

## Chapter 8: The regional road network

### 8.1 The road strategy

Even with a major shift towards more efficient passenger transport modes, and actions to restrain the growth of single occupant vehicles in peak periods, the capacity and coverage of the road network will have to increase significantly to accommodate increased travel demands. This is primarily because the region's population is increasing and urban areas are getting larger each day. It is estimated that over 80% of the region's population growth between 1992 and 2011 will be located in new communities which require new road connections.



Achieving the IRTP targets for increased use of more sustainable transport practices will reduce projected private vehicle travel demand by about 19%. However, there will still be about 5.9 million private vehicle trips each day in 2011, compared to just over 4.2 million in 1992.

To maintain our ability to move around the region, the IRTP predicts a need for some 13,000 additional lane kilometres of arterial and distributor level roads, both to serve new urban development areas, and to accommodate demands on the existing road system. This includes adding lanes to existing roads. Roads will need to be developed and managed so they can meet the needs of people for movement and get goods to markets safely without unacceptable impacts on the community and the environment.

It is also essential to ensure that the already large road asset base is efficiently utilised before new roads are built. Accordingly, the options for maximising service delivery of existing roads must be considered alongside proposals to provide new facilities.

But widening existing roads which pass through commercial and residential areas can bring local traffic, through-traffic and pedestrians into conflict. In some cases, new roads will be the best solution when the full range of issues and impacts are considered.

The IRTP's regional road network strategy presents a balance between:

- moderating traffic growth and giving priority to public transport and high occupancy vehicles;
- widening and upgrading existing roads; and
- constructing new road links, especially bypasses and ring road connections.

*"Roads carry many forms of transport and should be viewed as multi-modal transport infrastructure."*

The task of managing and developing the road system involves much more than satisfying demands for private vehicle use. Roads carry many forms of transport and should be viewed as multi-modal transport infrastructure. Accordingly, agencies involved in road planning, management and development will adopt a multi-modal focus.

## 8.2 Road hierarchy

South East Queensland roads cater for a range of traffic movements, including:

- long distance interstate and inter-regional travel;
- medium distance travel between parts of the region, including travel between its major cities; and
- local movements under about 20 kilometres, often within the one urban area.

Planning for roads which accommodate primarily interstate and inter-urban movements has sometimes failed to properly recognise the ability of more local traffic to cause congestion. In some areas of the region which are experiencing high rates of urbanisation, the national or interstate highway system is being used as a trunk road for a developing urban area. Often local traffic is simply not provided with a realistic alternative route.

In these cases, a network of local arterial roads connecting to key destinations within a 10 km radius, as well as early provision of public transport services, can ensure the highway system continues to support long distance freight, commercial and tourist travel.

A road hierarchy provides a clear set of rules for road planning and management. A range of road hierarchy classifications are used across South East Queensland. The IRTP supports the adoption of a single hierarchy across South East Queensland which is based on existing classifications. Each level in the hierarchy should reflect the function of the road in meeting transport movements of all modes and supporting desired land use objectives. Construction and management of individual roads must build on and support the road hierarchy and recognise the relationship of each road to higher and lower order roads in the network.

### How roads are discussed in this IRTP

- National interstate or inter-regional highways link South East Queensland to other State capitals and the major regions of Queensland.
- Inter-urban arterial roads link the region's urban areas to each other, including key regional centres, major employment, industry and business centres and population centres.
- Local arterial roads link local activities and housing to each other and cater for movements within urban areas. In some cases these roads will carry very high traffic volumes, especially in peak commuting periods.
- Local distributor and collector roads provide for movement of cyclists, public transport and general motor traffic through neighbourhoods.
- Local streets are shared spaces for local traffic, cyclists and pedestrians.

The IRTP deals primarily with the network of strategic roads which are important for movement across and out of the region. Lower order roads will be addressed through integrated local transport plans and local planning schemes. However the road network is an interconnected system and both strategic and local roads need to be considered within the same management framework.

Rather than striving to meet insatiable demands for peak period single occupant car use, provision of new road capacity must give priority to meeting the needs of higher efficiency passenger transport and freight vehicle movements.

Accordingly, the adopted road hierarchy will take into account specific provision for:

- a public transport priority system of busways, bus only lanes, high occupancy vehicle (transit) lanes and appropriate bus priority at key intersections;
- priority lanes on congested roads for high occupancy vehicles, especially in peak periods - an assessment will be needed in each case of whether the lanes should be available to vehicles with 2+ or 3+ occupants;
- accommodating pedestrians and cyclists;
- a primary freight network to link the port, airport, freight terminals and major freight generating nodes;
- designated routes for extra large freight vehicles and carriage of dangerous goods; and
- management of traffic to make better use of the existing road system.

#### ACTIONS:

- KA 8.1 Adopt functional road hierarchy classification
- KA 8.2 Implement measures to sustain the road hierarchy
- A 8.3 Consider adjustments to control of roads in consultation
- S 8.4 Adopt guidelines for road planning and management

### 8.3 Priority use of road space

Since road-based vehicles will continue to meet the majority of public passenger demands, management of the road system will play a crucial role in meeting the targets for increased market share for public transport.

Public transport vehicles are about 10 to 20 times more efficient in their use of road space, as well as consuming less fuel and emitting less pollutants. In urban areas where congestion is experienced, the progress of public transport vehicles will be assisted through measures such as:



*A standard urban bus can seat about 49 people, taking up significantly less road space than 49 cars.*





- exclusive rights-of-way or separate roadways (busways);
- separate lanes for exclusive public transport use (bus lanes);
- bus priority through traffic signals and queue jump lanes; and
- high occupancy vehicle or transit lanes which are shared by buses and multi-occupant private vehicles.

### High occupancy vehicle lanes

High Occupancy Vehicle (HOV) or "transit" lanes giving priority travel for efficient passenger vehicles send a clear message that vehicles which move more people will be given priority in order to best use capacity. These may be lanes on an existing roadway used all day or in peak periods, or entirely separate roadways built in the median or separate rights of way.



In Queensland, transit lanes are currently "T3" lanes which may be used by taxis, buses, bicycles, motorcycles, emergency vehicles and cars carrying three or more people. The concept should be extended to include vehicles with two or more people (T2 lanes) on certain suburban arterials, as well as trucks on designated freight routes.

### Freight priority

A priority freight road system will link the port, airports, major inter-modal freight terminals, and freight generating areas, and provide priority to freight transport vehicles. This is discussed in the Freight section of the IRTP.



Special freight vehicle lanes will be trialed on designated freight routes, to give commercial vehicle and trucks priority over general motor traffic. Key freight movement points like the Gateway Bridge toll gates will also be equipped with facilities to allow priority access for freight vehicles.

### Traffic management

Coping better with peak vehicle demands also requires the use of traffic management techniques to manage traffic flows and make best use of available road capacity. Current electronic signal systems and ramp metering are helping to maintain traffic flow. In the future, "Intelligent Transport Systems" will help spread the traffic load around the network and better manage traffic flows. More efficient management of traffic incidents will also avoid unnecessary delays.

Improved vehicle-responsive traffic signal control will be introduced on major arterial roads in South East Queensland in 1997. This will allow: