

Australia's Transport Task

- 2.1 Rapid growth in the task facing Australia's transport networks has drawn the attention of all levels of government to the need for substantial investment in transport infrastructure, to keep pace with demand.
- 2.2 The inquiry arose from concerns about the ability of the freight networks to cope with rapidly expanding coal exports. The same issue resulted in the establishment of a Prime Ministerial Taskforce to examine the export infrastructure. The Taskforce concluded that while there was no widespread crisis in the system, there were areas where localised bottlenecks had revealed underlying weaknesses.¹
- 2.3 A major issue at the time was the large number of ships waiting off Port Dalrymple, near Mackay, to load coal export shipments. The Committee acknowledged the seriousness of that situation, but was concerned to examine the freight transport task on a broader front.
- 2.4 The inquiry therefore examines Australia's regional road and rail networks, with special attention to the links from those routes to the ports. It also considers the way that coastal shipping fits into the freight transport matrix.
- 2.5 Air Freight plays only a minor part in moving Australia's freight, about 2 per cent of the total in 2001-02. Air movement is generally confined to high value goods with little bulk.²

1 Exports and Infrastructure Taskforce, *Australia's Export Infrastructure*, Report to the Prime Minister, Canberra, May 2005, p.1.

2 Department of Transport and Regional Services, Submission 103, p.3.

- 2.6 The situation in Mackay highlighted the need for freight infrastructure to be flexible enough to expand to meet a sudden acceleration in demand – such as the current coal export boom. The Prime Minister’s Taskforce commented:
- There is no doubt that some parts of the nation’s export infrastructure face immediate capacity constraints. An unexpected spike in world demand for coal has led to a focus on problems that have been known for some time. Localised bottlenecks have emerged as strong demand has run into tight and inflexible supply.³
- 2.7 A number of recent reports have made estimates of the freight transport task in twenty to thirty years time. Although those estimates vary, there is broad agreement that within twenty years Australia’s freight levels will be around twice the current levels.
- 2.8 In some areas the task is growing even more quickly. The Queensland Government, for example, estimated that the freight task in that State would double in less than ten years.⁴ Similarly, the WA Government expects the task to double in about fifteen years.⁵
- 2.9 The Australian Government has responded by introducing a comprehensive land transport plan, known as AusLink. Initial allocations under AusLink provided \$11.8 billion for road and rail transport over the five years to 2008-09.⁶ This was later increased to \$12.7 billion.
- 2.10 In further acknowledgement of the urgency and importance of the task, the Government allocated an additional \$2.4 billion to road and rail transport in the 2006 Budget. With this new allocation for 2006-07, the total five-year allocation under AusLink reached \$15 billion.⁷ A further \$22.3 billion has been set aside in the 2007 Budget as funding for AusLink 2, covering the five years from 2009-10 to 2013-14. Of this amount, \$19.1 billion has been allocated for road and rail infrastructure and about \$3.2 billion for local roads grants.⁸

3 Exports and Infrastructure Taskforce, *Australia’s Export Infrastructure*, Report to the Prime Minister, Canberra, May 2005, p.1.

4 Queensland Government, Submission 95, p.4.

5 Government of Western Australia, Submission 88, p.6.

6 Department of Transport and Regional Services, *AusLink White Paper*, Canberra, 2004, p.x.

7 Hon. Warren Truss, Minister for Transport and Regional Services, Budget Media Release 002TRS, 9 May 2006, p.1.

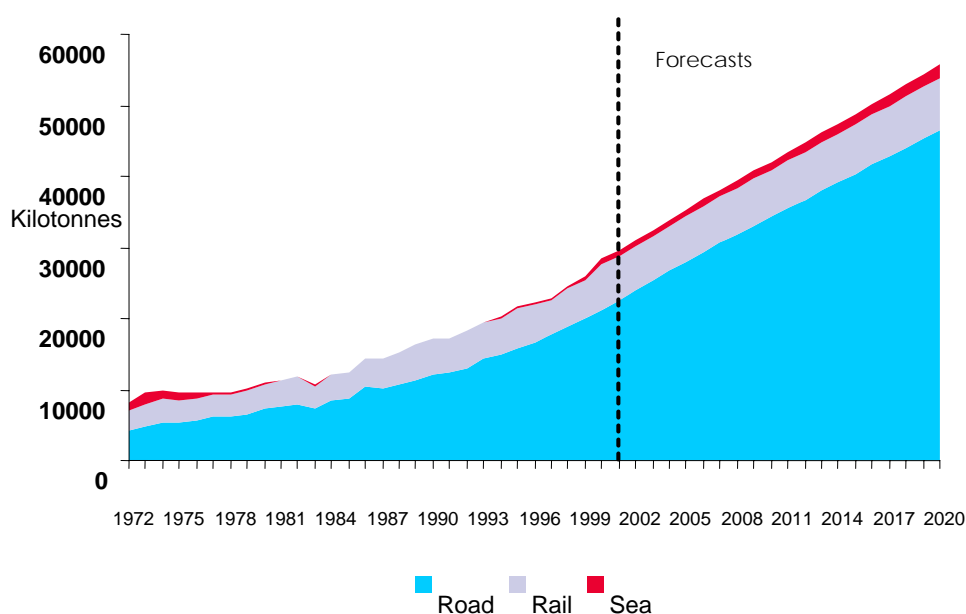
8 Australian Government, 2007-08 Budget Overview, p.15.

2.11 A central part of the discussion on the future provision of road and rail infrastructure is consideration of the relative costs of road and rail transport – an issue recently examined by the Productivity Commission.⁹

Road or Rail?

2.12 Bulk freight transported on land goes mainly by rail. Non-bulk freight, however, travels mainly by road. Trucks move about 80 per cent of the total and dominate every major freight route except one: the Eastern States to Western Australia. There the percentage shares are reversed and rail moves roughly 80 per cent of total freight. Despite the overall imbalance, the trucking industry considers that only about 15 per cent of road freight is contestable by rail.¹⁰

Figure 2.1 Non-bulk freight transported, by mode, 1972-2001 and projections to 2020



Data source: BTRE, *Freight between Australian cities 1972-2001*, Canberra, 2003.

9 Productivity Commission, *Inquiry into Road and Rail Freight Infrastructure Pricing*, Report No.41, Melbourne, 22 December 2006.

