main Roads South East Queensland Travel Survey 2009

Figure 7.4 – active transport catchments



**Educated Ways**

Currently, 74% of primary school trips and 44% of secondary school trips are made by car<sup>35</sup>, which can contribute to about a 20% increase in traffic in the morning peak. Increasing numbers of car trips to schools serves to further compound road safety issues within school precincts. With the right mix of investment and policies, there is significant potential to shift more school trips to active transport.

Of education trips that are five kilometres or less, 38% are made by active transport modes. This is an encouraging number; however, a greater shift could be achieved in these catchments.

'Educated Ways' will focus on improving walk and cycle networks around schools and universities.

Improvements to active transport networks will be supported by other initiatives, including school travel plans, 'walking school bus' programs, ride to school days and bicycle education.

Such programs need a high level of support from schools, state and local governments to be properly implemented and achieve the best results.

TravelSmart has completed a number of school travel programs in the region. The TravelSmart 'park and walk' initiative, where students and parents are encouraged to use recognised routes to walk the last leg of the school journey, could be used to inform investment in walk and cycle networks through Educated Ways.

**Connect To**

Walking is an essential part of public transport travel, making up the beginning and end of every journey. Improved integration between walking networks and public transport networks will increase the accessibility and attractiveness of public transport and extend the reach of sustainable transport to people's front door.

Cycling can also form a part of a public transport trip, and is increasingly being supported by providing secure bicycle storage.

'Connect To' is an initiative to develop and upgrade walking and cycling routes that connect to major public transport stops and stations.

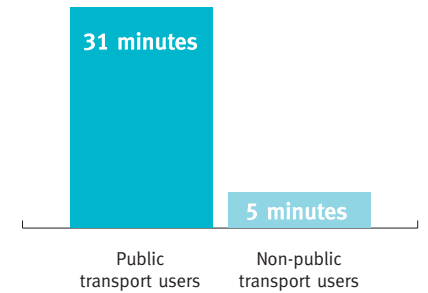
Upgrades to these networks will also involve improvements to safety and security features (for example, lighting, blind corners, route selection).

Local governments across the region will be important partners in delivering good design outcomes for walking and cycling access to public transport stations and stops.

Increased integration of active and public transport will also be supported through door-to-door journey planning.

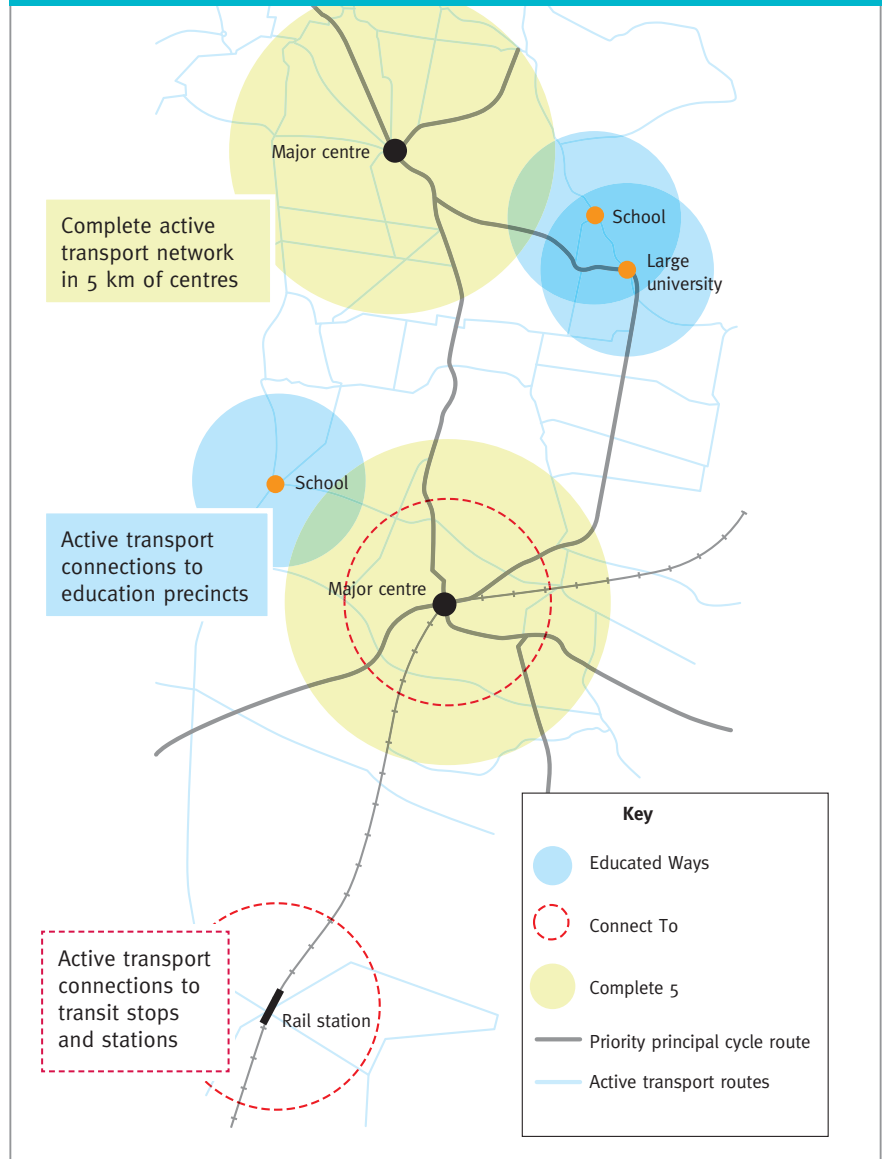
In the future, information on TransLink's journey planner will incorporate walking and cycling routes and estimated travel times to allow users to select routes based on their level of skill and confidence.

**Figure 7.5 – average time spent walking or cycling as part of daily travel**



Source: Department of Transport and Main Roads South East Queensland Travel Survey 2009

**Figure 7.6 – proposed active transport network components**



35 Department of Transport and Main Roads South East Queensland Household Travel Survey 2007



### A5 Principal cycle network

The *South East Queensland Principal Cycle Network Plan* provides a master plan for the region's principal cycling routes.

These routes provide direct connections between areas of high population, major activity centres, public transport stations and other facilities and attractors such as universities, school precincts and recreational precincts.

Some principal cycle network routes will also support walking and wheelchair access when provided as off-road paths.

The Cycle Network Program, established by the Department of Transport and Main Roads in 2006, oversees the investment of Queensland Government funds for the region's principal cycle network.

The *Queensland Infrastructure Plan* allocates \$500 million to this network to 2031.

*Connecting SEQ 2031* aims to prioritise investment by the Cycle Network Program to complete the active transport network within a five kilometre catchment of regional activity centres and along priority principal cycle routes identified in the local government chapters in Part D.

### A6 End-of-trip facilities

End-of-trip facilities, such as showers and lockers, will be provided at public transport stations, workplaces and activity centres to encourage more people to walk and cycle. These basic services and facilities make a big difference to the attractiveness of a walk or cycle trip, particularly for regular trips, such as to work.

The *Queensland Development Code* was updated to require the provision of end-of-trip facilities in major new developments and extensions, including commercial office buildings, shopping centres, tertiary education institutions and hospitals. Only the rural council areas of the region are excluded from this code.

The minimum standard applied through the *Queensland Development Code* can be increased and applied to a wider range of development types through local planning instruments.

The Department of Transport and Main Roads has also produced a draft end-of-trip facilities code and guidelines. It is intended that the code and guidelines will apply to particular land use types in Queensland.

The Queensland Government will also trial the provision of high quality and space efficient end-of-trip facilities at public transport stations.

*Connecting SEQ 2031* proposes that bicycle parking spaces be provided at public transport stations to provide improved opportunities for interchange between active and public transport modes.





### A7 Improve legibility and reduce barriers

Currently, there are some small issues that form barriers to more people taking up walking and cycling as a part of their everyday life. These barriers include:

- lack of education/information about the benefits of walking and cycling
- legibility of networks
- limited dissemination of information about networks and facilities
- impediments and disincentives to cycling, including in the road rules.

Improved legibility can be achieved through providing a more intuitive, direct and sign posted network of active transport routes. This will be achieved through integrated planning and delivery by state and local governments.

Improved legibility includes supporting infrastructure and information, such as regulatory and directional/way finding signage, and comprehensive and up-to-date network maps.

New applications of technology to provide, and continue to update, this information, such as applications for use with mobile phones and GPS devices, are expected to continue to be developed.

The current road rules place small, but inconvenient impediments on cyclists.

The Queensland Government will undertake an audit of the Queensland Road Rules to identify any opportunities to safely remove current barriers to walking and cycling.

## 8. A strategic freight network

### Signature projects – freight

#### SP16 Freight Terminal Strategy

Plan and facilitate enhanced access to new and existing intermodal freight terminals to accommodate future growth in freight. Plan and protect sites for new intermodal terminals, and facilitate timely development through private sector investment at key sites, including:

- Bromelton
- Ebenezer (in conjunction with the proposed dual gauge freight rail line connecting the Western Line to the Interstate Line)
- a new site north of the Brisbane River with ready access to the North Coast Line.
- Charlton Wellcamp Enterprise Area (in conjunction with the inland rail line).

#### SP17 Freight rail lines

Plan and facilitate the provision of freight rail lines to link the region with major markets in north Queensland, western Queensland and the southern states, including:

- a dual gauge rail line with freight as the priority use from Acacia Ridge to the Port of Brisbane (facilitated by the proposed Cross River Rail project)
- dual gauge dedicated freight line from Bromelton to Acacia Ridge (with no overhead power lines to allow for double stacked containers)
- a dual gauge southern freight rail bypass from the Interstate Line at Kagaru to the Western Line west of Rosewood
- preservation of a corridor for a dual gauge freight rail line from Gowrie to Grandchester
- undertake targeted upgrades of existing rail lines to improve separation of freight and passenger rail and provide passing loops for longer trains.

South-east Queensland is forecast to continue to experience large increases in freight vehicle movements. Total freight tonnage moved in the region is forecast to increase by 130%, from 74 million tonnes per annum (mta) in 2001 to 170 mta in 2031<sup>36</sup>. This compares to an increase in population of 86% in that same period.

Growth in freight is driven by population growth and increasing economic activity.

Between 2006 and 2031, an extra 690 000 residences and new workplaces for 900 000 workers are expected to be built in the region, meaning more goods and materials to be transferred, and more need to access markets remote to the region.

As well as increasing population and economic activity, factors driving the increase in freight movements include:

- increasing rate of consumption of goods – households in the region are forecast to consume goods at nearly three times 2001 consumption levels by 2031
- consumption outstripping local production – increasing reliance on goods and materials imported from interstate and overseas

- 'just-in-time' inventory planning – business and industry tends more and more to request goods, materials and spare parts 'on demand', instead of shipping in large delivery loads and holding stocks on their premises, leading to more freight movements
- transport network development and flood recovery – about 25 000 tonnes of rock and earth, or 700 truck trips are required to construct just one kilometre of road.

The freight task is diverse, ranging from the import of crude oil and petroleum products for refining and distribution throughout Queensland, to delivery of perishable food to local shops. Road freight dominates the market, carrying over 75% of all tonnage moved and all intra-regional freight.

More than half the freight carried in the region emanates locally and is intended for local destinations. Over 80% of road freight movements are by small commercial vehicles less than 3.5 tonnes<sup>37</sup>.

The region's transport system competes against freight networks and infrastructure gateways in other cities and regions. Having a safe, sustainable and efficient freight system that reduces rather than increases its impact on communities will help keep the region prosperous and ensure it remains a great place to live and work.

To support the key transport goals established through *Connecting SEQ 2031*, continual development and enhancement of the freight network is needed.

This means government must ensure there is adequate investment in the transport system for freight. Private sector investment is also vital. This will require the state government to work with the private sector to ensure public and private investment is complementary.

The SEQ Regional Plan establishes a principle of providing an efficient freight network to enhance the region's position as a major national and international freight and logistics centre servicing the Australian east coast<sup>38</sup>.

*Connecting SEQ 2031* gives a high priority to the development of a strategic network of railways, roads and intermodal terminals to ensure:

- access for local businesses to inputs, supplies and markets (locally and offshore)
- competitive advantage is maintained and efficiencies improved for local businesses
- attraction and retention of investment to expand the economy and create jobs
- social and environmental impacts of freight operations are minimised.

36 Strategic design and development (for Queensland Transport) 2004 *Study into input and output freight generation within SEQ*

37 *Queensland Transport Facts 2010*

38 Queensland Government (Department of Infrastructure and Planning) 2009 *South East Queensland Regional Plan 2009–2031* p 148

### Existing strategic freight projects

Planning and investment to create a strategic network of priority freight routes for rail, roads and intermodal terminals is continuing through network studies and planning for new road and rail freight facilities.

A draft *Integrated Freight Strategy for Queensland* has been prepared which will be used to guide planning for freight networks and facilities across the state. This freight strategy also outlines how the effects of freight on communities will be mitigated.

### Freight network investigations

- Mt Lindesay–Beaudesert strategic transport network investigation
- Gateway Motorway (extension south of Logan Motorway) investigation and preservation
- proposed inland rail between Melbourne and Brisbane (Australian Government project)
- preservation of the Southern Freight Rail Corridor from west of Rosewood to Kagaru.

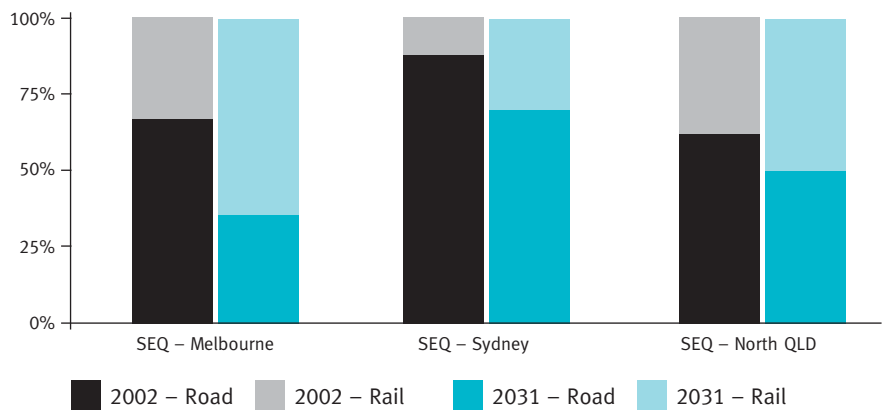
### Motorways

- Gateway Motorway (M1) upgrade from Eight Mile Plains to Nudgee
- Ipswich Motorway (M2) upgrade
- Cunningham Highway (15) upgrade (Ripley Road to Ebenezer)
- Airport Link (M7)
- East–West Arterial road upgrade (Airport Link to Gateway Motorway) (M1)
- Pacific Motorway (M1) additional lanes and interchange upgrades (Nerang to Smith Street)
- Toowoomba bypass second range crossing
- Legacy Way from Toowong to Kelvin Grove.

### Rail freight

- dual gauging of existing track for freight from Acacia Ridge to Bromelton (completed)
- 4th track Corinda to Darra and resignalling Corinda Junction
- upgraded crossing loop at Murarrie
- upgrade Yeerongpilly to Dutton Park rail line.

Figure 8.1 – mode share on key inter-regional routes



Source: Department of Transport and Main Roads 2008, South East Queensland Intermodal Freight Terminal Study

Table 8.1 – south-east Queensland freight movements

Freight stream	2001 freight levels (million tonnes)	2031 freight levels (million tonnes)
Intra-regional freight	25	53
Inter-regional freight	43	101
Transit freight	6	16
<b>Total freight</b>	<b>74</b>	<b>170</b>

Source: Sd+D Input-Output Model, [figures from 2026 have been extrapolated to 2031]



### Single permit office

The Department of Transport and Main Roads wishes to establish a more effective State-wide Permits Process for heavy vehicles through a centralised office. A temporary single permit office was established during the response to Queensland's January 2011 floods and has received support from government and industry.

Key objectives for a State-wide Permits Process is to consider wider economic and service outcomes for heavy vehicle operations on the state road network and facilitate improved road freight supply chain activity through better coordination.

## Regional freight terminals

The regional freight gateways are the Port of Brisbane, Brisbane Airport and three intermodal road/rail freight terminals.

### Brisbane Airport

The Brisbane Airport fulfils a niche role in the freight task, with domestic and international air freight being less than 2% of the total tonnage of freight moved in the region. In 2006–07, the airport handled approximately 149 200 tonnes of domestic and international air cargo<sup>39</sup>.

The high costs associated with air freight mean that this small percentage is often high value, light weight cargo requiring urgent delivery, such as parcel post and fresh seafood for export.

By 2026, air freight is expected to triple<sup>40</sup>. Development on airport land is also expected to increase the generation of freight for on-site activities. All freight to and from the airport is moved by road. Since air freight is usually time critical, maintaining reliable roads to the airport is vital to supporting growth in air freight.

### Port of Brisbane

The Port of Brisbane is Australia's largest multi-user general cargo and commodity port and third largest container port. It is also the fastest growing port in Australia.

Overall freight volumes through the port are expected to increase substantially in coming years, having undergone 16 years of consecutive growth<sup>41</sup>.

The port is one of the largest freight hubs in Queensland and relies heavily on a single rail line and the Port of Brisbane Motorway for access.

The port is integral to freight movements in the region and across the state, with bulk commodities such as coal and grain needing access to the port for export. The port is also the exit and entry point for containerised freight, bulk crude oil and petroleum products.

Approximately 95% of Queensland's container trade moves through the port. The volume of containerised trade is expected to triple in the next 20 years.

To support these volumes, the trend forecasts suggest the number of heavy vehicle movements through the port will increase from current levels of about 5000 vehicle movements per day to 15 000 by 2031<sup>42</sup>.

Rail carries approximately 50% of exports through the Port of Brisbane by volume, predominantly coal, and approximately 2.6% of imports. In 2009/2010, only about 6.2% of container freight movements were supported by rail<sup>43</sup>.

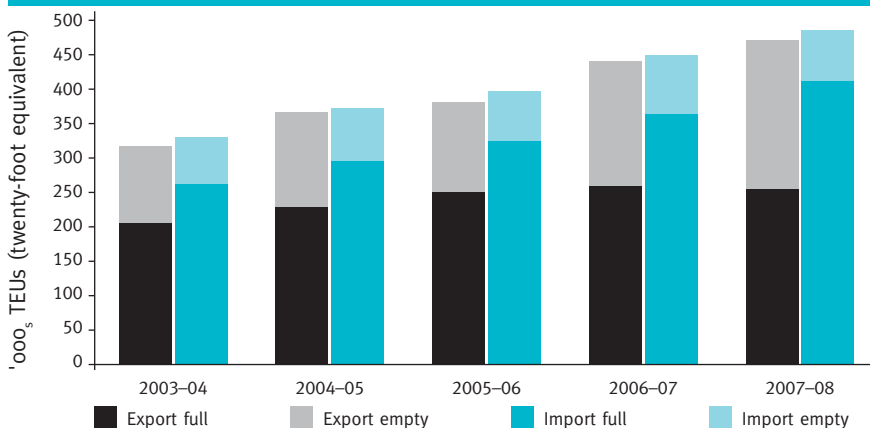
**Table 8.2 – forecast growth for interstate freight**

Market	2004 base year		2029 forecast		
	Total (million tonnes per annum)	Rail share (million tonnes per annum)	Total million tonnes per annum	Rail share without inland rail (million tonnes per annum)	Rail share with inland rail (million tonnes per annum)
Sydney–Brisbane	7.0	0.8 (11%)	17-19	4 (~22%)	4 (A)
Melbourne–Brisbane	4.5	1.5 (30%)	10-13	7.4 (64%)	0.7 (B) 7.9 (C)

(A) – likely increase in market share due to available capacity not assessed  
 (B) – Remaining traffic on the existing route via Sydney  
 (C) – Traffic on new inland rail

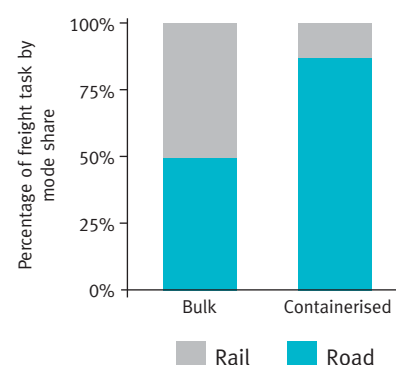
Source: Department of Transport and Main Roads 2008, South East Queensland Intermodal Freight Terminal Study

**Figure 8.2 – Port of Brisbane container throughput**



Source: Department of Transport and Main Roads 2008, South East Queensland Intermodal Freight Terminal Study

**Figure 8.3 – rail/road mode shares for freight through the Port of Brisbane**



Source: Department of Transport and Main Roads 2009 Rail Strategy for South East Queensland

39 Brisbane Airport 2009 Preliminary Draft Masterplan

40 PSA Consulting (for Australia TradeCoast Ltd) 2008 Australia TradeCoast freight study p 43

41 Queensland Government (Department of Transport and Main Roads) 2010 Queensland ports trade statistics report for the five years ending 30 June 2010

42 Queensland Government (Department of Transport and Main Roads) 2009 draft Rail strategy for South East Queensland

43 Port of Brisbane 2010 Figures supplied in submission to draft Connecting SEQ 2031



To enhance container movement by rail and reduce future truck movements, queuing and congestion, *Connecting SEQ 2031* recommends keeping options open for short-haul rail shuttles to rail terminals outside of the port precinct.

#### **Brisbane multi-modal terminal**

The Brisbane multi-modal terminal, located on Fisherman Islands, supports containerised freight movements through the Port of Brisbane. It also has the potential to handle local container movements going from the Australia TradeCoast precinct to rail. The site has dual gauge rail facilities and has the capacity to handle long-term growth forecasts in containerised trade through the Port of Brisbane.

#### **Acacia Ridge freight terminal**

Acacia Ridge is Queensland's primary intermodal terminal for road/rail freight. It is located within a major industrial area where there are many large industries dependent on the freight rail network. It has narrow and standard gauge rail connections and caters for movements of freight interstate and intrastate.

Interstate freight growth is likely to have the greatest impact on Acacia Ridge in the future. Table 8.2 on the previous page shows the forecast growth for total freight and rail freight between 2004 and 2029.

While there is uncertainty about how rail mode share may change, especially with the influence of federal government policies to increase its importance, even modest growth in the interstate rail freight market will result in substantial increases in throughput at Acacia Ridge.

Improvements to the long-term capacity of Acacia Ridge, together with establishment of new intermodal terminals to take the pressure off the road connections to Acacia Ridge, will be part of a long-term strategy to accommodate growth in rail freight.

#### **Moolabin freight terminal**

There is a small intermodal terminal located at Moolabin. Existing road/rail connections and the lack of available land limit the opportunity to significantly increase the capacity of this terminal in the future.

#### **Proposed Melbourne to Brisbane inland rail line**

At present, the only north–south rail corridor in eastern Australia runs from Melbourne through Sydney to Brisbane.

The Australian Government commissioned Australian Rail Track Corporation Ltd to undertake the Inland Rail Alignment Study in 2008, and a final report was received in March 2010.

The study considered:

- expected market take-up of freight services provided by inland rail
- route alignment and cost/operational options
- financial and economic viability.

The analysis identified there is demand for a railway that can achieve an average Melbourne–Brisbane transit time (terminal-to-terminal) of 20 hours and 30 minutes, and on a route of 1731 kilometres. This is more than 170 kilometres shorter and seven hours faster than the current coastal route. Demand for the inland rail line would also result in a freeing of capacity through Sydney.

The route would connect directly to key terminals at Bromelton, Acacia Ridge and the Port of Brisbane via the Western Line, the Southern Freight Rail Corridor and the interstate line. It would make possible two additional multi-modal terminals at Ebenezer and the Charlton Wellcamp Enterprise Area.

The inland rail line would require a significant capital contribution or service payment for the infrastructure to be developed and commissioned. The financial assessment suggested an inland rail line is not yet commercially viable and some form of external financial support may be required. Better financial performance could be achieved by delaying inland rail's operation for 10 or 20 years, when rail freight tonnages on the corridor are expected to increase considerably.

Details of the Inland Rail Alignment Study are available on the Australian Rail Commission's website [www.artc.com.au](http://www.artc.com.au).

The Queensland Government has undertaken planning for the Toowoomba Range second rail crossing and the realignment and upgrade of the Western Line from Gowrie to Grandchester, and the proposed Southern Freight Rail Corridor from Rosewood to Kagaru. These two major projects would provide essential links in the event the proposed inland rail line were to proceed. A proposed intermodal freight terminal site is also planned for the Ebenezer area, and there is also the possibility of a major terminal at the Charlton Wellcamp Enterprise Area, west of Toowoomba.

*Connecting SEQ 2031* anticipates the possibility of the inland rail line proceeding, but is not premised upon it. In the absence of a clear commitment from the Australian Government or the private sector, corridors and land will be preserved for the Gowrie to Grandchester rail corridor and the Southern Freight Rail Corridor, and the emphasis on catering for the rail freight task on the present interstate rail line will be retained.

## Overarching principles for developing a freight network

- F1 Work in partnership with stakeholders and industry to develop a **strategic network of freight routes** (rail, strategic roads, supporting roads)
- F2 Facilitate the development of a network of **intermodal terminals**

### F1 Strategic network of freight routes

Investing in a strategic freight network has flow-on benefits in terms of economic development, improved safety and reduced impact on local road networks.

Having a clearly identified strategic freight network also informs industry location choices so new businesses can be assured of access to materials and markets.

The Queensland Government will plan and facilitate the development of the strategic freight network that supports industry's ability to operate on a 24/7 basis, while managing impacts on communities.

This will support improved freight access, efficiencies in operation, as well as respond to increasing demands for 'just in time' delivery of goods.

Investment in the strategic freight network will include:

- investing in infrastructure, including roads and railways
- enacting land use planning provisions to protect sites for proposed freight terminals and freight generating industries
- preserving freight transport corridors.

Private industry will have a strong role in the development and operation of freight transport facilities and terminals through developing their own facilities and partnering with government.

Private sector entities will also be required to contribute to the upgrading of multi-user freight infrastructure where they are the beneficiary of that upgrade.

#### Rail freight routes

*Connecting SEQ 2031* has identified a need to improve the capacity for rail freight. This is necessary to reduce reliance on road freight and make long-term freight efficiencies achievable.

Freight trains are considerably longer and slower than passenger trains and their interaction with passenger rail services on the network requires careful planning.

As passenger trains are given network priority, it is desirable to provide dedicated freight lines where demand justifies this.

This can be achieved by either constructing new rail lines or undertaking upgrades to improve passenger and freight rail separation.

The key location in the region requiring dedicated freight rail access is between Acacia Ridge intermodal terminal and the Port of Brisbane.

There is currently a dedicated dual gauge freight line from Dutton Park to the Port of Brisbane via the existing Cleveland rail corridor through to Lytton junction. This line is non-electrified and cannot be used by passenger traffic.

From Salisbury to Dutton Park, the dual gauge line (third track) is electrified and shared with passenger trains, resulting in daytime freight train restriction.

It is intended that the Cross River Rail project will provide two additional tracks for passenger trains, freeing up the dual gauge track for 'freight only', providing a dedicated freight line from Acacia Ridge and Corinda to the Port of Brisbane.

