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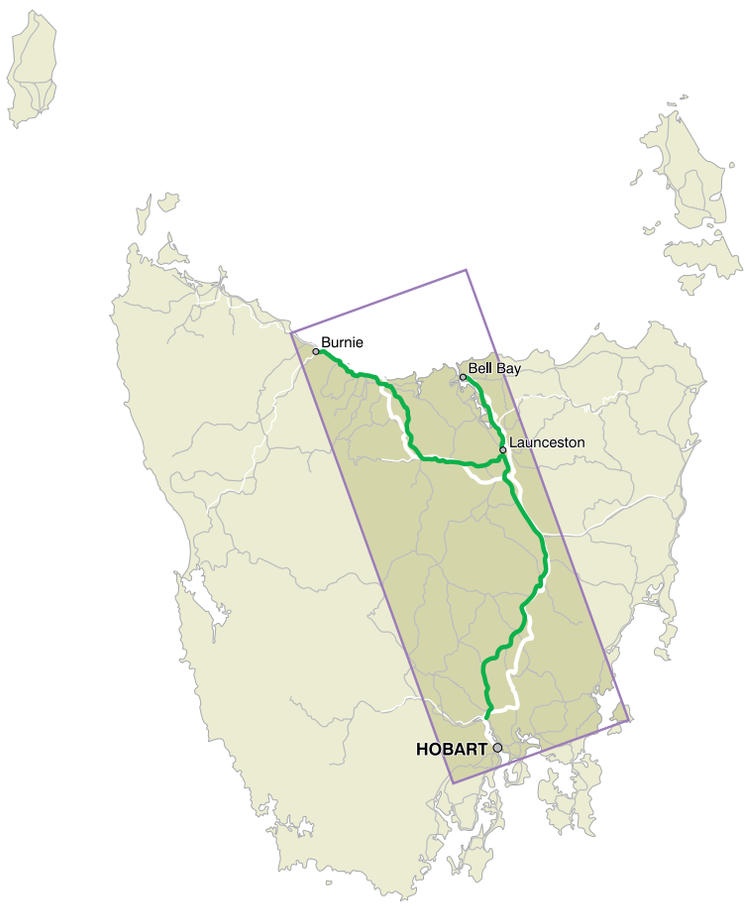
2007

Tasmanian Corridor Strategy

Building our National Transport Future



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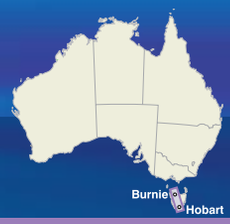
FOREWORD



AUSLINK IS A MAJOR AUSTRALIAN GOVERNMENT INITIATIVE DESIGNED TO ACHIEVE BETTER NATIONAL LAND TRANSPORT PLANNING, FUNDING AND INVESTMENT DECISION MAKING

One of the key components of the AusLink process is the development of a strategy for each corridor of the AusLink National Network. A Corridor Strategy is a statement of the shared strategic priorities of the Australian and State/Territory Governments for the long-term (20-25 year) development of the corridor. Corridor strategies provide guidance to decision-makers and project proponents formulating network initiatives, and most importantly, inform development of the next and subsequent National Land Transport Plans.

The Tasmanian Corridor Strategy is a collaborative initiative that has been jointly prepared by the Australian Government Department of Transport and Regional Services and Tasmanian Government Department of Infrastructure, Energy and Resources. The strategy was prepared by a project team comprising representatives from these agencies and builds on planning work undertaken by the Tasmanian Government.

TASMANIAN CORRIDOR STRATEGY – AT A GLANCE

The AusLink National Network in Tasmania (the Network) supports the movement of goods and people between the three major urban centres of Hobart, Launceston, and Devonport-Burnie, industrial areas and the ports of Hobart/Burnie/Launceston (Bell Bay)/Devonport. It facilitates the integration of society and economy and connects Tasmania with the rest of Australia and the world.

The Network consists of 542 kilometres of road and 432 kilometres of rail together forming the backbone of the State's land transport system. Tasmania's topography constrains much of the freight and passenger long distance transport to this corridor.

The land transport system in Tasmania is critical to its people and the State's economy. The proportion of international exports in Tasmania's Gross State Product (GSP) is the second highest in Australia. Across the region:

- 84 per cent of Tasmania's freight task is transported on the Network and of this 88 per cent is transported by road;
- one third of container exports from the three northern ports originates in southern Tasmania and is transported on the Network;
- the road network carries 20 million tonnes of freight each year;
- the rail network carries 2.8 million tonnes of freight each year; and
- the road network is also Tasmania's most heavily used passenger vehicle link.

While other states have mode choices for interstate trade, Tasmanian ports convey 99 per cent of Tasmanian interstate and overseas trade. Over the past two decades, the direction of trade within Tasmania has shifted. Previously, trade in the south of the State had moved through the Port of Hobart. It is now directed through the three northern ports. Land transport infrastructure needs to respond to this change.

Tasmania's narrow gauge rail system needs investment in infrastructure and rolling stock by the operator to improve efficiency and productivity. The most significant factors inhibiting rail's ability to increase freight market share between Hobart and the northern ports are the 48 hour turnaround time between Hobart and Burnie and the limited load capacity.

Between 2005 and 2030, projections for growth in the transport task are approximately:

- 70 per cent for freight on the road network. Growth forecasts vary between 2.5 per cent a year, a total of 62 per cent, between Launceston and Bell Bay, and 3.8 per cent a year, a total of 96 per cent, between Carrick and Glen Dhu;
- 123 per cent for freight on the rail network. Growth forecasts vary between 2.2 per cent a year, a total of 54 per cent between Railton and Devonport, and 9.8 per cent a year, a total of 245 per cent, between Launceston and Bell Bay; and
- 40 per cent for passenger vehicles, with the greatest growth around Hobart and Launceston.

The projected increase in the volume of freight and passenger traffic on the Network will require appropriate capacity and demand management responses to address potential impacts on the level of service, capacity, efficiency, reliability, safety and sustainability.

The key challenges and short-term strategic priorities for the Tasmanian AusLink Corridor are summarised in Table 1.

TABLE 1 Summary of Key Challenges and Short-Term Strategic Priorities

Key Challenges	Short-Term Priorities
The increase in container traffic across Bass Strait together with a significant increase in north-south freight will increase demands for improved port and land transport infrastructure. The changed direction of trade from southern Tasmania to the northern ports will require infrastructure improvements that facilitate seamless and efficient freight operations. Meeting the increase in north-south freight will require the optimal use of Tasmania's road and rail infrastructure if least cost options are to be sustained in the long-term. The growth in bulk and general shipping trade combined with the current duplication of functions across the northern ports will increase the need for optimal use of port infrastructure. Current weak connections between transport modes and infrastructure. Increased forestry production which results in an increase in export of wood fibre from existing ports or inter-regional transport to a pulp mill in Bell Bay would increase demands for improved transport infrastructure. The growth in traffic volumes on road sections with a high casualty crash rate including those with a low level of freight efficiency such as around Latrobe and Burnie, between Hobart and Glenorchy and between Brighton and Bagdad will increase demands for road improvements.	Improve road infrastructure and alignment on Midland Highway from Bridgewater to Bagdad to improve safety, efficiency and reduce local traffic impacts. Improve road infrastructure and separate vehicles from hazards on high speed sections of the network. Improve road infrastructure and alignment on the Bass Highway between Port Sorell Main Road and Deloraine. Improve road infrastructure and traffic management systems on the Brooker Avenue between Elwick Road and Hobart (note this is a "key road link"[1]). Improve road infrastructure and traffic management systems on the Bass Highway between Howth and Wynyard (note this incorporates a key road link). Improve rail infrastructure between Brighton and Western Junction to reduce north-south rail turnaround time and increase the pulling capacity of locomotives. Develop plans and options for a new Derwent River crossing. Develop options that align land transport freight networks and the long-term role and function of ports. Improve the capacity and efficiency of the intermodal terminal in southern Tasmania and develop options for improving the intermodal transport in greater Launceston. Develop infrastructure improvement options for Bathurst–Wellington Streets in Launceston and East Tamar Highway from Windermere to Mount Direction.

[1] This road is not on the National Network but is regarded as a "key road link" by the State Government. The term "key road link" is used to denote such roads throughout this document.

CONTENTS

Chapter 1

STRATEGIC CONTEXT

AUSLINK

AusLink is a major Australian Government initiative designed to achieve better national land transport planning, funding and investment decision making. The AusLink National Network and its connections to the broader transport network are the passenger and freight backbone of Australia's national land transport system and are the focus of the Australian Government's planning and funding responsibility. The smooth and efficient operation of this network is a crucial element in achieving integration of all transport modes and supporting economic development.

AUSLINK NETWORK OBJECTIVES

The Tasmanian Corridor Strategy is based on the AusLink Network objectives. The AusLink Network will support national economic growth by developing sustainable transport solutions that:

- increase its infrastructure handling capacity and efficiency;
- improve its safety and security;
- improve transport productivity on its nationally strategic and export-oriented freight corridors;
- improve the reliability of travel on interstate and inter-regional corridors; and
- are consistent with viable, long-term economic and social outcomes, and with the obligation to current and future generations to sustain the environment.

These objectives guide the activities of the Australian Government and the States and Territories working collaboratively to develop corridor strategies and plan further development of the AusLink Network.

AUSLINK CORRIDOR STRATEGIES

A key component of the AusLink process is the development of a strategy for each corridor of the AusLink Network. These corridor strategies take a broad multi-modal systems view of the operation of the transport corridor and look at both freight and passenger movement.

A corridor strategy is a statement of the shared strategic priorities of the Australian and State/Territory Governments for the long-term (20-25 year) development of the corridor. It diagnoses the current and future condition and adequacy of the transport links that make up the corridor and establishes national strategic priorities. Corridor strategies provide guidance to decision-makers and project proponents formulating network initiatives, and most importantly, inform development of the next and subsequent National Land Transport Plans.

PROCESS AND METHODOLOGY

The Tasmanian Corridor Strategy is the result of a process of research, analysis and consultation drawing on information from a wide range of sources, including Australian and State Government policy settings, strategies and objectives and inputs from industry and stakeholders.

It forms a key subset of Tasmania's broader transport policy for passenger and freight movement.