10 Australian Trucking Association, *Trucking – Driving Australia's Growth and Prosperity*, ACIL Tasman, August 2004, p.1.

- 2.13 The chart shown above is drawn from the report *Trucking – Driving Australia’s Growth and Prosperity*. The extent of the predicted transport task can be gauged from the steepening curve of the forecast freight levels.¹¹
- 2.14 In 2001-02, domestic freight in Australia totalled 2.3 billion tonnes. Of this, 73 per cent moved by road, 25 per cent by rail and 2 per cent by sea. Measured in tonne kilometres, the shares of rail and sea increased to 38 and 27 per cent respectively - this reflected the longer average distances travelled.¹²
- 2.15 The Bureau of Transport and Regional Economics (BTRE) made it clear in 2003, that determined action would be needed to halt the trend to road and away from rail:
- With no change in relative input costs, and in the absence of a solution to some of rail’s logistic difficulties relative to road, the long-term decline in rail’s share of the freight market is unlikely to change.¹³
- 2.16 The Australasian Railway Association (ARA) agreed. A study commissioned by the Association, entitled *The Future for Freight 2005*, commented: “Without important policy and related changes, rail’s situation and modal share will likely deteriorate further”. More positively, it also noted:
- With a new approach emerging from Governments, and now with a strong, private sector led, commercial focus within the rail industry, major change is both possible and can be extremely worthwhile.¹⁴
- 2.17 The report added that: “Efficient rail can significantly improve its share of inter-capital city transport ... and, in so doing, make a major contribution to the Australian economy.” It attributed the decline of the last 30 years to:
- poor public policies on transport;
 - inappropriate industry structures; and
 - a history of poor rail industry performance.

11 Australian Trucking Association, *Trucking – Driving Australia’s Growth and Prosperity*, ACIL Tasman, August 2004, Figure 2, p.2.

12 Department of Transport and Regional Services, Submission 103, p.3.

13 Australasian Railway Association, *The Future for Freight 2005*, Canberra, 2005, p.9.

14 Australasian Railway Association, *The Future for Freight 2005*, Canberra, 2005, p.10.

Together, the report concluded, these three factors have undermined rail's ability to compete with road transport.¹⁵

Shipping

2.18 The Australian Shipowners Association considers that more attention should be paid to encouraging the use of coastal shipping services. Commenting on the billions spent by governments on road and rail infrastructure, the Association said:

The sea transport industry ... uses infrastructure which is fully funded – over-funded in fact, by the shipping industry.

Regulation of the sea transport industry is undertaken by the Australian Maritime Safety Authority which is funded (other than in respect of its search and rescue responsibilities) by levies paid by shipping. Installation and maintenance of navigation aids and lights are funded by levies paid by shipping.

Use of port facilities are subject to charges levied by port authorities whose pricing structures are designed to allow the port authority to remit to their state government owners a surplus, a dividend or a return on capital. In this way shipping over-funds the infrastructure the shipping industry uses.

The cost of making good any damage to the environment that might be caused by shipping is funded by a levy paid by the shipping industry and which is payable whether environmental damage occurs or not. Mandatory insurance is carried by ship operators to ensure governments are indemnified against any additional costs that may arise in the event of a pollution incident.

We emphasise that the shipping industry does not complain about this charging regime but there is a stark contrast between the public spending on road and rail industries and subsequent disputes over cost-recovery levels in those industries and the fully-cost-recovered shipping industry.¹⁶

2.19 This view was supported by the Hon Peter Morris when, in a speech to graduates of the Australian Maritime College, he said:

15 Australasian Railway Association, *The Future for Freight 2005*, Canberra, 2005, p.10.

16 Australian Shipowners Association, Submission 13, pp.7-8.

There is growing recognition across the economy that sea transport is an essential mode in the development of a surface transport strategy for the nation. The Greenhouse effect alone demands that sea transport play a greater role in interstate freight transport.

For the largest island continent in the world to be determining a land transport strategy to the exclusion of its own interstate shipping services is irresponsible in security, energy and environmental terms.

We know that the most expensive way of moving containers from east to west in Australia is by road. Rail is cheaper but sea transport is considerably cheaper than both and we know that on a level playing field Australian ships can be less costly than foreign ships.

We can look to the European Union's Surface Transport Strategy that seeks the optimum combination of sea, road and rail services based on economic efficiency, energy, security and environmental factors. Similarly the US is focusing on short sea services as part of its surface and security transport strategy.

An irony in Australia is that current concentration of attention on road and rail transport ignores the fact the introduction of itinerant foreign shipping into interstate domestic transport services has caused a substantial loss of east / west freight from rail to foreign shipping.¹⁷

Relative Costs of Road and Rail

2.20 The rail industry strongly insists that only cross-subsidisation by other road users allows the trucking industry to compete with rail. *The Future for Freight 2005* said that rail freight services between capital cities:

...should provide a significantly lower cost freight transport system than road on all corridors...¹⁸

2.21 The trucking industry is equally adamant that it fully pays its way. In the report *Trucking – Driving Australia's Growth and Prosperity*, in August 2004, the authors said:

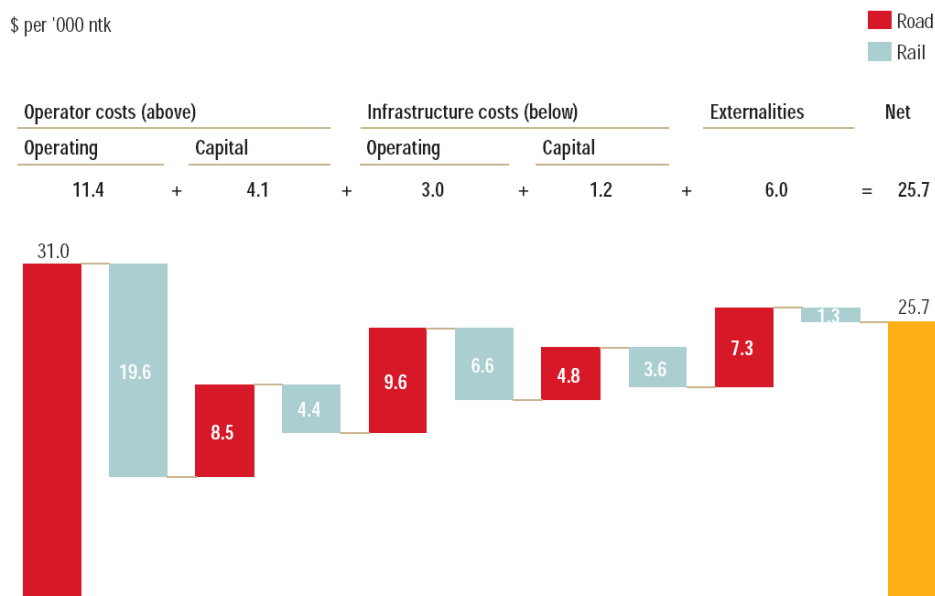
17 Hon Peter Morris, Speech to Graduates of the Australian Maritime College, Launceston, 18 March 2005, p.5.

18 Australasian Railway Association, *The Future for Freight 2005*, Canberra, 2005, p.3.

Trucks pay more than their share of allocated road costs through registration fees and fuel excise.¹⁹

2.22 The ARA report, *The Future for Freight*, calculated that completion of a thorough program of reform on the railways would leave rail with a significant cost advantage over road freight. The diagram below – Exhibit 4 from the report – shows the calculation.²⁰

Figure 2.2 Economic Cost Comparison – Road Versus Rail, Post Rail Reform



Source: Port Jackson Partners Analysis

2.23 The problem for Australia’s infrastructure planners is to achieve the necessary expansion of Australia’s land transport infrastructure, with the most efficient distribution of funds between competing rail and road interests.

2.24 The Productivity Commission was asked by COAG in February 2006, to examine road and rail freight infrastructure pricing. The Commission concluded that the system of paying according to vehicle kilometres travelled (known as PAYGO) causes problems by averaging costs across the network. The Commission said:

This blurs price signals and leads to cross-subsidies from operators carrying light loads to those carrying heavy loads, from users of lower-cost roads to users of high-cost roads

19 Australian Trucking Association, *Trucking – Driving Australia’s Growth and Prosperity*, ACIL Tasman, August 2004, p.vi.

20 Australasian Railway Association, *The Future for Freight 2005*, Canberra, 2005, p.11.

and, indeed, to those benefiting from roads that may be justifiable on social but not economic grounds.

Available evidence, though limited, consistently indicates that the unit costs of heavy vehicles using most major freight corridors are lower than the costs of their use of rural arterial and local roads, and thus lower than assessed network-wide average costs. This is not really surprising, as the marginal costs of using highways designed and built to carry heavy vehicles are very low.

...By the same token, the costs of heavy vehicles using rural or arterial roads that were not built for that purpose, and that have relatively low traffic levels, are likely to be significantly *above* the network average.²¹

- 2.25 In April 2007, COAG considered the Commission's findings and agreed on "...a comprehensive long-term reform agenda for road and rail freight infrastructure pricing and investment decision-making". COAG also:

...confirmed the commitment it made in February 2006 to ensure that the interests of rural, regional and remote Australia are addressed when considering future reforms to road and rail infrastructure pricing and will ensure that those interests are taken into account when finalising the detail of particular reforms.²²

- 2.26 One group of councils described "...an integrated transport network across road, rail and sea..." as imperative. The group added that:

...integration must be supported by infrastructure that is capable of meeting the growing needs of the transport sector. At present we find ourselves with yesterday's infrastructure attempting to support tomorrow's technology and the blatant mismatch is costing both industry and the community.²³

- 2.27 Similar views were expressed by the Great Australian Trunk Rail System consortium:

The rail infrastructure in Australia is disparate, on various gauges and radiating out from various parochial capital

21 Productivity Commission, *Inquiry into Road and Rail Freight Infrastructure Pricing*, Report No.41, 22 December 2006, Overview, pp. xxxiii and xxxiv.

22 COAG National Reform Agenda, Competition Reform April 2007, p.11.

23 Riverina Eastern Regional Organisation of Councils, Submission 92, pp.2-3.

situations in the various states. Basically it has been unaltered since the 19th century; the inter-capital connections that we have now are original branch lines that have been extended to those destinations. It is such a disparate system that we have no hope of getting it to take up the core element of the land transport situation.²⁴

The Growing Task

- 2.28 The AusLink White Paper (2004), included estimates of the growth in freight levels between 2000 and 2020. It indicated that the level of domestic non-bulk freight would increase by 3.4 per cent a year and reach 255 billion tonne kilometres by 2020. By 2022 it is expected to be double the 2000 level.²⁵
- 2.29 Over the same period, domestic, non-urban, freight is expected to grow by 2.2 per cent a year; to 375 billion tonne kilometres by 2020. One of the problems faced by the transport network is that, although this market segment is heavily geared to rail and coastal shipping, road transport is expected to double its share to about 84 billion tonne kilometres by 2020.²⁶
- 2.30 In fact, total non-bulk road freight is expected to grow at 3.6 per cent a year. On inter-capital routes it should grow even faster, at 4 per cent a year.²⁷
- 2.31 Last year, the BTRE, using its FreightSim computer model, pushed those predictions a little further. The results, reflecting revised estimates of economic growth, are a little lower than earlier projections. BTRE now expects the total domestic freight task (measured in tonnes moved) to increase by 2.75 per cent a year between 1999 and 2025. Other equivalent figures are: road freight 3 per cent, rail 2.4 per cent and coastal shipping 1.5 per cent.²⁸
- 2.32 Those estimates indicate that despite lower economic growth expectations, the trend rate of growth in the transport task is still

24 Great Australian Trunk Rail Consortium, Transcript, 1 August 2006, Sydney, p.49.

25 Department of Transport and Regional Services, *AusLink White Paper*, Canberra, June 2004, p.4.

26 Department of Transport and Regional Services, *AusLink White Paper*, Canberra, June 2004, p.4.

27 Department of Transport and Regional Services, *AusLink White Paper*, Canberra, June 2004, p.4.

28 Bureau of Transport and Regional Economics, *Demand Projections for AusLink Non-Urban Corridors: Methodology and Projections*, Working Paper 66, Department of Transport and Regional Services, Canberra, February 2006, p. xxiv.

increasing. The Department of Transport and Regional Services (DOTARS) reported that the domestic freight task had grown at a compound rate of 2.5 per cent a year, in tonnage terms, over the last twenty years (2.8 per cent in tonne kilometres).²⁹

The Changing Face of Freight Transport

- 2.33 Estimates prepared by the Productivity Commission in 2006, indicated that the rate of growth predicted in the AusLink White paper may be exceeded. The Commission said that non-bulk freight is expected to grow at 4 per cent a year to 2020, almost double the rate for bulk freight. The Commission noted that growth in the movement of bulk freight relates closely to export demand. Non-bulk freight levels are mainly determined by domestic economic activity.³⁰
- 2.34 The Commission noted three factors that are contributing to the faster growth of non-bulk freight:
- increased specialisation in production makes the production of non-bulk freight more transport intensive;
 - the concentration of warehousing and the shift towards national distribution by manufacturers, wholesalers and importers result in more frequent and longer trips; and
 - the increasing use of just-in-time stock management systems and door-to-door delivery make the distribution of non-bulk freight more transport intensive.³¹
- 2.35 DOTARS also commented that there had been a change in the nature of the task. Deregulation of domestic markets and other micro-economic reforms, added to specific transport sector reforms, have produced:
- ...a significant increase in road transport's share of non-bulk traffic, as well as a transfer of grain from rail to road, on many regional routes.³²
- 2.36 The National Transport Commission (NTC) noted that a concurrent trend had seen a substantial increase in the use of larger road vehicles. Reviews of road limits in the 1970s and 1980s and new national heavy vehicle standards in the 1990s, led to increases in concessional mass

29 Department of Transport and Regional Services, Submission 103, p.3.

30 Productivity Commission, *Inquiry into Road and Rail Freight Infrastructure Pricing*, Report No.41, 22 December 2006, p.28.

31 Productivity Commission, *Inquiry into Road and Rail Freight Infrastructure Pricing*, Report No.41, 22 December 2006, p.28.

32 Department of Transport and Regional Services, Submission 103, p.3.

limits and relaxation of the availability of permits for B-doubles and road trains.³³

- 2.37 The increases in vehicle size and the increased weight limits have, however, produced serious difficulties for local government in regional areas:

The growing use of B-doubles has increased the need for road upgrades, particularly the need to widen roads to better accommodate the interface between B-doubles and other road users. While local government understands the need for B-doubles and recognises the efficiencies that they provide to the transport industry, it is local communities that are paying the price, as councils defer local road work in order to undertake regional road maintenance.³⁴

- 2.38 Several Local Government groups expressed the opinion that this process is, in effect, a transfer of responsibility and cost from the State Government to Local Government. The consistent comment was that Local Government revenue sources are not up to the task of coping with this extra responsibility.

- 2.39 The rail transport sector has also made efforts to increase productivity, through the introduction of longer trains, higher axle load limits and more efficient utilisation of tracks. The latter improvements have been brought about by investment in longer passing loops and longer sidings at terminals. Continuing improvements to signalling systems and the installation of concrete sleepers are also assisting, by allowing higher speeds and shorter gaps between trains.³⁵

- 2.40 Although there is greater scope for rail in non-urban freight, there have also been suggestions that rail should compete for part of the urban freight task as well:

The urban freight planning process will also need to rethink the role of rail in the urban freight task. The provision of new rail technologies (such as 'Cargo Sprinters') and in some cases, reinstating rail sidings at manufacturing sites, will enable more freight to be moved to ports on rail rather than

33 National Transport Commission, *"Twice the Task" A Review of Australia's freight transport tasks*, Sinclair Knight Merz Pty Ltd and Meyrick and Associates, February 2006, pp.15-16.

34 Riverina Eastern Regional Organisation of Councils, Submission 92, p.2.

35 National Transport Commission, *"Twice the Task" A Review of Australia's freight transport tasks*, Sinclair Knight Merz Pty Ltd and Meyrick and Associates, February 2006, p.16.

road. This would enable a shift of cross metropolitan container movements from road to rail.³⁶

Additional Problems

- 2.41 A complicating factor is the concurrent anticipated growth in demand for passenger rail services. DOTARS said:

Expected growth in passenger traffic may also have a major impact on regional freight transport, as passengers and freight often share some transport infrastructure (particularly roads and rail track in urban areas). Passenger traffic (in terms of the number of trips) on the 10 major inter-capital routes is expected to grow by around 40 per cent over the next 15 years.

Traffic growth will add to current pressure points on the network, especially in regions experiencing strong growth and along major transport corridors.³⁷

- 2.42 The complication is compounded by the fact that passenger trains have priority and freight trains are often required to wait until a scheduled passenger service has passed. In 2004, a Senior Officials Group, chaired by Industry, Tourism and Resources, noted that in the NSW network:

Passenger transport is prioritised and runs to a pre-determined schedule, while coal is railed on a 36 hour regime and other freight is railed according to a weekly regime.³⁸

Later the Group's report said:

There are a finite number of pathways available to coal transport per day; with the steepness of some sections of the track and the increased haulage time presenting a bottleneck delaying movement, a number of these haulage opportunities are not realised, thereby reducing the capacity to deliver coal to the Port. In addition, passenger trains, receive priority access ahead of coal trains.³⁹

36 Austroads, *Planning for Freight in Urban Areas*, Publication No. AP - R228/03, Sydney, 2003, p.19.

37 Department of Transport and Regional Services, Submission 103, p.3.

38 Senior Officials Group, *Delivering Reliable Australian Coal Exports to the World - Coal Transport Infrastructure*, Department of Industry, Tourism and Resources, 2004, p.7.

39 Senior Officials Group, *Delivering Reliable Australian Coal Exports to the World - Coal Transport Infrastructure*, Department of Industry, Tourism and Resources, 2004, p.65.

2.43 The problem is not confined to NSW, although: "Passenger priority principles ...exist along the entire NSW network, including those lines leased or managed by ARTC." Similar provisions exist in Queensland also:

...QR is bound by the *Transport Infrastructure Act 1994 (Qld)* prioritising the right for Queensland Transport to reserve capacity for existing or proposed regularly scheduled passenger services without entering into an access agreement.⁴⁰

2.44 Another problem lies with the speed variations maintained for different rail tasks:

Different train speeds impact on rail capacity, e.g. passenger trains run at 100km/hr, wheat trains at 80km/hr and coal trains at 60km/hr, complicating scheduling and signalling logistics and effectively reducing rail capacity.⁴¹

Importance to the Australian Economy

2.45 In the AusLink White Paper, the land transport system was described as "...a valuable asset that makes a significant contribution towards the nation's economic performance and its international competitiveness." It added: "Efficient and effective transport services are essential to the production and marketing of almost all goods and services."⁴²

2.46 The White Paper estimated that the transport sector as a whole accounted for 4.9 per cent of total economic activity in Australia. In 2001-02 this was estimated to add about \$33.9 billion to Gross Domestic Product (GDP). According to BTRE calculations at that time, a one per cent improvement in transport efficiency would add about \$500 million to GDP.⁴³

2.47 The importance of the freight transport system to the Australian economy was also stressed by the NTC in the report *Twice the Task*. That report commented that improvements in the capability and

40 Senior Officials Group, *Delivering Reliable Australian Coal Exports to the World – Coal Transport Infrastructure*, Department of Industry, Tourism and Resources, 2004, p.52.

41 Senior Officials Group, *Delivering Reliable Australian Coal Exports to the World – Coal Transport Infrastructure*, Department of Industry, Tourism and Resources, 2004, p.7.

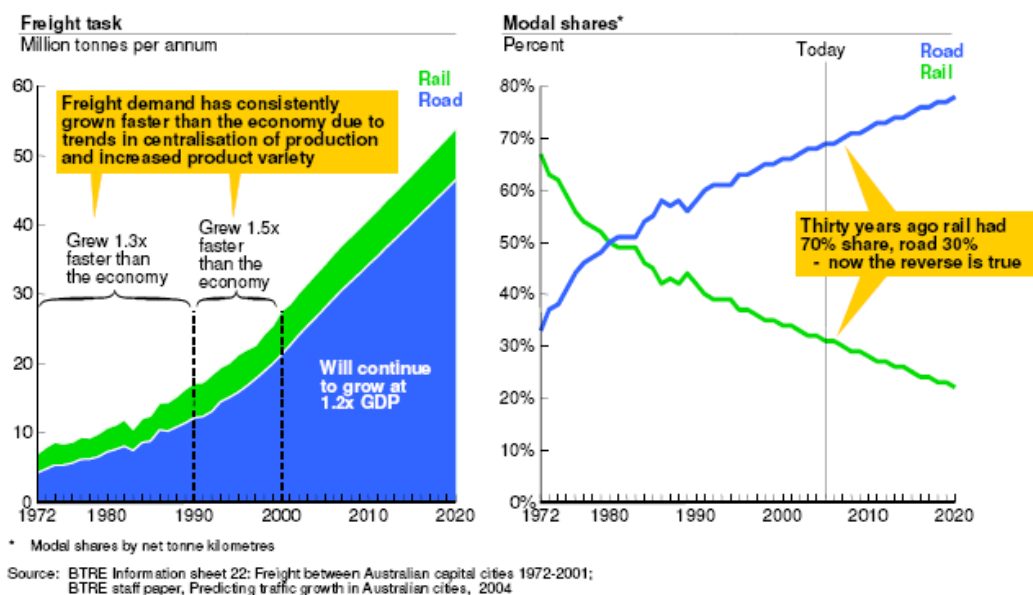
42 Department of Transport and Regional Services, *AusLink White Paper*, Canberra, June 2004, p.1.

43 Department of Transport and Regional Services, *AusLink White Paper*, Canberra, June 2004, p.1.

efficiency of transport have both driven, and facilitated, economic growth. It also noted that, historically, transport activity has grown substantially faster than overall economic growth.⁴⁴

- 2.48 The following diagrams illustrate that trend, and show the complete turnaround in the shares of road and rail over the last thirty years. They also illustrate quite clearly, the steep upward curve of the projected freight task through to 2020.⁴⁵

Figure 2.3 Trends in Inter-Capital Freight Land Transport



- 2.49 In a recent paper, the Chairman of the Productivity Commission said that the Commission had recommended a national review of the requirements of the national freight transport system. He commented:

We felt that there needed to be a much stronger focus on lifting the performance of the freight transport system *as a whole*, and on achieving outcomes that are economically, environmentally and socially sustainable. Efficient freight transport is vital for Australia's relatively small, trade-

44 National Transport Commission, "Twice the Task" A Review of Australia's freight transport tasks, Sinclair Knight Merz Pty Ltd and Meyrick and Associates, February 2006, p.13.

45 Diagrams drawn from: *Infrastructure: Action Plan for Future Prosperity*, Business Council of Australia, Canberra, 2005, p.12.

dependent, economy, especially given our geography and widely-dispersed population and industry.⁴⁶

- 2.50 The AusLink White Paper also noted the importance of the transport system to Australia's trade links:

The accelerated flow between countries of trade and investment creates a need for efficient transport infrastructure. Efficient infrastructure facilitates specialised production, price competitiveness, time sensitivity and reliability of Australian goods and services in both intra-industry and world trade markets.⁴⁷

Proposals for a National Infrastructure Authority

- 2.51 A number of submissions and witnesses claimed that Australia's transport infrastructure could only be brought up to world standards through the establishment of a national infrastructure authority. They said that such an authority, with the power to establish priorities and to push essential projects through to completion, without the long delays that now occur, is the only way to overcome the infrastructure backlog.

- 2.52 Mr Everaldo Compton of the Australian Transport and Energy Corridor (ATEC), commented:

My company and I believe that the Australian Government should establish by legislation an Australian infrastructure authority, which gives the Commonwealth the power to implement major projects of a national nature, whether they are rail, road or port or the connections between them. Until this is done, we are going to have a backlog of infrastructure in Australia.

I believe that this authority needs to be set up by legislation and should have the co-operation of the Council of Australian Governments, which would submit national projects to it to be taken along.

Until this happens, we are going to have state governments mainly remaining in charge of infrastructure, with limited

46 Gary Banks, Chairman of the Productivity Commission, *Road and rail pricing: some early observations ... and more questions*, CRA International Seminar, Freight Infrastructure: What are the Challenges in Achieving Efficient Pricing?, Friday 28 April 2006, p.1.

47 Department of Transport and Regional Services, *AusLink White Paper*, Canberra, June 2004, p.1.

finances and capacities to do it and not a great deal of co-operation when projects cross state borders.

I believe that an authority with legislative teeth is needed, not an advisory body. ... This needs to be established as a matter of urgency by the parliament.⁴⁸

- 2.53 However, Mr David Marchant, CEO of the Australian Rail Track Corporation (ARTC), indicated that it would be very difficult to establish a national body that could achieve the results required. He said it would require a great deal of co-operation between the States and the Australian Government:

My first objection is that, essentially, a national entity is only as good as the support it gets from the states and the Commonwealth. We work in a constitutional environment which requires the Australian government and the states to be able to work collaboratively and for there to be a range of compromises through that process to get something achieved.

If there is to be a national entity it has to be one which is supported by each of the states and the Commonwealth together. There is no way the Commonwealth can impose an entity and hope that it will work – even if it wanted to.⁴⁹

Rail

- 2.54 The Productivity Commission has reported that over the 40 years from 1961 to 2001, "...rail's share of the total freight task has kept pace with road". This was not the case with inter-capital non-bulk freight, however, where road has rapidly increased its share "...at the expense of rail and coastal shipping".⁵⁰
- 2.55 The change has been most evident on shorter routes, for example the Melbourne to Adelaide corridor. Here rail's share of land-based, non-bulk, freight fell from 30 per cent in 1995 to 13 per cent in 2003.⁵¹

48 Australian Transport and Energy Corridor, Transcript, 9 November 2005, Canberra, pp.1-2.

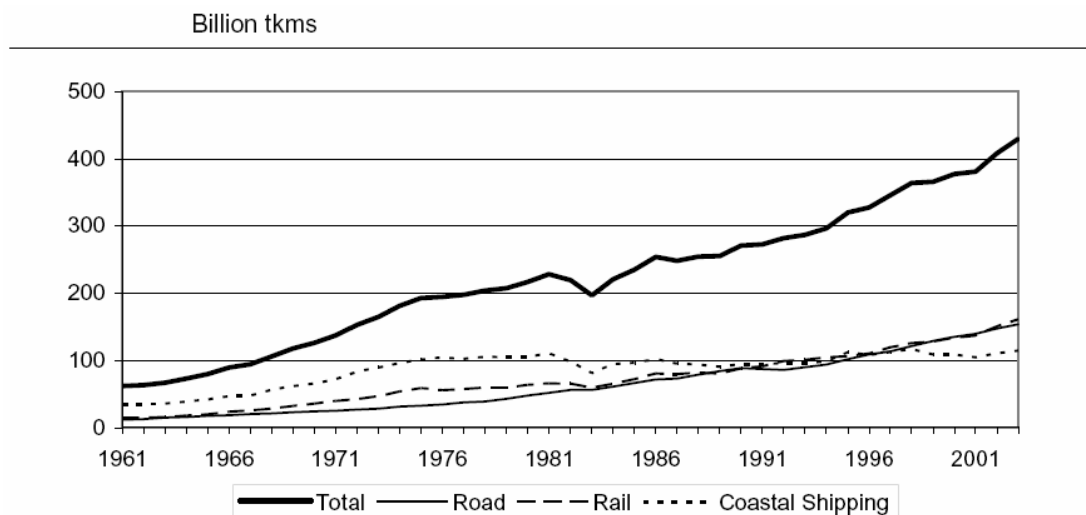
49 Australian Rail Track Corporation, Transcript, 6 September 2006, Canberra, p.21.

50 Productivity Commission, *Road and Rail Freight Infrastructure Pricing*, Inquiry report No.41, Melbourne, 22 December 2006, p.29.

51 Productivity Commission, *Inquiry into Road and Rail Freight Infrastructure Pricing*, Discussion Draft, Melbourne, September 2006, p.2.16.

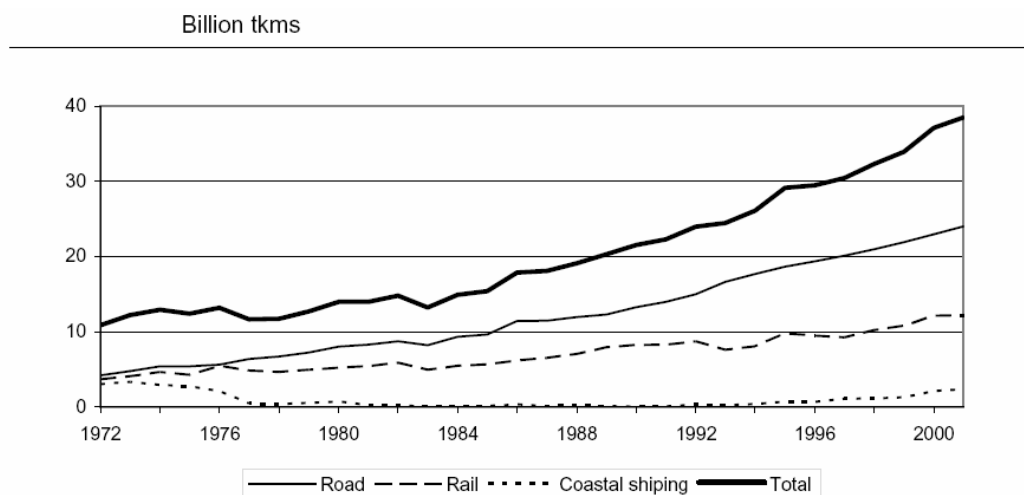
2.56 The decline on shorter routes has been offset by increases in rail's share of bulk freight movements. The Commission noted that the private access rail task had increased rapidly - reflecting the high levels of demand for exports of coal and other minerals.⁵²

Figure 2.4 The freight task, 1961-2003



Source: BTRE, *Freight measurement and modelling in Australia*, Report 112, Canberra, March 2006

Figure 2.5 Trends in carriage of inter-capital non-bulk freight



Source: BTRE, *Freight measurement and modelling in Australia*, Report 112, Canberra, March 2006

52 Productivity Commission, *Inquiry into Road and Rail Freight Infrastructure Pricing*, Report No.41, 22 December 2006, p.29.