This single freight track will have passing loops at Murarrie and Clapham. It will enable more reliable daytime freight operations to the port and should be capable of dealing with port rail traffic for the foreseeable future.

There is already a standard gauge line connecting Sydney to Acacia Ridge. This Interstate Line is shared only with XPT interstate passenger trains.

The section of rail line from Bromelton to Acacia Ridge has already been upgraded to dual gauge to allow for narrow gauge freight trains to service the future Bromelton intermodal terminal site.

This interstate line has no overhead power and allows for double stacked containers to be carried. Provision of the Flagstone passenger rail alongside the interstate line by 2031, as proposed in the Rail Network Strategy will enable the present dual gauge line to be retained primarily for freight use.

The proposed Southern Freight Rail Corridor from Kagaru to Rosewood, with its planned connections to the inland rail connecting to Melbourne would make it possible to carry double stack containers from all points between Melbourne and Acacia Ridge.

There is an option for narrow gauge freight trains to be extended to 1500 metres for the North Coast Line, driven by domestic freight (Acacia Ridge to the north).

This would realise significant rail efficiencies and help reduce reliance on road freight.

#### Road freight routes

Road is the predominant mode of transporting freight in the region, accounting for 75% of long distance and 100% of intra-regional movements.

Policies to improve freight routes and protect road freight vehicles from chronic congestion caused by commuter traffic will assist the vital exchange of goods and materials for intra-regional and inter-regional markets.

The SEQ Regional Plan identifies priority freight routes. The road network must be planned and managed so these routes are developed to withstand increasing numbers and sizes of heavy vehicles.

Priority road freight routes on state and local government roads will need to ensure reliable movement of road freight and business trips to maintain the economic viability of the region. Providing priority freight routes will also limit trucks on suburban roads to movements necessary for delivery to local destinations.

Actions to support the priority freight routes could potentially include providing freight vehicles with priority access to motorways through priority freight lanes on ramps near major industrial areas and terminals.

*Connecting SEQ 2031* aims to upgrade and develop the region's existing motorways to form a complete and mature motorway standard network. This is a strategic project for developing the region's priority freight routes and improving reliability for freight transport across the region. The details are described in the road network strategy (see Chapter 6).



### Light commercial vehicle movements

Movement of freight by light commercial vehicles (small trucks and delivery vans under 3.5 tonnes) is important to meet 'just-in-time' delivery parameters.

With most light commercial vehicle movements occurring in the daytime off-peak, there is a need to ensure the road network performs at a reasonable level of service at all times.

Another issue for light freight vehicle movement is conflicts with other users in busy activity centres. As activity in centres increases, competing demands for road kerb space will increase.

Ensuring light freight vehicles have ready access to delivery points will be a continuing challenge for the management of major activity centres.

### F2 Intermodal terminals

To accommodate expected growth and support greater use of rail, the freight terminal strategy proposed by *Connecting SEQ 2031* includes:

- enhancing Acacia Ridge, including catering for 1500 m trains to provide an ultimate capacity to handle 750 000 containers per year, and more efficient road access
- maintaining options to expand the role of facilities at Fisherman Islands, including the Brisbane multi-modal terminal
- a major new intermodal terminal in Bromelton to supplement capacity at Acacia Ridge
- a potential new intermodal terminal at Ebenezer in conjunction with the proposed Southern Freight Rail Corridor

- smaller rail terminal facilities to meet the needs of individual significant freight users (at Bromelton, Australia TradeCoast and Swanbank)
- a potential new intermodal terminal north of the Brisbane River with access to the North Coast Line to service the Moreton Bay and Sunshine Coast councils and freight from North Queensland.

### Intermodal terminal upgrades

Enhancements to Acacia Ridge are needed to allow for increasing rail freight movements, especially from interstate. Key projects include:

- upgrades to facilitate operation of 1500 m trains (standard gauge and narrow gauge, which are currently limited to 600 and 1200 metres respectively)
- expansion to cater for movement of up to 750 000 containers (20-foot equivalent units – TEUs) per year. Currently over 300 000 TEUs are moved through the Acacia Ridge intermodal terminal each year.

Expansion will be driven by demand growth and could occur progressively over the next 20 years.

The existing intermodal terminal at Fisherman Islands accommodates 900 m trains, but could be expanded to 1200 m if demand requires.

Narrow gauge rail to the port transports coal, grain and containers. Trains using this line are currently constrained by the capacity and performance limitations of the metropolitan rail network and the Toowoomba Range crossing.

In all cases, providing for longer freight trains in the region will require provision of extended passing loops and consideration of the potential impacts on traffic held up at open level crossings.

### New intermodal terminals

In addition to the expansion of the Acacia Ridge terminal, a new intermodal terminal in another part of the region will be required.

The Bromelton area is in the state industrial development area and on the standard gauge interstate line, with dual gauge rail connections to Acacia Ridge.

As more industries develop in the Bromelton area and major road connections are improved, a new intermodal terminal here could reduce traffic at Acacia Ridge.

There is also the potential for a new intermodal freight terminal to the north of the Brisbane River. A new intermodal terminal to the north would also relieve pressure on the Acacia Ridge terminal and the broader transport system (road/rail) to support existing cross-river freight movements.

A new intermodal terminal at the declared Ebenezer regional industrial area needs to be preserved through planning being undertaken by the Queensland Government and Ipswich City Council.

The Swanbank enterprise park represents another opportunity to provide rail terminal facilities associated with major industrial development.

An intermodal terminal at the Charlton Wellcamp Enterprise Area in the Toowoomba local government area would also accommodate inter-regional freight movements from the west in the event the proposed inland rail line proceeds.

## Supporting principles for developing a freight network

- F3 Develop facilities to allow more **containerised freight to be carried on rail**
- F4 Ensure local roads are designed and managed to accommodate **'first and last mile' freight movements**
- F5 **Protect land close to freight routes** for use by freight generating businesses
- F6 **Protect existing and future intermodal freight terminal sites** from incompatible development including non-industrial and industrial uses generating traffic volumes that will compromise terminal access

### F3 Containerised freight on rail

Containerised freight movements are increasingly the preferred way to move freight.

The Port of Brisbane is Australia's third largest container port and caters for 95% of container movements in the state, but only 6% are moved to the port by rail and this is declining.

The government will work with industry and terminal operators to improve long and short-haul rail freight opportunities, to reduce the impact of road freight transport on the community and the environment.

Planning for double stack containers on standard gauge rail will provide this capability on the interstate line to Acacia Ridge.

This will accommodate the possibility of double stacking as part of a longer term national approach to rail freight improvements.

### F4 'First and last mile' freight movements

The region's strategic road freight network is comprised mainly of state controlled roads.

These roads carry heavy freight transport, including higher productivity vehicles operating under:

- the nationally agreed 'Higher Mass Limits' scheme that permits approved heavy vehicles to operate with additional mass on certain types of axle groups, on a restricted road network and subject to specified conditions
- heavy vehicles meeting the Performance Based Standards established by the National Transport Commission to allow heavy vehicle operators to achieve higher productivity and safety through innovative vehicle design.

Higher productivity vehicles achieve significant cost reductions and efficiency by offering higher capacity per vehicle, thus reducing the number of trips needed to ship a greater volume of freight.

Local roads often carry freight traffic for the so called 'first and last mile' – the initial or the final part of the journey. This can raise two challenging issues:

- road pavement, bridges and structures may not be designed to accommodate higher productivity vehicles
- heavy vehicles generally need to access local roads, town or city centres to provide delivery, creating safety and liveability conflicts.

Constraints at the point of delivery, such as restricted hours of operation, inadequate design of delivery docks (including adjacent manoeuvring area) and poor access from the adjoining road can reduce freight efficiency and make logistics more complex. This is a particular problem for food and beverage deliveries to supermarkets.

The Queensland Government will work with the Australian Government, local governments and the road freight industry to ensure a response to 'first and last mile' freight issues that does not compromise liveability or transfer inappropriate costs to local government budgets. This will include identifying priority freight routes and ensuring efficient freight movement and route compliance arrangements.

### F5 Protect land close to freight routes

Strategic freight routes service only limited areas of the region. If developable land served by these routes is taken up with uses that do not generate freight transport, the opportunity to reduce freight transport through suburban areas and improve freight efficiency is significantly reduced.

*Connecting SEQ 2031* establishes a strategic road and rail freight network to help advise the optimum locations for industry to establish.

Sites with ready access to multi-modal terminals or interchanges on the motorway network are the best locations to locate heavy industry. This ensures that reliable access to the port, intermodal terminals and markets (internal and external to the region) can be provided.

The Queensland Government will work in partnership with local governments to identify future strategic freight routes in town plans and protect adjoining land use at strategic access points for industry and logistics land uses.

### F6 Protect existing and future freight terminal sites

The Queensland Government will plan and facilitate the development of sites for new terminals identified in *Connecting SEQ 2031* that are well located with road and rail access.

The sites need to be recognised in state and local planning instruments to avoid incompatible land uses being approved that reduce effective freight operations and generate high levels of local traffic congestion.

Appropriate buffers may also be provided where needed to minimise potential adverse amenity impacts on any nearby communities.

The freight terminal strategy proposed by *Connecting SEQ 2031* includes at least three new terminals which need to be planned, secured and protected in planning instruments as soon as possible, as noted under 'intermodal terminals' earlier in this chapter.



## 2031 strategic freight network

### 2031 rail freight network

Enhancements to the rail network are proposed to increase the role of rail freight, including:

- new and upgraded intermodal facilities (as discussed under F2)
- improvements to rail corridors to increase freight capacity
- new rail corridors and corridor sections with dedicated freight tracks to avoid conflicts with passenger rail.

A summary of the major enhancements in rail infrastructure needed by 2031 to support a major shift in the movement of freight from road to rail is provided in Table 8.3.

Rail network improvements will need to address conflicts between passenger and rail freight where they share the same corridor. Planning for growth of freight and passenger rail will be conducted through the South East Queensland Rail Network Strategy.

### 2031 road freight network

The strategic road network planning in Chapter 6 contains the details of how road freight facilities will be developed, and how the road system can be better managed to prioritise freight movements. Road freight projects and policies include:

- the connected and managed motorways proposal aims to complete a high speed, high capacity road network across the region and manage its operation to support 24-hour access for freight vehicles where appropriate
- protection of proposed priority road freight corridors and industrial land as part of new development
- planning and funding multi-modal arterial roads within new communities to support local deliveries and protect the capacity of the strategic motorway network to provide reliable, congestion-free, long distance movement of freight vehicles.

Strategic motorway and highway projects are also identified in detail in Chapter 6.

In particular, there are three long-term projects of importance to the road freight network. These roads will service proposed new freight terminals and connect major industrial areas around the region. Planning and strategic protection of these corridors should be completed as a priority:

- Gateway southern extension to Jimboomba
- Southern infrastructure road corridor from Jimboomba to Ormeau
- Mt Lindesay Highway deviation west of Beaudesert to Bromelton.

The strategic road freight network comprises priority 1 routes and local service corridors. Priority 1 routes facilitate high volume, business-to-business freight movements. Local service corridors allow freight to be distributed from factories or distribution centres to retail outlets or warehouses.

Map 8.4 shows the 2031 strategic freight networks.

**Table 8.3 – infrastructure investments to support rail freight**

New and upgraded intermodal facilities (as discussed above under F2)	New or upgraded rail corridors
Upgrade of the Acacia Ridge intermodal terminal	<b>The interstate rail corridor:</b> <ul style="list-style-type: none"> <li>• grade separate at-grade junctions to improve the flow of passenger and freight services</li> <li>• development of Cross River Rail to allow Gold Coast commuter services to use new tracks and to allow dedicated use of the existing dual gauge track for freight transport between Acacia Ridge and the Port of Brisbane</li> <li>• additional dual gauge passing loops on the freight line from Yeerongpilly to Lytton Junction.</li> </ul>
Expansion of Brisbane multi-modal terminal	
New intermodal terminal in the Bromelton state development area	
New intermodal terminal at Ebenezer (in conjunction with the proposed Southern Freight Rail Corridor)	<b>The Western Line:</b> <ul style="list-style-type: none"> <li>• investigate tunnel, track and bridge upgrades, including higher axle loads and ability to carry 2.9 m (or 9'6") high containers</li> <li>• Corinda Junction grade separation to eliminate freight/passenger conflicts</li> <li>• protect a corridor for a standard gauge non-electrified rail link from Rosewood to Kagaru (Southern Freight Rail Corridor) in conjunction with the inland freight rail line from Melbourne</li> <li>• preserve standard gauge rail corridor from Gowrie to Grandchester.</li> </ul>
New industry specific rail terminal facilities at Ebenezer and Swanbank	
New intermodal terminal at Charlton Wellcamp Enterprise Area in conjunction with the possible inland rail connection from Melbourne to Brisbane	
Potential new intermodal terminal north of the Brisbane River	<b>The North Coast Line:</b> <ul style="list-style-type: none"> <li>• Caboolture to Nambour duplication and alignment improvement</li> <li>• third track on the Exhibition branch</li> <li>• additional track and freight refuges</li> <li>• crossing loop extensions to allow 1500 m trains.</li> </ul>

Map 8.4 – 2031 strategic freight network



# Part D – What it means for your community





## 9. 2031 transport networks for the region's cities

Population in 2006: 2.7 million

Forecast population in 2031:  
4.2 million

Total population increase:  
1.5 million

Daily trips by residents in 2006:  
9.2 million

Daily trips by residents in 2031:  
15 million

*Note: These are the population forecasts contained in the South East Queensland Regional Plan 2009–2031.*

The cities of the region include the local government areas of Brisbane City Council, Moreton Bay Regional Council, Logan City Council, Redland City Council, Ipswich City Council, Gold Coast City Council and Sunshine Coast Regional Council. While there are many rural communities within the region, more than 90% of south-east Queensland residents live and work in urban areas.

The SEQ Regional Plan seeks to contain urban sprawl and concentrate the vast majority of population and employment growth over the next two decades in the defined urban footprint within these urban local government areas.

Some growth will occur in rural communities, and transport networks will need to respond to the challenge of servicing these low density areas.

Solutions for the 2031 transport networks need to be tailored at a local level. *Connecting SEQ 2031* identifies the high level transport and land use integration challenges of each local government area. This chapter outlines the strategic local transport network and projects to respond to these challenges.

*Connecting SEQ 2031* recommends the local mode share targets identified in this chapter be reviewed through more detailed local and state government planning processes to ensure they take full account of local opportunities and constraints. Local government could also consider setting more specific targets to reflect the potential shift to sustainable transport modes within local precincts.

# Brisbane City Council

Population in 2006: 991 000  
 Indicative planning population in 2031: 1 270 000  
 Total population increase: 279 000  
 Daily trips in 2006: 3 470 000  
 Daily trips in 2031: 4 270 000

### Quick transport facts on Brisbane city

- Over 90% of journey to work trips start and finish within the Brisbane City Council limits.
- Only 9% of households do not have a private vehicle while 31% of residents do not have a driver's licence.
- Highest public transport use in the region, with 10.3% of all trips by public transport and 18.1% of trips to work by public transport.
- 55% of journey to work trips are less than 10 kilometres – the highest proportion in the region under 10 kilometres.
- The average journey to work trip length is 11.3 kilometres.
- 78.1% of all trips are by private car.
- 25% of Brisbane residents live within one kilometre of a high frequency public transport service (15 minutes or better all day).
- High public transport use for trips to the Brisbane CBD (about 48%), and over 70% in the peak periods.

Figure 9.1 – 2006 census journey to work trip length

	<3km	<5km	<10km	<20km	>30km	>30km
SEQ	13%	23%	46%	75%	89%	11%
Brisbane	15%	26%	55%	88%	96%	4%

Brisbane City Council is the region's commercial and administrative core. It contains economic drivers of regional, state and national importance, including the CBD and adjacent city frame employment areas and the region's main air and sea ports.

Employment growth is also occurring in centres like Chermiside and Upper Mt Gravatt, as well as in industrial growth areas around Wacol, Acacia Ridge and Australia TradeCoast. Although it has only 38% of the region's population, Brisbane City has more than 50% of the jobs<sup>44</sup>.

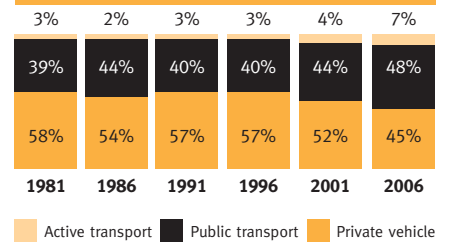
The population of Brisbane city is forecast to increase by 28% from 991 000 in 2006 to 1.27 million in 2031<sup>45</sup>.

Opportunities for new urban development are almost exhausted within the Brisbane city area and almost 90% of population growth will be accommodated in existing urban areas, focused around public transport stations and corridors.

The rate of population growth in Brisbane is forecast to slow considerably from an annual average of more than 16 000 people in 2006 to an annual average of 5200 after 2016.

Although policies are being enacted through the SEQ Regional Plan to locate jobs closer to where residential growth is occurring, business and industry inter-dependencies mean Brisbane will continue to dominate employment growth, with an extra 320 000 jobs by 2031.

Figure 9.2 – work trips to CBD and surrounds



Source: ABS Census of Population and Housing 1981–2006

This will place ongoing pressure on the transport system, with residents from across the region travelling to jobs located within the Brisbane City limits.

Inner Brisbane will remain the dominant employment centre, with around 20% of all the region's jobs located in the inner 17 suburbs. There will be significant job growth in the CBD, South Brisbane, Bowen Hills and Woolloongabba.

The major Australia TradeCoast enterprise precinct, located on both sides of the Brisbane River mouth, will be the region's second largest employment location, with jobs forecast to increase from 43 000 in 2006 to 111 000 in 2026<sup>46</sup>.

Significant job growth is also planned for activity centres such as Chermiside, Upper Mt Gravatt, Toowong, Indooroopilly and Mitchelton.

44 Australian Bureau of Statistics, *Census of Population and Housing, 2006*

45 Australian Bureau of Statistics 2006 *Census of Population and Housing; Population projections, Queensland, medium series by age and sex, LGAs, 2008 edition; Queensland Treasury*

46 Australia TradeCoast 2008 *Economic Assessment & Forecast Study*

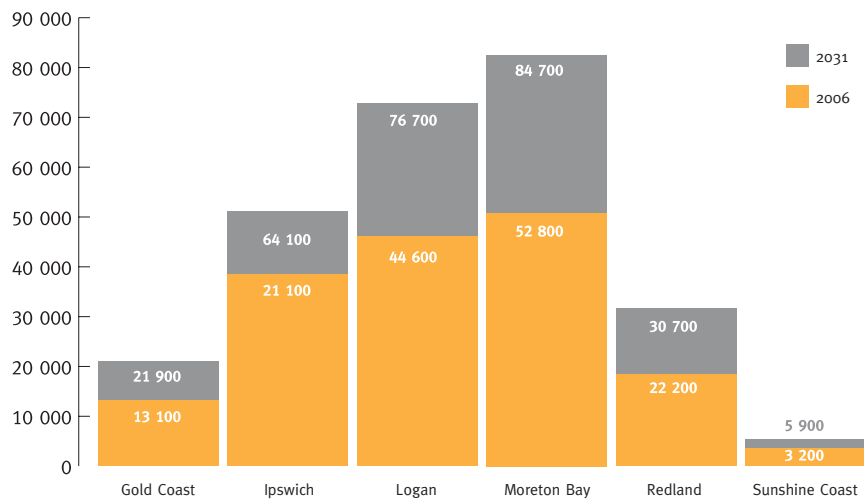
## Brisbane City Council



### Transport issues and challenges for Brisbane to 2031

- Trips made by Brisbane residents will grow by 23%, from 3.47 million in 2006 to 4.27 million in 2031.
- Work trips to Brisbane City from other local government areas will increase the pressure on the network. In 2031, residents from surrounding local government areas travelling to and from work will add around 568 000 trips per day to Brisbane city's transport network, and will constitute 13% of all travel in the city.
- Significant job growth in the CBD, South Brisbane, Woolloongabba and Bowen Hills will require public transport infrastructure to take passengers close to where they work.
- Lack of a complete orbital road network could result in many trips passing through inner suburbs, compounding congestion on the radial road network and reducing amenity in inner suburbs.
- The Brisbane Urban Corridor from the Ipswich Motorway (Rocklea) to the Gateway Motorway (Wishart) has limited potential to expand traffic capacity due to incompatible land uses and a constrained corridor.
- Congestion on the road network could adversely impact travel times and reliability for all vehicles using the road network.
- Without major investment, the ability to improve rail services will be increasingly constrained by inner city rail capacity.
- There could be increased competition between buses, pedestrians and cyclists, general traffic and light commercial vehicles for space within the inner city, particularly during peak periods.
- Competition for kerbside space in the CBD could make it difficult for buses to terminate and lay over, and to provide sufficient loading bays and taxi bays.

Figure 9.3 – daily work trips to Brisbane from other local government areas



Source: ABS Census of population and housing 2006, Department of Transport and Main Roads South-east Queensland Strategic Transport Model

- The complexity of current bus stopping arrangements in the CBD could limit the ability of buses to operate efficiently.
- There is a lack of direct cross-town public transport services to provide access to activity centres outside the CBD.
- Around 50% of forecast job growth is expected to be outside activity centres, spread between low density industrial or logistics hubs, office parks, smaller activity centres and home based offices. This type of development can be more difficult to service with public transport, which will place increasing pressure on congested roads.
- Congestion may affect access to the Port of Brisbane, which impacts on the region's economy.
- Road network constraints could limit the opportunity to expand development at Acacia Ridge, and alternative locations for industry are needed.
- Lack of continuous, direct active transport facilities to the CBD and activity centres in Brisbane city could reduce the attractiveness of walking and cycling.
- Significant job growth in the Australia TradeCoast will increase travel demand to the area. The type of employment, 24-hour nature of some industries and the large scale of land use will present challenges for servicing this area with public transport. Roads servicing the area are likely to experience significant traffic growth.

## Brisbane City Council



### Targets

Brisbane has significant potential to increase the share of trips by public and active transport. The strong focus on denser development through urban infill will support a shift to more sustainable transport modes. Achieving the transport targets of *Connecting SEQ 2031* would result in:

- increasing the share of trips by public transport from 10.3% to 20%, taking daily trips from 360 000 in 2006 to 860 000 in 2031
- increasing the share of trips by walking from 10.6% to 13%
- increasing the share of trips by cycling from 1% to 11%.

This would see the share of private car trips by Brisbane residents reduced to 56%, from 2.7 million in 2006 to 2.4 million in 2031.

However, with high levels of population growth in all the local governments adjacent to Brisbane City Council, coupled with strong growth in jobs, car trips made on the road network within the city limits will still increase by more than 20% to 4.4 million trips per day.

Brisbane City Council has prepared a *Transport Plan for Brisbane 2008–2026*, which identifies 2026 mode share targets for the city. While these targets are not for the same period as *Connecting SEQ 2031*, they do point to the same quantum of increases in public transport, walking and cycling use in Brisbane.

Table 9.1 – Brisbane mode share split 2006 and 2031

	Public Transport		Walking		Cycling		Car	
	2006 Actual	2031 Target	2006 Actual	2031 Target	2006 Actual	2031 Target	2006 Actual	2031 Target
All trips	10.3%	20%	10.6%	13%	1%	11%	78.1%	56%
Work trips	18.1%	35%						

Source: All trips – Department of Transport and Main Roads South East Queensland Household Travel Survey (2006), work trips – ABS Census of population and housing 2006

Figure 9.4 – average composition of 17 trips made per person, Monday to Friday for Brisbane city



To achieve these targets, the weekly travel patterns of the average Brisbane resident would need to change only incrementally.

## Brisbane City Council



### Transport and land use integration in Brisbane city

#### 'Centres access hierarchy'

The Brisbane CBD and city frame is the primary activity centre and public transport hub for the region. Based on projected growth to 2031, this inner city core will need several new rail stations. With many more trips to the CBD and inner city, through traffic will need to be minimised and much more space provided for pedestrians, cyclists and public transport.

Bowen Hills and Boggo Road/Park Road/Buranda will be sub-regional hubs for the inner city, with multiple high frequency 'turn up and go' public transport services converging at these locations. They will be major interchange locations in the network, allowing passengers to transfer to access multiple destinations across the inner city and greater Brisbane.

Upper Mount Gravatt, Indooroopilly and Chermshire are designated as sub-regional hubs due to the existing momentum of development, the mix of uses (including employment) and the convergence of several high frequency priority public transport corridors. These sub-regional hubs should be the focus for encouraging clustering of public transport contestable employment outside the inner city core.

While a new railway station and bus interchange will form a district hub at Airport Village, the growing importance of the entire Australia TradeCoast precinct as a major employment area will have significant public transport implications.

A coordinated approach is needed to manage the impact of increased travel demand on the transport network that connects the Australia TradeCoast precinct to the wider region.

If this is not achieved, escalating traffic congestion may limit this major employment centre from achieving its full economic potential, thereby impacting on the precinct, city, wider region and the Queensland economy.

A joint study between the Queensland Government, Brisbane City Council and industry has identified the transport needs of the Australia TradeCoast precinct, and its recommendations are reflected in *Connecting SEQ 2031*.

#### Increasing densities along transit corridors

The policy for urban infill development in Brisbane relies on high frequency public transport services linking multiple precincts of higher density residential areas, major employment locations, major hospitals and universities.

Some areas along rail lines and busways contain character housing or other important cultural heritage features making them unsuitable for higher density redevelopment.

However, there are many parts of the city where regeneration can occur in tandem with increased investment in rail, UrbanLink services, busways and high frequency bus corridors.

'Priority transit corridors' have been identified in inner Brisbane to connect specialist and general employment precincts and other major destinations, such as universities and hospitals.

These 'priority transit corridors' reflect parts of Brisbane where land use planning is significantly advanced and building stock is predominantly of redevelopment age, enabling land use change in the short term.

In the later years of *Connecting SEQ 2031*, land use mix and densification is also strongly advocated along:

- the Eastern Busway corridor to Carindale
- the Northern Busway corridor to Chermshire
- the rail corridor between Carseldine and Strathpine (subject to environmental constraints)
- the rail corridor between Indooroopilly and Darra
- the rail corridor to Cannon Hill
- the high frequency bus route along Logan Road to Upper Mt Gravatt.

Implementation will be subject to further detailed land use planning in partnership with local government.

The proposed north-west rail corridor from Cross River Rail to Strathpine (using the North West Transport Corridor) will provide opportunities to increase densities and develop a priority transit corridor near stations.

The 'centres access hierarchy' and transit corridors for focusing higher density residential development are illustrated in Map 9.1.

#### Accessible business and industry areas

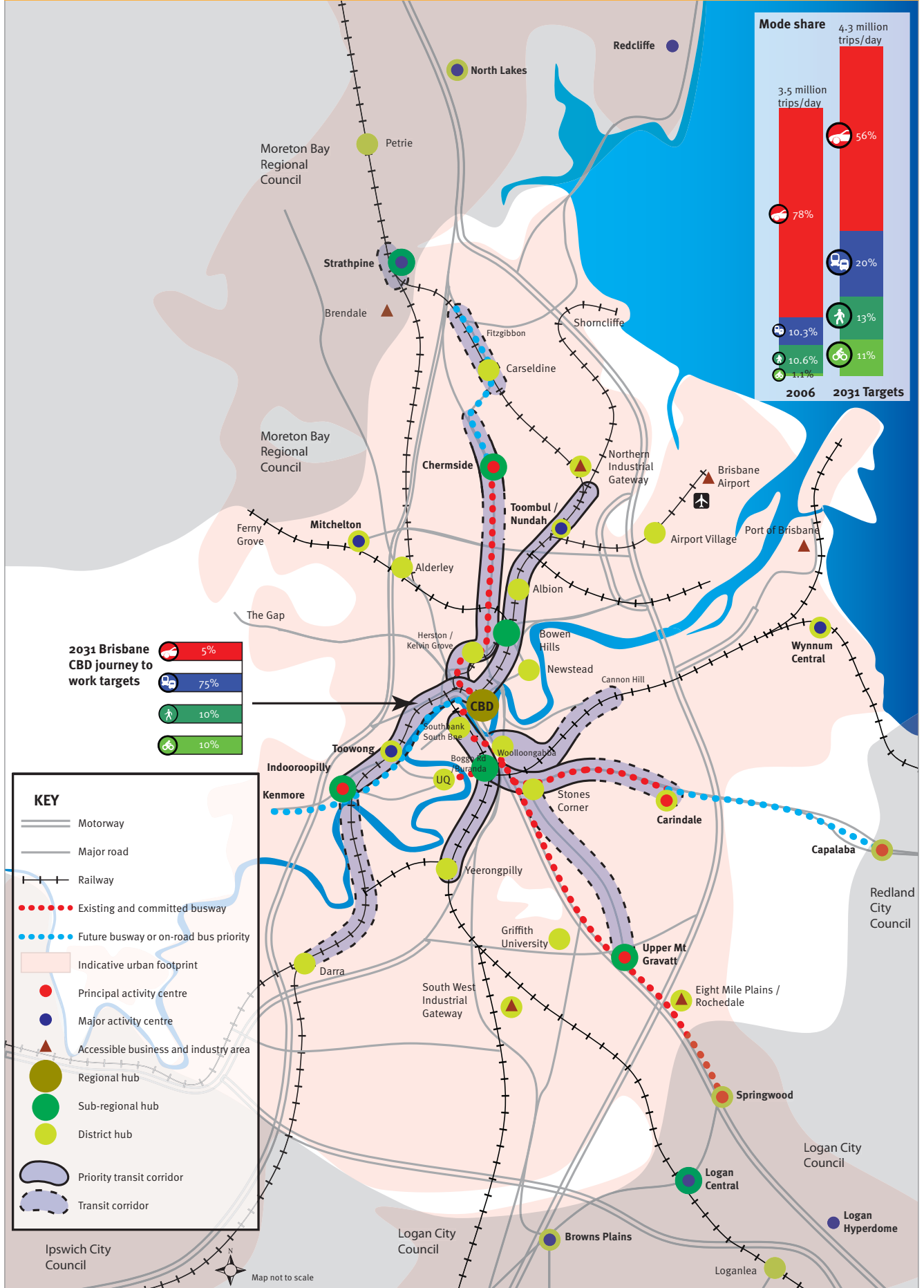
The SEQ Regional Plan establishes accessible enterprise precincts at the Australia TradeCoast, South West Industrial Gateway, Rochedale and the Northern Industrial Region.

These areas will be the focus for business and industry that need good access to the 'priority freight network'.

There is limited opportunity to expand the traffic capacity of the Brisbane Urban Corridor east of Logan Road, and this will be considered as part of an investigation into how other high order motorway routes can provide priority for freight movements.



Map 9.1 – 2031 transport and land use integration in Brisbane city



## Brisbane City Council

# 2031 transport network for Brisbane city

## Public transport

### UrbanLink

UrbanLink bus services will continue to be rolled out across Brisbane, providing a high frequency (15 minutes or better) 'turn up and go' service. These bus services will provide improved access between activity centres and to the inner city. Some services will fulfil a trunk function, running into the CBD, while others will provide cross town connections.

This will mean that more direct, convenient connections will be achieved and more residents will have easy access to trunk public transport services.

UrbanLink rail services will also operate within the metropolitan Brisbane area. These services will provide high capacity and high frequency connections to inner Brisbane, stopping at all stations.

A new station and interchange at Airport Village will provide a convenient transfer point for UrbanLink bus and rail passengers to the fast growing Australia TradeCoast northern precinct.

### Rail network enhancements

Delivery of Cross River Rail will allow services to be increased across the entire rail network, as well as providing new inner city rail stations, enabling rail passengers to get closer to their destination.

The addition of the north-west rail corridor from Strathpine to Alderley, with a connection to Cross River Rail, will provide communities in the north-west of the city with a high quality public transport service and support urban regeneration around stations.

A corridor for the extension of the Doomben rail line to Northshore Hamilton will be preserved for future transport solutions to serve this growing precinct.

### Brisbane subway

To support high levels of population and employment growth in inner Brisbane, a new subway is proposed from Toowong to Newstead/Bowen Hills via West End and the CBD.

The Brisbane subway will be separate from the existing rail network, with the ability to operate at steeper grades and tighter turning circles, making it easier to implement in the dense urban fabric of inner city Brisbane.

Extensions to the subway system will be investigated for the long term, including conversion of some busway corridors.

### Bus network enhancements

The extension of the Northern Busway to Kedron and the Eastern Busway to Coorparoo are under way.

Planning is also under way to extend the Northern Busway to Bracken Ridge and the Eastern Busway to Capalaba. Interim bus priority treatments will also be considered for these corridors.

Access and circulation improvements will be needed in the inner city to support the proposed strategic bus network. Investigation of potential infrastructure, management and other measures to simplify bus access to the city will need to be undertaken by the state government in cooperation with Brisbane City Council.

This investigation will need to consider the competing needs of buses, pedestrians, cyclists, general car traffic and light commercial vehicles.

A long-term solution to this issue will need to be consistent with the strategic vision of *Connecting SEQ 2031*, which centres on electric passenger rail as the predominant mode of transport to the inner city core, while responding to capacity demands.

### TransitWays

UrbanLink bus routes will be packaged with TransitWays, providing priority for buses to ensure fast, reliable travel times, particularly in areas that experience significant congestion.

TransitWays will link activity centres across Brisbane, supporting improved access for residents to jobs and to trunk public transport services.

TransitWay corridors are proposed in growing areas of Brisbane, including:

- western suburbs from the CBD to Kenmore and Mt Ommaney
- northern suburbs to The Gap and north to McDowall
- eastern suburbs to Cannon Hill and Capalaba
- southern suburbs to Moorooka and extending from the South East Busway to Browns Plains.

### Green bridges

Green bridges will be investigated to provide more river crossings for public transport, cyclists and pedestrians, with a focus on improving access in the inner city. These new bridges will reduce overall trip distances for buses and active transport users, making them even more attractive options in the inner city.

### Ferry services

The current network of ferry services, including the CityCat and cross river ferry network, are managed by Brisbane City Council.

Ferry services play a relatively minor role in the total transportation task for the region. However, the ferry network strongly enhances the liveability and connectivity of the inner Brisbane transport network by providing access to many areas which are challenging to access by other forms of public transport.

### Roads

Significant employment growth, coupled with commercial and residential development in inner city Brisbane, means governments will need to work together to remove traffic from inner city suburbs and increase the space for pedestrians, cyclists and public transport.

Part of the solution will be completing the orbital road network for Brisbane, providing motorists with alternative routes that do not require them to pass through inner city suburbs.

The North West Transport Corridor will play a lead role in completing the orbital motorway network for Brisbane and will improve the network's resilience by reducing pressure on the Gateway Motorway north.

## Brisbane City Council



Brisbane City Council plans to continue the development of TransApex, its strategic program of road tunnels, to reduce traffic passing through the Brisbane CBD, as well as upgrading the Kingsford Smith Drive corridor to improve access to the northern sector of the Australia TradeCoast precinct.

### Active transport

Active transport infrastructure will be a priority in the inner city and activity centres. New active transport infrastructure will fill the gaps in the existing network and provide improved connectivity to trunk infrastructure already in place.

The focus for new active transport infrastructure will be on the Brisbane CBD, inner activity centres (Toowong, Indooroopilly, Bowen Hills, Newstead, Kelvin Grove, South Bank/South Brisbane, Woolloongabba) and other outer and special activity centres (such as Griffith University, Upper Mt Gravatt, the University of Queensland, Carindale and Chermside).

New active transport infrastructure will be supported with end-of-trip facilities to encourage significant growth in commuter cycling. The Royal Brisbane and Women's Hospital and King George Square Cycle Centres are leading examples of high quality end-of-trip facilities.

### Freight

Some of Brisbane City Council's major road projects, and completion of the orbital motorway network in metropolitan Brisbane, will support the policy of getting 'trucks off suburban roads', which seeks to remove a high proportion of the 340 000 large truck movements made in the metropolitan area each day on suburban roads.

Cross River Rail, combined with other rail upgrades, will improve rail freight access to the Port of Brisbane, addressing current freight and passenger rail conflicts between Salisbury and Dutton Park.

Road upgrades leading to Acacia Ridge will provide improved access to this major intermodal freight terminal and support its long-term viability.

Maps 9.2 and 9.3 show the 2031 strategic transport projects for Brisbane city.

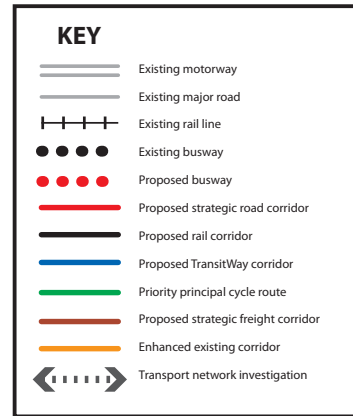
### Partnering with Brisbane City Council

- Updating planning policies and regulations to allow increased densities in 'priority transit corridors'.
- Supporting the high public transport targets to the CBD and frame through traffic management, land use planning and parking policies.
- Delivering community boulevards along older arterial roads when through traffic is moved to a new major road.
- Providing more facilities for pedestrians, cyclists and buses in the CBD and city frame.
- Providing safe cycle routes on the north side of Brisbane and to the CBD.
- Planning for land use change along the North West Transport Corridor, focusing on rail stations.
- Rolling out the UrbanLink bus network, including provision of bus priority where appropriate.

Map 9.2 – 2031 strategic projects in Brisbane city



Map 9.3 – 2031 strategic projects in inner city Brisbane



**Summary list of projects**

- |  |  |   |
|--|--|---|
| <p>B1 Investigate north-west motorway from Everton Park to Bruce Highway to complete the orbital motorway network (including tunnel options)</p> <p>B2 Airport Link from Bowen Hills to Toombul (in tunnel)</p> <p>B3 Investigate Western Orbital Motorway from Legacy Way to Everton Park (in tunnel)</p> <p>B4 Legacy Way from Toowong to Kelvin Grove (in tunnel)</p> <p>B5 Tilley Road extension from Lindum Road to Mt Gravatt–Capalaba Road</p> <p>B6 Kenmore bypass from Centenary Motorway to Moggill Road</p> <p>B7 Cross River Rail</p> <p>B8 North-west rail corridor from Strathpine to Cross River Rail</p> <p>B9 Richlands to Redbank Plains rail line</p> <p>B10 Passenger rail service Salisbury to Flagstone</p> <p>B11 Proposed TransitWay corridors</p> <p>B12 Busway from Kedron to Bracken Ridge</p> <p>B13 Victoria Bridge Bus Access improvements</p> <p>B14 Busway from Coorparoo to Capalaba</p> <p>B15 Extension of South East Busway to Springfield</p> | <p>B16 Priority principal cycle routes</p> <p>B17 Investigate green bridge from Toowong to West End</p> <p>B18 Upgrade of Gateway Motorway:                     <ul style="list-style-type: none"> <li>• six lanes Nudgee Road to Deagon Deviation</li> <li>• safety upgrades Deagon Deviation to Bruce Highway</li> <li>• Pacific Motorway to Brisbane Urban Corridor</li> </ul> </p> <p>B19 Urban arterial upgrade from Strathpine to Carseldine</p> <p>B20 Upgrade urban arterial from Albany Creek to Aspley</p> <p>B21 Upgrade urban arterial from McDowall to Strathpine</p> <p>B22 Upgrade Stafford Road as multi-modal urban arterial</p> <p>B23 Passenger rail upgrades:                     <ul style="list-style-type: none"> <li>• Eagle Junction to Domestic Airport</li> <li>• Manly to Cleveland</li> <li>• Darra to Redbank</li> <li>• Sandgate to Shorncliffe</li> <li>• Kuraby to Beenleigh</li> </ul> </p> <p>B24 Safety upgrades to Brisbane Urban Corridor</p> <p>B25 Upgrade Redland sub-arterial road</p> <p>B26 Upgrade Centenary Motorway from Toowong to Springfield</p> | <p>B27 Upgrade Logan Motorway from Ipswich Motorway to Pacific Motorway</p> <p>B28 Upgrade Ipswich Motorway from Dinmore to Goodna</p> <p>B29 Upgrade Port of Brisbane Motorway</p> <p>B30 Rail freight improvements from Acacia Ridge to Port of Brisbane</p> <p>B31 Enhance Beaudesert Road corridor for strategic freight movement</p> <p>B32 Investigate green bridge from Bulimba to Newstead</p> <p>B33 Investigate option for Stafford Road to form part of motorway network (potentially in tunnel)</p> <p>B34 Investigate green bridge from West End to UQ/St Lucia</p> <p>B35 Investigate Brisbane subway from Toowong to Newstead/Bowen Hills via West End and CBD (potentially in tunnel)</p> <p>B36 Investigate Brisbane subway from Bowen Hills to Airport village via Hamilton/Northshore (potentially in tunnel)</p> <p>B37 Investigate green bridge from Kangaroo Point to CBD</p> <p>B38 Upgrade Ipswich Motorway from Darra to Rocklea</p> <p>B39 Upgrades to Pacific Motorway from Gateway Motorway to Logan Motorway</p> <p>B40 Preserve rail corridor to Hamilton/Northshore</p> <p>B41 Investigate enhancements to Kingsford Smith Drive</p> <p>B42 Investigate new bus/rail interchange at Airport Village</p> <p>B43 Investigate an upgraded road freight corridor from Brendale to the Gateway Motorway</p> |
|--|--|---|

Note: responsibility for delivery of these projects is to be determined



## Ipswich City Council

Population in 2006: 142 400

Indicative planning population in 2031: 435 000

Total population increase: 292 600

Daily trips by residents in 2006: 498 000

Daily trips by residents in 2031: 1 500 000

*Note: these figures do not include increased population for Ripley identified as part of the Queensland Growth Management Summit*

### Quick transport facts on Ipswich city

- Low public transport mode share with 6.5% of daily trips and 10.2% of work trips by public transport.
- High car dependency with 83% of trips by private vehicle.
- 8% of households do not have a car.
- 36% of residents do not have a driver's licence.
- 64% of residents travel more than 10 kilometres to work, with the average commute trip 18 kilometres.

Ipswich City Council forms the majority of the western corridor, which is planned to accommodate the fastest rate of growth in south-east Queensland. Population is set to increase by 206% between 2006 and 2031. This means the population will triple in about two decades.

Figure 9.5 – 2006 census journey to work trip length

SEQ	<3km	<5km	<10km	<20km	<30km	>30km
	13%	23%	46%	75%	89%	11%
Ipswich	<3km	<5km	<10km	<20km	<30km	>30km
	9%	19%	36%	61%	80%	20%

Transport improvements will be central in determining how well growth is accommodated and how employment and industry development occur locally to support the population growth.

Population growth will be accommodated mainly in new development areas including Springfield, Springfield Lakes, Augustine Heights, Bellbird Park, Redbank Plains, Ripley, Yamanto, Redbank, Riverview, Bundamba, East Ipswich and Wulkuraka.

There will also be some infill development in the corridor from the University of Queensland Ipswich Campus to Brassall.

The city centres of Ipswich and Springfield will be the focus for business and community services, with the emerging town centre of Ripley increased in importance as the population of Ripley grows.

Major employment growth areas include Ebenezer/Willowbank, Swanbank, New Chum, Bundamba, and Wulkuraka industrial area, Carole Park, the Amberley Aerospace and Defence Support Centre, and the Ipswich Motorsport Precinct.

### Darra to Springfield Transport Corridor Project

The Darra to Springfield Transport Corridor project will build a new, dual-track passenger rail line between Springfield and Brisbane, which will mean a lot to the local communities – providing better access and less congestion.

The \$800 million first stage of this project was completed in January 2011 and delivered a new 4.5km rail line from Darra to a new station at Richlands, and constructed four lanes of the Centenary Highway from the intersection of Boundary and Kelliher Roads at Richlands, to north of the Logan Motorway Interchange.

Construction on the \$475 million second stage is underway, and is building a 9.5km dual track rail line from Richlands to new stations at Springfield (near Woodcrest College) and Springfield Lakes (near Orion Shopping Centre).

This project is scheduled for completion in 2013 and will also deliver:

- safety and capacity improvements on the Centenary Highway
- changes to the local road network with two crossings under the Centenary Highway from Springfield station to the Orion Shopping Centre
- a cycle path between Julie Road, Carol Park and Springfield Lakes and a shared-use path from Springfield Lakes to the Springfield Station.

Ipswich City Council

**Transport issues and challenges for the city of Ipswich**

- Daily trips made by Ipswich residents will triple from about 500 000 in 2006 to 1.52 million in 2031.
- It could be difficult to provide adequate transport infrastructure to keep pace with rapid population growth.
- Increasing congestion on the road network could impact on freight and commercial vehicle movements.
- There will be increasing pressure on road network capacity due to population growth and high car dependency.
- There needs to be support for growth in local jobs so local employment opportunities are available for residents.
- New urban development should be staged to manage population growth and allow adequate provision of transport infrastructure and public transport services early in new development areas.
- There needs to be greater encouragement for more trips by public and active transport for travel to Ipswich Central as it grows in importance as a service and employment centre.

**2031 targets**

With high levels of population growth planned for Ipswich, increasing the share of public and active transport will be important to help manage growth in travel demand.

The 2031 transport targets for Ipswich city aim to reduce the share of trips made by private car from 83.3% to 70%. This will consist of an:

- increase in the share of trips by public transport from 6.5% to 12%, taking daily trips from 33 000 in 2006 to 185 000 in 2031 (460% increase)
- increase in the share of trips by walking from 9.5% to 11%
- increase in the share of trips by cycling from 0.7% to 7%.

This would still see daily private car trips increase by 165%, from 415 000 in 2006 to 1.1 million in 2031.

**Table 9.2 – Ipswich mode share split 2006 and 2031**

	Public Transport		Walking		Cycling		Car	
	2006 Actual	2031 Target	2006 Actual	2031 Target	2006 Actual	2031 Target	2006 Actual	2031 Target
All trips	6.5%	12%	9.5%	11%	0.7%	7%	83.3%	70%
Work trips	8.6%	17%						

Source: All trips – Department of Transport and Main Roads South East Queensland Household Travel Survey (2006), work trips – ABS Census of population and housing 2006

**Figure 9.6 – average composition of 17 trips made per person, Monday to Friday for Ipswich city**



To achieve these targets, the weekly travel patterns of the average Ipswich resident would need to change only incrementally.

**Transport and land use integration**

**'Centres access hierarchy'**

Ipswich CBD is the regional hub for the western corridor and provides an interchange point between rail and bus services. Ipswich CBD is a focus of the SEQ Regional Plan as an alternative major business location to the Brisbane CBD.

Springfield is designated as the sub-regional hub and will develop into a major retail, tertiary education and employment centre.

It will be linked to destinations in Brisbane City by the frequent UrbanLink rail services. There will also be frequent bus services linking Springfield to Ipswich, Goodna and Ripley.

Amberley, Ripley and Goodna are designated as district hubs.

The Aerospace and Defence Support Centre at Amberley, covering 183 hectares, will be developed as a major technology hub for industries focused on defence services, aerospace and leading edge defence technologies. The centre is projected to accommodate up to 3000 skilled jobs.

Ripley town centre will ultimately accommodate a large number of jobs and will be upgraded to a sub-regional hub, when population and employment numbers increase.

**Increasing employment density around transit corridors**

The priority transit corridor for Ipswich is between the University of Queensland Ipswich Campus and Brassall via the Ipswich CBD and Riverlink shopping centre. A high frequency public transport service will be provided all day, seven days a week to link multiple destinations along this corridor.

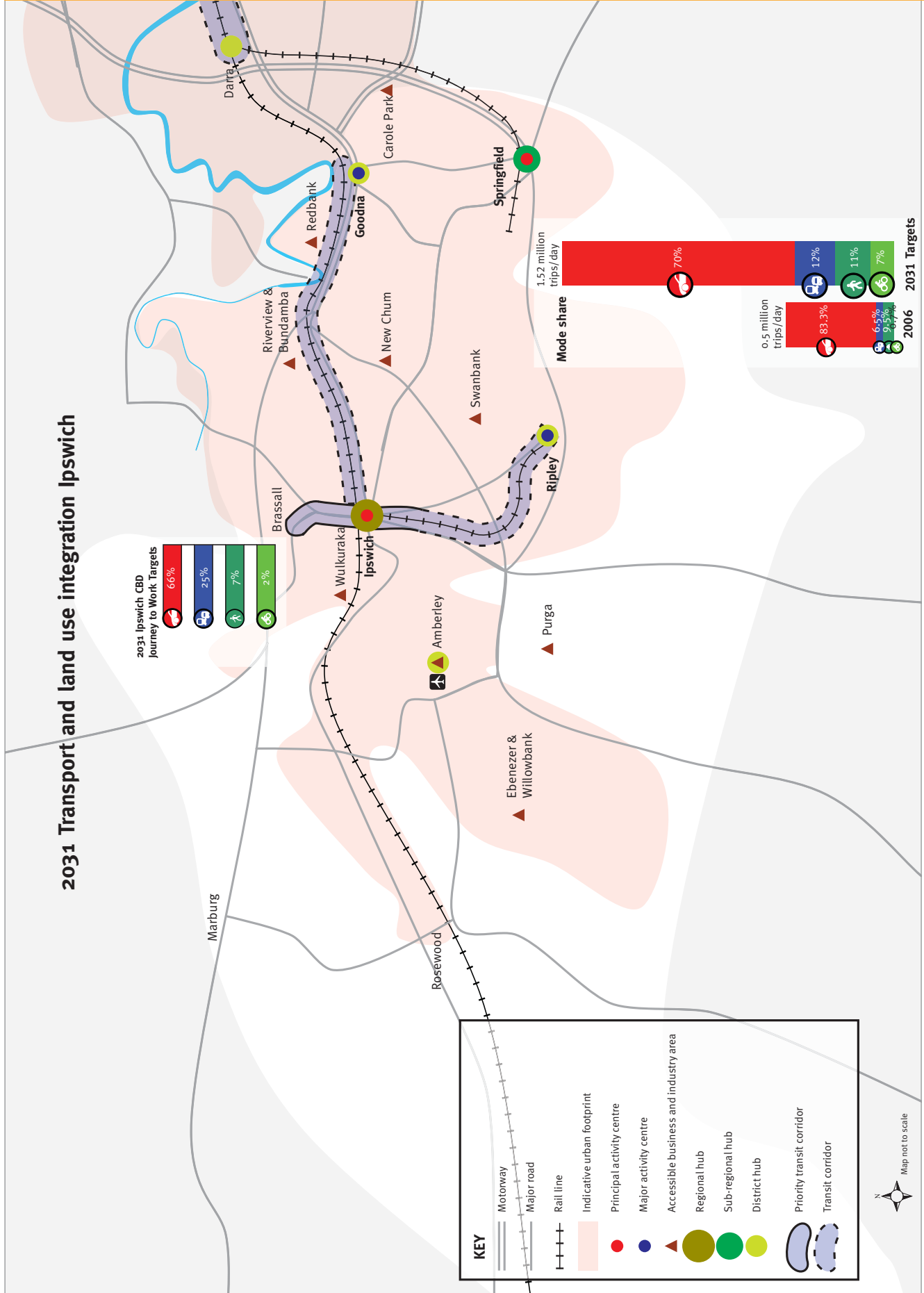
The new rail line to Springfield will be completed by 2013. To support the new rail corridor from Ripley to Ipswich after 2021, Ripley will be master planned to ensure land use mix and densification occurs around the future rail stations. In the longer term, a transit corridor with higher density development may be established along the existing rail line between Ipswich and Goodna.

Land use density and mix should also be generally supported within 400–1200 metres of public transport stations or stops along high frequency public transport corridors.

**Accessible enterprise precincts**

Business and industry areas with good access to the priority freight routes are Redbank, Riverview/Bundamba, New Chum, Swanbank, Purga and Ebenezer/Willowbank. Amberley Aerospace and Defence Support Centre will be provided with quality road and public transport access as it will have office jobs and will require heavy vehicle access.

Map 9.4 – 2031 Transport and Land use Integration Ipswich





## Ipswich City Council



## 2031 transport network for Ipswich city

### Public transport

#### UrbanLink services

UrbanLink bus services will be rolled out across Ipswich city, providing a high frequency (15 minutes or better) service all day, seven days a week. These services will connect Ipswich Central with other centres in Ipswich city, including Springfield, Ripley, Goodna, Amberley and Brassall.

UrbanLink rail services will operate from Redbank Plains and Darra to Brisbane, providing a high frequency service all day, seven days a week.

#### ExpressLink services

ExpressLink rail services will provide fast travel times between Ipswich Central and central Brisbane of about 45 minutes, and to the Brisbane Airport in just over an hour. This will support the growth of Ipswich Central into a sophisticated employment centre of regional significance.

ExpressLink services will also operate from Rosewood and Ripley. These services will stop at all stations in Ipswich city, fulfilling local trip demands, as well as providing a fast, express service running between Brisbane and Ipswich.

#### Rail network enhancements

An improved rail network is the centrepiece of the future transport network for Ipswich city. A new rail line from Darra to Richlands has opened and will extend to Springfield by 2013.

The new Ripley rail line will link the major emerging Ripley community to the principal regional activity centre of Ipswich by 2031.

This is consistent with Ipswich City Council planning priorities to ensure development in Ripley that supports employment and government services in Ipswich.

This will support local employment growth and reduce overall travel outside Ipswich. A corridor will be preserved for a rail connection from Ripley to Springfield as a longer term opportunity.

#### TransitWays

UrbanLink bus services will be packaged with TransitWays on key routes, providing priority for buses to ensure fast, reliable travel times. TransitWays will connect:

- Ipswich Central to Brassall
- Ipswich Central to Ripley
- Ipswich Central to Yamanto
- Ipswich Central to Springfield.

### Road network

Substantial revitalisation and employment growth is planned for Ipswich Central. To support this, an orbital road network will be completed, allowing a stronger focus on public and active transport in the city centre.

Much of the population growth in Ipswich city will be in new communities. Creating a quality urban arterial network that caters for active transport, buses and private vehicles will support local travel by sustainable transport modes. Priority for buses will be provided on bus routes where it is needed, to deliver reliable travel times.