A draft strategy was posted for public comment on the AusLink website for a four week period in 2007. Written submissions were received from various stakeholders and these views have been considered by the project team in the finalisation of this strategy document.

Chapter 2

THE CURRENT SITUATION – CORRIDOR PROFILE

DESCRIPTION OF THE CORRIDOR

The AusLink National Network in Tasmania (the Network) supports the movement of goods and people between the three major urban centres of Hobart, Launceston and Devonport–Burnie, industrial areas and the ports of Hobart, Burnie, Launceston (Bell Bay) and Devonport. It facilitates the integration of Tasmanian society and economy and connects Tasmania with the rest of Australia and the world.

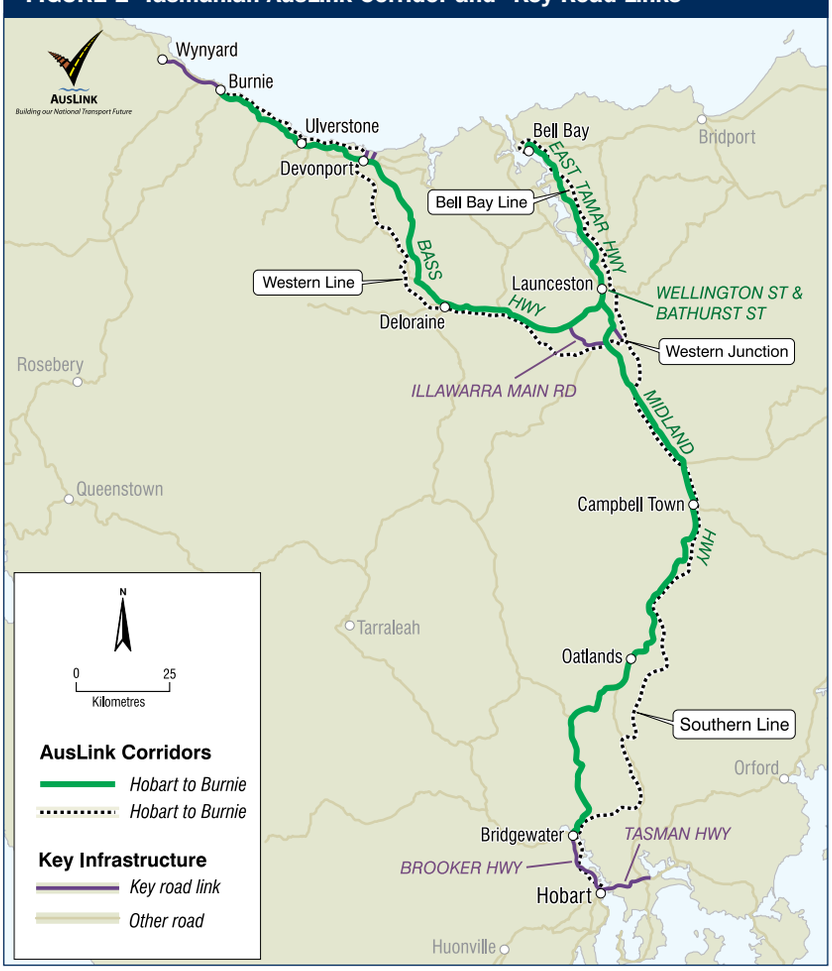
The Network consists of 542 kilometres of road and 432 kilometres of rail together forming the backbone of the State's land transport system. Tasmania's topography constrains much of the freight and passenger long distance transport to this corridor. The Network comprises:

- the Brooker Highway from Black Snake Lane in Granton to the Midland Highway;
- the Midland Highway from Granton to Launceston;
- the Bass Highway from Launceston to West Park Grove at Burnie;
- Wellington and Bathurst Streets through Launceston;
- the East Tamar Highway from Launceston to Bell Bay Road and the Bell Bay Road; and
- the rail network from Hobart to Western Junction, and from Western Junction to Burnie in the west and Bell Bay in the east.

In addition, some key road links which are not part of the defined corridor are essential for it to fulfil its function. These are:

- Illawarra Main Road, which facilitates traffic to and from Hobart in the south, and the ports and cities of Devonport and Burnie in the north-west to bypass Launceston;
- the Brooker Highway, which connects Hobart to the Network;

FIGURE 1 Tasmanian AusLink Corridor and "Key Road Links"



- the Tasman Highway, which connects Hobart with the Hobart International Airport; and
- a number of short road links to Launceston Airport, Devonport Airport, Burnie Airport and the port at Devonport.

The Network and key road links are shown in Figure 1.

Road

The road network is predominantly single carriageway. Sections are duplicated between Westbury and Hagley on the Bass Highway and will soon be entirely duplicated between Burnie and Devonport on the Bass Highway. Rural sections of the Midland Highway have an additional one or two lanes to provide passing opportunities. There are steep sections where gradients slow heavy vehicles on the southern half of the Midland Highway and on the Bass Highway at Don where three and four lane sections improve efficiency. The East Tamar Highway has passing lanes on uphill stretches. Outside urban areas, speed limits over most of the Bass, Midland and Tasman highways are 110km/hr. Other highways have 100km/hr limits.

Rail

Tasmania's rail system was designed in the late 1800s and has changed little. It comprises a single line, narrow gauge freight transport system extending from Hobart to Western Junction and from Western Junction to Burnie in the west and Bell Bay in the east. There are a number of short passing loops at various locations across the Network, rail heads/intermodal terminals within the ports and shunting operations occurring within the ports and at Western Junction.

The rail network has recently returned to Tasmanian Government ownership following a period of private ownership through a leasing agreement. Prior to that the rail network was owned and operated through various government bodies.

Historically, rail market share was protected by regulation and the infrastructure received little investment to improve productivity. Between 1976 and 1993, $45 million was spent on track and bridge upgrading. Over the same period there was significant public and private investment in road productivity. As a result of this historic under-investment, much of Tasmania's rail infrastructure and rolling stock is considerably aged and inefficient. The overall condition of the rail infrastructure is poor. There are:

- a range of significant temporary speed limit restrictions across the network;
- limits on train length due to tight curves;
- haulage limits due to aged infrastructure, track gradients and rolling stock limitations; and
- inefficiencies at railheads/intermodal terminals within the ports that increase rail turnaround times.

Sea Ports and Intermodal Terminals

Efficient shipping and interface with road and rail transport in Tasmania is vital to the viability of the Tasmanian economy. TasPorts, the fifth largest port authority handling container trade in Australia, was created in 2006 to manage the four major ports in Tasmania. In 2004-05, the four ports handled 16.4 million tonnes of freight comprising 99 per cent of Tasmania's interstate and international freight task. In the last five years, port tonnage has grown quickly at 4.6 per cent a year[2].

The main features of the four major ports, the freight task and interface with the land transport system are:

- the Port of Burnie is a major container and bulk port servicing the north-west and western Tasmania. Container imports are the source of most of the rail freight to Hobart. A large proportion of exports through Burnie Port are woodchips from Hampshire and minerals from west coast mines;
- the Port of Devonport predominantly services freight origins and destinations in central northern Tasmania and areas east to the Tamar Valley. These areas are mainly serviced using road, with Hobart being serviced by a combination of road and rail. The port straddles the Mersey River, with the western bank servicing bulk goods and the eastern bank servicing containers. A large portion of exports is bulk shipments of cement from Railton. Potential port expansion is constrained by urban development and the width of the Mersey River. Only the western side of the port has direct rail access;

[2] Association of Australian Ports and Marine Authorities (2006)

- the Port of Launceston, located at Bell Bay, services much of northern Tasmania and to a lesser extent Hobart. Port tonnage throughput is dominated by woodchips from Longreach and production of aluminium and steel at Bell Bay. The Bell Bay industrial site has capacity for expanding the port's container handling area. While road access is adequate, rail access is inefficient and considered further in Chapter 2; and
- the Port of Hobart mainly services the Greater Hobart area. There are no regular container shipping services to Hobart and its tonnage throughput has decreased significantly over time. The Hobart railhead is located adjacent to the port area. Exports of wood products make up approximately half of the port's tonnage throughput and will continue to increase as the forestry and forest processing industries expand.

Tasmania's ports currently service wide catchment areas with significant overlap, as shown in Figure 2.

Airports

Hobart and Launceston Airports have a major role in interstate business and tourist travel to and from Tasmania and service approximately one per cent of the interstate high value and time sensitive freight task such as fresh and live seafood, fruit and cut flowers. None of the Tasmanian airports are on the Network but due to the important role in freight and people movement, the main road accesses are included as key road links in this strategy. Of particular importance are the Tasman Highway to Hobart Airport, Evandale Main Road to Launceston Airport and the roads to Devonport Airport and Burnie Airport.

ROLE AND FUNCTION OF THE CORRIDOR

Tasmanians are highly dependent on the import of consumer items, however most of the State's production is for consumption in mainland Australia and export. Efficient and effective movement of freight by road and rail is critical to maximising competitiveness of local industries in these markets.

In 2002-03, 22 million tonnes, representing 84 per cent of Tasmania's freight task, travelled on some part of the Network[3]. Major users of the road and rail network are some of the State's largest employers and include primary producers, food and beverage processors, forestry production and processing and mining and mineral processors. The road network also incorporates Tasmania's most heavily used passenger vehicle links.

The land transport system within Tasmania is therefore critical to its people and the State economy. Moreover one third of the tonnage of exports from the three northern ports originates in southern Tasmania and is transported on the Network reflecting a long-term decline in the amount of freight passing through the Port of Hobart. This change in the pattern of trade coincides with an increase in container traffic moving across Bass Strait. These developments place increased emphasis on the reliable and efficient passage of freight through northern Tasmanian ports and along the road and rail links between these ports and Hobart.

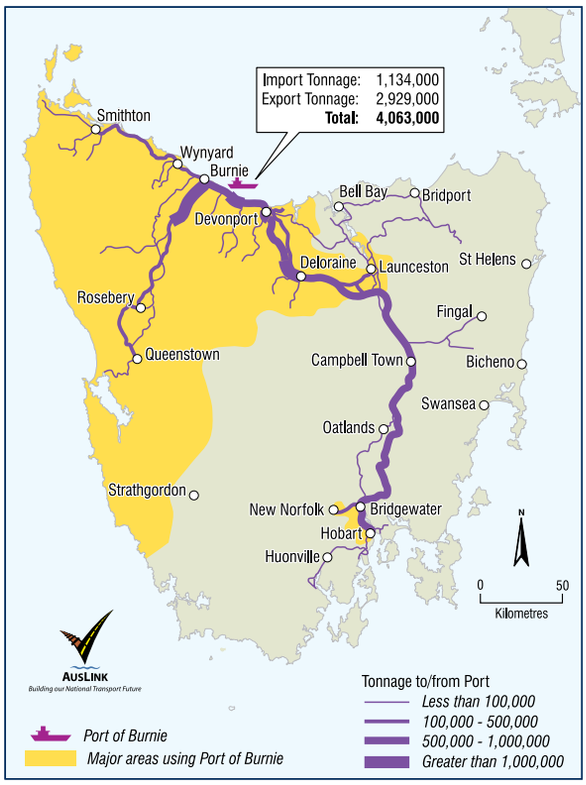
Road Freight

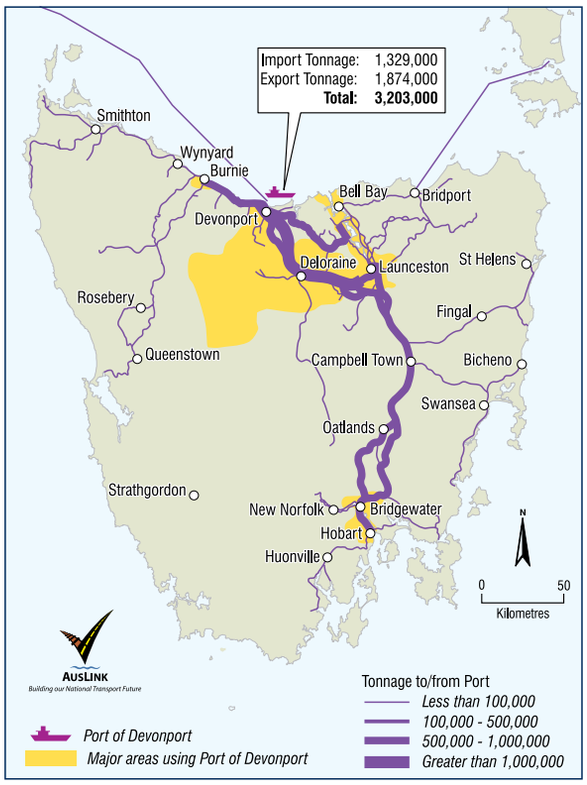
Road transport is the dominant mode for movement of freight along the Network. Around 88 per cent of the corridor's freight task is solely carried on road (see Figure 3). Important features of freight movements on the road network are:

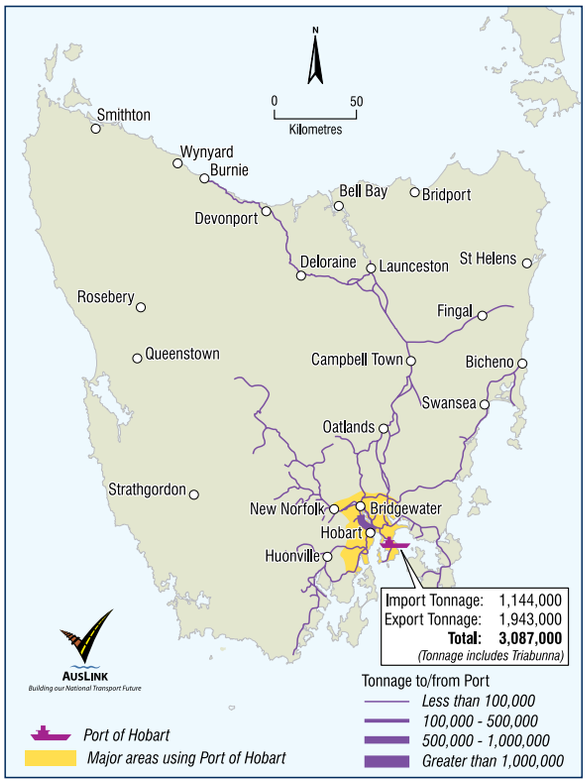
- a total of approximately 20 million tonnes of freight moved by road each year[4];
- many high tonnage entry and exit nodes, including ports and important regional roads;
- a high proportion of freight uses the Network for only part of its journey;
- the highest tonnage commodities are logs, farm produce and processed foods from Tasmanian factories;
- the highest value commodities are processed food, mixed groceries, mixed consumer goods and machinery and equipment;
- Victoria Bridge in Devonport has the highest concentration of freight on the road network. In 2002-03, it carried over 3.4 million tonnes valued over $3.3 billion[5];

[3] Department of Infrastructure Energy and Resources, FDS (2003)
[4] DIER (2003)
[5] DIER (2003)

FIGURE 2 Area Serviced by Tasmanian Ports







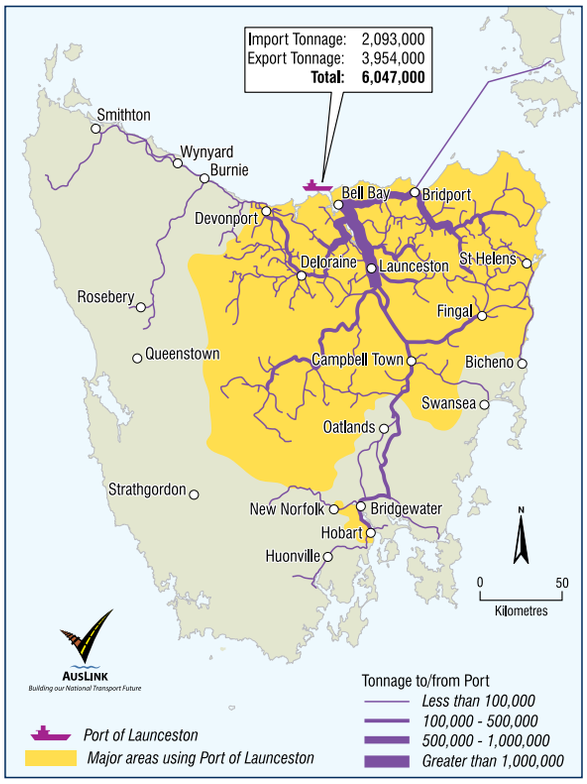
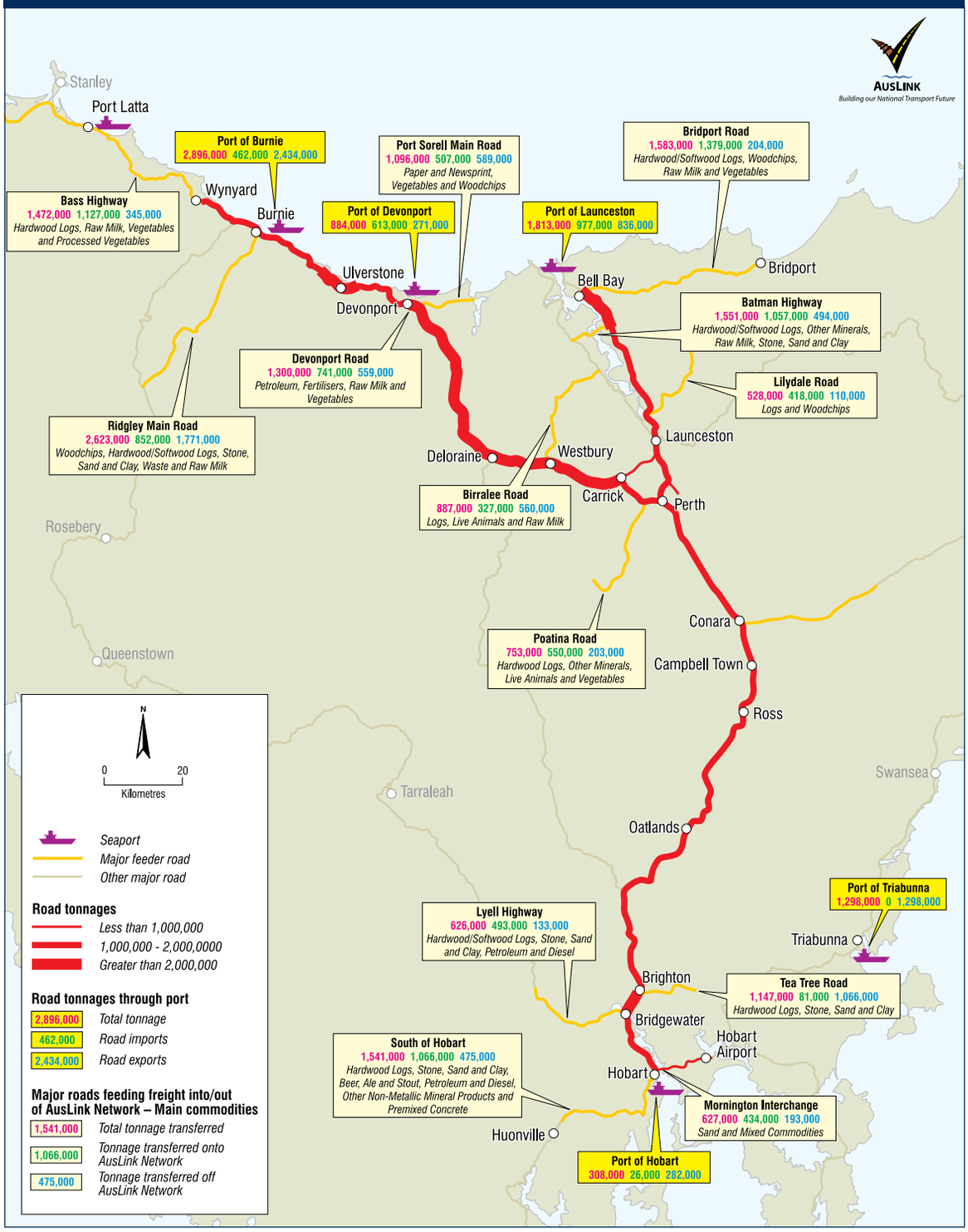


FIGURE 3 Road Freight Task on Tasmanian Roads 2002-03[6]



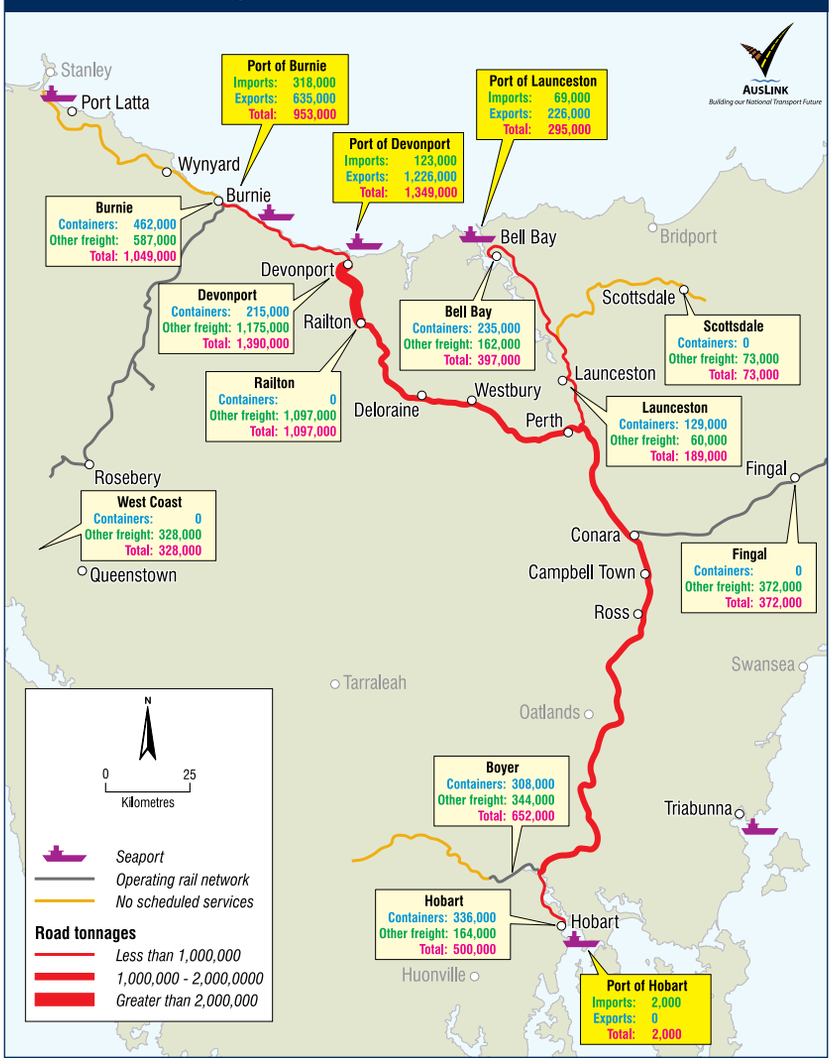
6 DIER FDS

- the volume of trucks is highest in the three major industrial areas, located in the four urban areas of Hobart, Launceston, Devonport and Burnie[7];
- in the past 10 years, the growth in truck use has exceeded six per cent a year in many urban areas[8]. Proposed industrial developments across Tasmania will continue to exert pressure on the Network; and
- Illawarra Main Road is an important freight link, carrying 1.8 million tonnes of freight valued over $1.6 billion[9] and acts as a bypass of Launceston for freight between Hobart and the northern ports and production areas in north-west Tasmania.

Rail Freight

Currently rail carries 2.8 million tonnes of freight a year on the AusLink Network. In 2002-03, rail carried 1.4 million tonnes on the Southern line between Western Junction and Hobart, compared to a total of 1.2 million tonnes of freight carried by road to and from southern Tasmania[10]. The use of the rail network is shown in Figure 4. Rail is particularly important for the movement of containers from the ports of Burnie and Devonport to southern Tasmania and for the bulk movement of coal, cement and minerals.

FIGURE 4 Rail Freight Task 2002-03[11]



7 DIER (2005)
8 DIER (2005)
9 DIER (2005)
10 DIER (2003)
11 DIER FDS

Movement of Passengers

Tasmania's topography and settlement patterns mean that most of its long distance freight and passenger transport uses the Network. Tasmania has the nation's highest level of personal motor vehicle ownership[12]. With a dispersed population, efficient transport is necessary to access work, social and professional networks, with the Network providing the major passenger vehicle links for the Tasmanian population. The corridor is used extensively for journey to work trips, with 88 per cent of all work journeys using some part of the Network. Tasmania's population distribution and traffic growth are shown in Figure 5.

Unlike other states, an interstate trip to or from Tasmania has a mandatory air or sea component. Connections to sea and air links are critical to the movement of passengers and freight. The major connection points for business, tourism and other travel to and from Tasmania are Hobart and Launceston Airports and the Port of Devonport, which caters for interstate passenger movements by sea. The Spirit of Tasmania 1 and 2 sail daily and have additional trips during peak periods. In 2005-06, TT-Line carried 440,552 passengers and 200,306 vehicles[13].

Current Pattern of Transport Activity

Overall, the current pattern of transport activity within Tasmania is characterised by:

- significant use of the road network by freight traffic for a part of their journey, due to the diverse and changing freight origins and fixed freight destinations for forestry products and other freight origins from primary production in close proximity to the road network;
- significant use of Illawarra Main Road as an alternative road route between southern Tasmania and the north-west;
- strong growth in truck and passenger vehicle usage over the past 10 years, particularly in the vicinity of urban areas;
- significant use of the road network for journey to work activity and very limited use of public or other transport means; and
- an almost steady state of usage of the rail network.

Generally, congestion is not a major issue in urban areas. However, there are critical road network sections where daily and peak hour traffic are creating efficiency problems, in particular, key links including the Brooker Highway, the connections to the Tasman Bridge in Hobart and Wellington and Bathurst Streets in Launceston. Some key features of passenger vehicle movements are:

- in rural areas, generally less than 10,000 vehicles a day use the corridor[14];
- the most heavily trafficked roads are within the Hobart urban area. The Brooker and Tasman Highways carry more than 40,000 and 60,000 vehicles a day, respectively;
- journeys to work in the Burnie–Devonport urban area are greatest through the suburbs west of Burnie but overall have a minor impact on the corridor[15];
- of the highways into Launceston, the West Tamar Highway carries more journey to work traffic than the Midland and Bass Highways; and
- the network of roads in and around Launceston carries high levels of commuter traffic. The road segments through Launceston are also the main locations where major junctions and traffic controls slow peak traffic flows.

Competition between Transport Modes

Road and rail transport play an important role in providing an efficient, safe and sustainable transport system for Tasmania. Road transport is the dominant land transport mode. There are no regular rail passenger services and with the relatively small population, they are unlikely to become viable.

Rail freight has advantages for long distance, heavy freight, particularly for origins and destinations at or near railheads, while road freight is better suited for dispersed origins and destinations, just-in-time deliveries, small loads and shorter journeys. An estimated 88 per cent of the tonnage of freight carried on the Network is transported by road, a large proportion of it being transported for relatively short distances[16].

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12 Australian Bureau Statistics (2005)
13 TT-Line (2006)
14 DIER (2005)
15 ABS (2001)
16 DIER (2003)

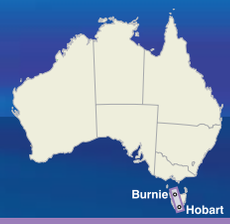
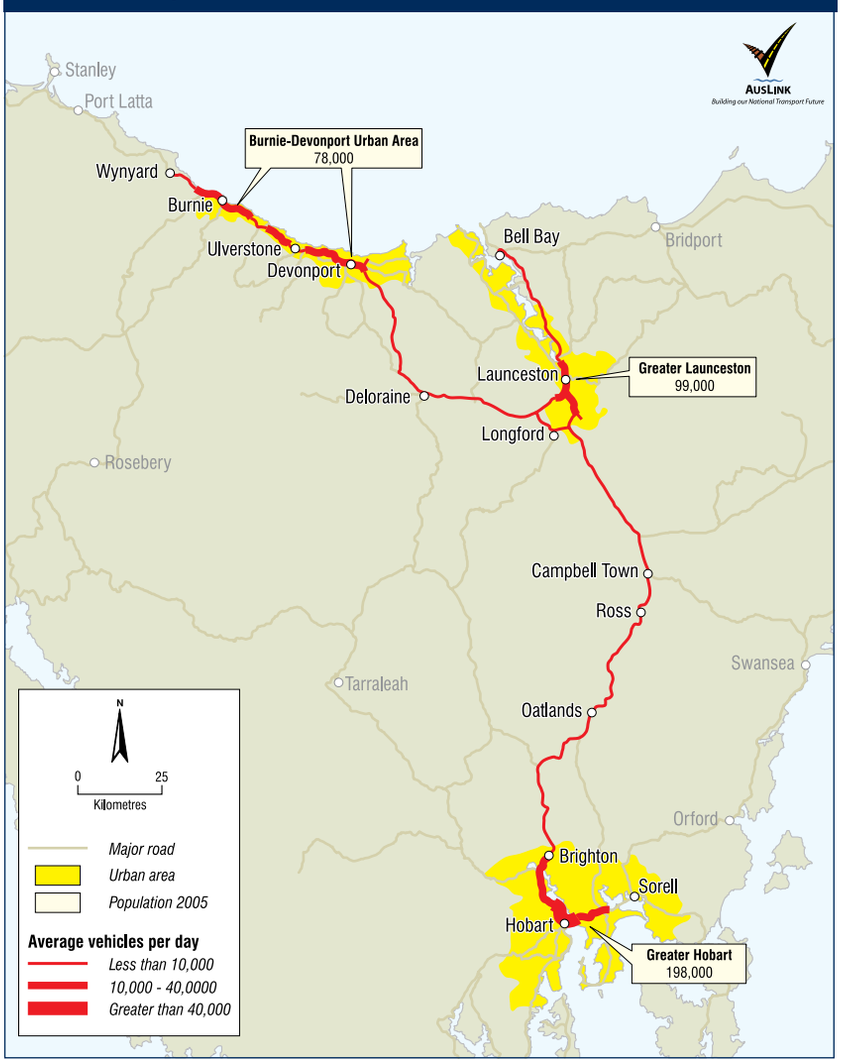
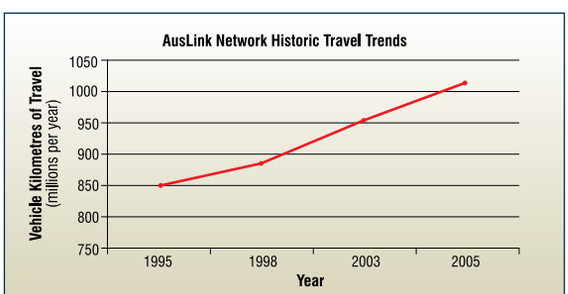


FIGURE 5 Population and Traffic Growth





Note: The compound trend growth rate is 1.7 per cent each year from 1995 to 2005.
This represents an average yearly increase of 16 million vehicle kilometres each year.

CURRENT PERFORMANCE

Capacity

The capacity of the road infrastructure along the Network is generally sufficient to meet current demand.

A Level of Service assessment was undertaken to ascertain the capacity of the road network and the impact on freight. Level of Service takes into account factors such as speed, travel time, overtaking opportunities, traffic density and flow, percentage of time delayed, terrain and comfort. The roads assessed with a low level of service were correlated to roads with a high volume of freight vehicles and include:

- Wellington and Bathurst Streets, Launceston due to the volume of traffic and traffic controls restricting speed and capacity;
- the southern section of the Brooker Highway; and
- the Midland Highway between Bridgewater and Dysart due to high traffic volume, low speed limits, limited overtaking opportunities, multiple junctions and multiple property accesses[17].

Rail capacity is generally sufficient to meet current demand. The number and length of passing loops is adequate for the current freight operations. Issues for the rail network include efficiency of intermodal functions at the railheads within the ports, shunting inefficiencies within the ports and at Western Junction, rail grades, track curvature and current state of maintenance. Track grades and curve radii limit carrying capacity, particularly between Campania and Rhyndaston. By removing or easing curves, improving grades and ventilating a tunnel in this section, the train pulling capacity would increase from 1,100 tonnes to about 1,700 tonnes, producing significant productivity gains.

Efficiency and Productivity

The Network is generally providing efficient road transport conditions. However with the Network shared between freight and passenger vehicles, there exists some conflict between these functions in the major urbanised areas. This conflict will remain for the foreseeable future, as:

- major urbanised areas are also the destinations for freight, either port locations or processing facilities; and
- urban areas generate significant numbers of intra-urban light truck trips in addition to the longer-distance trips.

In addition, the efficiency and productivity of the road network is affected as follows:

- steep sections on the southern half of the Midland Highway and the Bass Highway at Don slow heavy vehicles and three and four lane sections have been sited to maximise efficiency. Passing through extended hilly terrain, the East Tamar Highway has passing lanes on uphill stretches; and
- while new sections of Network have reduced the number of direct access points, many older sections of highway still have direct access points, which affect efficiency and safety. Areas where this is a particular issue are where the Network passes through urbanised sections of the State, including the Midland Highway north of Hobart, the East Tamar Highway, and the Bass Highway through Burnie and between Deloraine and Latrobe.

There is scope for significant improvement in the efficiency and productivity performance of the rail network. In particular, its current efficiency and productivity is adversely affected by aged and inefficient infrastructure and rolling stock and operating constraints at some railheads significantly increasing train turnaround times.

The constraints include the following:

- Bell Bay's shunting yard is located away from the port and requires train lengths to be divided before accessing the port. The on and off-loading of trains blocks road freight vehicle access to some berths, reducing efficiency of port operations;
- Port of Devonport container facilities are located on the eastern side of the river, where there is no direct rail access and as a result rail container traffic is transported via road to access the western side of the port where the ships berth;
- Port of Hobart has constrained shunting and layout leading to inefficient turnaround times and multiple handling of freight; and
- Port of Burnie's rail siding is on the wharf and cannot be used concurrently with road vehicles. This results in the majority of rail containers being shunted using a number of short sidings.

[17] Pitt & Sherry (2006)

Inefficiency of rail heads and shunting at Western Junction also significantly increases rail transit times. As a result of intermodal hub and mainline deficiencies, meeting daily shipping schedules to the north-western ports requires two trains to travel in opposite directions on a 48-hour turnaround time.

Reliability

Overall, the reliability of the road network is good.

The rail network suffers from poor reliability and aged infrastructure, resulting from track and rolling stock deficiencies and leading to operational constraints such as reduced speed limits. There are currently 48 temporary speed restrictions due to infrastructure deficiencies. Combined with tight curves and steep grades on the southern section of the line, all of these significantly add to travel times.

Safety, Security and Sustainability

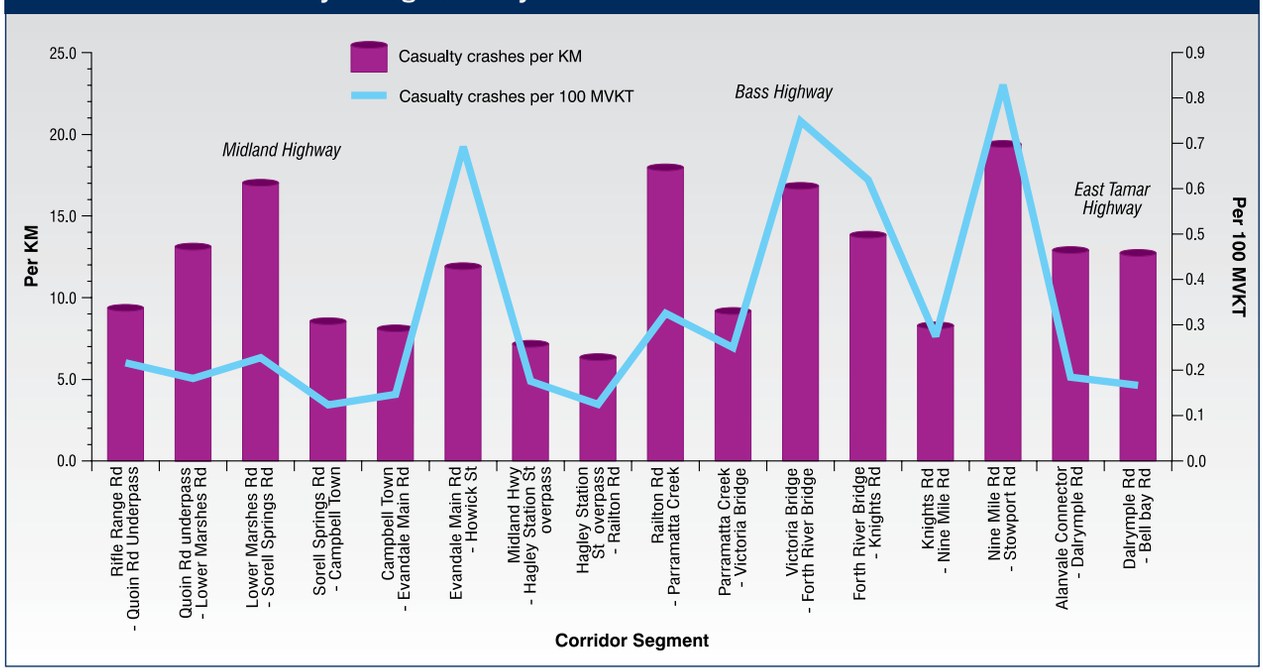
In 2005, Tasmania's road crash fatality rate per 100,000 population was 10.3 and the national average for this period was eight[18]. The national target per 100,000 population is 5.6 fatalities by 2010.

The Network and key road links account for a relatively small proportion of total State road length, but a high proportion of the average vehicle kilometres travelled in Tasmania each year. Between 2001 and 2005, almost 40 per cent of all Tasmanian crashes occurred on the Network (Figure 6).

Crash density was the highest on the segments passing through the urbanised areas of Hobart, Launceston, and Devonport to Burnie. These segments typically have a large number of intersections and many crashes occurred at these intersections. The speed limit of these sections is also generally between 60 and 80km/hr. Crash density was lowest on segments of the Midland Highway in the vicinity of Campbell Town and the recently constructed section of the Westbury–Hagley bypass on the Bass Highway.

Between 2004 and 2006 almost 45 per cent of serious casualty crashes occurred on roads with a speed limit of greater than 100km/hr and almost 64 per cent of serious casualty crashes resulted from head on or off road crashes.

FIGURE 6 Tasmanian Yearly Average Casualty Crashes[19]



[18] DIER (2006)
[19] AusRAP Risk Analysis on DIER (2000-2004) Crash statistics.

Chapter 3

FORESEEABLE CHANGES TO 2030

INFLUENCES THAT WILL SHAPE THE FUTURE OF THE CORRIDOR

The future of the Network will be shaped by factors influencing demand for movement of passengers and freight along the Network and by the outcomes of projects already underway or committed.

Demand for Movement of Passengers and Freight

Factors expected to shape demand for travel on the Network include:

- consistent economic growth;
- change in patterns of population growth and land use development;
- change in the roles of the ports;
- growth in container movements; and
- growth in production of specific commodities.

Economic Growth and Population Change

Tasmanian GSP is expected to grow in line with Australian Gross Domestic Product, at around three per cent a year to 2015, and two per cent a year from 2015 to 2030 and is expected to lead to increased demand for passengers and freight movement.

University of Tasmania[20] population forecasts are:

- Tasmania's overall population to increase by 0.81 per cent over the period 2005 to 2015 and by 0.17 per cent over the period 2015 to 2030; with
- highest growth in greater Hobart; greater Launceston to grow in line with the overall Tasmanian population; lower growth in the Burnie–Devonport area; and other areas to experience a reduction.

Tasmanians are increasingly moving from urban centres into urban fringe areas. Continuation of the existing low patronage of public transport for journey to work trips is expected to result in increased passenger vehicle travel. Passenger vehicle use for access to education and services is likely to increase. This growth is expected to be greatest on the fringes of greater Hobart and greater Launceston and will result in increased use of the Network.

While domestic and international visitors to Tasmania contribute to passenger vehicle traffic, the growth forecast for Tasmanian tourism of 1.25 per cent a year from 2006 to 2015 indicates tourist traffic growth is likely to be similar to growth in general passenger vehicle traffic.

Roles of Ports

The Ports of Burnie and Devonport are located near Central Business District areas, which may constrain their ability to expand to meet growth in the freight task. The Port of Launceston (Bell Bay) has greater potential for increased capacity through infrastructure and operational improvements. Any decision by TasPorts on the long-term role and functions of its facilities will impact the road and rail network and will need to be considered strategically.

Increasing Container Movements

Over the past five years, Tasmania's container freight has grown at 10.5 per cent a year, but even with a more conservative six per cent container growth Tasmania would experience a doubling of container freight in 10 years (2017). Figure 7 shows actual and projected container growth.

Increasing Log and Woodchip Movements

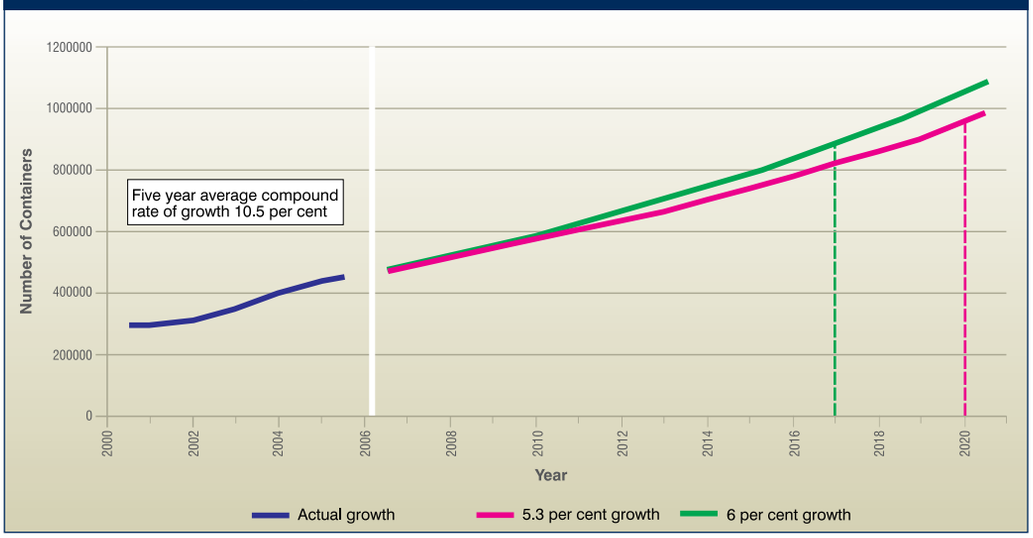
Tasmania's largest freight task is logs and woodchips and this is projected to increase as large areas of plantation forests mature for harvesting.

Gunns' proposed pulp mill, planned to become operational in 2009 at Longreach near Bell Bay, would change the quantity and pattern of log haulage in Tasmania. Use of the road and rail networks is dependent on commercial negotiations for transport and resources. The proposal considers a number of transport scenarios including: change in the use of road and rail, change in levels of production from the existing Gunns export woodchip mills at Longreach, Hampshire and Triabunna and impacts over time in maturation of plantations in different areas.

Gunns' preferred option uses rail for log transport from southern and north-western regions from railheads at Plenty in the Derwent Valley, Wiltshire near Smithton, Bridgewater and south Burnie. This would result in substantial increases in rail

[20] University of Tasmania (2003)

FIGURE 7 Actual and Projected Container Growth



traffic and reductions of long distance log truck movements.

Projections from DIER's Tasmanian Forestry Freight Model, based on 2003 industry data, show log volumes will:

- increase by 20 per cent from 2003-07 to 2013-17;
- peak between 2017 and 2022; and
- vary regionally and over time, for example, between 2005 and 2015, the volumes harvested from Devonport Hinterland will triple and between 2015 and 2030 the harvesting volumes from the Circular Head region will more than double.

Movement of Other Products

The Southwood Wood Centre, the proposed Circular Head Wood Centre and the additional level of logs harvested will lead to increased road transport of sawn timber and other wood products.

The dairy industry is expected to continue to grow strongly in the long term and increased volumes of milk and dairy products transported by road are anticipated.

Substantial mining growth on the west coast is expected. However it is envisaged that the Port of Burnie will continue to handle this freight and that the impact on the Network will remain minor.

Competition between Modes

Until recently, rail retained customers and freight traffic despite the deterioration in the level of service. The rail upgrade package will initiate the improvement of reliability and cost reduction. Road transport is expected to continue to dominate the short distance and general freight transport markets. However, with improvements in infrastructure, intermodal terminals and rolling stock, rail has the potential to substantially improve its competitive position in contestable markets, such as movements between northern ports and southern Tasmania.

Projects Already Underway

Projects already commenced under the first AusLink five year investment and Tasmanian Government programmes that will improve the safety and efficiency performance of the Network are:

- $65.6 million on the East Tamar Highway, to provide a more consistent operating environment. Major projects include Dilston Bypass, a grade separated junction with the Batman Highway and various pavement strengthening, widening and safety works (Australian Government);
- three million dollars on the Illawarra Main Road (Tasmanian Government);

- $10 million on the Brooker Highway (Tasmanian Government); and
- $118 million rail rescue package which will address urgent infrastructure work and ongoing maintenance (Australian and Tasmanian Governments).

MOST LIKELY FUTURE SCENARIO

Maunsell[21] developed freight and passenger models projecting use of the Network. An important assumption was the commissioning of Gunns Pulp Mill and its use of a mixture of road and rail transport for logs.

The most likely future scenario is for steady growth in demand for movement of people and freight with general freight movements expected to double over the next 20-25 years.

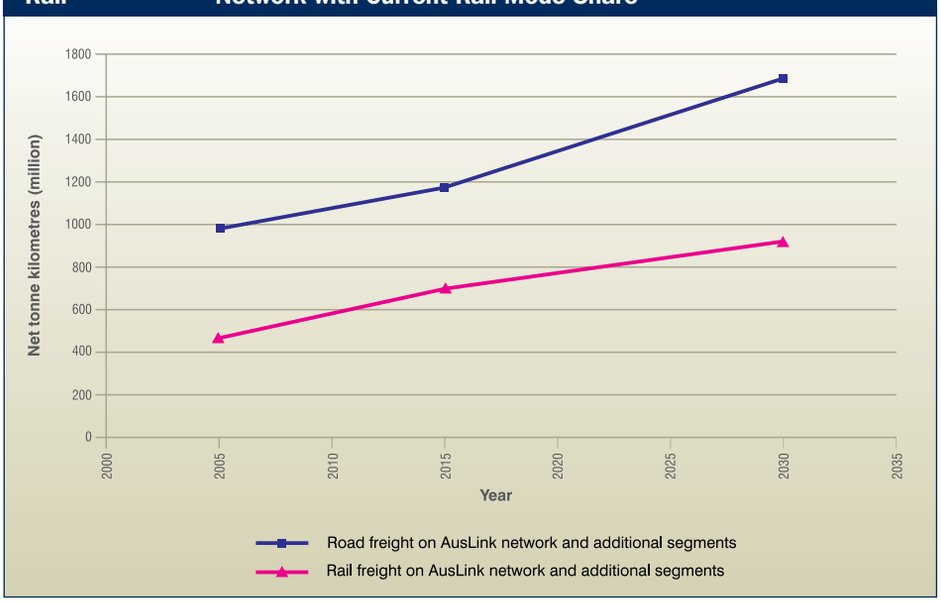
Growth in passenger vehicle ownership is expected to continue to grow in line with current growth rates and demographic trends. Tasmania is expected to continue to have the nation's highest level of motor vehicle ownership per capita.

Figure 8 shows freight net tonne kilometre projections for the Network for 2015 and 2030. Growth in total net tonnes between 2005 and 2015 is similar for road and rail. However, without further rail efficiency improvements, road transport is expected to increase its market share from 2015.

Within this scenario, freight traffic will grow much faster on some road and rail links than on others. This reflects the varying roles of different parts of the Network and the expected pattern of trade and industrial development. Projections between 2005 and 2030 show:

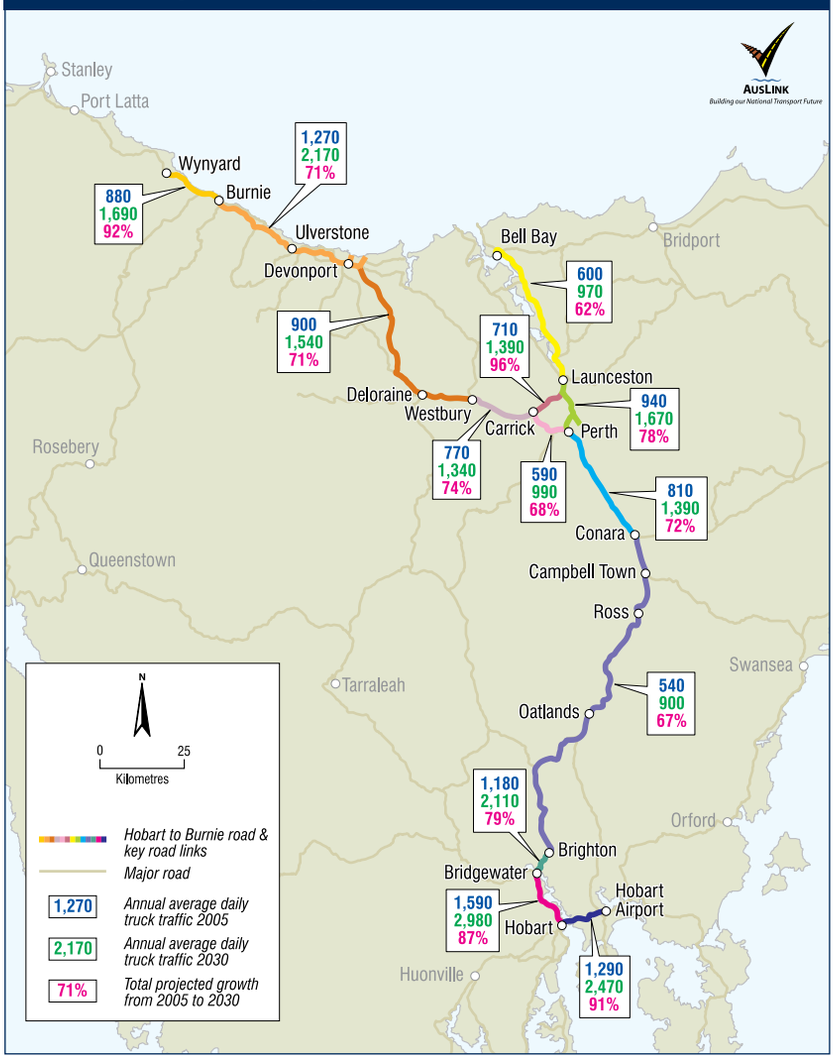
- total heavy vehicle traffic on the road network will grow by approximately 70 per cent (Figure 9) with the lowest level of growth between Launceston and Bell Bay and the highest on the Bass Highway between Carrick and Launceston;
- passenger traffic on the network is expected to grow at a lower rate than heavy vehicle traffic of around 40 per cent (Figure 10) with highest growth expected in the vicinity of Launceston and Hobart where ongoing decentralisation combined with population growth is expected to increase the amount of travel; and
- total freight volume on the rail network is projected to grow by approximately 123 per cent (Figure 11) with the lowest rate of growth between Railton and Devonport and the highest between Launceston and Bell Bay.