- 2.57 The figures shown above (included as figures 2.8 and 2.9 in the Productivity Commission's report), clearly illustrate the long-term trend and the changes in inter-capital, non-bulk, freight:⁵³
- 2.58 The rail network still suffers, in many places, from the colonial hangover of different rail gauges; not only between States but within States as well. Efforts are under way to ease the situation, by converting non-standard lines to standard gauge or dual gauge. Oddly, however, non-standard lines are still being built. There are also stretches where the track alignment, and tunnel widths and heights, impose 19th Century restrictions on 21st Century freight tasks.
- 2.59 Professor Laird of Wollongong University, commented:

Reflecting the Australian Federal structure and other factors including 19th Century inter-Colonial rivalry, Australia has no fewer than three railway gauges in common use.

These are a standard gauge of 4' 8.5" (1435 mm) in use in all mainland States and territories, an Irish broad gauge of 5' 3" (1600 mm) in use in Victoria and South Australia and a narrow 3' 6" gauge (1067 mm) in use in Qld, SA, WA and Tasmania. The respective lengths in route kilometres are 16,303 km standard, 4028 km broad and 15,063 km narrow plus 296 km of dual (standard/narrow) gauge track.⁵⁴

- 2.60 The Railway Technical Society of Australasia also referred to the outdated rail infrastructure and the contrast between government funding for roads and for rail:

For rail to be efficient and competitive in moving freight between Australia's three largest cities, there will have to be major track upgrades with some track straightening. As well put in a letter "Rail network urgently needs federal funding injection" [in the] Australian Financial Review, 4 February 2002, "...*The trucks are there because successive federal governments have invested billions of dollars into roads over recent decades while spending negligible funds on rail tracks. No matter how good the new train owners may be, they will still be trying to do so on tracks and routes little changed since the 1920s.*"

53 Productivity Commission, *Inquiry into Road and Rail Freight Infrastructure Pricing*, Report No.41, 22 December 2006, pp.28-9.

54 Professor Philip Laird, Submission 133, p.3.

- 2.61 *The Future for Freight* study claimed that a comprehensive program of rail reform "...would increase Australia's Gross Domestic Product by around \$27 billion on a net present value basis." It also considered that such reforms "...should see inter-capital rail freight as a fast-growing and significantly lower-cost transport mode on all inter-capital corridors."⁵⁵
- 2.62 The Committee commented that, while the long-term objective should be to consolidate and expand the standard gauge network, that should not exclude sensible extensions to the narrow gauge or dual gauge lines in both the passenger and freight systems. This would allow for such projects as the Gold Coast to Murwillumbah narrow gauge line, or the linking of Moree to Brisbane by the south west line with a narrow gauge extension to Moree, or a dual gauge link to the North South line.

Increasing Rail's Share of the Task

- 2.63 Most States have set targets for increasing the share of freight carried by rail, in an effort to control the rapid growth in road freight. Some States have set 30 per cent on rail as the goal, but NSW is aiming for 40 per cent.
- 2.64 The problems to be faced in achieving the desired increase in rail's share of the freight market, were summarised in a report commissioned by the Business Council of Australia:

At the same time as the ... modal shift is occurring, our rail system is in many places in disrepair or bottlenecked in key areas. In an immediate sense this can be seen in the speed restrictions placed on parts of rail track, but in a more fundamental sense it can be seen in poor track configuration.

Indeed, when the key comparative indicators are examined it can be seen that rail is losing share because of very poor transit times, reliability and the extent to which rail offers services at times the market wants.⁵⁶

55 Australasian Railway Association, *The Future for Freight 2005*, ARA, Canberra, 2005, p.10.

56 Business Council of Australia, *Reforming and Restoring Australia's Infrastructure*, Report prepared for the Council by Port Jackson Partners Limited, Sydney, March 2005, p.33.

Road

- 2.65 The steadily increasing role of road freight continues a trend that has been evident since the 1970s. In 1972, for example, road freight carried between 30 per cent and 40 per cent of land freight, and rail carried the rest. In 2003, the shares had almost reversed. By 2020 the shares are expected to be about 80 per cent road and 20 per cent rail.⁵⁷
- 2.66 Australia, in common with Canada, relies more heavily on trucks than other OECD members. The road length per head of population is more than double the total for individual Western European countries. In 2004, the truck fleet was estimated to travel about 12,505 million km and to carry 1,549 million tonnes of freight a year. Trucks provide almost all urban freight transport and in many country areas are the only transport option.⁵⁸

Efficiency Gains in Road Transport

- 2.67 Road transport's rise in popularity has been assisted by a number of changes within the industry and its technology. Of particular interest in this time of soaring fuel prices, is a substantial improvement in fuel efficiency in freight vehicles.
- 2.68 In 1979, road freight fuel efficiency was 9.0 tonnes per km, but by 2001, it had increased substantially to 14.9 tonnes per km. At the same time, average loads were increasing by 2-3 per cent a year as articulated trucks replaced rigid trucks. Articulated trucks increased their share of the task from 56 per cent in 1971 to 78 per cent in 2001, while the share moved in rigid trucks fell from 41 per cent to 18 per cent.⁵⁹
- 2.69 The size of articulated vehicles has also grown, with B-doubles being supplemented on some suitable roads by B-triples (also called road trains). The number of roads where the larger vehicles can be used has been expanded. These changes have produced a useful increase in the efficiency of road transport; but they have also produced some concerns about the safety aspects of such large vehicles mixing with commuter and tourist traffic.

57 Australasian Railway Association, *The Future for Freight 2005*, ARA, Canberra, 2005, estimated from Exhibit 3, p.5.

58 Australian Trucking Association, *Trucking – Driving Australia's Growth and Prosperity*, ACIL Tasman, August 2004, pp.1-3.

59 Australian Trucking Association, *Trucking – Driving Australia's Growth and Prosperity*, ACIL Tasman, August 2004, pp.12-13.

2.70 Accompanying the growth in vehicle sizes has been rapid technological progress in braking and suspension systems, aimed at making trucks safer and reducing the damage caused to road pavements by their heavier loads.

2.71 Illawarra Coal, reported that the gross vehicle mass limit applied to its B-double truck fleet (62.5 tonnes), forces the trucks to operate at less than an optimum level:

Other specified B-double routes have weight limits of 68 tonnes, operating under the mass limits accreditation program. ...this has obvious impacts, primarily in increasing the number of trucks required to move a certain freight load. Also the trucks are operating at less than their designed and optimum capacity.⁶⁰

2.72 The company added:

Over the last 10 years the safety and operability of B-double vehicles has improved substantially. Modern trucks have much more efficient braking systems, tyres and suspension and quieter engines and bodies. Other enhancements include GPS tracking, accurate loading facilities designed to correctly spread the weight of the cargo over the vehicle's axles, antisplash designs and more efficient gross vehicle mass-to-weight ratios.