The major motorways in Ipswich city will be upgraded to improve safety and capacity, including provision of a connection between the Cunningham Highway and Warrego Highway, as well as a western bypass of Ipswich.

### Active transport

Provision of active transport infrastructure within five kilometres of Ipswich Central, Springfield and Ripley will be prioritised. Priority principal cycle routes connecting these major centres will also be planned and prioritised.

### Partnering with Ipswich City Council

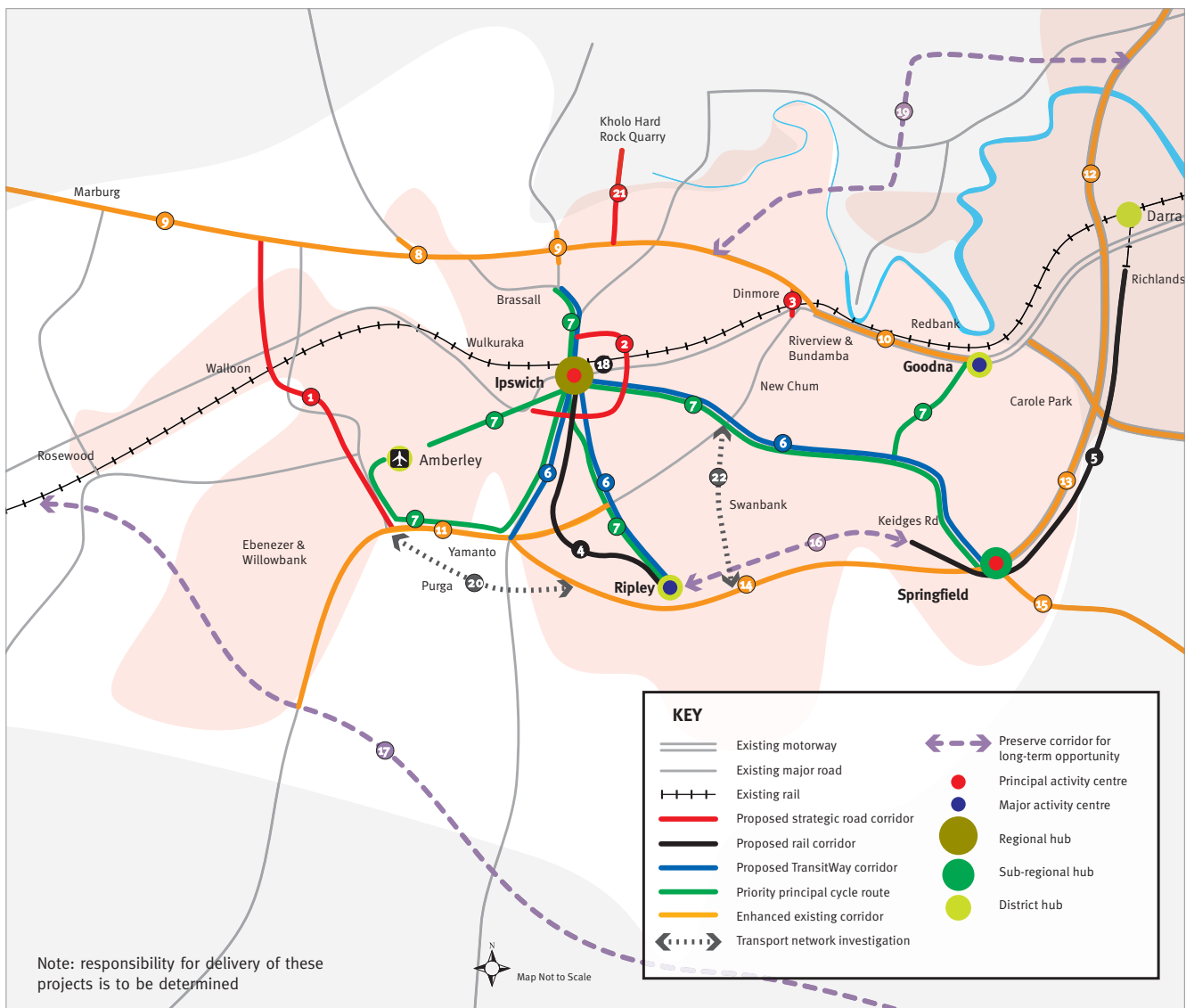
- Supporting redevelopment along the north–south corridor between Brassall and the University of Queensland Ipswich Campus.
- Supporting redevelopment of Ipswich Central, an inner ring road and redeveloped rail station.
- Focusing on achieving higher public transport, cycling and walking mode share for travel to Ipswich Central through supportive land use planning, traffic management and car parking policies.
- Ensuring the Ipswich city planning scheme requires medium density mixed use development around stations along the future rail corridor between Ripley and Ipswich.
- Providing active transport facilities within five kilometres of Ipswich, Ripley and Springfield town centres.
- Ensuring local road upgrades consider bus and active transport needs, particularly on designated high frequency bus routes.
- Protecting land around accessible enterprise areas from incompatible land uses (for example residential, retail).

### Freight

The Southern Freight Rail Corridor will be preserved from Rosewood to the interstate rail line at Kagaru to ensure a future connection can be provided if the inland rail project is progressed. This line would also link the possible future Ebenezer strategic intermodal freight terminal to the freight rail network.

Map 9.5 shows the 2031 strategic transport network for Ipswich city.

Map 9.5 – 2031 Strategic projects Ipswich



### Summary list of projects

- |      |  |      |  |      |   |
|------|--|------|--|------|---|
| I 1  | Western Ipswich Bypass   | I 11 | Upgrade of Cunningham Highway from Ripley Road to Ebenezer       | I 20 | Investigate future transport corridor from Centenary Highway at Debbing Heights to Western Ipswich Bypass at Amberley |
| I 2  | Orbital road around Ipswich CBD                                    | I 12 | Upgrade Centenary Highway Toowong to Ipswich Motorway            | I 21 | Construct road to Kholo Hard Rock Quarry  |
| I 3  | Cunningham Highway to Warrego Highway connection                   | I 13 | Upgrade Centenary Highway from Ipswich Motorway to Springfield   | I 22 | Investigate Swanbank north-south road linking Centenary Highway and Redbank Plains                                    |
| I 4  | New Ipswich to Ripley rail line                                    | I 14 | Upgrade Centenary Highway from Springfield to Cunningham Highway |      |   |
| I 5  | New Richlands to Redbank Plains rail line                          | I 15 | Upgrade to urban arterial from Springfield to Greenbank          |      |   |
| I 6  | Proposed TransitWay corridors                                      | I 16 | Preserve corridor for rail line from Ripley to Springfield       |      |   |
| I 7  | Priority principal cycle routes                                    | I 17 | Preserve Southern Freight Rail Corridor from Rosewood to Kagaru  |      |   |
| I 8  | Upgrade of Warrego Highway and Brisbane Valley Highway interchange | I 18 | New Ipswich rail station   |      |   |
| I 9  | Upgrade Warrego Highway between Dinmore and Gatton                 | I 19 | Preserve Moggill Pocket sub-arterial from Kenmore to Karalee     |      |   |
| I 10 | Upgrade Ipswich Motorway from Dinmore to Goodna                    |      |  |      |   |



## Moreton Bay Regional Council

Population in 2006: 333 000  
 Indicative planning population in 2031: 513 000  
 Total population increase: 180 000  
 Daily trips by residents in 2006: 1 165 000  
 Daily trips by residents in 2031: 1 830 000

### Quick transport facts about Moreton Bay Regional Council

- Approximately 50% of work destinations are outside the local government area.
- Public transport mode share of 6.2%.
- Long commute distances with 69% of work trips longer than 10 kilometres and 21% longer than 30 kilometres.
- The average commute trip is 20.3 kilometres.
- 31% of the population do not have a driver's licence.

Figure 9.7 – 2006 census journey to work trip length

SEQ	<3km	<5km	<10km	<20km	<30km	>30km
	13%	23%	46%	75%	89%	11%
Moreton Bay	<3km	<5km	<10km	<20km	<30km	>30km
	10%	18%	31%	57%	79%	21%

The population of Moreton Bay Regional Council will increase from 333 000 in 2006 to 513 000 in 2031 – an increase of 54%. Most of the population growth will be in new development areas, particularly around Mango Hill, North Lakes, Griffin and Narangba.

Caboolture and Strathpine will be the focus for business and employment. North Lakes and Redcliffe will also develop as major activity centres.

Further industrial employment growth will occur through expansion of the existing enterprise areas at Burpengary, Morayfield, Brendale and Caboolture.

Transport improvements to accommodate growth and ensure reliable links to Brisbane will be an important feature of *Connecting SEQ 2031*.

They will reduce dependence on car transport and expand the local transport network so there is less reliance on the Bruce Highway (M1) for local trips.

### Moreton Bay Rail Link

Moreton Bay Rail Link will deliver a 12.6 km dual-track rail line between Petrie and Kippa-Ring. Six new rail stations will be delivered as part of the project at Kallangur, Murrumba Downs, Mango Hill, Kinsellas Road, Rothwell and Kippa-Ring.

The \$1.15 billion required for the project will be provided jointly by the Commonwealth Government (\$742 million), Queensland Government (\$300 million) and Moreton Bay Regional Council (\$105 million).

The Queensland Government has also previously contributed land valued at \$120 million to the project. The project is scheduled for completion in 2016.

## Moreton Bay Regional Council

### Transport issues and challenges in Moreton Bay

- Daily trips made by Moreton Bay residents will increase by 56% from 1.17 million in 2006 to 1.83 million in 2031.
- Dispersed land uses and low residential densities, together with high car availability and inexpensive parking, encourage private vehicle use and make public transport provision difficult.
- Strong local employment growth is needed to prevent a future shortfall in jobs and offer employment diversity for residents.
- The arterial road network is poorly connected, creating a heavy reliance on the Bruce Highway (M1) for local trips.
- Limited crossings of the Pine River reinforce reliance on the Bruce Highway (M1) for local trips.
- There is a lack of transport infrastructure and services for rapidly developing new communities.
- The current urban form of Caboolture/Morayfield and Strathpine does not encourage active transport or allow easy servicing by public transport.
- There are parking pressures in Caboolture due to park 'n' ride demands.
- There are capacity constraints on the Caboolture rail line, particularly for increasing peak express services to the Brisbane CBD.

### 2031 targets

The 2031 transport targets aim to reduce the share of trips made by private car from 83.2% to 70%, through an:

- increase in the share of trips by public transport from 6.2% to 11%, taking daily trips from 72 000 in 2006 to 190 000 in 2031
- increase in the share of trips by walking from 8.9% to 11%
- increase in the share of trips by cycling from 1.7% to 8%.

This would still see private car trips increase from 970 000 in 2006 to 1.3 million in 2031.

Table 9.3 – Moreton Bay mode share split 2006 and 2031

	Public Transport		Walking		Cycling		Car	
	2006 Actual	2031 Target	2006 Actual	2031 Target	2006 Actual	2031 Target	2006 Actual	2031 Target
All trips	6.2%	11%	8.9%	11%	1.7%	8%	83.2%	70%
Work trips	7.1%	22%						

Source: All trips – Department of Transport and Main Roads South East Queensland Household Travel Survey (2006), work trips – ABS Census of population and housing 2006

Figure 9.8 – average composition of 17 trips made per person, Monday to Friday for Moreton Bay



To achieve the 2031 targets, the weekly travel patterns of the average Moreton Bay resident would need to change only incrementally.

### Transport and land use integration

Strathpine is designated as the sub-regional hub and will be the hub for rail services from Sunshine Coast, Caboolture, Brisbane city and Kippa-Ring. Local bus services will use Strathpine as a hub. Caboolture, Petrie and North Lakes will be district hubs and a new station at Caboolture North will be the terminus for ExpressLink rail services.

Caboolture is currently a Principal Activity Centre under the SEQ Regional Plan and will continue to be the focus for health and business services.

Improved centre planning in Caboolture will support a walkable town centre with improved access to the rail station. Moreton Bay Regional Council and the Queensland Government are working in partnership to develop master plans for Caboolture and Strathpine.

Relocation of the park 'n' ride facilities to a new station at Caboolture North will assist in the creation of more vibrant centre that is highly accessible by public and active transport modes.

The car-oriented strip development and 'big box' retail at Morayfield is not suited to encouraging a high intensity of employment, or supporting public and active transport use, and will not be a strong focus for increased public transport services.

### Increasing densities along transit corridors

Planning for urban arterial road corridors east of the Bruce Highway (M1) and west of Strathpine may provide an opportunity to progressively redevelop Gympie Road through Strathpine to a mixed mode community boulevard for a redeveloped and expanded Strathpine town centre. Implementation will be subject to further detailed land use and transport planning in partnership with local government.

Land use density and mix is generally supported within 400–1200 metres of all public transport stations or stops along high frequency public transport corridors.

### Accessible enterprise precincts

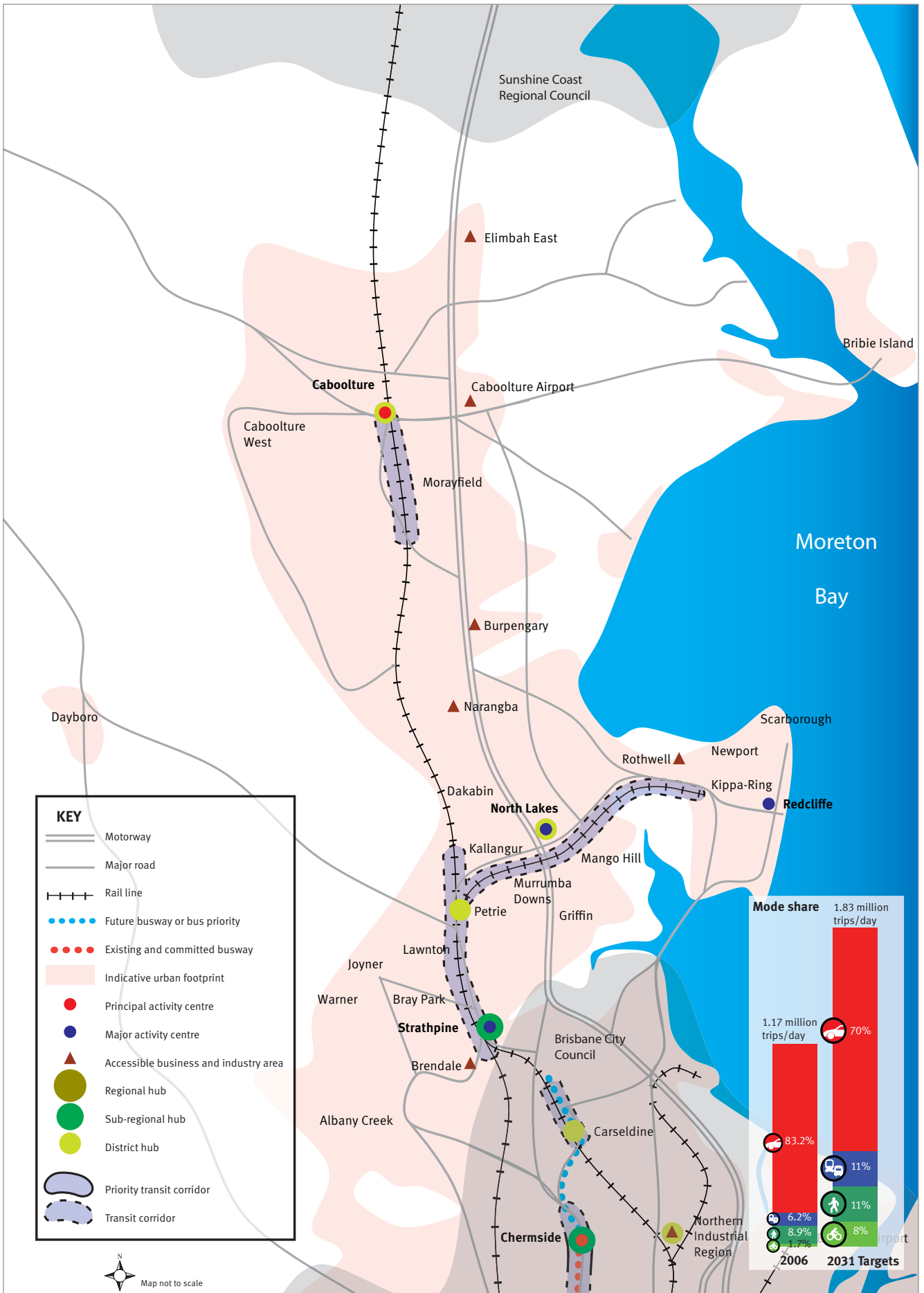
Caboolture Airport, Burpengary, Narangba Business Park, Elimbah East and Brendale Industrial Area will have a high standard of access to priority freight routes.

Transport access to these growing employment areas will require upgrades to meet future demands.

Freight movement will be supported by the upgrade and delivery of managed motorways initiatives on the Bruce Highway, upgrades to the rail line and development of a new intermodal freight terminal between Caboolture and Beerburum.

The Bruce Highway (M1) will provide priority access from enterprise precincts in the Moreton Bay area to any future intermodal terminal.

Map 9.6 – 2031 transport and land use Integration Moreton Bay



## Moreton Bay Regional Council



## 2031 transport network for Moreton Bay

### Public transport

#### UrbanLink

UrbanLink bus services will be rolled out across Moreton Bay to provide a high frequency (15 minutes or better) service all day (6 am–9 pm), seven days a week. These high frequency bus services will connect the activity centres across Moreton Bay, with many also connecting to the Caboolture rail line. These connections will allow passengers to transfer and access other destinations on the region's rail network.

UrbanLink bus services from Redcliffe will link to the rail network at Kippa-Ring, or use the bus priority on the Ted Smout Memorial Bridge to link to the Northern Busway and the Shorncliffe rail line at Sandgate.

UrbanLink rail services will operate from Strathpine to Brisbane CBD, stopping all stations. These services will also provide improved connectivity between activity centres in Moreton Bay.

#### ExpressLink

ExpressLink rail services will operate from a new Caboolture North station and Kippa-Ring, stopping all stations to Strathpine, then express to inner Brisbane. This will provide the same standard of service all day (6 am–9 pm), seven days a week.

Passengers wanting to access other destinations between Strathpine and Brisbane will be able to change to an UrbanLink rail service.

#### CoastLink

CoastLink services from the Sunshine Coast line will stop at Caboolture and Strathpine. This will provide enhanced access to Strathpine, Caboolture, Brisbane city and the Sunshine Coast.

### Rail network enhancements

A new rail line from Petrie to Kippa-Ring will be in place by 2016, providing ExpressLink services for the communities at North Lakes, Mango Hill, Kallangur and Kippa-Ring.

An additional rail line from Strathpine to Cross River Rail and upgrades to the Caboolture line will allow more frequent ExpressLink services, with UrbanLink services starting at Strathpine. It will also allow the frequency of CoastLink services to be boosted, improving accessibility to inner Brisbane and the Sunshine Coast.

A new station at Caboolture North will provide the new end-point for ExpressLink services and park 'n' ride, supporting the long-term redevelopment of the Caboolture centre.

### TransitWays

UrbanLink bus services will be packaged with TransitWays on key routes, providing priority for buses to ensure fast, reliable travel times. TransitWays will link:

- Redcliffe to Strathpine via North Lakes
- Redcliffe to Bracken Ridge via the Hornibrook Bridge.

### Road network

Enhancing the arterial road network to the east and west of the Bruce Highway (M1) is a crucial component of improving accessibility for all modes of travel in Moreton Bay. These new roads will be designed to provide quality links to destinations within Moreton Bay for public transport, cycling and general motor traffic.

Existing roads will be upgraded as multi-modal urban arterials to provide for a range of users and ensure residents have more travel choices.

### Partnering with Moreton Bay Regional Council

- Developing integrated transport and land use master plans for Strathpine and Caboolture centres, including community boulevard treatments.
- Supporting redevelopment around Strathpine including increased densities and mixed use development and management of car parking location and supply.
- Master planning in Caboolture centre to improve connectivity to the rail station, in conjunction with relocation of park 'n' ride to a new rail station at Caboolture North.

### Active transport

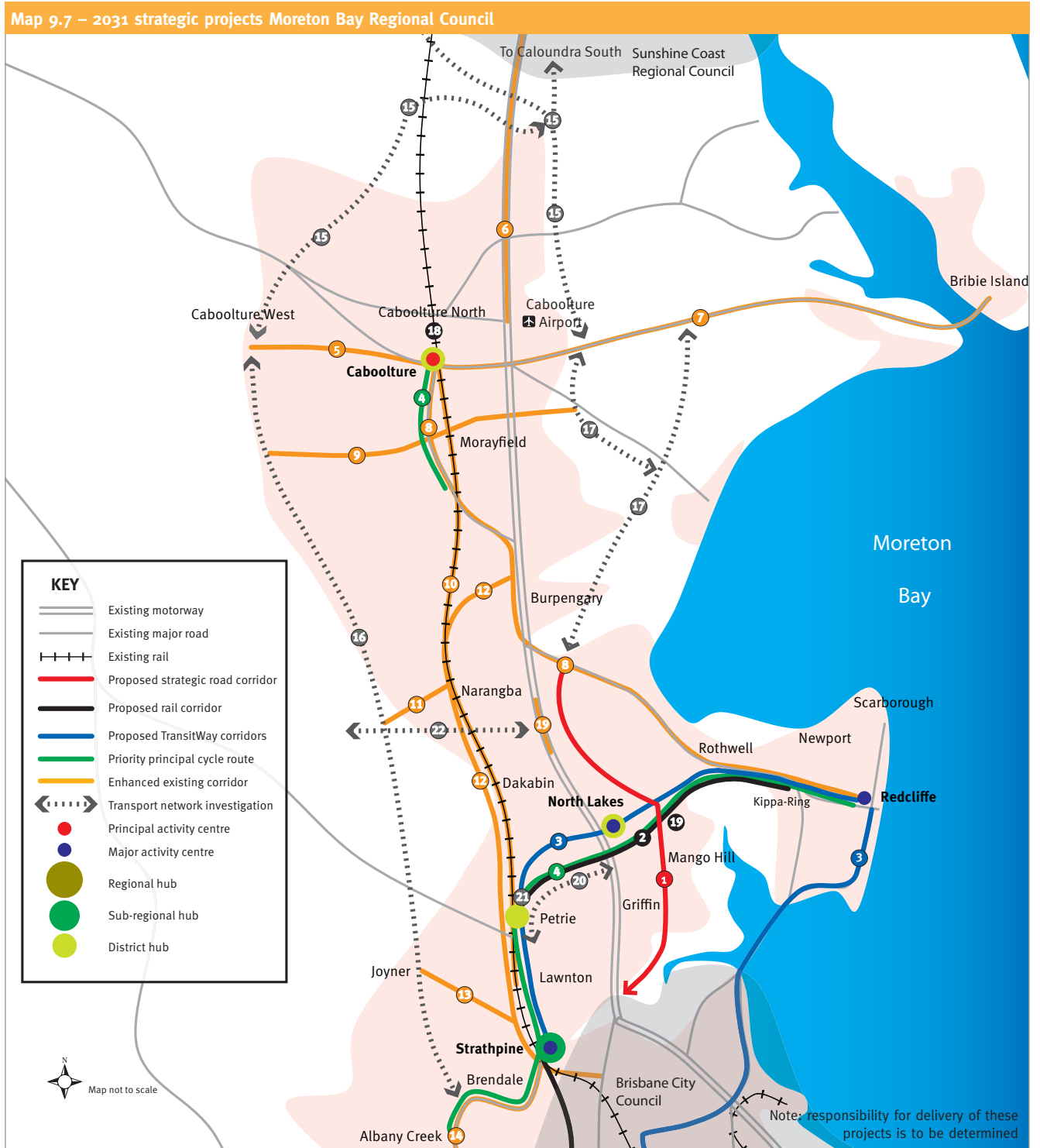
Priority will be given to active transport infrastructure provision within five kilometres of Strathpine, Caboolture, Petrie, North Lakes, Redcliffe and Kippa-Ring. A priority principal cycle route from Albany Creek to Redcliffe via Strathpine will also be prioritised for delivery in the short to medium term. Part of this strategic corridor is being delivered in conjunction with the Moreton Bay Rail Link.

### Freight

A potential new intermodal freight terminal will be investigated north of the Brisbane River and to the south of Beerburrum on the North Coast Line. This terminal will service the Moreton Bay and Sunshine Coast areas and freight from northern Queensland. A new intermodal freight terminal will require road and rail access, as well as supporting industrial land use.

Map 9.7 shows the 2031 strategic transport network for Moreton Bay Regional Council.

Map 9.7 – 2031 strategic projects Moreton Bay Regional Council



**Summary list of projects**

- M1 North South Urban Arterial from Pine River to Boundary Road
- M2 Construct Moreton Bay Rail Link from Petrie to Kippa-Ring
- M3 Proposed TransitWay corridors
- M4 Priority principal cycle routes
- M5 Upgrade of Caboolture West connection (Bellmere Road)
- M6 Upgrade Bruce Highway from D'Aguiar Highway to Maroochydore Road (interchange and safety improvements)
- M7 Upgrade Caboolture–Bribie Island Road
- M8 Upgrade Caboolture to Redcliffe corridor to multi-modal urban arterial

- M9 Upgrade road from Morayfield to Upper Caboolture to multi-modal urban arterial
- M10 Upgrade rail line from Lawnton to Caboolture
- M11 Urban arterial connection from West Moreton Bay arterial to Burpengary Road
- M12 Upgrade road between Burpengary and Strathpine to multi-modal urban arterial
- M13 Upgrade road from Joyner to Strathpine to multi-modal urban arterial
- M14 Upgrade road from Strathpine to Albany Creek to multi-modal urban arterial

- M15 Investigate urban arterial network requirements north of Caboolture
- M16 Investigate urban arterial network for local trips in new growth areas
- M17 Investigate east Moreton Bay urban arterial network
- M18 Investigate new rail station at Caboolture North with major park 'n' ride facilities
- M19 Upgrade Bruce Highway/Boundary Road interchange
- M20 Investigate Petrie/Kallangur Bypass
- M21 Investigate preservation of a y-junction at Petrie to enable Kippa-Ring trains to travel north
- M22 Investigate Narangba hardrock haulage corridor



## Logan City Council

Population in 2006: 260 000

Indicative planning population in 2031: 434 000

Total population increase: 174 000

Daily trips by residents in 2006: 910 000

Daily trips by residents in 2031: 1 490 000

*Note: these figures do not include increased population for Flagstone and Yarrabilba identified as part of the Queensland Growth Management Summit*

### Quick transport facts on Logan City

- Low public transport use, with 5.5% of daily and 7.1% of work trips by public transport.
- Long commute distances, with 44% of work trips longer than 20 kilometres, with the average commute trip 19.4 kilometres.
- 7% of households do not have a car.
- 34% of the population do not have a driver's licence.

Figure 9.9 – 2006 census journey to work trip length

SEQ	<3km	<5km	<10km	<20km	<30km	>30km
	13%	23%	46%	75%	89%	11%
Logan city	<3km	<5km	<10km	<20km	<30km	>30km
	9%	15%	29%	56%	80%	20%

Logan City Council covers a large area and includes the southern suburbs of greater Brisbane and the major growth areas to the north of Beaudesert.