FIGURE 8 Projected Growth in Net Tonnes on the Tasmanian AusLink Road and Rail Network with Current Rail Mode Share[22]



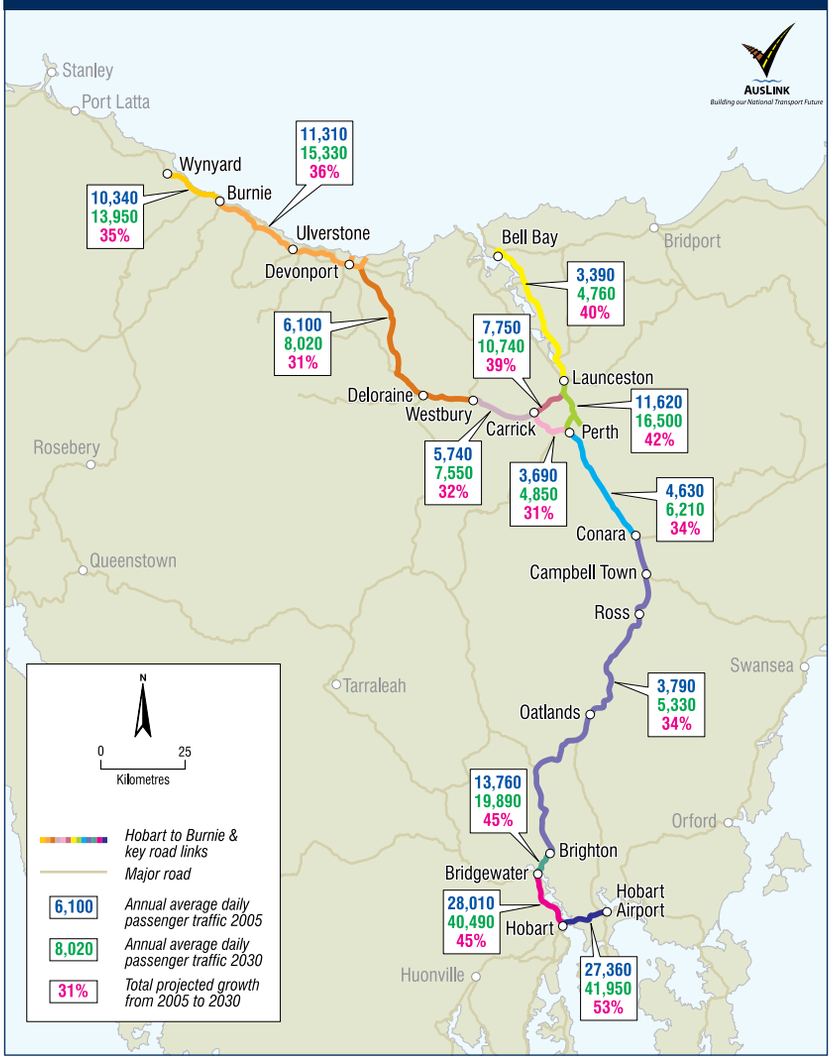
[21] Maunsell (2006)
[22] Maunsell (2006)

FIGURE 9 Projected Heavy Vehicle Traffic Volumes and Growth[23]



[23] Maunsell (2006)

FIGURE 10 Projected Passenger Vehicle Traffic Volumes and Growth[24]



[24] Maunsell (2006)

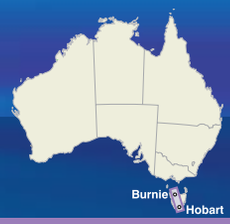
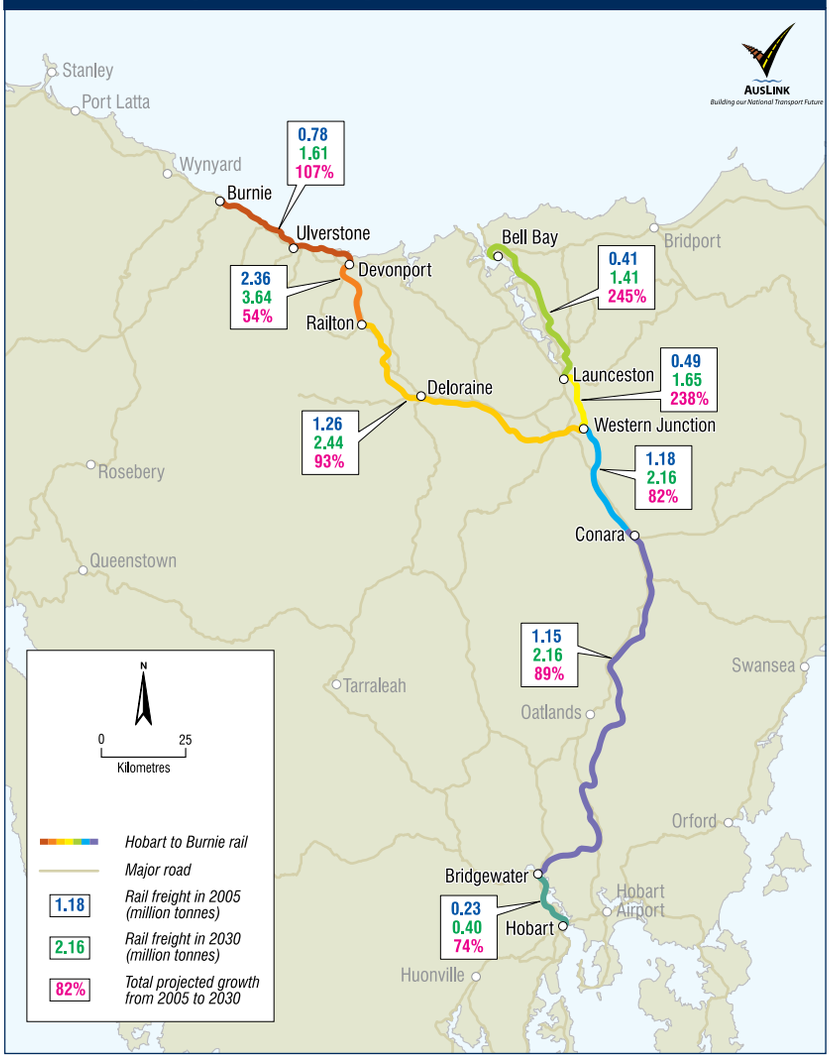


FIGURE 11 Projected Rail Freight Volumes and Growth, Million Tonnes[25]



[25] Maunsell (2006)

PRESENT AND EMERGING CORRIDOR DEFICIENCIES

There is a range of present and foreseeable deficiencies that will adversely affect the safety, efficiency, productivity, reliability and amenity of the corridor. These deficiencies are classified as:

- short-term deficiencies – already apparent or foreseeable over the period to 2015 in the context of expected growth in demand and the likely benefits of projects already underway or committed. This is the period of the current and next AusLink National Land Transport Plan; and
- longer-term deficiencies – foreseeable from the period 2015 onwards.

Short-Term Deficiencies

The short-term deficiencies are shown in Table 2.

TABLE 2 Short-Term Deficiencies (to 2015)

SHORT-TERM (to 2015)	**Road** The Midland Highway between Bridgewater and Dysart has a low level of service, high crash risk and density, multiple direct accesses, intersections without controls, narrow lane and shoulder widths and pedestrians crossing at multiple places. The Bass Highway between Port Sorell Main Road and Deloraine has a low level of service, high crash risk and density, multiple direct accesses, and narrow lanes and shoulder widths. The Brooker Highway between Hobart and Elwick Road has a low level of service, high rate of freight use, high crash risk and density (this is a key road link). The Bass Highway between Howth and Wynyard has a low level of service, high crash risk and density, multiple direct accesses, intersections without controls, narrow lane and shoulder widths and pedestrians crossing at multiple places (incorporates a key road link). **Rail** Inability of current operations to achieve a 24-hour turn-around time between Hobart and the north-western ports. Speed restrictions on the current network, poor track infrastructure and ageing rolling stock. Limitations on the load capacity of trains due to tight curves and steep gradients. Restrictions on speed and reliability of trains in the Rhyndaston tunnel. Inefficient intermodal facilities where operational constraints currently prevent improvements to efficiency, reliability, growth and transit time, particularly in Hobart, Burnie and Bell Bay. Burnie and Bell Bay also have ship servicing access conflicts with road or rail. Factors constraining the introduction of efficiencies such as longer trains and greater pulling capacity.

Longer-Term Deficiencies

The longer-term deficiencies are shown in Table 3

TABLE 3 Longer-Term Deficiencies (from 2015)	
LONGER-TERM (from 2015)	**Road** Bridgewater Bridge on the Midland Highway which has reliability constraints and high maintenance needs. Wellington and Bathurst Streets in Launceston which have low level of service, high crash risk and density, multiple direct accesses, narrow lane widths and multiple pedestrians crossing. Midland Highway between Perth and Breadalbane which has high crash risk and density, multiple direct accesses, narrow lane and shoulder widths and projected to have a low level of service. East Tamar Highway which is expected to retain significant deficiencies after completion of the current package of works to provide a more consistent operating environment. The Bass Highway in the Don Hill area which has high crash risk and density. The Illawarra Main Road which has high crash risk, density and a low level of service (note: this is a key link). **Rail** The efficiency of rail operations. Restrictions on operating speeds and load masses imposed by gradients and tight curves.

