

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 growth¹³. 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.

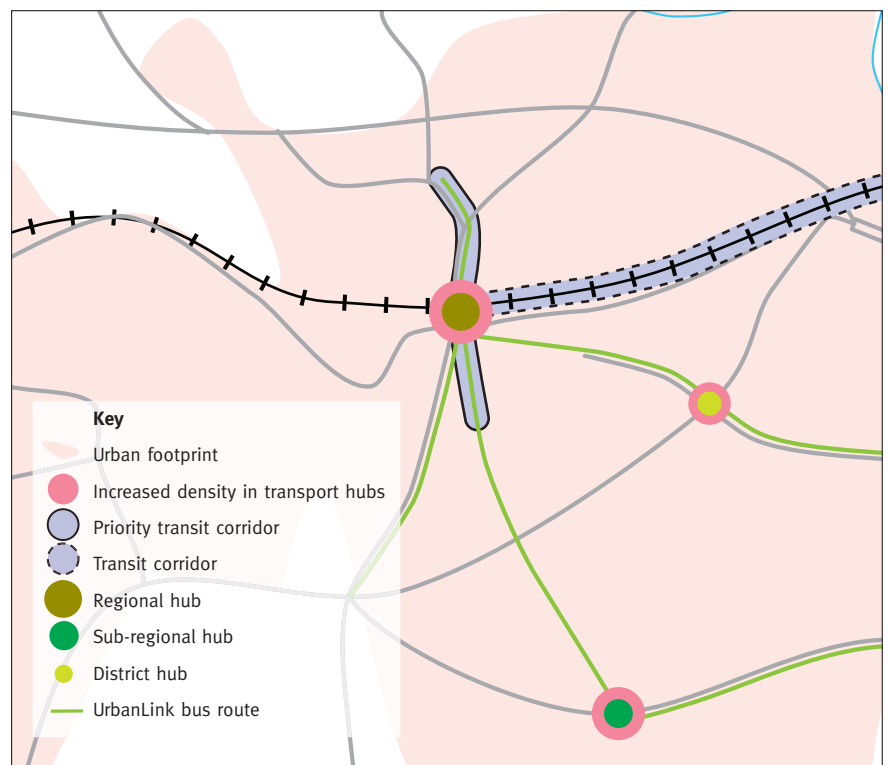
District hubs

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*¹⁴ 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 immediately¹⁵
- **'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*¹⁶, 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.

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

¹⁶ 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 transport¹⁷.

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*¹⁸ and the SEQ Regional Plan¹⁹.

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 car²⁰.

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. Tewanin 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 peak²¹ 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"> • Telegraph Road, Fitzgibbon • Robinson Road, Geebung • Beams Road, Carseldine • Boundary Road, Coopers Plains • Cavendish Road, Coorparoo • Lindum Road, Lytton • Todds Road, Lawnton. 	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 advantages²².

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 Melbourne²³. 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 2031²⁴.

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 2006²⁵. 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 region²⁶.

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 vehicles²⁷. 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"> • Moreton Bay Rail Link from Petrie to Kippa-Ring • Richlands to Redbank Plains • Salisbury to Flagstone • Ipswich to Ripley • developing major park 'n' ride stations in strategic locations where access to the railway station by sustainable transport modes is limited 	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"> • duplicate the Gold Coast line from Coomera to Helensvale • extend the Gold Coast line from Varsity Lakes to Gold Coast Airport • construct the Sunshine Coast rail line from Beerwah to Maroochydore • duplicate and upgrade the North Coast Line from Beerburum to Landsborough • a new rail line from Cross River Rail to Strathpine. 	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"> • extending the Northern Busway to Chermside, with interim bus priority to Bracken Ridge • extending the Eastern Busway to Carindale, with interim bus priority to Capalaba • extending the South East Busway to Springwood. 	TMR/ TTA
Bus network	6.9	Investment priorities for the bus network include: <ul style="list-style-type: none"> • progressing delivery of TransitWays to support UrbanLink bus services • implementing high frequency UrbanLink bus services • expanding the coverage and frequency of local bus services • developing strategic park 'n' ride locations for bus passengers • developing a policy for provision of public transport in rural communities. 	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