Forecast growth of population from 260 000 in 2006 to 434 000 in 2031 will mean a population increase of 67%. In the short to medium term population growth is expected to be focused around Park Ridge and Bahrs Scrub, adjacent to existing urban development.

Beyond 2021, population growth will occur in the south-west, including new communities at Flagstone, Greenbank and Yarrabilba.

Logan City Council is pursuing employment growth and diversification to prevent a jobs shortfall by 2031. Historically, the Logan economy has comprised retail and manufacturing services.

Logan City Council aims to significantly increase commercial and office based employment opportunities at Logan Central, Springwood and Beenleigh.

New urban communities at Park Ridge, Flagstone and Yarrabilba will provide significant local employment and will require good access to the major industrial development area at Bromelton, in the neighbouring Scenic Rim Regional Council.



## Logan City Council

### Transport issues and challenges

- New road and public transport corridors will be required to service new communities.
- There is a need to improve links to Ipswich.
- Links need to be provided to the major employment and industrial growth area at Bromelton in the Scenic Rim Regional Council area.

### 2031 targets

Logan city will experience a significant growth in travel demand with trips made by Logan city residents increasing by 64% from 910 000 trips per day in 2006 to 1.49 million trips per day in 2031.

The 2031 transport targets are to reduce the share of trips by private car from 85.8% to 73%, through an:

- increase in the share of trips by public transport from 5.5% to 10%, taking daily trips from 50 000 in 2006 to 140 000 in 2031
- increase in the share of trips by walking from 8.1% to 10%
- increase in the share of trips by cycling from 0.6% to 7%.

This would still see private car trips increase from 780 000 in 2006 to 1.1 million in 2031.

Table 9.4 – Logan mode share split 2006 and 2031

	Public Transport		Walking		Cycling		Car	
	2006 Actual	2031 Target	2006 Actual	2031 Target	2006 Actual	2031 Target	2006 Actual	2031 Target
All trips	5.5%	10%	8.1%	10%	0.6%	7%	85.8%	73%
Work trips	7%	22%						

Source: All trips – Department of Transport and Main Roads South East Queensland Household Travel Survey (2006), work trips – ABS Census of population and housing 2006

Figure 9.10 – average composition of 17 trips made per person, Monday to Friday



To achieve these targets, the weekly travel patterns of the average Logan city resident would need to change only incrementally

### Transport and land use integration

#### 'Centres access hierarchy'

Logan Central is a sub-regional hub and is the administration centre of the Logan City Council. It is located on the Beenleigh/Gold Coast rail line and has better land use characteristics to support public transport use than other centres in Logan.

Beenleigh, Springwood, Browns Plains and Meadowbrook will be district hubs.

The proposed major greenfield centres of Flagstone and Yarrabilba will be included in the 'centres access hierarchy' as they develop.

#### Increasing densities around transit corridors

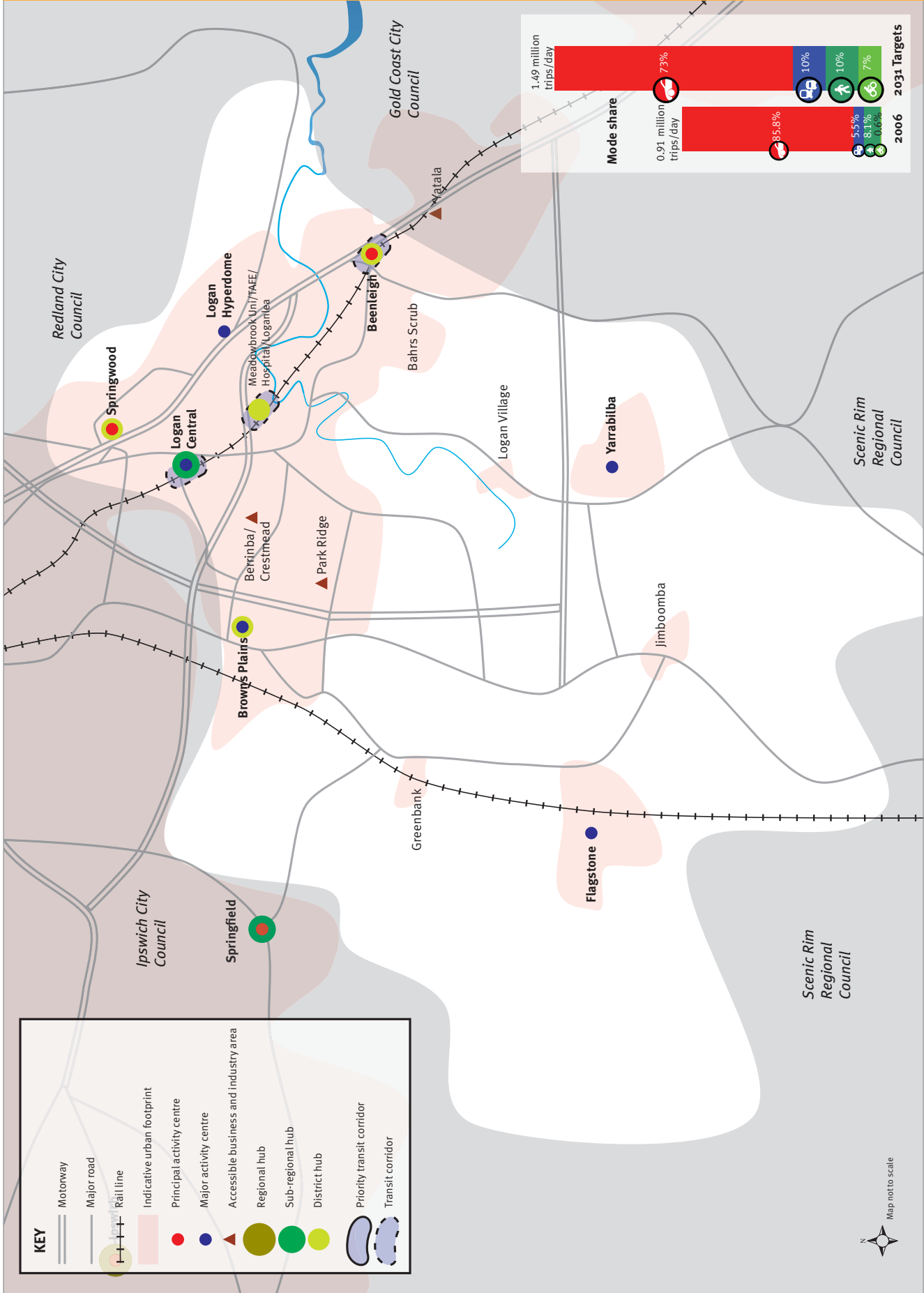
In later years of the plan, land use mix and densification is supported between Logan Central and the Meadowbrook TAFE/University/Hospital precinct. Implementation will be subject to further detailed land use planning in partnership with local government.

Land use density and mix is generally supported within 400–1200m of all public transport stations or stops along the other priority public transport corridors.

#### Accessible enterprise precincts

Heavy industry should be encouraged to locate in Park Ridge as it has good access to the 'priority freight network'.

Map 9.8 – 2031 transport and land use integration Logan



## Logan City Council



## 2031 transport network for Logan city

### Public transport

#### UrbanLink

UrbanLink bus services will be rolled out throughout Logan city, providing a high frequency (15 minutes or better) service all day, seven days a week. These services will provide quality connections between activity centres at Logan Central, Springwood, Logan Hyperdome, Park Ridge, Loganlea and Browns Plains.

The extension of the South East Busway to Springwood will also provide benefits to residents travelling to destinations located on the busway network in Brisbane city.

There will also be UrbanLink bus services to the new growth communities at Yarrabilba and Flagstone. Bus services will link Yarrabilba to the rail network at Beenleigh and Loganlea.

UrbanLink rail services will operate from Loganlea to inner Brisbane, stopping at all stations.

#### ExpressLink

ExpressLink rail services will operate from Helensvale, stopping all stations to Loganlea, then express to inner Brisbane, stopping only at key stations. Passengers wanting to access other destinations will be able to transfer to an UrbanLink rail service or bus services at Loganlea or other ExpressLink stopping points. ExpressLink services will also operate from Flagstone to Brisbane.

#### CoastLink

CoastLink services will operate between the Gold Coast and Brisbane, stopping at Beenleigh station.

#### Rail network enhancements

A passenger rail service is expected to extend from Salisbury to Flagstone by 2031 to serve existing and new communities and will provide ExpressLink services to Brisbane. The extension of this line to Beaudesert is a long-term opportunity.

Upgrades to the rail line between Kuraby and Beenleigh are also planned to provide improved rail service.

#### TransitWays

UrbanLink bus services will be packaged with TransitWays on key routes, providing bus priority to ensure fast, reliable travel times. TransitWays will be provided from:

- Logan Hyperdome to Springwood
- Logan Central to Springwood
- Browns Plains to Griffith University in Brisbane.

#### 'Green links'

A 'green link' will be investigated from Loganlea to the Logan Hyperdome to provide a more direct connection for buses and active transport users between these two key centres. This will significantly benefit bus travel times.

#### Road network

There will be a focus on improvements to the Logan Motorway and Mt Lindesay Highway to ensure the efficient movement of freight. Delivery of the Southern Freight Rail Corridor between Rosewood and Kagaru in conjunction with the inland rail project would enable standard gauge rail connections from western Queensland, the southern states and Ipswich industrial areas to Bromelton, Acacia Ridge and the Port of Brisbane.

New multi-modal arterial road corridors need to be planned and provided to all new population growth areas. Park 'n' ride facilities will be provided at the edge of urban development to allow the dispersed semi-rural communities access to high standard public transport services.

The development of local bridge connections across the Logan River would assist local movements and reduce reliance on the Pacific Motorway as the only crossing point of the Logan River.

#### Active transport

Improved active transport infrastructure will be focused on routes within five kilometres of the centres of Logan Central, Springwood, Beenleigh, Browns Plains and the new growth communities of Yarrabilba and Flagstone.

### Partnering with Logan City Council

- Ensuring the planning scheme supports long-term change towards high density employment and mixed use development around Logan Central and Meadowbrook.
- Providing road and rail infrastructure to service the major new growth communities of Flagstone and Yarrabilba.
- Working to ensure appropriate transport network design and infrastructure charging before approving new development areas.
- Investigating major infrastructure projects, including:
  - the passenger rail line to Beaudesert
  - the Bromelton intermodal freight terminal
  - the Southern Infrastructure Corridor from Yarrabilba to Ormeau.

### Freight

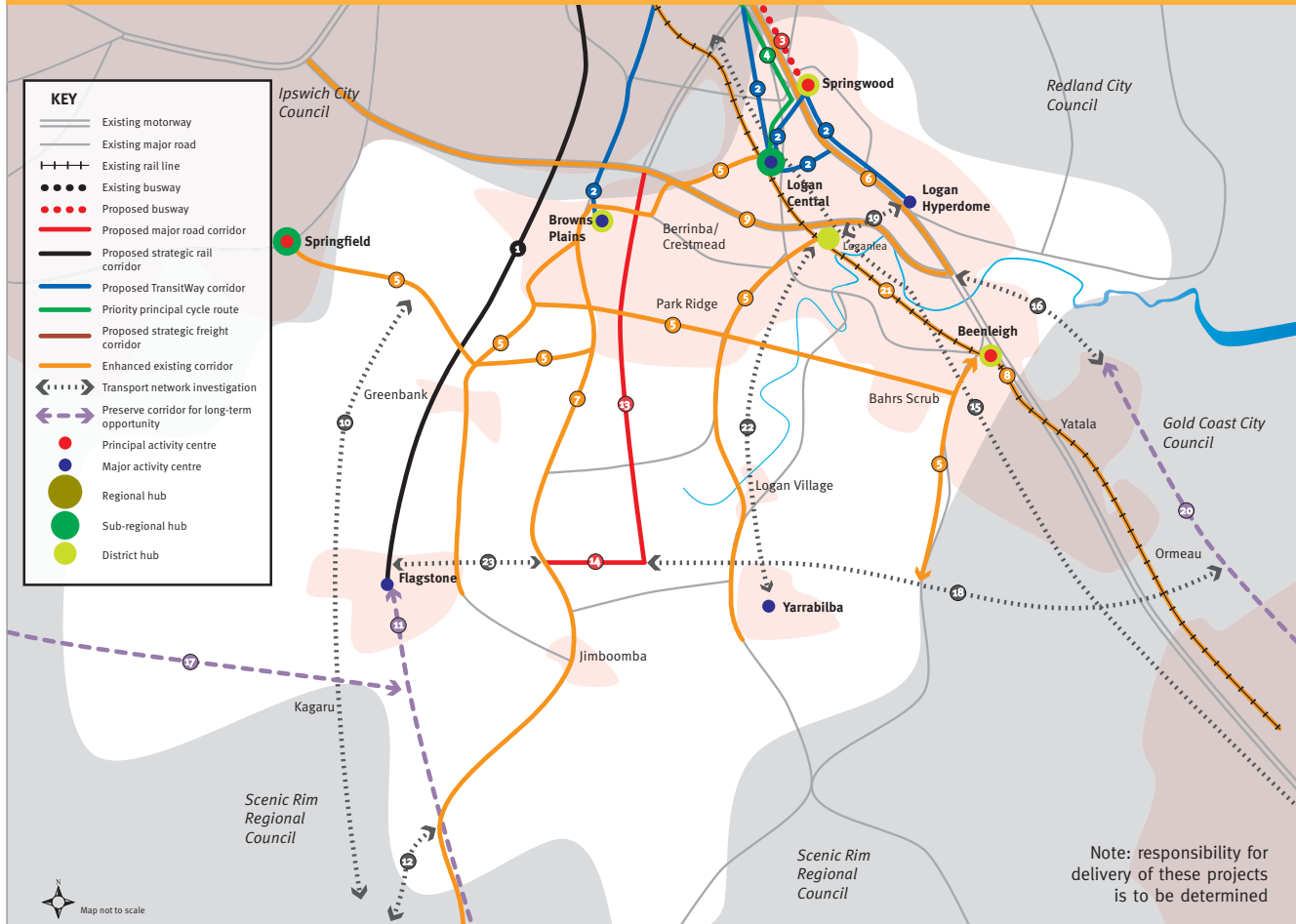
A southern extension of the Gateway Motorway from the Logan Motorway to the Southern Infrastructure Corridor will provide access to the region's motorway network for new communities. This extension will also enable freight vehicles from the Park Ridge Enterprise Precinct improved access to the Port of Brisbane, the Pacific Motorway and the Ipswich Motorway. A corridor study will confirm the corridor alignment and timing.

The Southern Infrastructure Corridor will link the Gateway Motorway extension to the Mt Lindesay Highway, and a new link will be investigated south to Bromelton. Extension of the Southern Infrastructure Corridor to the Pacific Motorway will also be investigated.

A new intermodal freight terminal at Bromelton will be investigated to meet future freight demands. To facilitate this, the Southern Freight Rail Corridor will continue to be preserved, as well as a long-term road corridor from Flagstone to Bromelton.

Map 9.9 shows the 2031 strategic transport network for Logan city.

Map 9.9 – 2031 strategic projects Logan city



### Summary list of projects

- |    |  |     |  |     |  |
|----|--|-----|--|-----|--|
| L1 | Passenger rail service Salisbury to Flagstone  | L8  | Upgrades to rail line from Beenleigh to Robina   | L15 | Investigate upgrading arterial connections from Gateway Motorway to Oxenford to improve north-south links for local trips              |
| L2 | Proposed TransitWay corridors  | L9  | Upgrade Logan Motorway from Ipswich Motorway to Pacific Motorway for freight                                   | L16 | Investigate urban arterial connection from Logan city to Intra-Regional Transport Corridor   |
| L3 | Extension of South East Busway to Springwood   | L10 | Investigate urban arterial network west of Mt Lindesay Highway between Greenbank, Kagaru and Bromelton         | L17 | Preserve Southern Freight Rail Corridor from Rosewood to Kagaru  |
| L4 | Priority principal cycle routes  | L11 | Preserve passenger rail corridor from Flagstone to Beaudesert  | L18 | Investigate Southern Infrastructure Corridor between extension of the Gateway Motorway extension and Intra-Regional Transport Corridor |
| L5 | Upgrades to urban arterials: <ul style="list-style-type: none"> <li>• Logan Central to Browns Plains</li> <li>• Browns Plains to Flagstone</li> <li>• Springfield to Park Ridge</li> <li>• Greenbank to Logan Reserve via Park Ridge</li> <li>• Loganlea to Yarrabilba</li> <li>• Yarrabilba to Beenleigh</li> </ul> | L12 | Investigate link from Woodhill to Bromelton  | L19 | Investigate 'green link' from Loganlea to Logan Hyperdome  |
| L6 | Upgrade of Pacific Motorway from Gateway Motorway to Logan Motorway  | L13 | Extend Gateway Motorway from Logan Motorway to Southern Infrastructure Corridor                                | L20 | Preserve Intra-Regional Transport Corridor from Stapylton to Coomera   |
| L7 | Upgrade Mt Lindesay Highway  | L14 | Construct Southern Infrastructure Corridor from Mt Lindesay Highway to extension of Gateway Motorway extension | L21 | Upgrades to rail line from Kuraby to Beenleigh   |
|    |  |     |  | L22 | Investigate TransitWay corridor  |
|    |  |     |  | L23 | Investigate road connection from Flagstone to Mt Lindesay Highway  |



## Redland City Council

Population in 2006: 131 000  
 Indicative planning population in 2031: 169 000  
 Total population increase: 38 000  
 Daily trips by residents in 2006: 460 000  
 Daily trips by residents in 2031: 660 000

### Quick transport facts on Redland city

- Low public transport use, with 5.7% of daily and 8.4% of work trips by public transport.
- Two thirds of work trips are longer than 10 kilometres, with the average commute trip 18 kilometres.
- 6% of households do not have a car, the lowest in south-east Queensland.
- 28% of the population do not have a driver's licence.

Figure 9.11 – 2006 census journey to work trip length

SEQ	<3km	<5km	<10km	<20km	<30km	>30km
	13%	23%	46%	75%	89%	11%
Redland city	<3km	<5km	<10km	<20km	<30km	>30km
	10%	19%	34%	55%	86%	14%

Redland City Council comprises a group of urban, rural, bushland and island communities fringing Moreton Bay on the eastern side of greater Brisbane.

The population of Redland city is forecast to increase by 29% between 2006 and 2031. This increase is modest in terms of size and growth rate, compared to the rest of the region's cities. About 70% of the growth will be infill development in existing urban areas.

The importance of the koala population in Redland city is well recognised and influences transport and land use policies. Intensified development of all kinds brings wider roads with more traffic, which increases the potential for injury to the koala population.

Many commuter trips occur to and from Brisbane city. There are opportunities to increase local employment in the existing activity centres and the enterprise precinct at Thornlands and Redland Bay. Council has a goal of 60% employment self-containment, which requires an additional 17 900 jobs within Redland city by 2031.

Urban development is focused around existing centres that are linked through an established road and rail network. Two small development areas in Thornlands will be master planned to ensure public and active transport connections are provided.

The rail network is indirect and limited to the northern parts of the city. There has been an historical reliance on bus services for commuter travel to Brisbane as they provide a more direct service from the southern and eastern suburbs.

## Redland City Council

### Transport issues and challenges

- The dispersed settlement pattern is difficult to service with public transport.
- Even with local employment growth, many residents will need to travel to Brisbane, Logan and the Gold Coast for work.
- Ferry transport and car parking is an issue for the Moreton Bay islands, which could grow from a population of 5200 to more than 24 000, depending on council policies and infrastructure availability.
- Traffic congestion on some routes affects travel time reliability, particularly on Old Cleveland Road, Redland Bay Road and Finucane Road.

### 2031 targets

The 2031 transport targets aim to reduce the share of trips made by private car from 84.8% to 72%, with an:

- increase in the share of trips by public transport from 5.7% to 10%, taking daily trips from 25 000 in 2006 to 65 000 in 2031
- increase in the share of trips by walking from 8% to 10%
- increase in the share of trips by cycling from 1.5% to 8%.

This would still see private car trips increase from 390 000 in 2006 to 480 000 in 2031.

Table 9.5 – Redland mode share split 2006 and 2031

	Public Transport		Walking		Cycling		Car	
	2006 actual	2031 target	2006 actual	2031 target	2006 actual	2031 target	2006 actual	2031 target
All trips	5.7%	10%	8%	10%	1.5%	8%	84.8%	72%
Work trips	8.4%	20%						

Source: All trips – Department of Transport and Main Roads South East Queensland Household Travel Survey (2006), work trips – ABS Census of population and housing 2006

Figure 9.12 – average composition of 17 trips made per person, Monday to Friday for Redland city



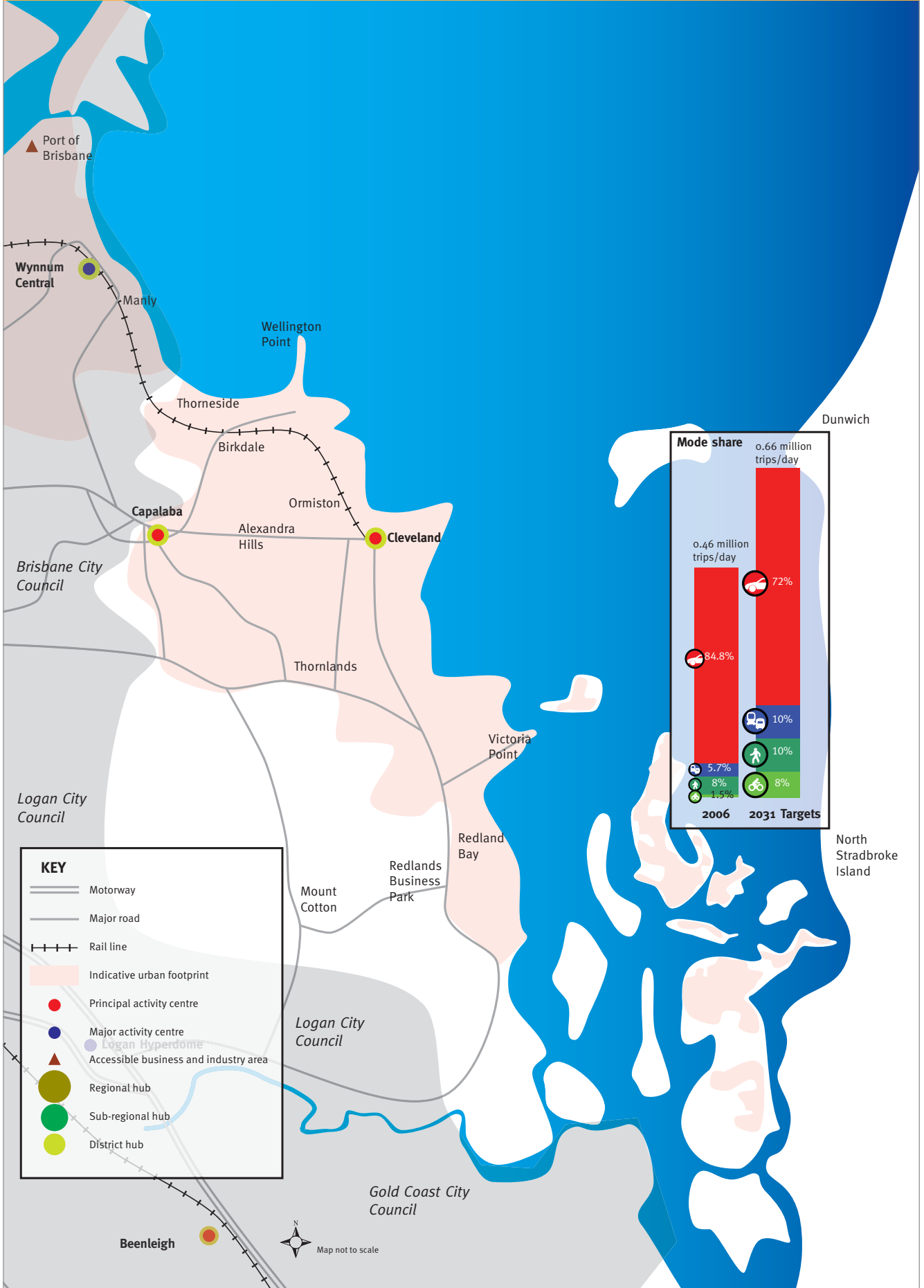
To achieve these targets, the weekly travel patterns of the average Redland city resident would need to change only incrementally.

### Transport and land use integration

#### 'Centres access hierarchy'

Capalaba and Cleveland will be district hubs and the focus for public transport contestable employment growth. The sub-regional hub at Carindale in Brisbane city will be a hub for many bus services and will be the terminus for the Eastern Busway, with Capalaba linked by bus priority. Planning for Capalaba and Cleveland includes intensified, well planned residential and commercial development, with provision for eight storey buildings focused around walkable town centres.

Map 9.10 – 2031 transport and land use Redland city



## Redland City Council



## 2031 transport network for Redland city

### Public transport

#### UrbanLink

UrbanLink bus services will be rolled out in the urban areas of Redland city, providing high frequency (15 minutes or better) service all day, seven days a week. These services will connect local activity centres and destinations, as well as connect to the Cleveland rail line and the Eastern Busway. This will provide improved access for residents to trunk public transport to connect to the rest of the region.

UrbanLink rail services will operate between Cleveland and central Brisbane.

#### Rail network enhancements

Duplication of the Cleveland line from Manly to Cleveland will allow more frequent rail services to Brisbane and the Brisbane Airport.

The removal of open level crossings will improve safety and traffic flow.

#### Bus network enhancements

The Eastern Busway will be in place from Coorparoo to Capalaba by 2031. This will benefit bus services to Brisbane city, allowing a faster and more reliable travel time by bus.

The majority of this infrastructure will be in Brisbane city but provide significant benefits for Redland city residents, as many trips will be made to Brisbane and elsewhere in the region.

#### TransitWays

UrbanLink bus services will be packaged with TransitWays on key routes, providing priority for buses to ensure fast, reliable travel times.

TransitWays will link:

- Cleveland to Capalaba
- Redland Bay and Victoria Point to Cleveland.

A strategic transport corridor has been protected for many years as an extension of Moreton Bay Road from Capalaba to Cleveland. This corridor will not be required as a road given the establishment of targets for increased public and active transport mode shares and the restricted population growth in Redland city.

An investigation of the best use for the corridor needs to be undertaken jointly between the council and the Queensland Government. The corridor could be used for some form of dedicated public and active transport use to connect the centres of Cleveland and Capalaba. However, it has no potential to support high density development and this would reduce its effectiveness. Its best use is likely to be a combination of active transport, recreation and environmental protection uses.

#### Moreton Bay Islands ferry services

Redland City Council is dealing with a range of issues concerning population growth and provision of infrastructure for the Moreton Bay islands. This includes development of local parking and transport policies.

#### Road network

A local road connection from Redland Bay Road across the Logan River would improve connections to employment and other attractions in Logan and the Gold Coast.

### Partnering with Redland City Council

- Ensuring the planning scheme supports increased densities and management of the location and supply of car parking in Capalaba and Cleveland.
- Ensuring appropriate public and active transport network design and infrastructure charging before approving new development areas.
- Investigating the best use of the Moreton Bay Road extension corridor.
- Investigating the need for and timing of a local bridge connection across the Logan River to link the cities of Redland and Gold Coast without having to rely on the Pacific Motorway corridor.

It would reduce reliance on the single Pacific Motorway crossing point of the Logan River at Loganholme. This low traffic road would not form any part of a longer corridor between Brisbane and the Gold Coast.

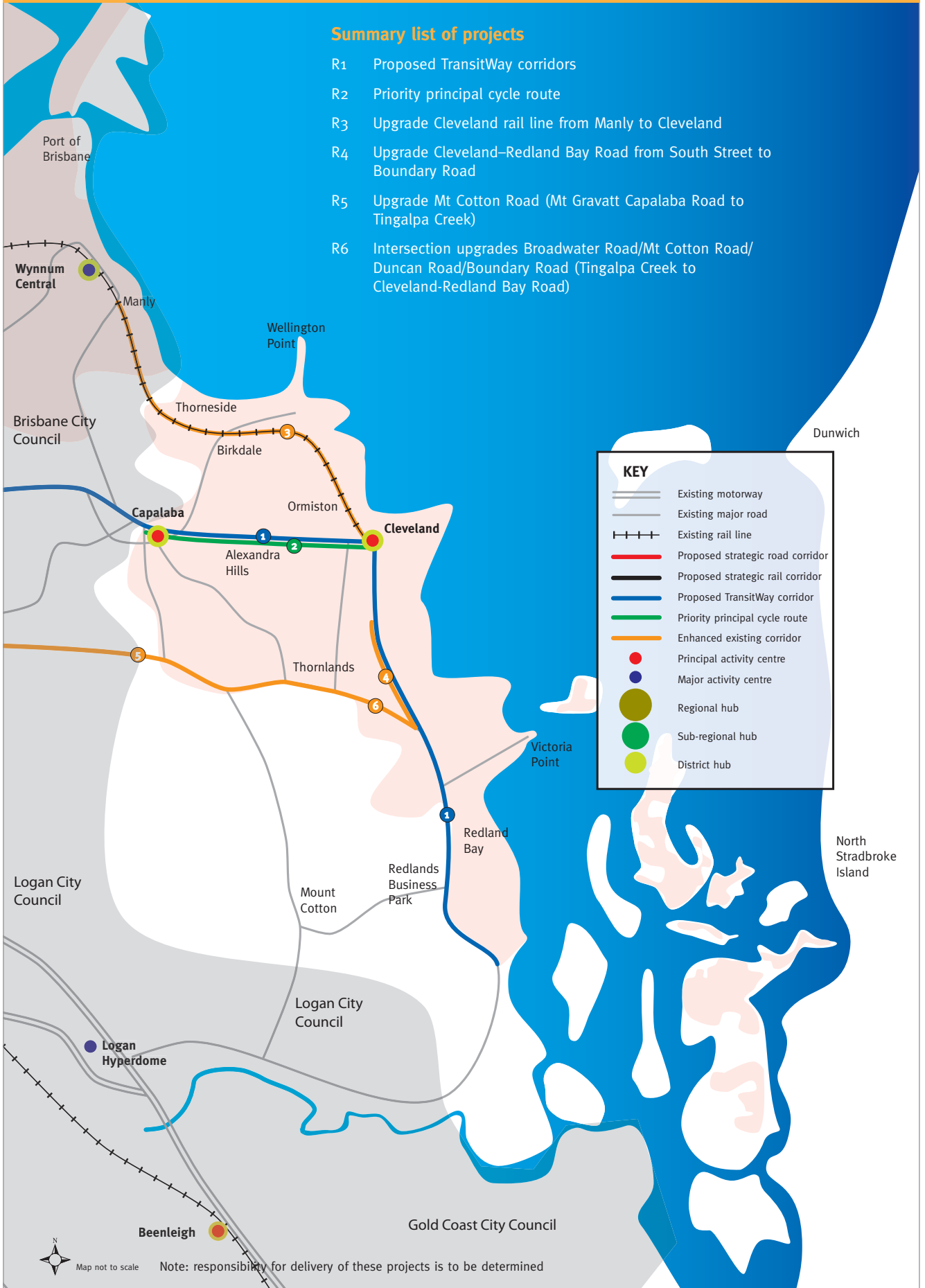
### Active transport

Cleveland will be an active transport precinct, with a focus on improving active transport facilities within a five kilometre radius of Cleveland centre.

Map 9.11 shows the 2031 strategic transport network for Redland city.



Map 9.11 – 2031 Strategic projects Redland Bay





## Gold Coast City Council

Population in 2006: 466 500

Indicative planning population in 2031: 749 000

Total population increase: 282 000

Daily trips by residents in 2006: 1 630 000

Daily trips by residents in 2031: 2 760 000

### Quick transport facts on Gold Coast city

- Public transport mode share is 4.4% of all trips.
- Around half of the population travel less than 10 kilometres to work, representing significant potential to increase the number of people cycling to work.
- 8% of the Gold Coast workforce is employed in Brisbane.
- 29% of the population do not have a driver's licence.
- Average distance travelled to work is 15.2 kilometres for all destinations other than the Brisbane CBD.
- Gold Coast residents travelling to the Brisbane CBD have an average journey to work trip length of 71.5 kilometres.

Figure 9.13 – 2006 census journey to work trip length

SEQ	<3km	<5km	<10km	<20km	<30km	>30km
	13%	23%	46%	75%	89%	11%
Gold Coast	<3km	<5km	<10km	<20km	<30km	>30km
	13%	25%	49%	79%	88%	12%

Although it began as a weekend and holiday destination for Brisbane residents, the Gold Coast has become Queensland's second largest city, with a range of coastal and hinterland lifestyles and an increasingly diverse and sophisticated range of employment opportunities.

Growth is forecast to continue, with population increasing by over 60% from 467 000 in 2006 to 749 000 in 2031. Under the *South East Queensland Regional Plan*, over 65% of this growth will be accommodated as infill development within existing urban areas.

Urban development is concentrated in growth centres between Yatala and Coolangatta.

Continuous development extends south of Coolangatta beyond the Queensland border into the Tweed Shire. The urban form consists of medium to high density development along the coastal spine and pockets of canal development, surrounded by larger areas of low density residential housing. Rural residential living areas are located further west.

The highest population density is between Surfers Paradise and Broadbeach, with medium density between Broadbeach and Coolangatta. These suburbs are connected by the spine of the Gold Coast Highway which is the corridor for the proposed Gold Coast light rail project.

Other areas with new or infill medium density development include Southport, Carrara, Tugun, Reedy Creek, Helensvale, Bundall, Robina and Varsity Lakes.

The development of new communities will be focused at Coomera, Hope Island, Pimpama, Ormeau, Maudsland and Reedy Creek.

Substantial employment growth will be required to support forecast population growth to 2031.

Employment has traditionally been in the housing and tourism sectors but has diversified in the last decade to include considerable export oriented commerce, education and technology businesses. There are also specialist precincts like the film and media industry cluster at Oxenford and the Gold Coast Marine precinct at Coomera.

Gold Coast city has generally been assumed to have a strong dependence on commuter trips to Brisbane, however about 15 000 workers commute to Brisbane each day, compared to 10 000 greater Brisbane residents who commute to the Gold Coast.

The Gold Coast continues to experience strong visitation rates with an average of about 60 000 international and domestic overnight visitors and more than 16 000 day trip visitors each day.

Transport decisions will play an integral role in the ongoing development of the city and in particular, delivering a vision of a much more sustainable, less car dependent community. The Gold Coast light rail project provides an important catalyst to support sustainable urban lifestyles.

## Gold Coast City Council

### Transport issues and challenges

- Significant population and activity growth on the Gold Coast will result in a major increase in trips.
- The Gold Coast is a major holiday destination with significant increases in transport activity during peak tourist periods, making travel by visitors an important consideration in transport planning.
- Public transport, walking and cycling needs to play an increasing role in moving people efficiently, to maintain accessibility.
- There is a need to increase capacity on Gold Coast to Brisbane passenger rail services, especially in peak periods.
- New rail stations are needed on the Gold Coast Line to accommodate urban growth while maintaining a rapid journey from Brisbane to the Gold Coast.
- There is a need to provide a light rail system to meet demand in the higher density coastal corridor between Southport and Coolangatta to ensure accessibility to activities.
- Travel demands from the growth area of Coomera to the rest of the Gold Coast are increasing and alternatives to car travel need to be provided.
- East–west bus services need to be enhanced between heavily populated coastal areas to encourage greater use of the rail line for longer trips to reduce impacts on the Pacific Motorway (M1).
- Lack of Albert River crossings results in pinch points on the road network.
- There is poor connectivity in many local communities.
- There is an over-reliance on the Pacific Motorway (M1) for local trips due to a lack of urban arterial roads providing connections to centres.
- There are cross-border travel issues and transport connectivity is needed to urban communities in northern New South Wales.

### 2031 targets

By 2031 the Gold Coast is expected to have a population of 749 000 with daily trips growing by 69% from 1.63 million in 2006 to 2.76 million in 2031.

With an estimated 65% of new housing developed through urban infill, the 2031 transport targets aim to reduce the share of trips made by private car from 87.5% to 69%, made up of an:

- increase in the share of trips by public transport from 4.4% to 15%, taking total daily trips from 72 000 in 2006 to 400 000 in 2031

Table 9.6 – Gold Coast mode share split 2006 and 2031

	Public Transport		Walking		Cycling		Car	
	2006 actual	2031 target	2006 actual	2031 target	2006 actual	2031 target	2006 actual	2031 target
All trips	4.4%	15%	6.8%	8%	1.3%	8%	87.5%	69%
Work trips	3.8%	20%						

Source: All trips – Department of Transport and Main Roads South East Queensland Household Travel Survey (2006), work trips – ABS Census of population and housing 2006

Figure 9.14 – average composition of 17 trips made per person, Monday to Friday for Gold Coast city



To achieve these targets, the weekly travel patterns of the average Gold Coast resident would need to change only incrementally.

- increase in the share of trips by walking from 6.8% in 2006 to 8% in 2031
- increase in the share of trips by cycling from 1.3% in 2006 to 8% in 2031.

This would still see daily private car trips made by Gold Coast residents increase by 33%, from 1.43 million in 2006 to 1.91 million in 2031.

### Transport and land use integration

#### 'Centres access hierarchy'

The extended Southport business centre is the regional hub and location for public transport contestable commercial, administrative and educational uses. Southport will accommodate 40 000 extra residents and 25 000 jobs by 2031.

Robina and Helensvale will be the sub-regional hubs on the Gold Coast. Robina is on the rail line and will also have a high frequency bus connection to the light rail at Broadbeach. Helensvale is at the junction of the light rail and passenger rail and is a suitable location for hubbing bus services.

Coomera is an emerging major centre with potential for transit oriented development and will be the future hub for high frequency bus services accessing Coomera centre as well as providing a connection to the rail line.

The Gold Coast Airport will be an important district hub. It is the sixth largest airport in Australia and has the fastest passenger growth rate. For 2010, domestic travel was up 9% and international travel was up 15%, with 453 000 passengers per year using the airport. A review of the Airport Master Plan is under way.

#### Increasing densities along transit corridors

The priority transit oriented corridor is the Gold Coast light rail corridor from Gold Coast Health and Knowledge Precinct to Broadbeach.

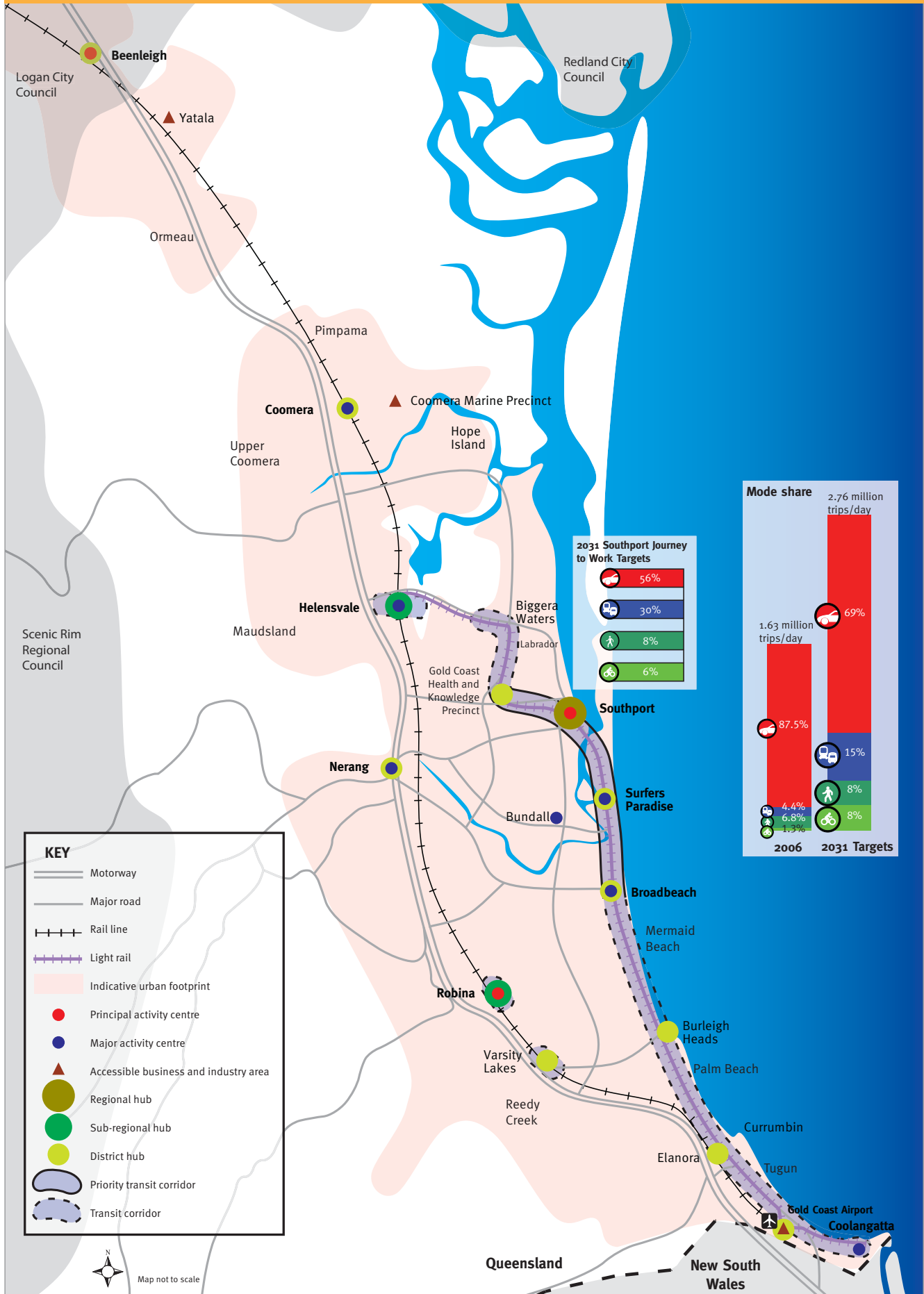
Stage one of the light rail will connect multiple destinations including Griffith University, the new Gold Coast Hospital and Southport, as well as high density residential destinations along the coastline including Broadbeach and Surfers Paradise. With multiple destinations, high frequency public transport services will operate along the corridor all day, every day.

Future stages of the light rail will connect from the Gold Coast University Hospital to Helensvale rail station, and from Broadbeach to Coolangatta.

The Broadbeach–Elanora corridor along the Gold Coast Highway should also be a focus for increased densities and mixed use development as the light rail extends south. Implementation will be subject to further detailed land use planning in partnership with local government.

Land use density and mix is supported within 400–1200 metres of all other public transport stations or stops along high frequency public transport routes illustrated in Map 9.12.

Map 9.12 – 2031 Transport and Land use integration Gold Coast



## Gold Coast City Council



## 2031 transport network for the Gold Coast

### Public transport

The transport network on the Gold Coast will be re-oriented away from its present heavy reliance on the Pacific Motorway (M1) and Gold Coast Highway spines to be organised around the major public transport spines of the Gold Coast light rail, strategic high frequency bus corridors and the Gold Coast rail line.

#### UrbanLink

UrbanLink bus services will be rolled out across the Gold Coast, providing a high frequency (15 minutes or better) service all day, seven days a week. The UrbanLink bus network will improve east–west public transport links and anchor to light rail along the coast, as well as to the Gold Coast rail line to the west. This will allow passengers to easily transfer and access a range of destinations across the coast.

In the longer term, UrbanLink rail services could also operate locally on the Gold Coast between Helensvale and the Gold Coast Airport.

#### ExpressLink

ExpressLink rail services will operate from Helensvale station, stopping all stations to Loganlea, then travelling express to inner Brisbane, stopping only at key stations.

#### CoastLink

CoastLink rail services will connect the Gold Coast to Brisbane, with travel times of about one hour. These fast CoastLink services will provide improved opportunities for business-to-business travel between Brisbane CBD and the Gold Coast, as well as providing a better service for commuter and tourist travellers.

#### Rail network enhancements

The Gold Coast rail line will extend to the Gold Coast Airport to improve public transport connectivity to this growing airport. Upgrades will also take place along the length of the existing line to Robina to improve capacity on the line.

New stations on the existing Gold Coast rail line will be investigated to support new industrial precincts and residential communities within the urban footprint.

#### Gold Coast light rail

The pattern of very high density development along the coastal strip makes mass public transport critical for accessibility. The 2031 light rail network will extend from Helensvale to Coolangatta and will provide residents and tourists with a high quality service to access destinations and attractions located on the coastal corridor.

The light rail will be supported by improved public transport links to the rest of the coast, particularly low and medium density communities located between the coast and the Gold Coast rail corridor. This will need to be facilitated by improved high frequency bus services packaged with bus priority on east–west connecting roads.

Other corridors that may be suitable for future light rail provision will be investigated, including:

- Nerang to Broadbeach
- Robina to Broadbeach
- Robina to Burleigh Heads.

#### TransitWays

UrbanLink bus services will be packaged with TransitWays on key routes, providing priority for buses to ensure fast, reliable travel times. TransitWays will link:

- Robina to Broadbeach
- Robina to Gold Coast Health and Knowledge Precinct
- Varsity Lakes to Burleigh Heads
- Upper Coomera and Coomera to Paradise Point and Southport
- Nerang to Southport.

An opportunity to provide a TransitWay corridor from Coomera to Southport via a 'green link' at Hope Island will also be investigated.

### Road network

The northern areas of the Gold Coast and urban areas to the west of the Pacific Motorway (M1) require urban arterial road networks for local trips, bus services, walking and cycling to reduce the potential for car dependence and overuse of the Pacific Motorway (M1) for local trips.

The development of urban arterial roads will require more river crossings. The current reliance on the limited crossings of the Albert River means that the Pacific Motorway (M1) and its service roads cater for virtually all trips that cross the river. This makes the transport network vulnerable at this point and forces use of the motorway for local trips, reducing its capacity and efficiency for longer distance and freight trips.

A multi-modal urban arterial road will provide a connection from Coomera to Nerang (the Intra-Regional Transport Corridor). There will also be a strong focus on ensuring other arterials across the Gold Coast cater for all modes and provide a safe, attractive environment for pedestrians and cyclists.

### Active transport

The high proportion of work (49%) and daily trips (71%) less than 10 kilometres in length represents significant potential to increase the share of trips made by active transport. Getting the right infrastructure in place will help support growth in active travel, which can help relieve some of the growth pressures on other parts of the transport network.

Consistent with the Complete 5 initiative, provision of active transport infrastructure should be prioritised within five kilometres of activity centres, with a focus on Southport, Robina, Varsity Lakes, Broadbeach, Surfers Paradise, Burleigh Heads, Helensvale, Nerang, Coolangatta and the Gold Coast Health and Knowledge Precinct.



## Freight

An upgraded Pacific Motorway (M1) will cater for inter-regional trips and long distance freight. It will also inevitably perform a western bypass function. Ensuring the Pacific Motorway (M1) meets these needs requires development of urban arterial roads in the growth areas to carry local traffic and act as bus and active transport strategic corridors.

Apart from interstate freight transport using the Pacific Motorway (M1), the major Yatala industrial development area requires reliable road freight links to:

- industries in metropolitan Brisbane
- Acacia Ridge intermodal terminal to the Port of Brisbane
- the future major industrial area at Bromelton.

A long-term corridor should be preserved for the proposed Southern Infrastructure Corridor from Ormeau to the Gateway Motorway extension.

## Light rail (Gold Coast Rapid Transit)

Traffic congestion on Gold Coast roads is steadily increasing, especially in the growing coastal precincts.

Without major intervention, average travel times could increase by 30% in Southport, Surfers Paradise and Broadbeach by 2016 compared to travel times from 2006.

The Gold Coast light rail project will provide local residents and visitors with a world-class public transport network. Light rail has a proven track record for revitalising cities by connecting people and places, and consequently attracting investment.

Stage one of the Gold Coast light rail system is planned to be in place by 2014, connecting the Gold Coast Health and Knowledge Precinct to Broadbeach.

The project will be jointly funded by the Commonwealth Government (\$365 million), Queensland Government (\$464 million plus land) and Gold Coast City Council (\$120 million).

The preferred proponent to operate the light rail system was announced in May 2011.

The project will generate social, environmental and economic benefits for the city, including:

- reducing local greenhouse gas emissions by 114 000 tonnes over the first 10 years of operation
- reducing the number of private vehicle trips in the corridor by up to 10%
- generating about 6300 direct and indirect jobs
- providing a frequent, affordable and reliable alternative to car travel
- contributing to a fully integrated public transport system for the Gold Coast.

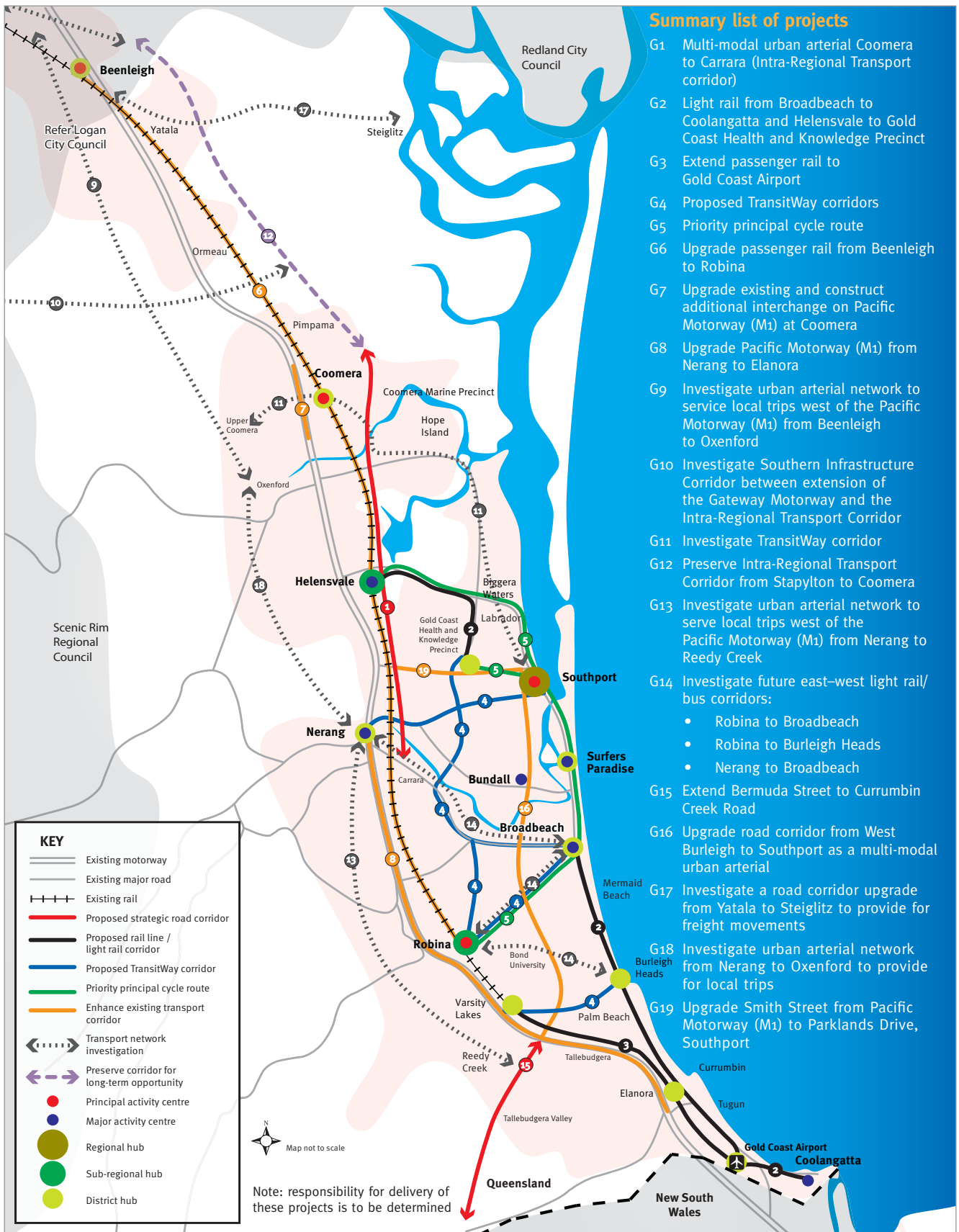
The Gold Coast light rail corridor is planned to extend from Helensvale to Coolangatta by 2031. A travel behaviour change program will be rolled out in conjunction with the delivery of the light rail.

The Queensland Government will also work in partnership with Gold Coast City Council to investigate the potential for east-west light rail corridors.

## Partnering with Gold Coast City Council

- Working together to deliver a community boulevard treatment on the Gold Coast Highway in conjunction with delivery of light rail.
- Supporting increased densities and mix of development along the Gold Coast light rail corridor and around existing and future stations on the Gold Coast rail line.
- Encouraging location of public transport contestable employment in Southport.
- Investigating the Southern Infrastructure Corridor from Ormeau to Greater Flagstone in Logan city.

Map 9.13 – 2031 Strategic projects Gold Coast



Note: responsibility for delivery of these projects is to be determined



## Sunshine Coast Regional Council

Population in 2006: 295 000

Indicative planning population in 2031: 497 000

Total population increase: 202 000

Daily trips by residents in 2006: 1 030 000

Daily trips by residents in 2031: 1 755 000

### Quick transport facts on the Sunshine Coast

- High car dependency with 86% of personal trips in private vehicles.
- Low public transport use, with only 3.6% of all trips by public transport and 2.5% of journey to work trips on public transport.
- 5.4% of journey to work trips are by active transport – the second highest in the region after Brisbane city.
- 50% of journey to work trips are less than 10 kilometres, but 15% are longer than 30 kilometres.
- 28% of the population do not have a driver's licence.
- Average distance travelled to work is 17.3 kilometres for all destinations other than the Brisbane CBD.
- Sunshine Coast residents travelling to the Brisbane CBD have an average trip length of 96 kilometres.