Chapter 4

CORRIDOR CHALLENGES

The corridor challenges sum up the current situation and strategic issues facing the future performance of the corridor. In conjunction with the AusLink Network objectives, these form the basis for developing strategic priorities for the corridor.

The seven major challenges identified for the Tasmanian Network are described below.

The increase in container traffic across Bass Strait together with a significant increase in north-south freight will increase demands for improved port and land transport infrastructure.

The Tasmanian economy is highly dependent on trade with the rest of Australia and the world.

It is expected that the challenge of catering to growth in container traffic will be aligned with improvements through economies of scale and shipping operations that provide lower total freight costs for consigners. This growth in container trade will have a significant impact on the main north-south corridor. The strategic direction of the long-term role and function of ports, and the integration of ports with the road and rail networks requires further planning.

The changed direction of trade from southern Tasmania to the northern ports will require infrastructure improvements that facilitate seamless and efficient freight operations.

Historically the Port of Hobart was the main trading port for southern Tasmania. Over the past two decades, the port's throughput has significantly declined, while the freight task between southern Tasmania and the northern ports has continued to increase. This shift has significant implications for land transport infrastructure between southern Tasmania and the northern ports which has major inefficiencies that impact on the efficient movement of goods and resources between modes. Counteracting these inefficiencies to provide seamless connectivity to continued development in southern Tasmania's industry and community will pose a challenge over the next 25 years.

Meeting the increase in north-south freight will require the optimal use of Tasmania's road and rail infrastructure, if least cost options are to be sustained in the long term.

Road and rail transport have an important role to play in an efficient, safe and sustainable transport system for Tasmania.

The standard of the rail infrastructure has not changed significantly since it was constructed in the late 1800s. Historically, mode share was guaranteed through regulation and consequently there was little incentive to invest in rail productivity improvements. The recent decision of the Australian and State Governments to invest in the rail network, together with the required increase in private investment in rolling stock, will help to reverse some of the past under-investment in rail infrastructure.

The challenge is to increase the competitiveness of rail and for it to be a viable alternative to road transport. Long-term improvements to infrastructure and intermodal facilities will provide rail with the potential to compete for a greater share of the contestable freight task on the north-south freight route. In addition, rail is a central element of Tasmania's drive to further develop its resources and downstream processing industries. Gunns' proposed $1.5 billion pulp mill in northern Tasmania has indicated its preference to use rail for inter-regional transport of wood for the mill.

The growth in bulk and general shipping trade combined with the current duplication of functions across the northern ports will increase the need for optimal use of port infrastructure.

The three northern ports all provide infrastructure to support container and general bulk services. Devonport also provides a specialised passenger service for TT-Line. Of the three northern ports Bell Bay appears to provide the greatest scope for further development as it is less constrained by surrounding development. The growth in general container trade and bulk exports related to Tasmania's mining and forestry industries provides the opportunity for ports to increase their performance by increasing port specialisation that provides economies of scale.

Current weak connections between transport modes and infrastructure.

Many of Tasmania's export industries are reliant upon a combination of road, rail and shipping as part of the distribution network.

In Tasmania, intermodal facilities at key freight hubs and ports are emerging as weak links, preventing system wide improvements. Historically, transport investment has focused on a single issue or element of the network. Intermodal facilities have generally not been effectively planned or provided for as they form the interface between assets owned and managed by different organisations.

At Western Junction, the North West Line (to Burnie) branches off from the South Line (the main line between Hobart and Launceston–Bell Bay). Efficiency improvements to the junction could expand the role it plays as an intermodal facility.

A key challenge over the next decade will be to focus on establishing seamless transfer of freight at the key road-rail shipping connections, specifically in the greater Launceston and greater Hobart regions.

Increased forestry production which results in an increase in export of wood fibre from existing ports or inter-regional transport to a pulp mill in Bell Bay would increase demands for improved transport infrastructure.

Over the next decade the volume of wood production is estimated to increase by 20 per cent as plantations in the north-west and north-east mature for harvesting. The proposed pulp mill at Bell Bay will significantly change the volume of wood transported from the south and north-west to Bell Bay if it goes ahead. Gunns has indicated that rail is its preferred mode of transport for inter-regional transport and that final mode decisions are subject to commercial negotiations.

Downstream processing facilities in the Huon Valley and at Smithton will increase internal demand for logs. However, if the pulp mill was not to proceed there is likely to be an increased export of wood fibre from Burnie and Bell Bay.

The growth in traffic volumes on road sections with a high casualty crash rate including those with a low level of freight efficiency such as around Latrobe and Burnie, between Hobart and Glenorchy and between Bridgewater and Bagdad will increase demands for road improvements.

Significant increases in freight and passenger traffic are expected over the next 25 years, creating additional pressure on the efficiency and safety of the road corridors. It is expected this will be particularly noticeable on major urban roads in Hobart/Glenorchy, Burnie and Launceston, where growth in peak hour and daily traffic is expected to have significant impacts on freight efficiency as well as resulting in additional traffic conflicts and road safety issues, especially at intersections with local access roads. Road safety and efficiency are also closely linked in non-urban areas. Road sections with the highest number of casualty crashes generally also have deficiencies adversely affecting freight efficiency. The 2005 Australian Transport Safety Bureau statistics show that Tasmania had a crash fatality rate per 100,000 population of 10.0, whilst the national average for this period was eight.

The challenge is to improve the safety and efficiency of roads as freight and passenger traffic increases, especially on two lane sections of the road corridor with mixed traffic conditions. It is also to address the potentially adverse social and environmental impacts of the land transport system on towns and urban communities, given expected growth in traffic that will exacerbate problems with speeding, noise mixing of local traffic, on-street parking and pedestrian crossings.

Between 2004 and 2006 almost 45 per cent of serious casualty crashes occurred on roads with a speed limit of greater than 100km/hr and almost 64 per cent of serious casualty crashes resulted from head-on or off road crashes.

Infrastructure intervention to reduce head on and off road crashes will require innovative solutions as these types of crashes are spread across the non-urban sections of the Network which have a relatively low number of crashes a kilometre.

Chapter 5

STRATEGIC RESPONSE

STRATEGIC PRIORITIES

The strategic priorities are a response to objectives for the AusLink Network and the challenges facing the Tasmanian Corridor. They are measures of national importance, are consistent with the corridor objectives and need the most urgent attention. The corridor priorities provide specific guidance to investment priorities and framing of projects for the corridor as a whole or a specific link.

They aim to improve the capacity of the system to deliver seamless movement of people and freight, across jurisdictions and modes.

The priorities centre on a number of strategic issues:

- improved freight transport between southern Tasmania and northern ports focusing on the northern approaches to Hobart;
- seamless intermodal connections at Bell Bay, greater Launceston and southern Tasmania;
- a more efficient, safer and productive rail network;
- extra capacity for forestry freight to cater for increased processing and increased export activity at Burnie and Bell Bay;
- more efficient and safer intrastate roads focusing on the Midland Highway (Brighton to Bagdad), Illawarra Main Road (around Perth) and the Bass Highway (west of Latrobe to Deloraine);
- more efficient and safer major urban roads within Launceston, between Hobart and Glenorchy and around Burnie;
- safer high speed intrastate links on the Bass Highway, Midland Highway, East Tamar Highway and Illawarra Main Road;
- land transport aligned with specialised ports; and
- prioritised corridor and project planning.

These strategic issues form a key subset of Tasmania's broader transport policy, which includes objectives related to rail market share and increased capacity for forestry freight.

Short and Longer-Term Priorities

The strategy for how the policy objectives are to be implemented in the short and long-term is outlined in Tables 4 and 5 below.

TABLE 4 Summary of Short-Term Strategic Priorities

SHORT-TERM Priorities (to 2015)	Capacity	Efficiency	Productivity	Reliability	Safety	Security	Sustainability
Improve road infrastructure and alignment on Midland Highway from Bridgewater to Bagdad to improve safety, efficiency and reduce local traffic impacts.	●	●	●	●	●		●
Improve road infrastructure and separate vehicles from hazards on high speed sections of the Network.					●		●
Improve road infrastructure and alignment on the Bass Highway between Port Sorell Main Road and Deloraine.	●	●	●	●	●		
Improve road infrastructure and traffic management systems on the Brooker Avenue between Elwick Road and Hobart (note this is a key road link).	●	●	●	●	●		●
Improve road infrastructure and traffic management systems on the Bass Highway between Howth and Wynyard (note this incorporates a key road link).	●	●	●	●	●		●
Improve rail infrastructure between Brighton and Western Junction to reduce north-south rail turnaround time and increase the pulling capacity of locomotives.	●	●	●	●	●		●
Develop plans and options for a new Derwent River crossing.	●	●	●	●	●		●
Develop options that align land transport freight networks and the long-term role and function of ports.	●	●	●	●	●		●
Improve the capacity and efficiency of the intermodal terminal in southern Tasmania and develop options for improving the intermodal transport in greater Launceston.	●	●	●	●	●		●
Develop infrastructure improvement options for Bathurst and Wellington Streets and East Tamar Highway from Windermere to Mount Direction.	●	●	●	●	●		●

● Direct linkage to objective

The increase in the role of northern ports for freight originating in southern Tasmania may benefit from a programme of inter-related road and rail improvements on the northern approaches to Hobart.

TABLE 5 Summary of Longer-Term Strategic Priorities	
LONGER-TERM Priorities (from 2015)	Develop infrastructure to improve the crossing of the Derwent River at Bridgewater.
	Improve road infrastructure on sections of the East Tamar Highway that have not been completed to enhance mass safety and efficiency.
	Improve road infrastructure on the Bass Highway through the Don Hill area.
	Improve road infrastructure on the Bass Highway between Deloraine and Illawarra Main Road.
	Improve road infrastructure and traffic management systems of Launceston's Bathurst and Wellington Streets.
	Improve road infrastructure of the Midland Highway between Perth and Breadalbane.
	Improve the Illawarra Main Road to enhance safety, efficiency and level of service (note that this is a key road link).

NEXT STEPS

Once the Corridor Strategies are complete they will be provided to the Council of Australian Governments (COAG), which has sought them by 30 June 2007. The Strategic Priorities identified in each of the Strategies will provide a basis for the Australian and State/Territory Governments to negotiate project funding priorities for future infrastructure investment on the AusLink National Network.

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