We have professional drivers operating on roads equipped with passing lanes and noise barriers. Stringent safety programs are in operation, which include fatigue management, professional driver training and auditing standards, the TruckSafe accreditation scheme, proactive maintenance programs and BHP Billiton's fatal risk control protocols, which are leading edge industry best practice harm reduction standards.

If the coal trucks were allowed to operate at the same weight limit as on other roads, that has the potential to benefit both the community and our business.⁶¹

The Container Trade

2.73 The movement of containers through Australian ports and on through the road and rail networks, is a growing part of the freight

60 BHP Billiton Illawara Coal, Transcript, 1 February 2006, Wollongong, p.5.

61 BHP Billiton Illawara Coal, Transcript, 1 February 2006, Wollongong, p.5.

task. Consequently, one of the vital parts of freight infrastructure planning is to prepare the networks for the coming changes in the container freight and logistics industry.

- 2.74 Some facets of the changes to the industry are already becoming apparent. The freight networks must be able to cope with:
- rapidly increasing numbers of containers;
 - a growing proportion of 40 foot containers, replacing the 20 foot size; and
 - the need to move double-stacked containers along rail routes.
- 2.75 In a recently released Working Paper, the BTRE estimated that total containerised trade will increase by 5.4 per cent a year, over the next twenty years. This will produce an increase from 5.2 million Twenty-Foot Equivalent Units (TEUs) in 2004-05, to 14.9 million TEUs in 2024-25.⁶²
- 2.76 The Bureau indicated, however, that it is difficult to forecast the growth in the container trade accurately. BTRE said that there are a number of factors involved.
- 2.77 There has been a steady increase in the proportion of 40 foot containers used at all the major ports in recent years but that trend is expected to slow down. The two container sizes are not perfect substitutes – export commodities are generally heavier than import commodities, and for those shipments, the smaller containers are preferred by exporters. Conversely, importers prefer the larger containers, e.g. for manufactured and refrigerated goods.⁶³
- 2.78 Despite the expected slowdown, from 41 per cent in 2004-05 the 40 foot containers are expected to make up half of the total by 2020. By 2024-25, they should reach 53 per cent. Over the same period, the average TEUs per ship will rise from 979 in 2004-05 to 1,141 and the number of ship visits to Australian ports, from 5,281 to 13,067.⁶⁴
- 2.79 The other factors relate to the size of vessels visiting Australia and the draught available in the channels of the major ports. The Bureau's Working Paper commented:

62 Bureau of Transport and Regional Economics, *Container and Ship Movements Through Australian Ports 2004-05 to 2024-25*, Working Paper 65, Canberra, June 2006, p.xxvi.

63 Bureau of Transport and Regional Economics, *Container and Ship Movements Through Australian Ports 2004-05 to 2024-25*, Working Paper 65, Canberra, June 2006, pp.24-25.

64 Bureau of Transport and Regional Economics, *Container and Ship Movements Through Australian Ports 2004-05 to 2024-25*, Working Paper 65, Canberra, June 2006, p.87.

...this historical strong growth is not expected to continue in the next twenty years because of a time lag in increasing the Australian ports' capacity to handle large ships, the flattening of the expected growth in trade volume and a long time lag in the construction of new ships with larger container carrying capacity.

Although old container ships are being replaced by large (wider and deeper) new generation ships on the major international shipping routes, Australia is less likely to get the new generation ships. This is because the volume of Australia's international containerised trade is relatively small and Australia does not fall on the world's main international shipping routes.⁶⁵

Transport Data

2.80 During the course of this inquiry, it became apparent that the data available on freight transport left much to be desired.

2.81 The problem is not a new one. Professor Laird, in a submission to the Committee, commented that the Productivity Commission had called attention to it in 1999. He said in its report on *Progress in Rail Reform*, the Commission had noted that:

There is a lack of up-to-date transport data in Australia, impeding public debate and sound policy formation.⁶⁶

2.82 Again, in a supplement to that report, the Commission said, under the heading Data Gaps and Inconsistencies:

Despite the extensive list of sources used to compile the database, a number of data gaps and inconsistencies remain, limiting the scope of this performance assessment.⁶⁷

2.83 In 2004, the National Transport Commission recognised the need for better data sources and proposed a national data framework. Professor Laird said that although efforts had been made to improve the situation, the BTRE noted in June 2006 that the problem still existed:⁶⁸

65 Bureau of Transport and Regional Economics, *Container and Ship Movements Through Australian Ports 2004-05 to 2024-25*, Working Paper 65, Canberra, June 2006, p.26.

66 Professor Philip Laird, Submission 181, p.2.

67 Productivity Commission, *Progress in Rail Reform – Supplement to Inquiry Report*, November 1999, p.11.

68 Professor Philip Laird, Submission 181, p.2.

There is no single comprehensive source of time series data on freight transport movements in Australia. Time series of Australian freight movements must be derived from a range of different sources together with a range of assumptions...

The issue of rail data is perhaps the most vexing. ...After 1997, the recently privatised railways have declined to permit public release of City to City data. Furthermore, since 2001, they have not allowed any origin - destination data - even State to State - to be released. This raises severe difficulties for future estimates of rail flows on any of the corridors...⁶⁹

- 2.84 The Committee considers that this problem should be dealt with immediately. It believes that the NTC proposal should be revived and that commercial interests should be required by law to provide the essential information the Australian and State Governments need to plan the long-term development of transport infrastructure.

Recommendation 1

- 2.85 **The Committee recommends that the Minister for Transport and Regional Services require the Australian Transport Commission and the Bureau of Transport and Regional Economics to undertake the establishment of a national transport database.**

Recommendation 2

- 2.86 **The Committee recommends that the Minister for Transport and Regional Services urgently initiate legislation requiring transport industry operatives to supply essential information for the proposed transport database.**

69 BTRE, *Freight measurement and modelling in Australia*, Report 112, 2006, pp.57-8.