Figure 9.15 – 2006 census journey to work trip length

SEQ	<3km	<5km	<10km	<20km	<30km	>30km
	13%	23%	46%	75%	89%	11%
Sunshine Coast	<3km	<5km	<10km	<20km	<30km	>30km
	16%	29%	50%	75%	85%	15%

The Sunshine Coast includes residential areas and centres located along the coast, as well as the major inland towns of Nambour and Beerwah. The Sunshine Coast hinterland also contains small towns including Maleny, Mapleton and Peachester.

Population on the Sunshine Coast is forecast to increase by over 68% from 295 000 in 2006 to 497 000 in 2031. Most of the growth will be accommodated in new development areas.

There is an important opportunity to achieve a more sustainable form of new urban development by ensuring new communities are designed around public transport and active transport.

A high proportion of urban development is located south of the Maroochy River, with major new development areas of Caloundra South and Palmview.

Maroochydoore will be the principal focus for business, community services and employment on the Sunshine Coast.

Major activity centres such as Caloundra will also play an important role for retail, health and community services. Nambour will support employment locally and in its surrounds.

Kawana town centre, located on the proposed Sunshine Coast rail line, is an emerging major centre with the opportunity to develop as a hub for public transport and a location for well designed, high density employment uses. Major new employment centres could also emerge at:

- proposed Caloundra South town centre
- Caloundra Regional Business and Industrial Park with forecast employment of nearly 2150 jobs by 2031
- Sippy Downs with a university, business hub and enterprise areas with forecast employment of 3300 people and with 11 000 students by 2031
- Sunshine Coast Airport industrial precinct.



## Sunshine Coast Regional Council

### Transport issues and challenges for the Sunshine Coast

- The relatively dispersed and low density residential areas and centres located along the extensive coastal spine are difficult to service with public transport, particularly north of the Maroochy River.
- The Sunshine Coast is a major holiday destination with significant increases in transport activity during peak tourist periods.
- Public transport links between centres and population growth areas need to be enhanced to keep up with population growth.
- Large gaps between populated areas west of the coastal strip make these areas difficult to service with public transport.
- There is a lack of an arterial road network to cater for local trips, forcing use of the Bruce Highway for many local trips.
- 28% of residents will be aged over 65 by 2031, presenting a major challenge to ensure people can continue to access health care facilities and recreational opportunities, particularly when they are no longer fit to drive.
- There is a need for improved public transport connections to major employment destinations in Moreton Bay Regional Council and Brisbane City Council.

Table 9.7 – Sunshine Coast mode share split 2006 and 2031

	Public Transport		Walking		Cycling		Car	
	2006 actual	2031 target	2006 actual	2031 target	2006 actual	2031 target	2006 actual	2031 target
All trips	3.6%	10%	8.4%	10%	1.7%	8%	86.3%	72%
Work trips	2.5%	15%						

Source: All trips – Department of Transport and Main Roads South East Queensland Household Travel Survey (2006), work trips – ABS Census of population and housing 2006

Figure 9.16 – average composition of 17 trips made per person, Monday to Friday for Sunshine Coast



To achieve these targets, the weekly travel patterns of the average Sunshine Coast resident would need to change only incrementally.

#### 2031 targets

Growth on the Sunshine Coast will mean a 71% increase in daily trips from 1.03 million in 2006 to 1.76 million in 2031.

The 2031 transport targets aim to reduce the share of trips made by private car from 86.3% to 72%, made up of an:

- increase in the share of trips by public transport from 3.6% to 10%, increasing daily trips from 40 000 in 2006 to 175 000 in 2031
- increase in the share of trips by walking from 8.4% to 10%
- increase in the share of trips by cycling from 1.7% to 8%.

Meeting the targets would still see daily private car trips made by Sunshine Coast residents increase by 42% from 890 000 in 2006 to 1.26 million in 2031.

#### Sunshine Coast Sustainable Transport Strategy 2011–2031

The Sustainable Transport Strategy released by the Sunshine Coast Regional Council outlines their priorities and key strategies to deliver a sustainable transport system, which increases the share of trips made by public transport and active transport.

The strategy presents a policy framework and action plan for servicing the region well into the future (to 2031 and beyond).

The strategy aims to provide a vision and strategic direction for the design and management of the Sunshine Coast transport system until 2031 and beyond.

## Sunshine Coast Regional Council



### Transport and land use integration

#### 'Centres access hierarchy'

Maroochydore is the logical regional hub for the Sunshine Coast as it is the principal activity centre and is forecast to accommodate 18 000 employees by 2026.

Maroochydore will be the main interchange point between intra-regional and suburban public transport services on the Sunshine Coast. It will contain a high standard, multi-modal interchange used as an eventual terminus for the rail line, *CoastConnect* bus corridor and other suburban bus routes.

Kawana town centre is a sub-regional hub primarily due to the existing momentum of development and employment.

The plan proposes a new rail line from Beerwah to Maroochydore. The *CoastConnect* bus corridor will provide on-road priority for buses between Caloundra and Maroochydore.

Sippy Downs and Caloundra Regional Business and Industrial Park are district hubs. Both are on multi-modal road corridors linking them to sub-regional hubs and are forecast to be significant future employment precincts. Sippy Downs ITC Business Hub, university and enterprise area together will eventually accommodate 20 000 jobs and 15 000 students.

Caloundra Regional Business and Industrial Park will eventually accommodate 30 000 jobs.

While many of these types of jobs may not be public transport contestable, creation of a core of intensive employment density around a future stop or station will support a high frequency public transport service.

The Sunshine Coast Airport at Marcoola and its associated aeronautical support industry and office park is also a district hub in the transit hierarchy. It will generate public transport demands and will be provided with transport connections to the Maroochydore hub.

#### Increasing densities around transit corridors

The priority transit oriented corridor is the northern section of the *CoastConnect* bus corridor from Maroochydore to Kawana town centre.

It will connect Caloundra to the new Sunshine Coast Hospital and Kawana town centre with the existing Kawana shopping centre, Mooloolaba coastal centre, and the regional hub and principal activity centre of Maroochydore.

Because of the multiple destinations, a high frequency and reliable public transport service can be provided all day, every day.

In later years of the plan, land use mix and densification is supported along:

- the *CoastConnect* bus corridor between Kawana and Caloundra
- the Sunshine Coast rail line between Kawana Town Centre and Caloundra
- a future high frequency bus route linking Sippy Downs with Palmview and Caloundra South.

Implementation will be subject to further detailed land use planning in partnership with local government.

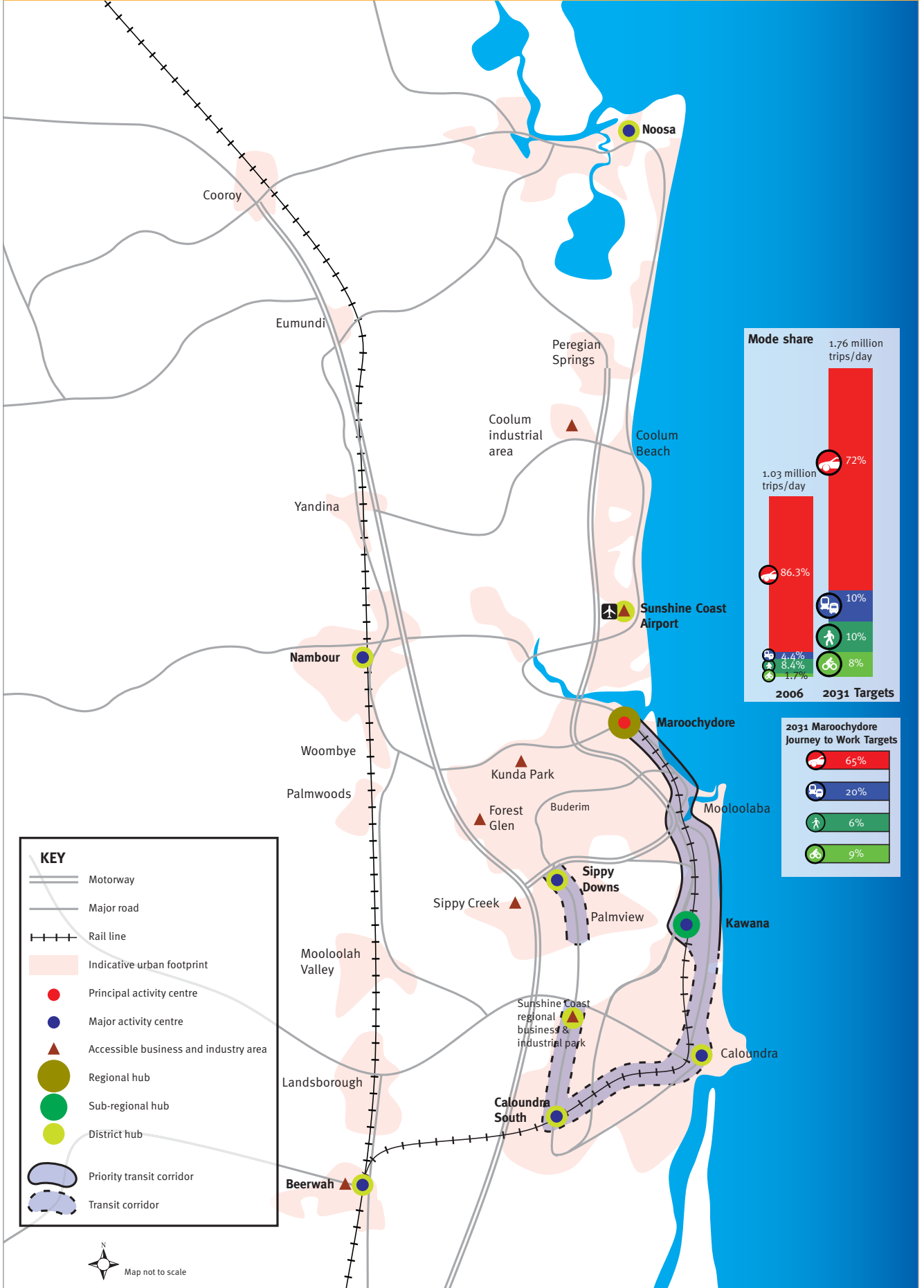
Land use density and mix is generally supported within 400–1200 metres of all other public transport stations or stops along high frequency public transport routes.

#### Accessible enterprise areas

Sippy Creek and Kunda Park are enterprise areas identified in the SEQ Regional Plan that have good access to the 'priority freight network'.

Business and industry that requires heavy vehicle access should be encouraged to locate in these areas.

Map 9.14 – 2031 Transport and Land use integration Sunshine Coast



## 2031 transport network for the Sunshine Coast

### Public transport

By 2031 there will be a significant passenger shift to public transport, especially in the coastal communities south of the Maroochy River.

#### UrbanLink

UrbanLink bus services will be rolled out across the Sunshine Coast, providing a high frequency (15 minutes or better) service all day, seven days a week.

UrbanLink buses will provide essential links between coastal communities from Noosa to Caloundra. UrbanLink bus services will also provide a connection to major inland communities on the Sunshine Coast, including Nambour.

In the longer term, UrbanLink rail services could also operate on the new rail line between Maroochy and Beerwah.

#### CoastLink

CoastLink rail services will operate from Gympie North and Maroochy. CoastLink services will stop all stations on the Sunshine Coast to Caboolture, then run express to inner Brisbane.

These services will provide for fast, reliable travel between the Sunshine Coast and Brisbane, supporting economic activity between the two major centres and improved access to the Sunshine Coast for tourists and day trippers.

#### Rail network enhancements

The Sunshine Coast rail line from Beerwah to Maroochy will provide a better link for communities concentrated along the coast to the rest of the region.

In the longer term, an all stops UrbanLink service may also operate on the rail line between Beerwah and Maroochy. The rail line will provide an important transport link for the future Caloundra South community to Maroochy and other centres on the Sunshine Coast.

Interim bus measures will be provided on the Sunshine Coast to ensure appropriate public transport access to Caloundra South in advance of the rail line being developed. These interim bus measures will support the long-term vision for rail to the Sunshine Coast.

Upgrades and straightening of the existing North Coast Line to Nambour will provide for faster travel times on this line, and improved transport access for the hinterland communities.

#### TransitWays

The *CoastConnect* bus corridor will provide frequent fast, efficient and reliable bus services between Maroochy and Caloundra.

UrbanLink bus services will be packaged with TransitWays on key routes, providing priority for buses to ensure fast, reliable travel times. TransitWays will be provided from:

- Sunshine Coast Airport to Caloundra (via *CoastConnect*)
- Nambour to Maroochy
- Sippy Downs to Mooloolaba and Maroochy
- Sippy Downs to Caloundra South.

#### 'Green links'

A link will be investigated between the growth areas of Palmview and Kawana to provide access for public transport and active transport users. This link will be investigated as a 'green link' or a multi-modal urban arterial road.

#### Local bus services

Local feeder bus services will continue to provide access to hinterland communities, connecting to major activity centres and long-haul public transport options on the Sunshine Coast. TransLink will continue to monitor demand for these services.

#### Road network

There will be improvements to the arterial road network including provision of multi-modal corridors between Maroochy and Caloundra South and bus and active transport facilities on a new arterial road from Sippy Downs to Caloundra South. A corridor for a longer term local arterial road will be preserved from the Bruce Highway (M1) to Beerwah in the event Beerwah East area is developed beyond 2031.

Road access to the Caloundra South growth area will be based around an extension of the Bells Creek Connection as a multi-modal urban arterial road, connecting to the Multi-Modal Transport Corridor, and supported by local access roads.

The Bruce Highway (M1) and Sunshine Motorway will be upgraded for safety and local capacity improvements to act as an inter-regional network and an urban bypass system for the Sunshine Coast. No new urban motorway links are proposed, with new major strategic roads within the urban development areas being developed to a multi-modal arterial standard that caters for buses, active transport and local traffic.

### Partnering with Sunshine Coast Regional Council

- Encouraging public transport contestable jobs to locate in Maroochy and Kawana centres.
- Supporting increased public transport use to Maroochy through land use planning, precinct planning, traffic management, car parking supply and pricing.
- Ensuring land use plans support increasing densities and mixed use in transit corridors.
- Planning to ensure business and industry uses that depend on heavy vehicle access locate in Sippy Creek or Kunda Park.
- Sunshine Coast Regional Council, through its Sunshine Coast Sustainable Transport Strategy, has a strong focus on achieving sustainable transport outcomes for the Sunshine Coast region. *Connecting SEQ 2031* sets the building blocks for helping the council achieve these outcomes.

### Active transport

High quality active transport facilities will be provided within five kilometres of Maroochy, Sippy Downs, Kawana, Caloundra, Beerwah, Noosa, Caloundra South and Nambour.

A priority principal cycle route will also be provided connecting the growing coastal communities from Maroochy to Caloundra South, as well as providing a connection to Sippy Downs.

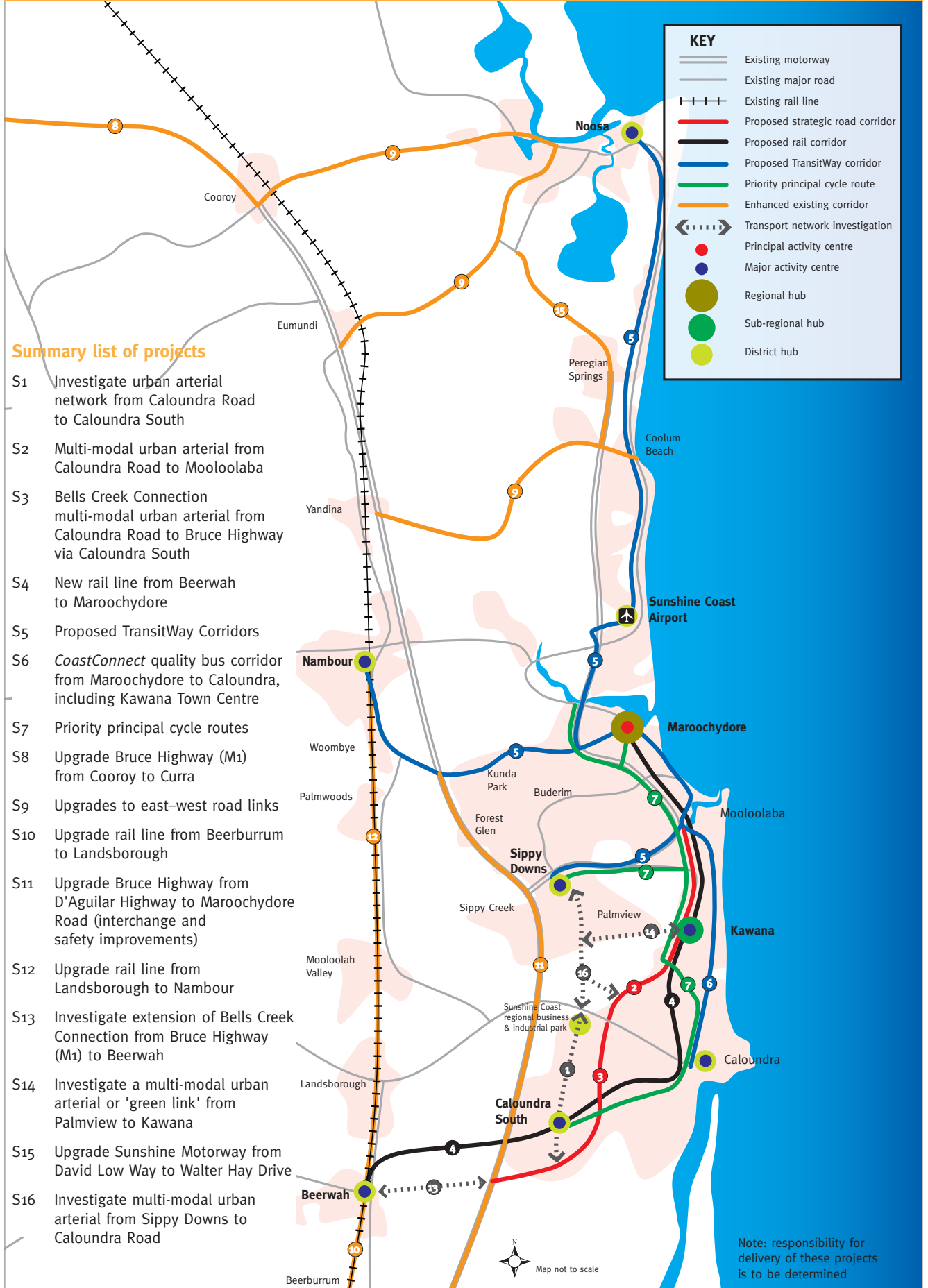
### Freight

An intermodal freight terminal will be investigated north of the Brisbane River and south of Beerwah on the North Coast Line to provide opportunities for freight travelling further north out of the region to transfer to rail. This terminal will need appropriate road and rail access and supporting industrial land uses.

Upgrades to the North Coast Line to Nambour will provide improved capacity for freight services.

Map 9.15 illustrates the 2031 strategic transport network for the Sunshine Coast.

Map 9.15 – 2031 Strategic projects Sunshine Coast



## 10. Rural communities

The Somerset, Lockyer Valley and Scenic Rim Regional Councils cover nearly half of the area of south-east Queensland but in 2006 they contained just 86 000 people, or 3.2% of the region's population. A similar number of people live in the rural areas of the other more urbanised city and regional councils.

The urban footprint, identified in the *South East Queensland Regional Plan 2009–2031*, restricts the incursion of urban development into these rural areas and the spread of existing rural towns into the surrounding countryside.

However, these local government areas are all forecast to experience annual growth rates of more than 2% per year during the next 20 years and by 2031 are expected to have a combined population of 166 000.

Providing transport infrastructure and adequate public transport services to rural communities and the rural towns in the more urbanised coastal councils, presents specific challenges and different transport needs. Strategic infrastructure projects are illustrated in the rural communities Map 10.1 on page 136.

### Public transport in rural communities

About 200 000 of the region's 2.8 million residents live in small towns or rural areas, which have different transport needs to urban communities.

Public transport to rural areas will be provided through partnerships between the Department of Transport and Main Roads and local governments. TransLink is responsible for servicing the urban areas of the region and cannot extend the service area to rural communities as demands are too low for a TransLink service.

People living in rural communities need a basic form of public transport in cases where they cannot solely rely on private cars.

For smaller towns and villages outside the TransLink contract areas, a range of services are provided by contracts administered by the Department of Transport and Main Roads. New rural services can be considered on a case-by-case basis, subject to evidence of demand and meeting criteria established to ensure efficient use of government resources.

Rural public transport services generally fall into the category of low volume public transport, and will continue to be developed according to local needs (see principles to guide this work in next column).

The hinterland service connecting Nambour to Maleny, developed through a partnership between the Department of Transport and Main Roads, TransLink and the Sunshine Coast Regional Council is an excellent example of an initiative that would meet the suggested policy framework for low volume public transport in the rural areas of south-east Queensland.

### Principles for public transport services to rural communities

To cater for the growing population outside the designated TransLink urban service area, a new set of arrangements will be made for the planning and delivery of local public transport services. In smaller population centres these will be developed around population and estimated demand thresholds with matching levels of service delivery based on these principles:

- subject to available funding and evidence of demand, consideration will be given to establishing general route services between centres with a population greater than 500 and neighbouring towns with a population greater than 7500 where the distance between the two population centres is 40 kilometres or less
- as a guideline, village-to-town or town-to-town services provide a minimum of one return service per day, Monday to Friday. However, the actual level of service in each instance will be dependent upon the available funding and the existing level of demand
- for population centres where the resident population exceeds 7500, consideration will be given, subject to available funding, to declaring the centre as a service contract area and for the provision of general route services within the population centre itself
- for new contracts in rural communities, the level of service and model of service delivery will be determined by the available resources (existing passenger transport services and infrastructure; new funding sources) and underlying demand. As a general rule, services will not extend beyond daylight hours, Monday to Friday.



## Somerset Regional Council

Population in 2006: 19 600

Indicative planning population in 2031: 32 700

Annual population growth rate: 2.1%

Somerset is the largest local authority in area in south-east Queensland, but it has the smallest population. There are five small towns – Fernvale, Lowood, Esk and Toogoolawah in the Brisbane Valley and Kilcoy to the east. The last three towns have a high degree of employment self-containment. However, most future growth will occur in the towns of Lowood and Fernvale because of their proximity to Ipswich.

The Brisbane Valley and D'Aguilar Highways, which form part of the regional strategic road network, bisect the council area and are the backbone of the local transport system.

All of the towns except Lowood are located on these roads and only Kilcoy has a partial town bypass. The economy is based on agriculture and forestry which generates local freight traffic and the highways are the main links from south-east Queensland to the South Burnett and northern Darling Downs.

### Transport issues and challenges for Somerset

- There is a need to upgrade the junction of the Brisbane Valley Highway and the Warrego Highway at Blacksoil.
- Upgrade and maintenance of the Brisbane Valley and D'Aguilar Highways to cater for the increasing volumes and variety of traffic is important.
- There is a need for bypass roads around Lowood and Fernvale town centres.
- There is a need for public transport links between Lowood, Fernvale and Ipswich.
- There is conflict between freight traffic, other vehicles and pedestrians, especially in town centres.
- It is difficult to provide transport service to elderly and isolated residents in the northern parts of the Brisbane Valley.

### Partnering with Somerset Regional Council

- Continuing to encourage the promotion of community transport services in the townships, especially in the north of the Brisbane Valley.
- Encouraging active transport in the townships by the provision of walking and cycling paths to and between community facilities.

### 2031 transport network for Somerset

By 2031, the Brisbane Valley and D'Aguilar Highways will be of a standard to provide safe travel through the Somerset area for freight, tourists and local residents featuring wide lanes, shoulders and passing lanes.

A grade separated interchange at Blacksoil will allow safe access to the Brisbane Valley and Warrego Highways.

The towns of Fernvale, Lowood and Kilcoy will have bypass roads to separate highway and local traffic. This will allow the development of town centres that are conducive to walking and cycling. Lowood and Fernvale will be linked to Ipswich Central and the Ipswich rail line by feeder bus services.

Map 10.1 (see page 136) illustrates the 2031 strategic transport network for Somerset.



## Lockyer Valley Regional Council

Population in 2006: 31 900

Indicative planning population in 2031: 57 500

Annual population growth rate: 2.4%

### Partnering with Lockyer Valley Regional Council

- Encouraging the promotion of community transport services within the townships and between the townships and villages.
- Encouraging active transport in the townships by the provision of walking and cycling paths to and between community facilities.

The Lockyer Valley covers the west and south-western parts of the region.

The significant population centres are in the north of the Lockyer area, either side of the Warrego Highway which runs from east to west linking Brisbane and Toowoomba. The rail line from Brisbane to Toowoomba also runs through the council area.

The main towns are Gatton and Laidley and there is a significant area of rural residential settlement north of the highway around Plainlands. There are also rural villages along or near the highway and rail line.

The main industry is agriculture, with some industrial development planned in Gatton and at Plainlands. A new prison is planned north of Gatton. Although there is a high level of employment self containment, there is considerable commuter traffic to Toowoomba and Ipswich.

A proposed new rail line from Grandchester to Gowrie (including a crossing of the Toowoomba range) will be preserved as part of an Australian Government planning study.

The Toowoomba Bypass project identified a 42 kilometre road corridor that connects Lockyer Valley to the north of Toowoomba. The corridor leaves the Warrego Highway west of the Helidon Spa, crosses the range (including a tunnel through part of range) south of Mount Kynoch and continues west.

The corridor swings to the south-west to cross the Warrego Highway near Charlton before continuing to join the Gore Highway about 17 kilometres south-west of Toowoomba.

This bypass requires funding from the Australian Government and no decision has been made on when work on the bypass might start. However, the *Queensland Infrastructure Plan* allocates \$2 million to investigate the connection.

### Transport issues and challenges for Lockyer Valley

- There is a need for heavy vehicle bypasses in Laidley, Gatton and Helidon.
- There is a need for park 'n' ride and interchange facilities for bus commuters, especially at Plainlands.
- The location of villages, especially Withcott, and other development across the Warrego Highway results in safety issues due to local traffic needing to cross the highway.
- There is a need to limit access points along the Warrego Highway to preserve its function as a key inter-regional corridor.

### 2031 transport network for Lockyer Valley

By 2031, a network of local roads will cater for the needs of residents to travel within Lockyer Valley, with limited grade separated crossings of the Warrego Highway. Heavy vehicles from local industrial areas will bypass the townships to access the highway.

The Warrego Highway will be progressively upgraded to a motorway standard in the long term, with safety and capacity improvements. Access to the motorway for local trips will be via a series of completed local road links, overpasses and motorway ramps.

Bus services will connect to Rosewood and Ipswich rail services, providing residents with access to Brisbane by rail. High quality, safe bus stops will be provided along the Warrego Highway, and will be equipped with park 'n' ride and kiss 'n' ride facilities.

Local public transport will be provided in Gatton and community transport will link the villages to the larger towns. A network of bicycle and walking paths will allow for safe travel within the towns and villages and, where practical, connect villages to Gatton or Laidley.

A rail corridor will be preserved between Gowrie and Grandchester. This rail line will accommodate freight rail and potentially passenger rail, but is subject to further investigation.

Map 10.1 illustrates the 2031 strategic transport network for the Lockyer Valley.





## Scenic Rim Regional Council

Population in 2006: 34 800

Indicative planning population in 2031: 71 000

Annual population growth rate: 2.9%

The Scenic Rim covers the southern area of south-east Queensland between the cities of Logan and Ipswich and the Queensland border. There are two towns – Beaudesert (the Principal Rural Activity Centre) and Boonah. There are also a number of villages, principally in the Fassifern Valley and the mountains along the eastern boundary behind the Gold Coast.

The main transport routes are the Cunningham Highway running to the south-west, which links Brisbane to Sydney and the Mt Lindesay Highway running south, which links the area to Brisbane and northern New South Wales. These are identified as Priority One and Priority Two freight routes in the SEQ Regional Plan. The interstate standard gauge rail line also runs south through the area.

The main industries have been agriculture, tourism and forestry but the establishment of the Bromelton State Development Area will see the focus move to industrial and logistics businesses.

The eastern half of the council area has always been influenced by the southern spread of the Brisbane and Ipswich urban areas and this will continue into the future with the eventual development of Greater Flagstone over the northern border in Logan city.

Bromelton will be an employment destination not only for the residents of Scenic Rim but also Brisbane and Logan cities, particularly the greenfield areas of Flagstone and Yarrabilba.

### Transport issues and challenges for Scenic Rim

- There is a need for a heavy vehicle bypass of Beaudesert on the Mt Lindesay Highway.
- A bypass of the Gallery Walk precinct at Tamborine Mountain is needed because of traffic and parking issues.
- Beaudesert to Nerang Road corridor needs to be preserved.
- There is a need to plan and preserve an east-west corridor in the long term.
- Road connections between Logan, Bromelton and Beaudesert need to be planned.

### 2031 transport network for Scenic Rim

The future transport network needs are dominated by the development of the major Bromelton industrial area and the build-up of population growth in the south of the Logan City Council area.

Bromelton will be a multi-modal freight terminal on the interstate rail line, acting as a logistics hub for southern sections of the region.

To facilitate development of the terminal and accommodate increasing freight traffic, there will be upgrades to the Mt Lindesay Highway and investigation of a new direct link from Woodhill to Bromelton. To preserve the amenity of Beaudesert town centre, there will also be a shorter bypass road around the town.

### Partnering with Scenic Rim Regional Council

- Encouraging the promotion of community transport services within the townships and between the townships and villages.
- Encouraging active transport in the townships by the provision of walking and cycling paths to and between community facilities.
- Ensuring the planning and preservation of bypass and arterial routes around Beaudesert.
- Ensuring the planning and preservation of the passenger rail connection to Beaudesert.

Bromelton may also be connected by rail with the Ebenezer industrial area via Kagaru with the construction of the Southern Freight Rail Corridor line.

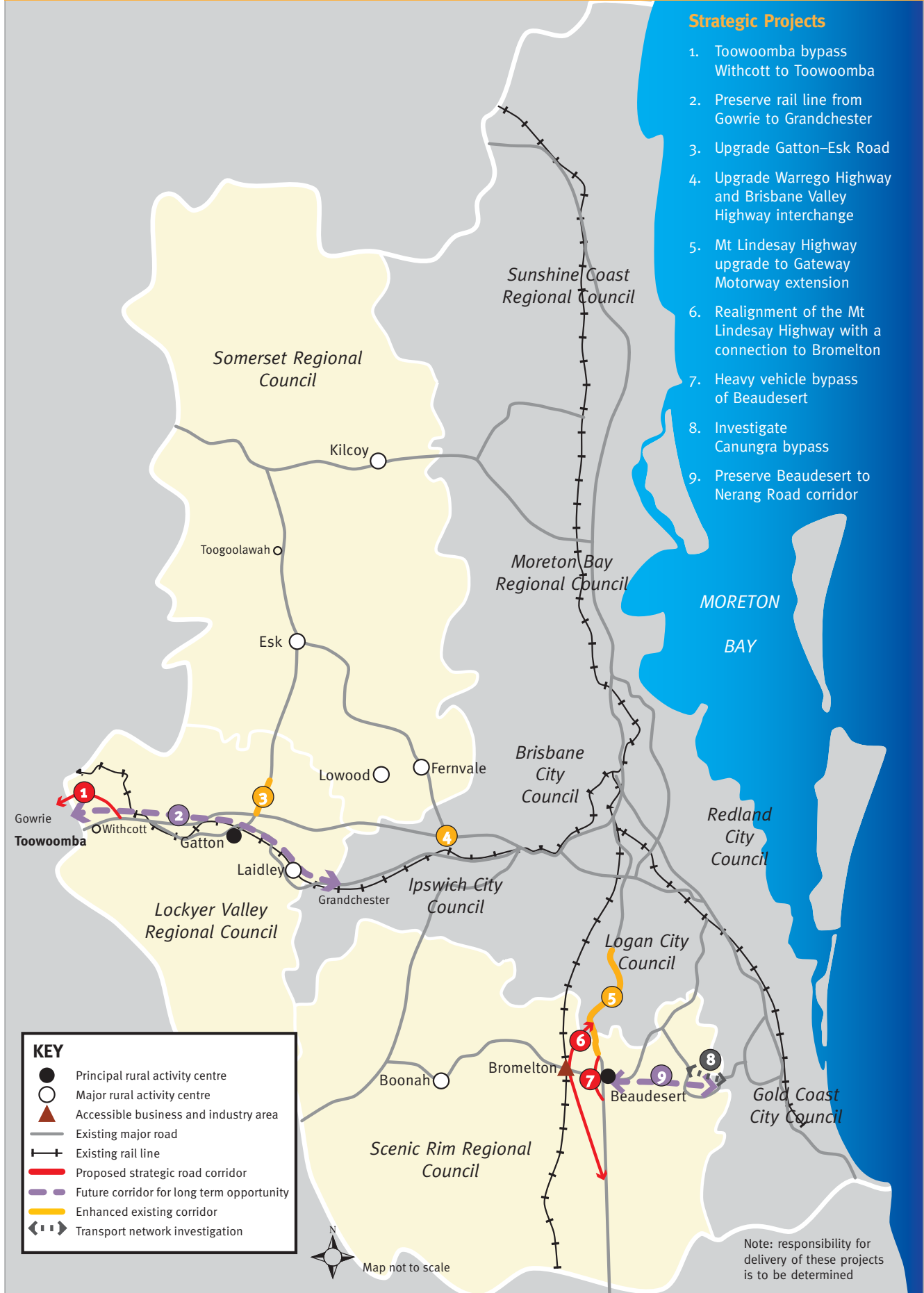
The extension of the Gateway Motorway to Jimboomba will be required to serve Flagstone and Yarrabilba and this will provide the main connection between Bromelton and Brisbane, including the port.

The upgrade of the Mt Lindesay Highway connection to Logan and the extension of passenger rail to Flagstone, with a long-term connection to Beaudesert, will ease travel between Brisbane and Beaudesert. The upgrade of the Cunningham Highway will provide faster access to Ipswich for residents in the west of Scenic Rim.

The town of Beaudesert will be serviced by local public transport services (and rail in the longer term) and community transport will service the smaller towns to connect them to the urban area to the north. A network of cycle and walking paths will provide safe access to community facilities in the various towns.

Map 10.1 illustrates the 2031 strategic transport network for the Scenic Rim.

Map 10.1 – 2031 strategic projects rural communities



## Part E – Putting the plan into action



## 11. Implementing *Connecting SEQ 2031*

*Connecting SEQ 2031* is part of a process of generational change to a sustainable transport system in a fast growing region.

Many of the proposed projects are new and conceptual and have not been the subject of detailed cost estimates. This will occur through planning and project evaluation processes as the implementation process proceeds.

Long-term planning must recognise the importance of current and future costs and benefits of transport investment, and the high cost of doing nothing.

Although the region needs to carefully assess each major transport investment for its contribution to the future, it must also maintain a long-term focus on the need to improve the transport system to protect lifestyles and support economic growth in the face of sustained population growth.

### Economic appraisal of *Connecting SEQ 2031*

If implemented in full, *Connecting SEQ 2031* is forecast to generate positive economic benefits for all users of the transport system.

Journey times and reliability on motorways/highways and public transport would be maintained even in the face of growth in travel demand.

Reliable travel times, managed congestion levels, improved connectivity and more efficient use of resources will lead to benefits including:

- attracting and retaining new business and industry
- reliable access to employment for the region's workforce

- fewer crashes
- reduced growth in greenhouse gas emissions
- reduced reliance on oil based fuels.

Public transport users will also benefit from investment in higher standard vehicles and station facilities. In addition, the strategy also generates flow on benefits from reduced vehicle kilometres—leading to fewer accidents and lower greenhouse gas emissions from congestion.

*Connecting SEQ 2031* recognises additional wider economic benefits to improving the 'effective density' of the region, in essence bringing businesses closer together.

Businesses in the region are then able to take advantage of the reduction in transport costs to improve their links to clients, markets and labour all of which help to raise productivity and increase gross domestic product. Additional gross domestic product benefits are also accrued from businesses being able to increase output from reductions in transport costs.

### Cost estimates for *Connecting SEQ 2031*

*Connecting SEQ 2031* has been developed in the midst of a significant global economic downturn and at a time when the Queensland Government is strongly committed to an infrastructure building program unprecedented in the state's history.

Funding will remain tight and must be carefully prioritised. Each transport project and policy must be examined in the context of its contribution to developing a sustainable transport system and protecting and enhancing the lifestyles and economic health of a growing region.

Strategic capital cost estimates for implementing the draft plan have been based on 'pre-project' level of cost estimation for the 20-year period from July 2011 to June 2031.

The estimated capital component for new and enhanced infrastructure could be in the order of \$125 billion.

In addition to this, it is important to recognise the non-capital component (operation, maintenance and administration) which is based on historical trends and could be in the order of \$102 billion.

### ***Connecting SEQ 2031* is not intended to be backed by full government funding.**

It is a vision to inspire action, prioritise investment and guard against complacency. The projects and actions contained in the plan will be used to assess funding needs, develop proposals for private sector interest and underpin bids for funding from all levels of government.

Given the scale of funding required, the projects are dependent on significant Australian Government and local government funding support, with any contributions from the state being subject to fiscal capacity. Private sector investment may also be sought for selected major projects.

The delivery of infrastructure to support new communities, including master planned areas and urban development areas, is subject to appropriate levels of development contributions and other infrastructure arrangements, such as infrastructure agreements, being in place.

*Connecting SEQ 2031* does not in any way represent an infrastructure commitment by government, and in no way binds the government to deliver any particular piece of infrastructure.

*Connecting SEQ 2031* will also provide a framework to inform the investment of available state and local government funding to ensure it is prioritised to deliver maximum benefits across the transport system.

Business cases examining project need, scope, priority, affordability, funding options, timing and contribution to achievement of SEQ Regional Plan objectives will be developed for each project and considered by governments having regard to their funding and priority setting processes.

## Deciding investment priorities

Funding for transport investment in south-east Queensland must compete with other state funding priorities spanning geographical and sectoral boundaries. Within the allocation of funding for transport in the region, *Connecting SEQ 2031* establishes a framework for deciding investment priorities.

An important influence for deciding the priority of investment in initiatives will be the priority locations that are planned for population and employment growth.

Figure 11.1 illustrates the flow of planning and decisions to formulate the projects described.

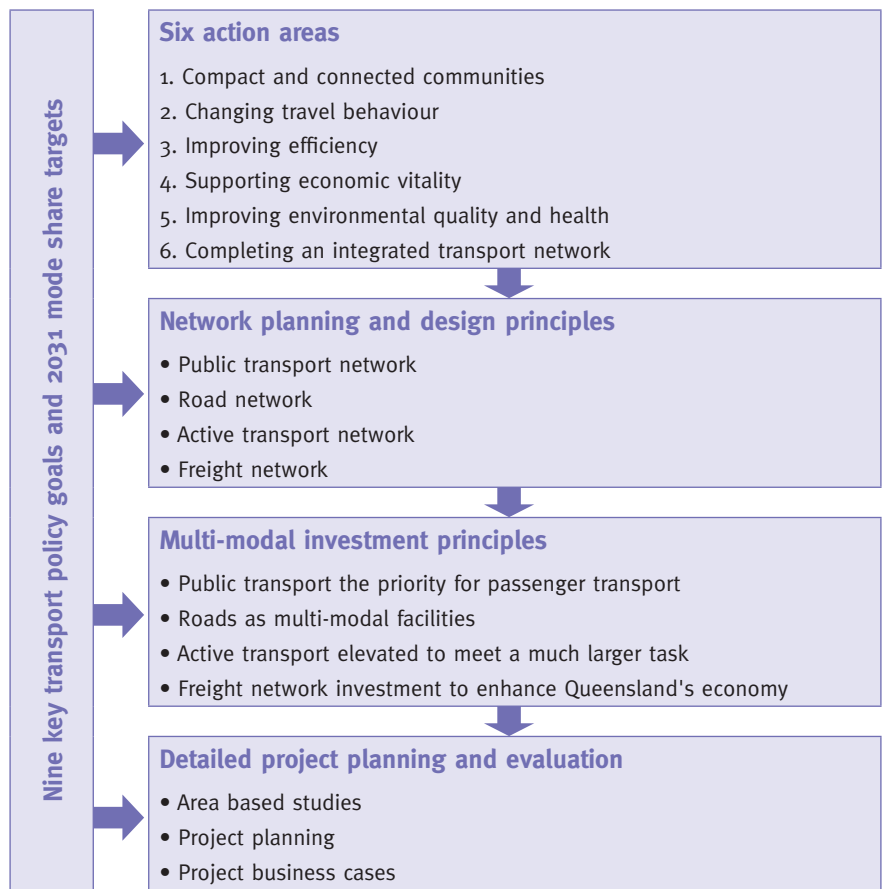
*Connecting SEQ 2031* has also established key transport policy goals and a series of regional and local mode share targets to help determine how the transport system should be improved during the next two decades.

The six key action areas (Part B) will help focus future transport investment and policy decisions, ensuring resources are prioritised to maximise progress towards the key transport policy goals.

These high level goals and action areas are supported by a more detailed planning and prioritisation framework:

- the network strategies described in Part C of *Connecting SEQ 2031* include 'overarching principles' and 'supporting principles' to guide the planning and development of the public transport, road, active transport and freight networks

Figure 11.1 – deciding investment priorities



- the planning guidelines in Part C are supported by the multi-modal prioritisation principles. These principles establish the relative importance of investment in modes and networks, to enable the Queensland Government and the region's local governments to ensure available funding is put to the best use to achieve the key transport policy goals.

To assist the ongoing development of projects to implement *Connecting SEQ 2031*, the multi-modal investment principles have two tiers (as shown in Figure 11.2):

- tier one establishes how investment should be prioritised **across** the networks (public transport, roads, active transport and freight)
- tier two establishes how investment **within** each network should be prioritised.

These principles will be used in conjunction with local priorities and analysis of transport needs to develop area based studies and investment projects which can then be planned and assessed under detailed investment appraisal processes.

## Reviewing and monitoring the plan

### Keeping the plan current

*Connecting SEQ 2031* is a companion document to the SEQ Regional Plan and the *Queensland Infrastructure Plan*. It has a primary role in responding to and informing the content and implementation of these documents.

*Connecting SEQ 2031* has a secondary role of informing other transport plans as well as local government planning schemes.

It is important to ensure that future reviews of *Connecting SEQ 2031* are in line with the requirements of the SEQ Regional Plan and *Queensland Infrastructure Plan*. The SEQ Regional Plan is reviewed every five years and the *Queensland Infrastructure Plan* is updated annually.

Within this framework, a comprehensive revision of *Connecting SEQ 2031* should be undertaken in line with the review of the SEQ Regional Plan. *Connecting SEQ 2031* will inform the annual revisions of the *Queensland Infrastructure Plan*, specifically to ensure that the strategic intent of *Connecting SEQ 2031* is actioned.

Figure 11.2 – multi-modal investment principles

## Tier 1 – priorities across networks (by mode)

Public transport the top priority for passenger transport

## Tier 2 – investment priorities within each network (mode)

- Rail as the backbone for trunk routes and longer trips.
- Complete the Brisbane busway network and implement the TransitWay network.
- Bus to provide the finer fabric:
  - high frequency corridors with bus priority
  - bus gates and 'green links'
  - feeder routes connecting to rail and busways.
- Active transport facilities incorporated into public transport projects.

Roads as multi-modal facilities providing the main transport connections for active transport, public transport and freight

- Complete a strategic motorway network for cross-regional travel and freight.
- Provide multi-modal arterial roads through development areas to protect motorway function and capacity.
- Provide bus priority where there is congestion on strategic bus routes.
- Provide freight priority where there is congestion on strategic freight routes.
- Incorporate active transport facilities into road projects.
- Match road design/engineering to desired function and surrounding land use.

Active transport elevated in priority to meet a larger task

- Build a complete safe bikeway network.
- Integrate walking and cycling facilities with public transport to increase the reach of sustainable transport door to door.

Prioritise freight investment to enhance Queensland's economy

- Plan, protect and develop new freight terminals.
- Develop facilities to allow more containerised freight to be carried on rail.
- Ensure road freight vehicles are not caught in congestion when accessing terminals.

### Monitoring delivery

The success of *Connecting SEQ 2031* as a plan for future transport outcomes relates to, and should be monitored in the following order:

- adherence with the strategic intent of the plan
- implementation of the plan: the timely prioritisation of investment
- outcomes associated with implementation of the plan: achieving targets set within the plan.

The strategic intent of the plan should be reflected in all region-wide planning and investment prioritisation processes including new investment contestability frameworks established by the Department of Transport and Main Roads.

### Delivering the plan

*Connecting SEQ 2031* requires a whole of community and whole of government response to achieve the key transport policy goals. The plan suggests that there is a role for everyone in the region to play in achieving the key transport policy goals outlined in the plan.

The Department of Transport and Main Roads is chiefly accountable for coordinating the delivery of *Connecting SEQ 2031*. However, the plan does recognise the efficiencies in partnering with other state government agencies, local governments, the Australian Government, TransLink Transit Authority and the private sector to plan and deliver the key actions.

There are actions defined in the plan which are not the responsibility of the Department of Transport and Main Roads to deliver or are able to be more efficiently delivered by other partners.

### More detailed planning to implement *Connecting SEQ 2031*

*Connecting SEQ 2031* is a multi-modal strategic plan for an entire region's transport system. This means much of the detail of planning has to be undertaken in subsequent transport planning processes. Consistent with the *National Guidelines for Transport System Management* (Volume 2, Transport System Planning and Development), the Department of Transport and Main Roads will undertake area and corridor planning for specific parts of the region, and route and link planning for the actual transport projects contained in *Connecting SEQ 2031*.

Local government will continue to plan for transport within its jurisdiction. A more detailed form of multi-modal network planning, called integrated local transport plans, may be undertaken by councils to give effect to the intent of *Connecting SEQ 2031* within local government areas, and to support local government land use and development plans.

# Glossary

Accessibility	The ease with which people can get from one place to another by different modes of transport. Includes access by people with disabilities.
Active transport	Non-motorised travel, such as walking and cycling.
Busway	A dedicated corridor built for exclusive use of buses and emergency service vehicles.
BUZ	Bus Upgrade Zone refers to a network of 'no timetable needed' high frequency bus services.
Commercial traffic	Travel for business purposes and the delivery of goods and services.
Commute	Travel to access employment from a home. Sometimes termed 'journey to work' travel.
Community boulevard	Multi-modal links through activity centres, particularly hubs, providing balanced access for buses, cycles, pedestrians and vehicles as well as cross-movement for pedestrians between land uses on either side of the link. Community boulevards are areas of high amenity with landscaping, built form, seating, lighting and pavements that attract pedestrians and treat them as the priority. The design of the road creates legibility for users and creates a slower speed environment to facilitate safety for all. Car parking and lot access is predominantly at the rear of development to maximise the access of pedestrians, cycles and bus passengers.
Congestion	In the context of transport, a condition where the use of a piece of infrastructure exceeds the level at which it functions efficiently.
Connectivity	Refers to directness of links and quality of connections.
Contra-peak	Contra-peak refers to public transport services running in the opposite direction to the direction of the highest passenger volumes. For example, in the morning peak the highest passenger volumes on the Ipswich line would be on services running towards Brisbane CBD. The contra-peak direction would be services running towards Ipswich, with low passenger volumes generally experienced in the contra-peak direction.
District hub	Local interchanges located on corridors connecting them to the regional or sub-regional hubs. They are activity centres or employment areas or high density residential areas that can be serviced by high quality public transport.
Eco-driving	Techniques that drivers use to optimise their fuel economy.
End-of-trip facilities	Facilities for cyclists and pedestrians which can include bicycle parking, lockers, change rooms and showers.
Emissions	The release of gases from industrial processes, agricultural production and engine exhausts of vehicles, including carbon dioxide and other greenhouse gases.
15-minute walkable neighbourhood	Residential communities based on a walkable neighbourhood catchment (that is, 15 minutes) that are centred on a range of local community services, shops, recreation and public transport services.
First and last mile freight	The initial or final part of the transporting of freight, for example to/from shops.
go card	An electronic ticket that lets passengers travel seamlessly on all TransLink bus, train and ferry services.
Greater Brisbane	Includes the urban areas of Brisbane city, Logan city, Redland city, Ipswich city and Moreton Bay regional councils.
Green links	Dedicated public and active transport links to overcome local access barriers (for example, a bridge).
Heavy articulated vehicle	Three to five axle truck consisting of prime mover and trailer. Up to 19 metres long.
High frequency services	Bus, light rail or rail services operating at least every 15 minutes all day (6 am–9 pm minimum), seven days a week.
Infill development	New development that occurs within established urban areas where the site or area is either vacant or has previously been used for another urban purpose. The scale of development can range from the creation of one additional residential lot to a major, mixed use redevelopment.
Light commercial vehicle	Smaller commercial vehicles such as utilities, vans and very small trucks up to a mass of 3.5 tonnes, as opposed to rigid and articulated trucks.
Logistics hubs	Centres where freight loads are consolidated for long distance shipment or disaggregated for local distribution. May involve transfer from one mode to another.
Major activity centre	An economic activity centre identified under the SEQ Regional Plan which serves a catchment of sub-regional significance and accommodates concentrations of employment in a way which complements Principal Activity Centres (see definition).
Medium rigid truck	Two or three axle truck up to 14.5 metres long.
Modelling	Transport modelling uses data inputs to describe and predict the movements of people, goods and information in a given or possible future environment.

Modes	The different types of transport such as walking, cycling, private car and public transport (includes buses, trains and ferries).
Oil vulnerability	The vulnerability of people, industries, regions or countries to changes in the supply and price of oil.
Orbital network	Network of roads or motorways around the edges of the urban area designed to allow the movement of traffic from one side of the region to the other without going through the city centre.
Peak hours	The times of day when most travel occurs, generally on working days in the morning and in the late afternoon to early evening, when commuters travel between home and work and drop-off and pick-up children from school.
Principal Activity Centre	An economic activity centre identified in the SEQ Regional Plan which serves a catchment of regional significance and accommodates key concentrations of employment.
Priority transit corridors	These are serviced by high frequency public transport services and are identified as areas where higher density development would have the most benefit in delivery of transport outcomes.
Public transport	Travel by modes such as buses, rail, ferries and light rail which are provided for public use.
Public transport contestable activities	Activities such as employment, education, medical, retail and professional services where regular travel patterns, central location and no need to carry bulky equipment make it feasible to choose public transport for the journey.
Public transport infrastructure	Includes rail lines and stations, busways and stations, public transport stops, trains, buses, ferry terminals and ferries.
Redevelopment	Construction replacing previous structures, usually larger (see infill development).
Regional hub	The interchange and terminus for all public transport services in that part of the region and the key transfer location for high frequency services to other regional hubs in south-east Queensland. These centres should be the primary locations for in-centre public transport contestable land uses in the sub-region.
Reliable travel time	Travel time reliability means people can expect consistent travel times every time they travel.
Rural roads	Rural roads generally include those roads classified as district roads and local roads of regional significance.
SEQIPP	<i>South East Queensland Infrastructure Plan and Program 2010–2031</i> . A Queensland Government plan first released in 2005 which is updated annually. In association with the SEQ Regional Plan, it identifies regionally significant infrastructure planned to accommodate future growth to the year 2031. It will be replaced late in 2011 by the Queensland Infrastructure Plan, which will identify strategic state-wide infrastructure.
Shoulder services	Services that operate just before and after the peak travel period.
Sub-regional hub	Has direct, frequent public transport connections to the regional hub but is also the interchange for multiple high frequency public transport services from other activity centres or key employment, education or service precincts in the sub-region. Supports the regional hub by acting as a secondary interchange for local and sub-regional services. These centres should be the secondary locations for in-centre public transport contestable land uses in the sub-region.
TMR	Department of Transport and Main Roads.
Transit oriented development	A planning concept that promotes the creation of well designed and sustainable urban communities focused around transit stations. These communities incorporate a mix of residential, commercial and retail uses, including affordable housing, shops, offices and other facilities, all within a comfortable 10 minute walk of established or planned rail and busway stations.
Transit	Travel by modes such as buses, rail, ferries and light rail which are provided for public use. The terms 'public transport' and 'mass transit' can also be used.
TransitWays	A suite of on-road priority treatments for buses and multi-occupant vehicles.
TransLink Transit Authority	A Queensland Government authority that works in conjunction with local governments, other parts of the Queensland Government and public transport operators to deliver public transport services to a defined urban area within south-east Queensland.
Transport disadvantage	The situation where people have little or no choice regarding how or to where they travel. Transport-disadvantaged people may be people who cannot drive or afford a car, or live too far from walking or cycling routes or public transport and are dependent on a car to travel. The level of disadvantage is also affected by a person's age, capacity or social disadvantage.
Travel demand management	A general term to describe strategies which result in a more efficient use of transport resources.
TravelSmart	A voluntary travel behaviour change program for individuals and organisations. It encourages the use of environmentally friendly transport such as public transport, cycling, walking and car pooling with the use of campaigns and projects to raise awareness, improve access to information and promote opportunities to use environmentally friendly transport.
Veloway	A high standard cycling facility with a lane in each direction.



# Acknowledgements

The study team would like to extend their appreciation to the involvement of many departmental staff, local government officers and other key stakeholders who helped shape *Connecting SEQ 2031*. The advice and input received by the study team was integral to development of the draft and final plan.

<b>Project Sponsors</b>	Mark Cridland and Natalie Ormsby
<b>Project Director</b>	Ken Deutscher
<b>Project Leaders</b>	Arthur Stamatoudis and Gavin Nicholls
<b>Project Managers</b>	Anna McKinven and Emma Kirkby
<b>Document Author</b>	Nicole Dennis

## Study Team

---

Adam Hatfield	John Smith	Mark Norton
Josephine Raftery	Pepijn Thijsse	Peta Harwood
Anna Andrews	Kellie Doonan	Brendan O'Keeffe
Matthew Ryan	Jeffery Eaton	Jason Kruger
Joanne Devine	Sam Morrison	

Photos courtesy of Queensland Rail, TransLink Transit Authority, Penny Farthings Pushbike Parking, Port of Brisbane and Gold Coast City Council.

Thanks also to the Modelling and Data Analysis Centre in the Department of Transport and Main Roads for extensive support in the provision of data to support the development of *Connecting SEQ 2031*.



